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ABOUT THE JOURNAL

The *Australian Journal of Emergency Management* is Australia's premier Journal in emergency management. Its format and content is 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 and 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 roles of Emergency Management Australia (EMA) and the Australian Emergency Management Institute (AEMI) 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 emphasises empirical reports but may include specialised theoretical, methodological, case study and review papers and opinion pieces. The views in this journal are not necessarily the views of the Attorney-General's Department.

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COVER

Displaced elderly citizens arrive at the Queen Elizabeth II evacuation centre during the Brisbane floods in 2011.

Image credit: AAPIMAGE

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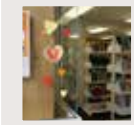

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DISASTER RESILIENT AUSTRALIA
GET READY

Foreword

By Mark Crosweller AFSM, Director-General, Emergency Management Australia, Attorney-General's Department and former ACT Emergency Services Commissioner.

Taking on a national emergency management role in the middle of a hot summer may not be the best time to accept such a challenge. Certainly I had a busy January as bushfires in Tasmania caused mass evacuations by sea and Queensland communities braced for the impact of approaching flood waters. But just as we cannot predict the where and when of the next disaster, we also can't control when opportunities will present themselves. It is certainly an honour to have been appointed Director General of Emergency Management Australia (EMA), the publisher of this journal.

I have spent the past six months familiarising myself with my portfolio – a process that has seen me develop a greater understanding of the work underway to address the threats posed not only by floods and fires – but bombs and bullets. I am continually impressed by the professionalism and dedication shown by our national security teams who, by the nature of their work, need to work 'behind the scenes' to prevent Australia being touched by terrorism.

In collaboration with my Division I have completed a business planning process that provides strategic pathways to improve the performance of EMA over the coming years. A key focus will be improving how we communicate and collaborate with our stakeholders. I also want to bolster EMA's reputation as a sought-after and valued partner in the emergency management sector to work closely with the States and Territories to support nationally-agreed policy. Recent reports by the Climate Commission continue to point more urgently to the impact that climate change is having on the frequency and intensity of natural disasters, highlighting the need for a more disaster resilient Australia. The implementation of the *National Strategy for Disaster Resilience* is a national priority which requires a sustained commitment by all levels of government, business and the community. I congratulate all who have been involved in the implementation of this strategy so far.

Natural disasters are also affecting neighbouring countries in the region and Australia is demonstrating international leadership by hosting a workshop in Darwin later this year. All East Asian Nations are invited and we hope to create a collaborative environment where knowledge can be shared and plans made to help each other respond to disasters.

I am pleased to see a mention of the visit to Australia by Bob Jensen from the US Department of Homeland Security in this edition. It was a pleasure to join Bob at a number of events around the country and the Fulbright Commission certainly got their money's worth from his packed schedule! Bob left us with some valuable lessons on the importance of the public information response to a crisis. I share Bob's view that a critical part of any response to an emergency is getting the right information to people affected by a disaster so they can act to help themselves.

I hope you enjoy this edition of the Journal.

Mark Crosweller AFSM
Director-General
Emergency Management Australia

Fulbright visitor spreads word on public information disaster

Reported by Alastair Wilson FEMPA

Through more than 50 presentations, workshops, public meetings and forums, visiting US Fulbright Senior Specialist Robert (Bob) Jensen has encouraged and inspired hundreds of Australians, endorsing the need to make public communications the core practice of emergency management.

Speaking to senior government officials, emergency sector corporate affairs and information professionals as well as research students and private industry representatives, Bob Jensen has promoted the role of the disaster communicator as equal to, if not more important, than emergency response.

Mr Jensen, who is the Principal Deputy Assistant Secretary for Public Affairs with the US Department of Homeland Security, took his proactive messages across the country during May, including to such events as the recent disaster recovery forum and a private industry workshop hosted by the Australian Emergency Management Institute, These events were attended by 61 and 72 delegates respectively. There were public meetings in universities, briefings for senior defence, police and emergency services officers in several cities, private briefings with federal department secretaries, US Consuls-General and the US Ambassador Jeffrey Bleich. He concluded his tour by giving the keynote address to the 7th annual Emergency Media and Public Affairs (EMPA) Conference in Brisbane early in June.

Hosted here by the Australian National University and the University of Southern Queensland, Mr Jensen's national Fulbright tour has been facilitated by the EMPA not-for-profit group. He is an International Fellow of EMPA, which is the only such association of emergency media and public information professionals in the world.

A graduate of the American Air War College Bob Jensen has served his country for over 30 years. In recent times, in addition to serving two years in Iraq as senior communications adviser to the spokesman for the multi-national force and acting spokesman at the US embassy in Baghdad, he led a team to survey US strategic communication efforts in Afghanistan. He then set up and led the information centre after the massive Haiti earthquake in January 2010. Three months after that disaster he was deployed to set up the US Coastguard communications efforts for the response to the Deepwater Horizon Gulf oil spill.

Then came Hurricane Sandy that tore up the east coast to threaten New Yorkers last year; during that emergency Bob headed public affairs for FEMA employing some 2500 additional communications people to doorknock vulnerable communities with advice about disaster preparedness and possible evacuation. "This is where I really learned about effective communications at the community level," he said.

White House highlight

Perhaps the ultimate call for Bob Jensen came following that disastrous event when he was seconded as Assistant Press Secretary for Foreign Affairs and Director for Public Affairs and Communications for the National Security Council at the White House. He describes this task as "...an intense and demanding

24-seven role, always on alert to international and domestic events, but with the buzz that comes with working alongside the President of the United States". After only one day off throughout the whole year he decided to move back to the Homeland Security Department to be Deputy Secretary for Public Affairs.

Bob said he was delighted to be invited as an Australian-American Fulbright Senior Specialist to undertake a five week tour here facilitated by the EMPA not-for-profit group. "This volunteer group of emergency communicators swung a team of more than a dozen into action to coordinate an incredible schedule of events and briefings across five states."

Whilst admitting that he was learning as much as he was presenting in Australia, Mr Jensen's primary message was that there is no definite type of community when it comes to disasters and emergency incidents – either weather-driven or human-caused. "The challenge and responsibility for communicators is to relate and connect to every variety of community, not forgetting the latest virtual communities," he adds.

"Reaching the widest possible audience with the most up-to-date, credible information can save lives and property as well as reduce public fears and anxiety," said Mr Jensen. He adds that another advantage is it will maintain the public's trust in the integrity of government officials and their decision making. "So the role of emergency communication is as important, if not more so, than the actual response to the disaster."

Bob Jensen is interviewed by ABC 666 local radio presenter, Alex Sloan.

Jensen emphasises that in the global emergency management sector Australia has a good image in the US. "Whilst the scale and density of population impacted is much greater, the major disaster types – hurricanes/cyclones, wildfires, floods – are very much the same. However a major difference is that in the US the federal emergency agency plays a much greater role in response and recovery," he said. He adds that there are strong parallels with training, leadership and funding support – especially during recovery – and in building resilience in communities.

Dr John Harrison at the University of Queensland public meeting, with EMPA CEO Peter Rekers, interview Bob Jensen.

A visit to the Joint Earthquake and Tsunami Watch Centre at Geoscience Australia in Canberra with tsunami specialist Dr Andy Barnicoat and Centre Manager Dr Dan Jaksa.

"I like to think that there is much that we can share to continue our learning in many areas, with a special focus on the critical public information arena," said Mr Jensen. With this in mind he's pushing for the establishment of an international working group involving Australia and New Zealand as well as the UK and Canada to start with.

While in Australia Mr Jensen took the opportunity, on behalf of the US Homeland Security Department, to discuss with senior Australian officials how the two countries can increase interaction with the sharing of ideas and skills, under the umbrella of a Memorandum of Cooperation recently signed between his department secretary Janet Napolitano and the Australian Attorney-General's Department.

"This visit has been a valuable exercise for both countries," he said. "We must now progress the dialogue into stronger links that will benefit both the emergency sector and our communities."

Alastair Wilson was co-founder and is now a Fellow and Director of the Emergency Media and Public Affairs not-for-profit group. He recently retired from the Attorney-General's Department Strategic Communications Branch and is an occasional contributor to AJEM.

Bushfire and Natural Hazards CRC progress

On 13 February 2013, the Prime Minister announced the establishment of a new Bushfire and Natural Hazards Cooperative Research Centre (BNHCRC)[1]. The CRC builds on the work of the existing Bushfire CRC and adds a complementary natural hazards research program.

Since the Prime Minister's announcement, a BNHCRC Implementation Team has been working to establish the CRC. The team includes Interim Chair Naomi Brown, Interim CEO Dr Richard Thornton and personnel from the Attorney-General's Department (AGD), the Australasian Fire and Emergency Service Authorities Council (AFAC), Geoscience Australia (GA), and the Victorian and NSW governments.

Establishing the new entity

The registration of the BNHCRC Company with the Australian Securities and Investments Commission was completed in May 2013. The inaugural board members were Naomi Brown, Tony Sheehan from AGD, and David Place from SAFECOM in South Australia. The Board held its first meeting on 4 June 2013 and has since been joined by AFAC CEO, Stuart Ellis.

Research agenda

A call for research proposals resulted in 195 submissions. A 'Bushfire and Natural Hazards CRC – Shaping a Research Program' workshop conducted in May 2013, considered in detail, 35 research proposals. The research clusters being considered are:

- Natural hazards prediction and monitoring
- Policy: economics and decision-making
- Resilience: people and community
- Hardening building and infrastructure
- Landscape/settlement vulnerability
- Sustainable volunteering
- Capability and agility – EM operational practice and decision-making

1 Prime Minister and Cabinet website, www.pm.gov.au/press-office/47-million-crc-funding-secures-future-bushfire-and-hazard-research.

Next steps

All projects have submitted a project outline that specifies scope, plan, collaborators and resourcing. To ensure that projects meet end-user expectations and requirements, the BNHCRC will encourage end-users to be involved with projects or research clusters that are of particular interest. This could range from giving feedback on the initial abstracts, commenting on the proposals, discussing potential outputs, or suggesting relevant end-users who were not involved in the workshop.

BNHCRC participants will elect the ongoing Board, which will be instrumental in finalising the research program. By August 2013, all project proposals should be finalised and the first project should commence by September 2013. By then, the BNHCRC will be looking to establish formal end-users for each project. A final research program is expected by November and a major variation in both the Commonwealth agreement and participant agreement will be executed soon after. This will address any identified gaps in the initial program.

BNHCRC membership

Membership of the BNHCRC is being sought from organisations that have a keen interest in the problems caused by bushfire and other natural hazards in Australia and the broader region.

Membership may be by way of cash or in-kind or a combination of both. The cash contribution of $150 000 or $300 000 in-kind per year is the threshold to become a voting member. Contributions less than this enable participation in the BNHCRC, but without voting rights.

More information

Organisations wishing to participate should contact the Interim Chair in the first instance at bnhcrc@ag.gov.au. The BNHCRC will arrange for telephone or personal discussion follow-ups through Naomi Brown or Richard Thornton. Online information is at www.aemi.edu.au/bnhcrc/.

Peri-urban Melbourne in 2021: changes and implications for the Victorian emergency management sector

Dr Holly Foster (Fire Services Commissioner Victoria), Dr Briony Towers, Dr Joshua Whittaker, Prof. John Handmer (RMIT University) and Tom Lowe (IPSOS) consider the key economic and population changes that are taking place in Melbourne's peri-urban and fringe areas.

ABSTRACT

The Victorian Fire Services Commissioner has embarked on a program of research exploring anticipated changes across Victoria over the coming decade. Titled *'2021'*, the research aims to identify key changes taking place in Victorian communities and describe the likely impacts on the emergency management sector.

The paper is not intended to present an exhaustive list of possible changes and implications. A detailed report, which includes implications for emergency services organisations and the wider sector, is available from the Fire Services Commissioner's (FSC) website. ®

Introduction

Rapid growth and development on Melbourne's peri-urban fringe represents a significant challenge for the Victorian emergency management sector. Growing and increasingly diverse populations, increased demand on public infrastructure and services, urban development, natural environment, conflict between land uses (DPCD 2012), and the rapidly increasing interface between urban development and fire prone environments are just some of the challenges facing the state and local governments.

This paper identifies and lists some of the key changes taking place on Melbourne's peri-urban fringe and briefly considers the implications for the emergency management sector (State-level policy and strategy) and emergency services organisations (service delivery, programs and local needs).

Growth and development on Melbourne's fringe

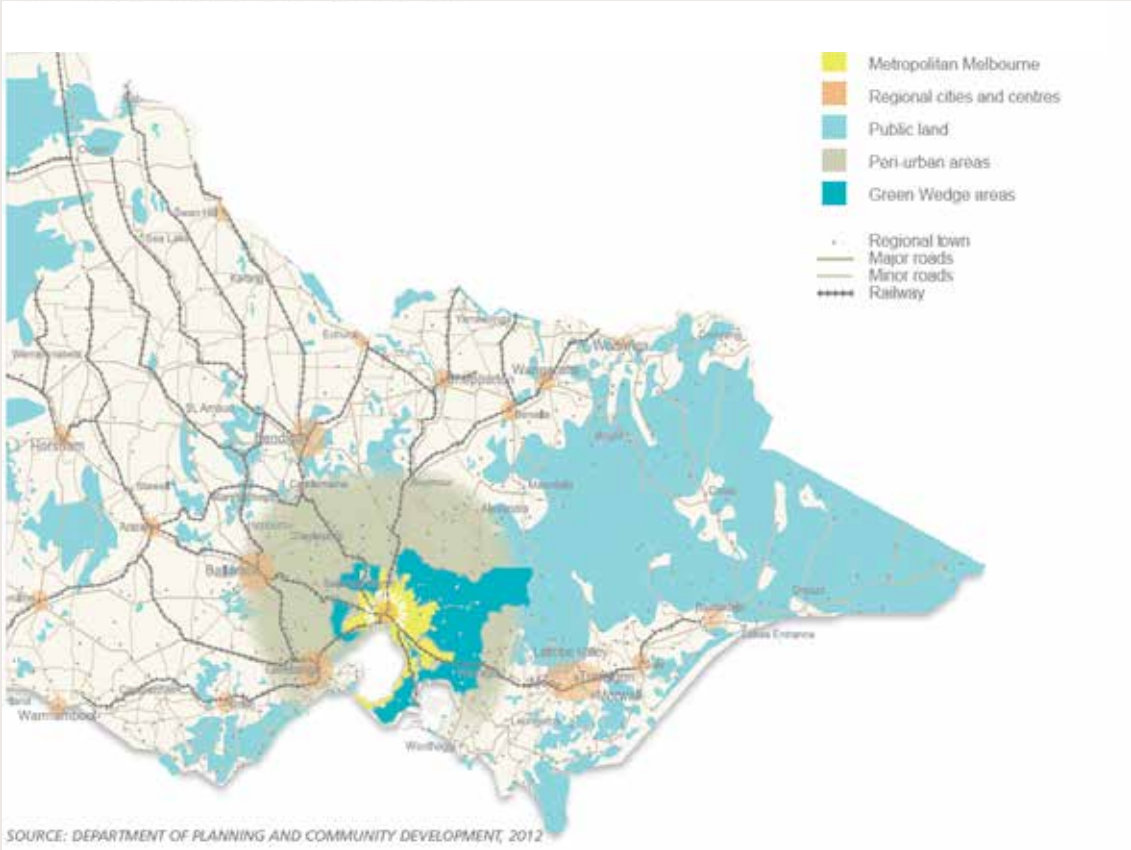
Like many parts of Australia, Victoria is facing significant pressure from population growth and urban development. To accommodate the increase in population, the landscape of Melbourne's peri-urban fringe is being transformed (Butt 2013; Buxton *et al.* 2009).

The term 'peri-urban' is used to refer to the interface between urban development and rural or bush areas (DPCD 2012, McKenzie 2006). The peri-urban areas around Melbourne (see Figure 1) are growing and developing at different rates. The 'green wedge' areas – including the Yarra Ranges, Nillumbik and Mornington Peninsula shires – are the open landscapes set aside to conserve rural activities and significant natural features and resources between Melbourne's growth areas (DPCD 2011). In contrast, the population of peri-urban areas is expected to increase rapidly.

Population growth

The population in Melbourne's peri-urban fringe areas is forecast to grow from 1.36 million in 2011 to 1.76 million in 2021. This represents an increase of almost 400 000 people over the decade (Essential Economics 2012, Forecast.id 2013, ABS 2013). However, this growth will not be uniformly distributed across the peri-urban fringe (DPCD 2012, Essential Economics 2012, OSISDC 2012). Most of the population growth is expected to take place in the designated growth areas of Cardinia, Casey, Hume, Melton, Mitchell, Whittlesea and Wyndham (DPCD 2012). Driving this growth will be the continued availability of affordable housing and the extension of the urban growth boundary in these areas, particularly in Hume and Whittlesea where recent population growth has been most rapid (Growth Areas Authority 2013, OSISDC 2012, Regional Development Victoria 2012, DPCD 2012). The green wedge areas of Yarra Ranges, Nillumbik and Mornington Peninsula are also forecast to grow over the next decade, albeit by relatively small amounts compared to both the designated growth areas and metropolitan Melbourne

Figure 1: Melbourne in its Victorian context (State Government Victoria 2012a).



as a whole (OSISDC 2012). This limited growth will be due to a scarcity of available land for development and an associated reduction in the supply of detached dwellings, which will curtail opportunities for young adults and new families to rent or purchase affordable housing (DPCD 2012, Forecast.id 2013).

The designated growth areas are also characterised by high levels of cultural and linguistic diversity. In the growth areas of Casey, Hume, Whittlesea and Wyndham approximately 38 per cent of the current population was born overseas, compared to around 20 per cent in the green wedge areas of Nillumbik and Yarra Ranges (ABS 2013, OSISDC 2012). Newly arrived migrants generally seek the most affordable housing which tends to be located in peri-urban areas (OSISDC 2013). While there are no readily available forecasts on the extent of diversity for *2021*, the continued availability of affordable housing in the designated growth areas suggests that cultural and linguistic diversity will remain a prominent feature of these areas. The limited supply of affordable housing in the green wedge areas will likely limit any major changes in cultural and linguistic diversity.

Dwelling and household growth

Demand for affordable housing continues to drive residential development across Melbourne's urban fringe areas (Birrell *et al.* 2012, DPCD 2012, Butt 2013). Across these areas, the total number of dwellings is expected to rise from just under 500 000 in 2011 to nearly 740 000 in 2026—an increase of almost a quarter of a million (Essential Economics 2012). Similarly to population growth, household and dwelling growth will not be uniform across the fringe, varying between the designated growth and green wedge areas.

Forecasts indicate that the majority of growth will occur in the designated growth areas, where the number of households is projected to rise by around 145 000 (43 per cent) between 2011 and 2021. These areas will experience rapid growth across all household types, including couples with dependents (39 per cent), couples without dependents (51 per cent), one parent families (36 per cent) and one person households (33 per cent) (Forecast.id 2013, ABS 2013). These changes are being driven by a number of factors including housing affordability, children growing up and leaving the family home, new family formation, increases in separation or divorce, and population ageing (ABS 2013, OSISDC 2012, DPCD 2012, Forecast.id 2013).

In contrast, the number of households in the green wedge areas is expected to rise by just 15 500 (12 per cent) over the same period. Most of this growth is expected from increases in the number of couples without dependents (19 per cent), one person households (19 per cent) and one parent families (7 per cent). In contrast to the designated growth areas,

the number of households comprising couples with dependents is not expected to increase, primarily due to the limited supply of affordable, detached housing in green wedge areas (Forecast.id 2012).

Importantly, demand for affordable housing is leading to smaller land lot sizes and high-density living in peri-urban areas. This trend runs counter to the popular perception that large 'McMansions' are proliferating in Melbourne's urban fringe (Birrell *et al.* 2012). Demand for high-density housing estates in peri-urban areas is likely to grow as a result of the federal government's 'First Home Owner Grant' scheme, which is available for purchases of new houses and apartments (State Revenue Office 2013) after 1 July 2013.

Employment and transport

Opportunities for local employment are limited in Melbourne's peri-urban areas, where there is an average of one job for every two labour force participants (compared to a 1:1 ratio in inner metropolitan Melbourne). A lack of locally-based employment contributes to dependency on motor vehicles, long commutes, traffic congestion and air pollution, which reduces liveability in these areas (OSISDC, 2012). Consequently, many residents in peri-urban areas face greater challenges in achieving work-life balance, having less time to spend with their families and involve themselves in community life (OSISDC 2012, Essential Economics 2012).

Transport infrastructure and services in the outer suburbs tends to lag behind urban development and population growth (OSISDC 2012). As new areas are developed, existing roads are unable to cope with increased traffic volumes, while bus and rail services often lack a sufficiently dense residential catchment to provide services that meet the transport needs of the expanding population (OSISDC 2012). Residents in peri-urban areas have access to approximately half the public transport options available to inner Metropolitan residents (Interface Councils 2012). Consequently, levels of public transport use in peri-urban areas are lower than in inner metropolitan areas (OSISDC 2012). Approximately two per cent of peri-urban residents use public transport for their daily commute compared to 12 per cent of metropolitan residents. Similarly, 93 per cent of the peri-urban population are reliant on motor vehicles to get to work compared to 76 per cent of metropolitan residents.

Socio-economic trends

Peri-urban areas, particularly in the designated growth areas, are characterised by lower household incomes, poorer educational and health outcomes, higher unemployment rates and greater youth disengagement. Overall there is less workforce and higher education

Rapid development in fringe areas will result in a substantial increase in the number of lives and assets that require assistance and protection in emergencies.

participation (Essential Economics 2013). For example, average wages for peri-urban labour force participants ($43 480) are approximately 12 per cent lower than for the rest of metropolitan Melbourne ($49 650) (Essential Economics 2012). While some outer suburbs in the green wedge areas exhibit a relatively high degree of economic strength in the sense that they are able to provide residents with a greater range of local employment and education opportunities, the broader view of Melbourne's outer suburbs is one of relative disadvantage in terms of household income, education, employment, occupation, and housing (OSISDC 2012, Essential Economics 2012, DPCD 2013). This disadvantage is most clearly demonstrated by the relatively high unemployment rates in the designated growth areas (OSISDC 2012, Essential Economics 2013, Interface Councils 2012, Regional Development Victoria, 2012). In 2011, unemployment rates for Hume (6.8 per cent), Wyndham (6.3 per cent), Melton (6 per cent) and Casey (5.9 per cent) were all slightly higher than the unemployment rate for metropolitan Melbourne as a whole (5.5 per cent) (ABS 2013). By contrast, the green wedge areas of Nillumbik (3.5 per cent), Yarra Ranges (4 per cent) and Mornington Peninsula (4.5 per cent) all had lower rates of unemployment than metropolitan Melbourne (ABS 2013). Home ownership is generally high in the outer suburbs compared with that in the central city (Forecast.id 2013, Profile.id 2013).

Implications for emergency management

The changes taking place in Melbourne's peri-urban fringe have a number of implications for emergency management strategy and policy.

Rapid population growth and residential development in peri-urban areas will increase the number of people and houses that may need assistance during emergencies. As noted, these areas stand to gain an additional 400 000 new residents and almost 250 000 new households by 2021. This rapid growth will require considerable, joined-up strategic planning by emergency services agencies. Already, sector-wide reform is underway, with advances in emergency management policy, doctrine, information, capability and capacity expected during the next ten years. This includes a movement towards an all-hazards and unified approach to emergency management; encouraging collaboration between communities, emergency services agencies and all layers of government to better prepare, manage and recover from disruption. The synergies created through this collaboration will enable effective service delivery and the management expectations in rapidly expanding peri-urban communities.

Affordable housing will continue to draw young families and recent immigrants to the peri-urban fringe, which will increase the cultural and linguistic diversity of these areas. Such diversity requires a capacity to communicate information on prevention and preparedness, as well as warnings, using a range of media and engagement strategies. One of the key actions outlined in the *Victorian Management Reform White Paper* (State Government Victoria 2012b) is to expand the reach of emergency broadcasts to include more commercial television and culturally and linguistically diverse communication channels, such as Internet-based media. Where possible this will involve the completion of memorandums of understanding with broadcasters (State Government Victoria 2012b).

Socio-economic trends in peri-urban areas also represent a significant challenge for emergency management. As noted, average incomes and levels of education attainment tend to be lower in peri-urban areas than inner metropolitan areas, resulting in a degree of social and economic disadvantage. Householders with low incomes and other financial strains (such as mortgage stress), may find it difficult to allocate resources to risk reduction measures, such as modifying or retrofitting their house. They may also be less able to afford insurance, thus impeding their capacity to recover from emergencies and disasters (Priest, Clark & Treby 2005, Booth & Williams 2012). Underinsurance may also lead to increased expectations and dependence on government and emergency services organisations in terms of response, relief and recovery.

Residents of peri-urban areas may need to travel relatively long distances to access infrastructure, services and employment. Longer commutes to work are one of the main reasons Australians have less time to spend with family and community (Strazdins *et al.* 2011, Pocock, Skinner & Williams 2012). As such, emergency services organisations will need to redefine their offer (or value proposition) to address new barriers and cater for changing expectations and needs of volunteers.

A survey undertaken for the *National Volunteering Strategy* (DPMC 2011) found that being unable to leave work for extended periods of time and having a busy life/competing priorities are major barriers to emergency services volunteering. Limited time for community involvement is also likely to inhibit the development and functioning of local social networks. These networks are vital in emergencies and contribute to overall community resilience (Rolfe 2006). While these challenges are likely to remain until infrastructure, services and employment meet local demand, emergency management strategy and policy should aim to support initiatives that promote local community participation and development.

Implications for emergency services organisations

Population change will provide significant practical challenges for emergency services organisations to manage. Rapid growth in the number of people and households, particularly in the designated growth areas, will result in a substantial increase in the number of lives and assets that require assistance and protection in emergencies. This will lead to increased

demand on the time and resources of emergency services organisations. Furthermore, many residents will have migrated to peri-urban areas from inner suburbs, bringing with them more urban experiences and expectations of emergency services. Some, for example, may be unaware of the different roles and capabilities of fire and rescue services, or opportunities to contribute as volunteers. Consequently, it is essential that emergency services organisations develop new and effective skills, capacities and roles to support changing communities. Given increasing levels of cultural and linguistic diversity in the designated growth areas, it is also important that these strategies consider the needs of different cultural groups.

The varying age profiles across the peri-urban areas also have implications for emergency services organsiations. In the designated growth areas, the significant increase in the number of school age children and young people will require an increased emphasis on the development and delivery of education programmes for this age-group. A major benefit of engaging children and young people in emergency management is that they are able to take messages about emergency preparedness and response into their homes (Towers 2012). This has particular value in areas with high levels of cultural and linguistic diversity; where parents do not speak English as a first language and are not as engaged in the local community. To accommodate the increasing numbers of children and young people, designated growth areas will experience new schools, kindergartens and day care centres, all of which will require assistance and support to prepare for, and respond to, emergencies. This presents an opportunity to engage with these institutions at the outset to create a culture of safety and preparedness.

In the green wedge areas, characterised by ageing populations, emergency services organisations will need to focus on the specific needs of the elderly and frail, particularly with respect to evacuation. With an aging population, the green wedge areas will have increased numbers of aged care facilities which will require assistance and support during times of emergency. Given increasing demands on emergency services organisations in peri-urban areas, it may be worth considering alternative approaches, including requiring aged care facilities to have rehearsed plans and the capacity to implement them in an emergency. This is consistent with the idea of sharing responsibility between agencies and community as set out in the *National Strategy for Disaster Resilience*.

The lack of local employment opportunities across the peri-urban fringe has several major implications for emergency services organisations. Long commute times to places of employment outside the local area reduce the amount of time that peri-urban residents spend at home with family and community. This reduces the amount of time available for tasks related to household mitigation and preparedness or volunteering for community-based emergency services agencies such as the Country Fire Authority and the SES. Residents working outside their local area find it more difficult to return in times of emergency to protect their home and assets from the impacts of fast onset events, such as flash floods and fast moving grass or bush fires. Emergency services organisations will need to consider the specific needs of families with dependents, especially when both parents work outside the area. In the designated growth areas, where numbers of children and young people are forecast to dramatically increase, the needs of families facing these circumstances must be considered.

Inadequate transport infrastructure across the peri-urban fringe has serious implications for emergency services organisations. Traffic congestion is likely to be a major issue affecting these areas due to the lag in investment in road infrastructure. In the event of an emergency, this congestion would be further exacerbated by increased numbers of people seeking to either evacuate or return home to protect household assets. Congestion may also place residents in danger and restrict the response capabilities of emergency services organisations. As such, careful consideration will need to be paid to levels of congestion and road infrastructure in emergency evacuation plans for peri-urban areas. Public transport may be inadequate across the fringe areas and could potentially impede the emergency response capacity of residents with limited access to private vehicles. This is most likely to affect the elderly, the disabled, newly arrived immigrants, children and young people, and one vehicle households where the use of that vehicle is dedicated to commuting to employment outside the area. (This subject is currently being explored in other projects within the FSC.) It is essential that emergency services agencies consider these groups and ensure that evacuation plans accommodate address these needs.

Conclusion

This paper has identified some of the key changes taking place on Melbourne's peri-urban fringe and the implications for emergency management and emergency service organisations. Population growth and urban development is increasing the number of people, assets and infrastructure at risk in emergencies, as well as the demands on emergency services organisations. These changes present a number of challenges, such as increasing household risk awareness, planning and preparedness and managing community expectations. These circumstances also present opportunities, including the potential to engage children and young people in emergency management to build a culture of safety and preparedness.

Long commutes and limited public transport services represent a particular challenge for residents of peri-urban areas, who may find it difficult to leave during an emergency or to return to assist other household members. The growing cultural and linguistic diversity of peri-urban areas calls for an enhanced capacity to communicate information and warnings, using a range of media and engagement strategies. Many of these challenges will require greater coordination and synergies between all those involved in emergency management, including government, non-government organisations, industries, businesses and communities.

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Preparedness and vulnerability: an issue of equity in Australian disaster situations

Dr Helen Boon, James Cook University, indicates that preparedness is linked to an individual's financial capacity to meet the costs of an event, which raises critical issues of equity when examining preparedness for disaster.

ABSTRACT

The character and severity of impacts from natural disasters depends not only on the particular disaster but also on exposure and vulnerability. This study examined preparedness for a natural disaster and financial capacity in four regional Australian communities which had experienced climate extremes: Innisfail (cyclone) and Ingham (flood) in Queensland and Beechworth (fire) and Bendigo (drought) in Victoria. The study employed a quantitative design using a survey (1008 respondents) across the four communities as well as demographic statistics about each community. The key findings showed that preparedness was primarily linked to an individual's financial capacity (defined by their capacity to meet the costs of the event) and their insurance cover for the event's damage. It is clear therefore that there are critical issues of equity when examining preparedness for disaster. R

Introduction

Disasters cause significant loss of life, damage and hardship across one or more strata of society. The impact of a disaster depends not only on the type of disaster itself but also on the exposure and vulnerability of the individuals and communities involved. Disasters do not eliminate pre-existing systems of social stratification. Inequalities expressed through levels of wealth and education, disability, age and gender, among others, may differentially expose and render vulnerable individuals or communities to natural disasters (Fothergill & Peek 2004). Blaikie *et al.* (1994) provide an authoritative definition of vulnerability in the context of natural disasters:

> *'The characteristics of a person or group in terms of their capacity to anticipate, cope with, resist and recover from the impacts of a natural hazard. [Vulnerability] involves a combination of factors that determine the degree to which someone's life and livelihood are put at risk.' Blaikie et al. (1994, pp. 8-9)*

Research literature on vulnerability is diverse, addressing a variety of hazards and attributes of social vulnerability (Zahran *et al.* 2008), including gender (Neumayer & Plumper 2007; Morrow 1997), race and ethnicity (Fothergill *et al.* 1999; Peacock & Girard 1997) and measures of economic status such as income and poverty (Fothergill & Peek 2004; Vaughan 1995). In their review of 160 studies of disaster victims Norris *et al.* (2002) found that lower socio-economic status has been consistently associated with greater post-disaster hardship. The poor have been more vulnerable to natural disasters, suffering significant disaster losses with limited access to public and private recovery assets, both in the developed and developing world (Blaikie *et al.* 1994; Gladwin &Peacock 1997).

Of particular interest is how financial capacity intersects with disaster preparedness. Preparedness refers to activities undertaken before a disaster event to reduce its expected ramifications (Zahran *et al.* 2008). It is perhaps self-evident that disaster preparedness is critical to recovery and resilience (Cutter *et al.* 2008; Godschalk 2003). In Australia responsibility for disaster preparedness is distributed across the different actors in the community: individuals and families, local governments, non-governmental organisations (NGOs) and emergency services providers. As it is beyond the capacity of most institutional bodies to undertake preparedness actions on a household level, individuals and families are encouraged to take shared responsibility for preparing their homes prior to a disaster.

In developed countries like the US various socio-economic indicators have been linked to preparedness. Zahran *et al.* (2008) stated in their review of several US studies that earthquake preparedness (e.g. possession of first-aid kits, emergency food supplies and evacuation plans) was less common in low income and minority populations, presumably partly because of the cost of such measures. Vaughan (1995) reported that individuals with inadequate resources or living in poverty in the US were less likely to undertake activities to mitigate the effects of disaster events perhaps because of a lack of a sense of personal control over potential outcomes. Fothergill (2004) indicated that poorer residents in the US could not

afford flood insurance, even though they were aware of its availability and benefits.

Little research has examined the links between financial capacity and preparedness in Australia. Australia not only experiences frequent natural disasters including flood, cyclone, drought and fire, its population and the built environment continue to develop in hazard-prone areas across Australia. This increases the vulnerability of individuals and communities to natural disasters. This research, part of a larger project examining community resilience to disaster, retrospectively examined, among other factors, preparedness for disaster and financial capacity in four disaster-impacted, Australian communities. The communities, Beechworth (bushfire 2009) and Bendigo (drought 2006-10) in Victoria, Ingham (floods 2009) and Innisfail (cyclone 2006) in Queensland, were selected because we wanted to explore common and disparate elements in the experience of different types of disaster to understand community resilience and develop a generic model of community resilience to natural disasters.

Method

A survey was distributed in each community between October 2011 and February 2012 to collect demographics and information about financial capacity, prior experience and household preparedness factors. Survey questions included:

1. **Financial capacity indicators:** I had financial resources to deal with the impact of the event; I had adequate insurance to deal with the impact of the event.
2. **Household preparedness indicators:** I felt I knew enough about how to best prepare myself and my property for the floods/cyclone/drought/fire; I had an emergency kit/water saving plan to use in event; I had a fire action plan/household emergency plan/ water saving plan to follow; I prepared/ secured my home/property well; I was prepared to deal with the physical impact of the event; I was prepared to deal with the emotional impact of the event.

Responses were collected on a Likert scale coded 1 (Definitely Disagree) to 4 (Definitely Agree). Questions below were responded to by Yes or No (coded 1/0).

3. **Prior disaster experience indicators:** I have lived through a disaster event prior to this event; I have experienced traumas prior to this event; I have experienced major financial difficulties prior to this event.

These factors or constructs were validated through Rasch analyses (using Winsteps 3.68 software) which, also yielded interval-level measurements for each person on each construct for use in regression analyses (see Boon *et al.* 2012 for complete method descriptions). Descriptive analyses extracted the sample means and standard deviations from each community sample for all indicators, followed by analyses of variance (ANOVAs) of indicators to determine differences between communities. Regressions were performed using a range of demographics and the Rasch measures of each construct to ascertain which variables best predicted preparedness. Analyses were conducted on IBM SPSS 20 software.

Cluster sampling was used to select participating households. Research assistants approached households identified on map grid points, hand-delivered surveys to residents, then collected them some days later by arrangement. Research assistants offered the surveys only to those householders who confirmed they had been through the natural disaster in question. Survey response rates ranged between 88-94 per cent across the communities.

Results

Table 1 shows some demographic characteristics of the sample (N=1008). Differences in receipt of financial assistance reflected the policies of the Australian Government, which provided extensive financial assistance to individuals affected by cyclone or flood but not to those affected by bushfire or drought. As a corollary, most residents from Ingham and Innisfail received financial assistance from the Queensland or federal governments.

ANOVAs of sample means (Table 1) showed significant differences between communities. In each case, more Ingham and Innisfail respondents than Beechworth or Bendigo respondents experienced prior traumas, disasters and financial difficulties, suggesting higher exposure to disasters and disadvantage in Queensland, as confirmed by their relative economic disadvantage assessed by SEIFA (Socio Economic Indices for Areas) constructed from the 2006 census data (Boon *et al.* 2012).

ANOVAs of financial capacity and preparedness indicators also showed significant differences across communities (Figures 1 and 2, Table 2).

Figure 1. Means of financial indicators by community (lower means indicate lower financial capacity)

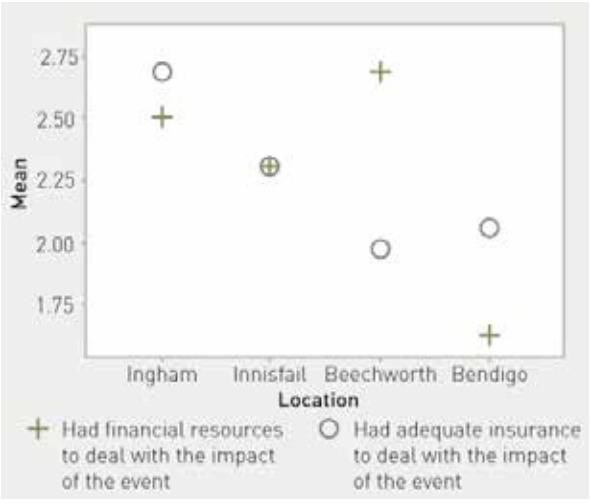

Table 1. Sample characteristics by community (N=1008)

		Ingham N=287 N%	Innisfail N=231 N%	Beechworth N=249 N%	Bendigo N=241 N%
Gender	Male	34.6	31.9	35	49.3
	Female	65.4	68.1	65	50.7
Current age	18-25	8.9	5.3	2.5	3.4
	26-40	15.6	23.5	16.3	15.3
	41-55	41.1	36.3	25.5	35.2
	55+	34.4	35	55.6	46.2
Residence during disaster	Rented	18.7	35.6	11.6	6.8
	Own home	78.4	61.7	87.2	91.5
Assistance from council		19.6	35.9	5.1	9.5
Assistance from charity groups		16.1	31.3	3.6	7.1
Financial assistance from state or federal government		82.5	90.2	15.8	18.9
Disaster experience prior to this disaster		88.5	79.6	62.5	46.0
Trauma experience prior to this disaster		72.4	73.5	61.4	57.0
Major financial difficulties experience prior to this disaster		42.7	40.8	33.1	34.7

Figure 2. Means of preparedness indicators by community (lower means indicate lower preparedness)

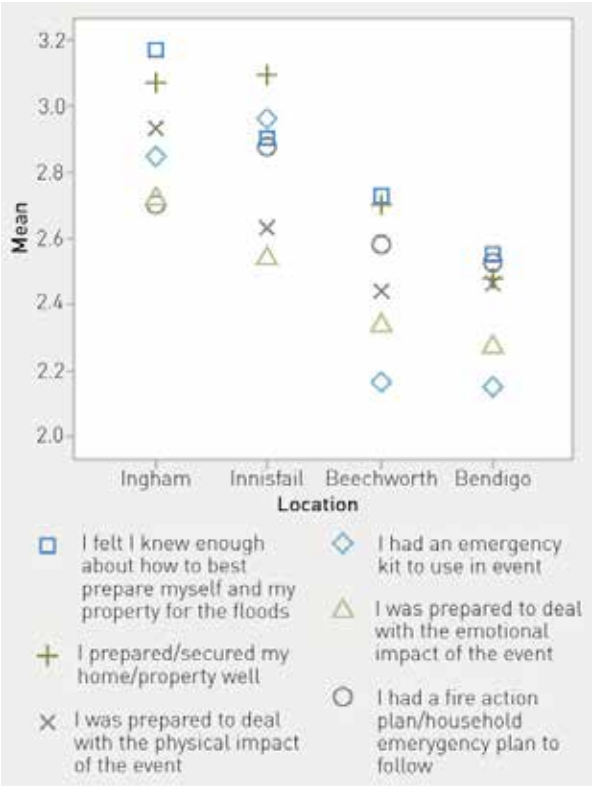

Table 2. Financial capacity and preparedness ANOVA results across the four communities (N=1008)

Indicator	F-ratio
I had financial resources to deal with the impact of the event	19.09**
I had adequate insurance to deal with the impact of the event	33.73**
I had a fire action plan/household emergency plan to follow	3.93*
I had an emergency kit to use in event	41.20**
I prepared/ secured my home/property well	21.93**
I was prepared to deal with the physical impact of the event	13.53**
I was prepared to deal with the emotional impact of the event	11.03**
I knew enough about how to prepare myself and my property for the event	21.6**

* Significant at p < .05 level; ** Significant at p < .001 level.

To examine which indicators predicted preparedness, stepwise regressions were conducted across all communities using demographic variables which have been significantly linked to preparedness in the research literature (i.e. age, gender, employment, prior disaster experiences and financial capacity). Results (Table 3) showed preparedness was significantly predicted only by financial capacity (Model 1: standardised regression weight (β) = 0.44, p<.001). Prior disaster experience increased the variance explained (ΔR2) by 2 per cent (Model 2). Analyses repeated for each segregated community, (Model 2) predicted 27 per cent (R2) of preparedness in Ingham, (p<0.001) and 24 per cent (R2) in Bendigo (p<0.001). However, prior disaster experiences did not predict preparedness in Beechworth (Model 1: R2 = 15 per cent, p<0.001) or Innisfail (Model 1: R2 = 14 per cent, p<0.001). The role of financial capacity for preparedness therefore appears to be more significant than prior disaster experience.

Table 3. Stepwise regression analyses for preparedness

Model	Step and predictor variable	B*	S. E.*	β	R^2	ΔR^2	p
1	Financial capacity	.311	.026	**.440**	.20		0.001
2	Financial capacity	.324	.026	**.458**	.22	.022	0.001
	Prior disaster experiences	.173	.042	**.150**			

*B is the regression coefficient; S.E. is the standard error of the test statistic.

Discussion

Across the four communities, the research found that preparedness was predicted by an individual's financial capacity defined by their ability to meet the costs of the disaster and their insurance cover for the damage sustained. The results showed that irrespective of disaster type, people with greater financial capacity were better prepared, since findings were consistent within each community. It was noted that even in a slow onset event such as a drought, people who reported being better prepared also reported stronger financial capacity. Notwithstanding a possible limitation caused by recall bias due to the elapsed time between each disaster event and the research, results support previous findings showing that lower income is correlated with poorer household preparedness (Fothergill & Peek 2004).

It is not unexpected that financial capacity should be positively correlated to those aspects of preparedness which incur a financial cost such as emergency kits and insurance coverage. Nonetheless, this study incorporated questions which referred to those aspects of preparedness which do not appear to have a monetary cost such as: *I prepared/ secured my home/ property well; I was prepared to deal with the emotional impact of the event*. It is perhaps surprising that these aspects of preparedness were correlated with financial capacity. Perhaps these aspects of preparedness also incur an indirect financial cost, for example, by requiring an investment of time in these activities which might otherwise be directed to income producing or other activities. In addition, financial capacity may be related to another construct which was obscured in the research, for example, a personal attribute such as lack of self-efficacy or disability (Paton 2000).

Given that 'financial capacity' is a subjective measure, individuals who did not endorse the items *I had adequate insurance to deal with the impact of the event* and *I had financial resources to deal with the impact of the event* may have had a range of incomes which did not necessarily correlate with objective measures of poverty or low income. Nonetheless, these questions represented a degree of perceived economic vulnerability to disasters which would be expected to overlap with such measures. In addition, results showed that some individuals agreed/ strongly agreed with these items, indicating that they believed they had sufficient financial resources and/ or adequate insurance, or that they were not directly impacted by the disaster. Innisfail was notable among the four communities as having the most individuals stating they had insufficient financial capacity, which is perhaps unsurprising given the extent and gravity of the cyclone and the communities relative economic disadvantage, evaluated by SEIFA socioeconomic indices. In this sense, vulnerability to a natural disaster depends on the nature of the event and the circumstances of the individual. Research needs to explore the relationship between reported financial vulnerability and an objective measure of income in Australia with regard to disaster preparedness. Such research should also untangle whether personal attributes, as outlined and indicated in the disaster literature (Paton, Smith & Johnson 2005), are related to vulnerability.

It should be noted that Model 2 explained 22 per cent of the variance in preparedness, with some variations within each community, leaving 78 per cent of preparedness unexplained. Other factors clearly predict preparedness, for example, self-efficacy beliefs (Paton, 2003), a sense of community (Bishop *et al.* 2000) or initiatives from local organisations like the State Emergency Service. For example, Kim & Kang (2009) reported that an integrated connection to community-level communication resources including local media, community organisations and interpersonal networks had a direct impact on the likelihood of engaging in pre-hurricane preparedness among US residents' responses to *Hurricane Ivan* (2004). Conversely, an absence of these factors, coupled with reduced financial capacity, might result in an individual being unprepared for a disaster. Moreover, other forms of vulnerability might exist in tandem with reduced financial capacity such as ethnic minority status, gender, disability or age. It seems that preparedness

for a natural disaster depends on a multitude of influences as well as individual personality traits which would presumably vary from one event to another. Nonetheless, reduced financial capacity is relatively easy for policy makers to identify for the provision of support to individuals/householders when undertaking disaster planning and education.

Conclusion

This paper highlights findings from research examining the links between financial capacity and preparedness in four disaster-impacted Australian communities. Research in the US showed the poor suffer disproportionately from disasters (Zahran *et al.* 2008). Results reported here suggest a similar situation in Australia, for a range of natural disasters. If this is partly due to a lack of preparedness, then greater intervention to protect those with diminished financial capacity needs to take place in Australia. Governments and policy makers need to make provision to alleviate the economic impacts of natural disasters on the disadvantaged. Provision could take the form of subsidised insurance to diminish dependence on charity assistance post-disaster, subsidised low-cost emergency kits and targeted community education to help householders lessen the burden of disaster ramifications. Given the increasing numbers of natural disasters in Australia, policies to mitigate disaster impacts and vulnerability of individuals and communities are an equity issue.

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A state of emergency: how local businesses experienced the 2012 flood in Fiji

Karen E McNamara, The University of Queensland, examines how local authorities in Fiji might better respond in emergencies to ensure the socio-economic wellbeing of the local community is protected.

ABSTRACT

In late March 2012, severe flash-flooding caused loss of life and widespread damage to property, businesses and community infrastructure in and around Fiji's international tourism destination, Nadi. With little warning, local businesses had limited or no time to prepare for inundation once the banks of the Nadi River broke. Drawing on the experiences of local businesses in Nadi, the major causes of extensive financial loss were high recovery costs, limited insurance of property and goods, and contracted levels of government assistance to help them prepare and recover. This was a serious concern for the long-term sustainability of local businesses in the area. Lessons on how local authorities might better respond in the future are proposed, which include more effective early warning systems and strengthened disaster preparation and recovery systems to ensure that the socio-economic wellbeing of the local community is protected in the long-term. R

Background and study objective

The flood in late March 2012, which affected Nadi and surrounding areas, was touted by the media and Fiji government officials as the worst flooding event experienced by Fiji in decades. Record high rainfall in March, caused by Tropical Depression TD17F, fell onto an already saturated catchment due to a previous flooding event in January the same year. This torrential rainfall fell over Fiji's Western Division, which makes up the economic backbone of the country due to the location of core industries such as sugar, gold mining and tourism. Devastation was experienced throughout the area, including the Division capital, Lautoka. However, Nadi, a hub for commerce and tourism, experienced some of the most severe and sustained damage as a result of the meandering Nadi River that defines the downtown area. The river meanders through the main commercial centre of Nadi Town, which contains numerous shops, businesses and homes. The entire Nadi River basin, traversing an area of 517km², is very important to Fiji as it supports the livelihoods of around 65 000 people (IUCN 2011). As a consequence of this flash-flooding, the Nadi River broke its banks early in the morning on 30 March 2012 and the town was inundated by peak floodwaters of six metres above mean levels.

Nadi and surrounding areas are located on a floodplain, and, as such, community infrastructure and settlements are located in low-lying areas that are bound by the Nadi River. Flooding and inundation events are not new to the residents and business owners in this area, but the flooding event in late March 2012 brought with it an unprecedented level of devastation, loss and concern about the future sustainability of this area as an urban centre and a major tourism destination.

With little warning provided to residents and shop owners to move their goods and livelihood assets to higher ground, the result was a staggering financial loss that burdened the large proportion of locals in the affected areas. A correspondent for a Fijian magazine, *Tafazul Gani*, lamented at the time of the flood: 'Basically, if you look at the town, the town is totally decimated. It actually looks like a warzone. There is not a single shop in the town which has not been affected' (Kerin 2012). Four people were killed by the flood, which also temporarily displaced 15 000 people who sought assistance, food and shelter in evacuation centres. There was widespread 'damages to infrastructure, schools, homes, businesses and agriculture' (UN Resident Coordinator 2012, p. 1). Consequently, government authorities declared a state of emergency on 1 April 2012 (AFP 2012).

For the first time in history, the Nadi International Airport, which serves approximately 1.2 million passengers a year, was closed to inbound passengers for four days with a contracted number of outbound flights permitted during this time. The reason for the closure was the severity of the flooding and the inability of people to travel to hotels and homes once in Nadi. This added drain of more people in the disaster area would put pressure on already scarce resources such as food and freshwater.

The *United Nations International Strategy for Disaster Risk Reduction* (UNISDR) defines disaster risk reduction as 'the systematic development and application of policies, strategies and practices to minimise vulnerabilities, hazards and the unfolding of disaster impacts throughout a society, in the broad context of sustainable development' (UNISDR 2004, p. 3). While this definition is broad in scope it makes a very poignant point; that sustainable development should be the core focus in planning for and recovering from disasters.

Disasters hinder development. Moreover, development itself can be the root cause of a disaster, and development processes and challenges, such as poverty and limited livelihood resources, can severely influence the extent of damage caused by disasters (see Kelman & Gaillard 2008). Disaster risk reduction and management is multi-disciplinary in that it needs to consider the broader political, socio-economic and environmental conditions in which a disaster unfolds (see Gaillard, Liamzon & Villanueva 2007; Wisner *et al.* 2004). As such, this study was driven by one core objective—to explore how local businesses in Nadi experienced this disaster, drawing on the political, socio-economic and environmental conditions in which the flooding occurred. In understanding the coping responses of shop owners, managers and employees, we can begin to understand how such a severe and damaging event might be better prepared for and managed in the future.

Methodology

The findings of this study are drawn from 34 surveys completed in November 2012 with local businesses in Nadi. These surveys, containing a mix of closed and open-ended questions, used the same set and order of questions to allow for analyses using the statistics program SPSS (version 16.0, see Neuman 2006). The survey enquired about the particular socio-economic characteristics of the business such as type of business, number of employees, and annual profit. The survey captured details on the preparedness and response of individual businesses to the flood in March 2012. For instance, questions probed respondents on the amount of time they had to move shop merchandise to higher ground and evacuate, along with the estimated cost of the flood damage. The survey concluded with a series of open-ended questions along with a number of quantitative attitudinal questions (using a Likert scale) that explored respondents' levels of concern about the incidence of disasters in their community, their preparedness for such disasters through the creation of disaster management plans, and evacuation plans for their businesses.

Starting at the northern end of Nadi's main street (Queens Road), 50 local businesses were approached by the author to participate in this study. On most occasions, survey participants could complete the survey straight away. For others, the survey was left to be completed and the author returned over the next two days to collect the completed survey. All surveys were self-administered. Businesses in the last block of the main street (at the southern end near the Hindu Temple) were not surveyed as this area has a higher elevation than the northern end and did not suffer major damage. In total, 34 businesses (a response rate of 68 per cent) agreed to participate in the study. For the remaining 16 businesses, limited access to staff and other time pressures prevented their participation. Surveys were provided in English, Fijian and Hindi. Nearly all respondents requested the survey in English (except for one who requested the survey in Fijian), which is indicative of the language spoken most widely at work, and which caters predominately to international tourists.

Image: Karen McNamara

Damage to a business in Nadi, 10 days after the flood.

Location and study sample

Fiji is a well-known Pacific Island country with a population of around 850 000. Fiji is a Melanesian country and encompasses over 300 islands which were formed through volcanic activity over 150 million years ago. Fiji generates its main sources of foreign exchange from a strong tourism industry and large sugar exports. Nadi is the main entry point for international tourists, due to the location of the international airport and gateway to the nearby Port Denarau, Mamanuca and Yasawa group of islands. Figure 1 illustrates the location of Fiji and Nadi, which is positioned on the west coast of the main island, Viti Levu. The majority of survey respondents were shop employees (44 per cent of the sample), followed by shop managers (29 per cent) and shop owners (27 per cent). More males completed the survey (65 per cent) than females (35 per cent).

Businesses had an average of 13 full-time employees across all the 34 businesses. A range of different

Figure 1 Location of Fiji and Nadi (Source: www.worldatlas.com).

businesses were surveyed, however, most of these service the large international tourism market, such as clothing, jewellery and handicraft stores. Larger businesses, such as department stores, supermarkets and a car dealership were included in the sample. A large proportion of respondents indicated an annual profit of less than F$100 000 (approximately AU$52 000; 78 per cent), followed by those businesses with an annual profit of F$100 000–F$499 999 (13 per cent) or more than F$500 000 (9 per cent).

Results: experiences of the flood

Local businesses in Nadi were surveyed six months after the devastating flood impacted on the town and surrounding areas. According to 77 per cent of respondents, they were not warned of the impending flood by local authorities. As lamented by one male shop owner:

> *'They could have given us warning early in the morning when the river was going to flood. No sirens, nothing. We woke under flood, too late to come in the shop. One hundred percent damage. It was a big disaster. I live in fear'* (survey #2).

This was the overriding sentiment put forward by respondents; that government failed to provide any warning to the local business community so they could prepare. The bulk of the warnings came late in the evening, which meant that many people missed them. Waking to the news that the Nadi River had broken its banks overnight and flooding was widespread throughout Nadi Town shocked and angered many in the business community who were unable to move their shop merchandise to higher ground and secure their premises.

Despite such views, the government did provide warnings of severe weather conditions to the local community, predominately through radio broadcasts. However, these warnings either came too late for businesses to adequately prepare or were not pitched at the correct warning level. As a result, the remaining respondents (23 per cent) indicated that the warning provided by the government was inadequate. One male shop owner explained the reasoning behind this: *'Not much flood warning was given only through radio that low lying areas can get flooded'* (survey #8).

The information provided in government warnings—that only some low-lying areas could be flooded—caused complacency for a number of businesses in Nadi. A female shop manager explained that there was a warning but it failed to provide enough detail about areas and streets at threat from flooding: *'Through the radio there was a flood warning for lower areas but I didn't expect it in our shop'* (survey #11).

The extent to which the flooding occurred in Nadi was not expected and this was largely a function of the limited information provided in the warnings to local businesses and the community at large. Overall, the 34 businesses surveyed indicated that the local authorities could have done more to help them prepare for the flood. The need for a more effective warning system was a common theme from respondents which is exemplified by a statement by a female shop owner: *'They should have one effective networking system where they can advise us about the flood'* (survey #22). This was one strategy put forward to mitigate the threat of flood; others included the need to improve flood forecasting and create more co-ordinated disaster preparedness.

A series of six attitudinal statements were also provided to respondents to ascertain the level of agreement based again on a Likert scale of 0 ('do not agree') to 4 ('strongly agree'). Responses clearly indicated that government has a responsibility to prepare local communities and businesses for natural

disasters in the future (flood, droughts, cyclones, mean=3.3 and climate change, mean=3.3). One female shop employee argued: *'Local authorities have the responsibility to provide information in advance so that the people of Fiji could prepare themselves for the disaster'* (survey #32).

The root of local business owner anguish towards government authorities on the lack of adequate warning was two-fold: warnings were not heard by many people as they were broadcast late in the evening and it was too late for many businesses to prepare, and warnings appeared to downplay the severity of the impending disaster and business owners did not rush to secure their shops and merchandise. While authorities may not have done an effective job of warning local businesses of the impending flooding in Nadi's main commercial precinct, there also appeared to be little responsibility taken by the business owners themselves. The history of flooding in Nadi and its identification as a flood-risk town should have been enough to prompt business owners to adopt a precautionary approach once torrential rain started. This may have avoided such a substantial financial and psycho-social burden that an event such as this causes.

According to survey respondents, the estimated cost of the flood damage for individual businesses ranged from F$1 000 to F$1 million with a mean damage bill of F$129 000. Based on the annual profits indicated by these local businesses, the damage bill averaged out to cost them their annual profit. Not only was the cost of recovery high, a large proportion of surveyed local businesses (85 per cent) believed that the local authorities could have done more to help businesses in Nadi recover from this flood. While this finding is concerning, it is not surprising. Lessons that emerge from most disaster situations across the globe speak to the need for greater support and assistance from authorities, regardless of the country or level of socio-economic development. For instance, one of the most highly-criticised disaster emergency responses occurred in the United States when the government was publically accused of mismanaging both the preparations for and relief response to *Hurricane Katrina*—a category 5 hurricane which made landfall over southern Florida in August 2005, causing close to 2 000 deaths and inundating 80 per cent of New Orleans as a result of a failed levee system (Masquelier 2006). In the case of Nadi, local businesses levied their criticisms of the inaction of authorities because little help was provided to shop owners to clean their shops and move damaged stock elsewhere. In previous flooding events (for example, January 2009), the Fiji Government provided local businesses with army personnel who helped with the clean-up, particularly the removal of mud, silt and damaged stock. This support was not on the same scale for the 2012 flood.

Much of the relief and recovery efforts were pitched at local communities rather than businesses, with an acute focus on the following thematic cluster areas:

- health and nutrition
- water, sanitation and hygiene
- education
- emergency shelter, and
- food security and agriculture (UN Resident Coordinator 2012).

It took up to five days for the flood water to recede. The government and Fiji Red Cross (amongst other teams) assessed the damage and started co-ordinating and providing relief across the identified priority cluster areas. According to the humanitarian action plan by the UN Resident Coordinator (2012), electricity was restored and water was partly restored 10 days after the flood. Initial assessments made on the cost of sustained damages to key economic sectors amounted to more than F$71 million, and yet little assistance was provided to economic sectors (such as local commercial businesses) to recover from the disaster. Not only did local businesses indicate that there was an inadequate level of warning of the impending flood, the damage bills were high and the recovery and assistance from local authorities was lack-luster. These experiences do little but instill fear of future flooding events in communities.

All survey respondents indicated they were concerned about the possibility of another flood in Nadi. In particular, 49 per cent of respondents were 'extremely' concerned, 39 per cent were 'very' concerned, six per cent were 'moderately' concerned, and only six per cent were 'a little' concerned. As put succinctly by a male shop owner: *'We are very concerned unless precautionary measures are put in place'* (survey #8).

Precautionary measures

Of the 34 businesses surveyed, only eight had insurance (24 per cent). These eight businesses included the large department stores, car dealership, major supermarket and two of the telecommunication shops. According to UNDP (2007, p. 80), 'Insurance can play an important role in enabling people to manage climate risks without having to reduce consumption or run down their assets'. For local businesses in Nadi, it is difficult and extremely costly to obtain insurance. Local insurance companies refuse to insure businesses in Nadi due to the high flooding risk. This leaves businesses with only one option of securing insurance—through international companies, which can be costly. As one female shop owner explained: *'Since we don't get insurance policies locally and international ones are very expensive, I have a bank account in which I save F$50 a week for any disasters that may come'* (survey #22). This difficult situation, where smaller local businesses do not have insurance could be improved by, as one male shop owner recommended: *'I believe we should have a flood insurance system'* (survey #15).

According to the *United Nations Human Development Report* of 2007-2008 there are a number of 'factors that create a predisposition for the conversion of risk into vulnerability' (UNDP 2007, p. 79). Among those, 'limited access to insurance' plays a central role in increasing

Local businesses without insurance found it hard to recover quickly or had to close down.

vulnerability (UNDP 2007, p. 80). In terms of individual households and small business proprietors, insurance plays an important role in managing climate risk by enabling crucial assets to be protected. Without such protection (as is the case for the majority of Nadi small local businesses surveyed), proprietors are open to absorbing the shocks of such climate hazards without the necessary protection. Severe flooding, at increased intervals, is likely to eliminate saved capital and lead to businesses closing their doors if they cannot absorb the cost of stock, infrastructure and other capital losses.

Respondents were asked to reflect on their level of concern over a series of 20 diverse issues in their community, ranging from unemployment, transport infrastructure, governance structures, and the maintenance of cultural identity. The purpose of this question was to compare how respondents viewed a series of important community issues and to ascertain whether localised flooding was a core concern. This level of concern was assessed using a Likert scale of 0 ('no concern') to 4 ('extreme level of concern'). The issue that showed the highest level of concern by respondents was high crime levels (mean=3.3) and the frequency and severity of floods (mean=3.3), followed closely by the low-lying nature of Nadi itself (mean=3.2). Crime and looting were reported in the media and referred to by respondents as a serious problem during the 2012 flood. These findings indicate how the three major concerns for respondents all relate to the disastrous impacts of localised flooding events on the Nadi community and surrounding areas.

Another prominent issue of paramount concern for respondents (gauged in a seperate question) was that the Fiji Government should pay more attention to natural disasters such as floods when making planning decisions (mean=3.5). Some survey respondents explained how and why the government needed to seriously consider how it manages disasters, such as floods, in the future. For one male shop owner:

> *'I feel for the sake of livelihood in Nadi, the government should divert the Nadi river to avoid any more disasters as the people of Nadi has suffered a lot in the past due to flood. This is the best option and the government must take keen interest in protecting jobs, safety and security of not only businesses in Nadi but also the general public'* (survey #10).

Expectation was clearly placed on the Fiji Government to address and manage disaster preparedness (including more effective warning systems) and recovery for local businesses. A large proportion of respondents voiced their support for the Nadi River to be diverted. This is also a mainstream and widespread request from the broader local community.

While it seems like an unreasonable and even unrealistic request, it is something that has been seriously considered by authorities but no clear plan for the future has been executed. The Nadi Town council and officials from the Japanese International Cooperation Agency have carefully considered a river re-divert plan as a way of providing a solution to Nadi's flooding problems. It is likely that the main impediment to its implementation is finances. Diverting the Nadi River away from the town centre and the majority of the population, via a three-kilometre diversion channel is estimated to cost F$62.9 million (Wise 2012). This funding has not yet been forthcoming.

Not everyone agrees, however, that diverting the river or dredging the mouth of the river is the best approach to mitigate the threat of such flooding events in the Nadi area. An eight and a half kilometre stretch of the Nadi River was dredged following the flood in January

2009. Despite the removal of 1.1 million cubic metres of silt from the river system, the dredging proved ineffective in preventing the flood in March 2012. Nunn (2010) argued that diverting the Nadi River away from the town centre would be ineffective in mitigating flood risk. Nunn (2010) claimed that sea level rise, which is expected to continue to increase over the next century, is the root cause of the increased flooding events in Nadi and, hence, the diversion exercise would make little or no difference. For Nunn (2010, p. 246), the 'only realistic option for Nadi town is to relocate as soon as possible'. This proposed long-term adaptation strategy for Nadi and nearby areas to relocate to higher ground brings with it a host of concerns about rights to land and culture (Farbotko & Lazrus 2012), and a complex set of socio-economic and psycho-social community impacts (McNamara & Westoby 2011) that require careful and sensitive consideration.

Lessons and conclusions

Across the Pacific region, communities are faced with a series of challenges—economic uncertainty, socio-cultural change, and natural resource management. Climate change and the severity of natural disasters are a major threat to the sustainability of Pacific populations, both in the short and long-term. Adaptation to hazards is likely to be exacerbated by sea-level rise, which is a critical issue for all Pacific Island countries. As appropriate and sustainable strategies are developed by governments and civil society organisations across the region to respond to climate change and climate-induced events in the future, it is crucial that we learn how past disasters have been experienced and managed. This event in Fiji exemplifies the complexity of longer-term planning, particularly as it appears that local communities are becoming more reliant on others to assist in developing solutions.

The flood in March 2012 was considered by the media and Fiji Government officials as the worst flooding event experienced by Fiji in decades. Based on a survey of 34 local businesses in Nadi, six months after the flood, their experience was epitomised by this male shop manager: *'This last flood was the biggest and we couldn't help each other'* (survey #15). The experiences of local businesses with this flood have highlighted a number of shortcomings and subsequent recommendations for the future. Little warning, high recovery costs, poor levels of assistance from the government to help businesses prepare and recover, and limited insurance were all serious factors that undermined the capacity of businesses to cope with the disaster. Many respondents *'live in fear'* (survey #2) that another flood will cause further devastation and force more local businesses to close down their operations.

Disaster risk reduction and management is a multi-disciplinary and cross-sectoral issue. As such, it should not only be mainstreamed at the national level, but be a national and local priority. Respondents made it clear that the government—across all levels—needs to provide greater attention to disasters when making planning decisions for the Nadi area. At the national level, work should continue through the National Disaster Management Office which co-ordinates emergencies such as this one, on improving early warning systems and disaster preparedness and, if necessary, improved flood forecasting. There was a clear deficiency in the warnings provided to local businesses, and indeed the community at large, prior to this flooding event. Another approach that could be explored by local government is the re-planting of the forests upstream, which have been cleared extensively in the past and are, in part, responsible for the rapid rate at which rainwater drains into the lowlands. Such re-vegetation initiatives could reduce the velocity of floodwaters, delay the flooding of towns, and increase the warning time provided to local communities to prepare.

Image: Karen McNamara

Nadi Town becomes a flurry of activity a week after the flood with numerous local businesses holding 'flood sales'.

Flooding events are common in Fiji. However, the incidence of such events, particularly in the Western Division, has also increased in 'magnitude and duration over the past five years' (Nunn 2010, p. 245). This presents a significant challenge to the long-term sustainable development of the country, especially in high-risk locations such as Nadi, which is home to the core pillars of the Fijian economy. In facing these challenges, there is an urgent need to explore lessons learned from past events and develop further strategies to mitigate the threat of floods. Some lessons have been briefly explored in this article and have revolved around the need for more effective early warning systems and dissemination of accurate information to people, greater external assistance to local businesses to help in the recovery stage, and better long-term planning decisions around land-use and catchment management. Respondents also reflected on their fear of future flooding events and the hardships they face as a result of being unable to insure their business. It is hoped that such lessons can also value-add to current discussions surrounding disaster risk management and climate change (see Gero, Méheux & Dominey-Howes 2010; Mercer 2010). At present, these discussions are very prominent at the regional level in the Pacific, with a process underway to develop an integrated Pacific regional strategy for disaster risk management and climate change adaptation and mitigation for 2016-2025. It is hoped that such an integrated strategy will be beneficial to how local communities and businesses prepare and recover from disasters in the future.

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Municipal Emergency Response Officers and local priorities in Australian emergency communication

Dr Chris Galloway, Massey University, Auckland, looks at emergency communication roles and why they need clarification at a local government level.

ABSTRACT

Local government is an under-researched field in itself and its role in emergency management even more so. However, working with specialised responders, local government employees often play key roles during emergencies. Emergency management studies frequently pay little if any attention to these roles, subsuming them into consideration of the parts played by dedicated agencies and state and federal authorities. The neglect extends to consideration of the role of local governments in emergency communication.

A survey targeting communication staff in Victoria's 79 local government councils set out to provide an initial study of this topic. The survey respondents provided some valuable material, especially expressions of interest in emergency communication training. This paper suggests that the pattern of survey responses may indicate that emergency communication roles need to be clarified at a local government level. It also outlines an agenda for future research. R

Local government role

Local governments play a significant role in managing emergencies in Australia, even though the emergency management task falls mainly to state and federal governments (Australian Local Government Association [ALGA], n.d., para.3). There is a move to spread the burden of emergency management and the development of disaster resilience beyond authorities alone through a concept of 'shared responsibility'. This means that 'communities, individuals and households need to take greater responsibility for their own safety and act on information, advice and other cues provided before, during and after a disaster' (ALGA n.d., para. 8). However, this focus expands rather than excludes local government involvement. Therefore, when it comes to emergencies, 'the essential remedy to an emergency situation is almost invariably applied at the local level' (Drabek & Hoefner 1991, cited in Alexander 2005, p. 161). As Alexander notes, 'even the largest catastrophes have to be managed by marshalling resources in local units' (2005, p. 161). This is consistent with Wilson's advice (1989, in Kapucu 2011, p. 212) that authority in public services should be placed 'at the lowest level at which essential information for sound decisions is available'. It is logical that local government should fulfil a frontline role in emergencies along with other specialised responders.

The importance of this role is recognised in a 2006 ALGA survey where more than 50 per cent of respondents regarded emergency management as a very important function of local government. Similarly, other countries value local government involvement. For example, in Canada, municipalities handle 95 per cent of all emergencies and are responsible for public security and emergency management (Federation of Canadian Municipalities, 2008, in Killingsworth, 2009, p. 61). Yet academic researchers seem to pay little if any attention to the local government/emergency nexus. Research is being produced on subjects such as local government engagement with communities (for example, Morris 2012) or how local authorities are using social media to engage with citizens (Howard 2011). Yet online Google search engine inquiries using phrases such as 'local government communication'; 'local government emergency communication' and 'local government public relations', all with an Australian focus, reveal no on-topic responses at all. In part, this may result from a lack of perceived differentiation between the communication requirements of the public and private sectors. Communication management literature tends to treat the two domains as effectively identical despite an extensive survey identifying 'far more differences than similarities in how the two sectors shape communication practices' (Liu & Levenshus 2010).

Canadian researcher Colleen Killingsworth observed: 'Despite extensive literature on the nature of organizational communication, and government communication at the federal, state and provincial level, there is little research exploring government communication at the local or municipal level' (2009, p. 62). In Australia, an article on 'The neglect of public

relations in Australian public administration' in *The Australian Journal of Public Administration* (Caiden 1961) does not appear to have prompted subsequent research since its publication more than 50 years ago. Killingsworth's view is endorsed by Australian scholars, Simmons & Small (2012, p. 2), who note: 'To date there has been little study or theorisation of the practice of local government public relations and communication in Australia, or elsewhere' (Horsley, Liu & Levenshus 2010). This neglect carries over into the field of emergency communication and the role of local government communicators.

While the importance of effective communication in disasters or major incidents 'cannot be overstated' (Leadbeater 2010), *The Australian Journal of Public Administration's* most recent coverage of emergency management (Boin & t'Hart 2010) offers broad advice on communication rather than the specifically local focus of this article. The authors draw on Hilliard (2000) to assert that forging effective communication and collaboration among pre-existing and *ad hoc* networks of public, private and sometimes international actors are one of nine different recurrent challenges of crisis response facing political office-holders, agency leaders and other senior public executives at a strategic level. They also note that at the tactical and operational level, incident commanders and operations managers need to inform and empower communities by transmitting accurate, timely and actionable information upward, outward and downward within the crisis response structure, as well as to relevant citizens and communities, designed to enable these actors to make informed crisis-response decisions within their respective domains of involvement (Boin & t'Hart 2010, p. 360).

Crisis management, say Boin and t'Hart, 'critically depends on smooth communication flows within and between organisations' (2010, p. 362). It is these communication flows for which professional communicators in local government bear some responsibility on a day-to-day basis; experience which becomes vital in the case of an emergency.

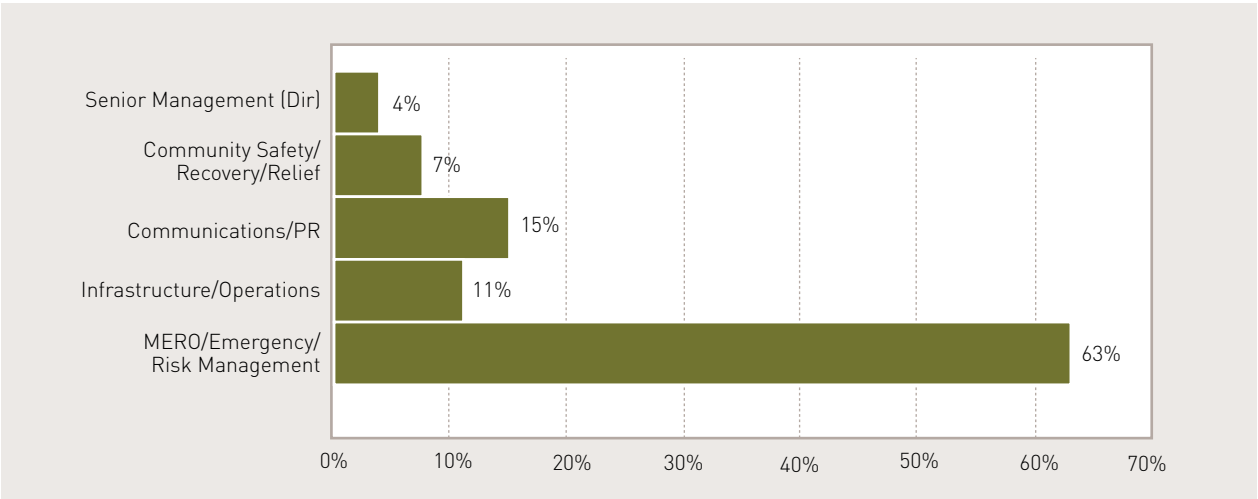
The survey

The survey was intended to capture information about local government communicators within the wider emergency planning, response and recovery context. The methodology was a purposive sample of these communicators in the state of Victoria conducted via an online survey using the survey creation tool SurveyCreator. While a wider survey would have been instructive, limiting inquiry to Victoria was sufficiently indicative as an initial exploratory study. The survey was constructed with assistance from the Municipal Association of Victoria (MAV), which promoted the survey via its newsletter to Victorian local government councils. The sample was therefore derived from council staff members responding to the MAV promotion. Respondents accessed the survey website, completed the survey and submitted it electronically. Submissions were returned to the MAV and passed to the researcher as de-identified responses.

Figure 1 shows the mix of position titles that survey respondents nominated. Of those responding, 23 had the title of Municipal Emergency Response Officer (MERO) and did not have the term 'communication' in their job title. Only 15 per cent (n=4) had a title that clearly reflected a communication or public relations function. This was not expected and the responses did not indicate why a number of MEROs rather than colleagues with direct communication responsibilities replied. Nevertheless all respondents were able to provide informed opinions about emergency communication. As illustration, MEROs are response co-ordinators who call in specialist communication support as needed (P Fitz, personal communication, 18 October 2012).

Most responses came from council staff who for day-to-day operations report to a manager or team leader position. This was especially marked in rural local government councils, where the majority reported to a manager. A significant number of rural respondents (n=8) were responsible to a general manager, director, or chief executive. In total, a third of the senior

Figure 1. Details of survey respondents' position titles.



positions identified were responsible for overall management of a council. Some, such as Director, Environment and Infrastructure, were responsible for a specific unit or department. In many cases these reporting responsibilities were maintained in the case of an emergency, with a combined total of 33 per cent (n=9) accountable to senior management. A minority (11 per cent, n=3) were under the guidance of an external agency such as the police or the State Emergency Service.

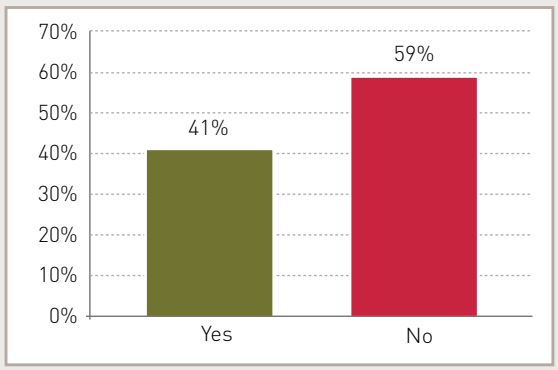
Analysis

Respondents' relationships with both local government council and external emergency management response personnel appear to be robust. Referring to council emergency staff, a combined (metropolitan/rural) total of 20 respondents (72 per cent) indicated they had an 'excellent', 'close', 'strong' or 'good' relationship with these colleagues. The view of relationships with external personnel was even better—a combined total of 75 per cent (n=20) indicated 'excellent/brilliant' or 'strong/good/supportive' to characterise these connections. Inside local government councils, only one respondent described the relationship as 'frustrating' while three indicated that relationships were merely operational or functional. Externally, two responses described the relationship with external emergency response staff as 'distant/non-existent'.

All respondents reported being trained in emergency management but not all thought this training was necessary. Two, from rural councils, thought it was not. Most respondents reported carrying responsibilities for emergency planning and training (63 per cent, n=17), although for 26 per cent (n=7) the focus was on anticipating communication and media demands. In an emergency, most respondents operated in a MERO role, managing emergency response and associated communication. A combined total of four respondents focused on planning and communication; two metropolitan respondents dealt with the media, while one rural council employee had a multifunctional position. After an emergency, the priority for most people was recovery and repair operations (67 per cent, n=18), with a combined total of four (15 per cent) concentrating on media and communication responsibilities. It may be that the recovery and repair emphasis partly reflects budget allocations. While 41 per cent of respondents had a budget for emergency communication, 59 per cent did not, see Figure 2.

Respondents were asked, *'Could respondents do more before, during and after an emergency?'* Responses to this question were evenly split. Of those who thought there was room to make a greater contribution, most felt that dedicated resources, more training and more funding would facilitate more involvement. Some also thought they could play a more significant part in communication and sharing of information. However, a significant number (n=11, 41 per cent) did not respond to this question. In most cases (n=17, 63 per cent) time, budget or the availability of other necessary resources were identified as barriers to making an additional contribution, although two considered that a lack of understanding or commitment in their local government council constituted an obstacle. One respondent saw the diversity of the local government sector as a barrier in itself: 'State-based agencies don't comprehend that the 79 municipal councils are, in fact, 79 independently managed companies in their own right and therefore it is difficult to have the same level of consistency across each municipality as each sees the level of risk differently, and there are huge competing values and expenditure across the sector.'

Figure 2. Budget allocation for emergency



Respondents were asked, *'If there was one thing you could change about your, or your team's involvement in emergencies, what would it be and why?'* There was consensus around the need for dedicated resources, more training with practical exercises and preparation testing, and also around the need for an improved or changed approach to emergencies *per se* (n=5, 19 per cent in each case). Two respondents pointed to the training offered by the Australian Emergency Management Institute, which includes 'community engagement and communication'. One metropolitan respondent noted: 'In general councils need more resources for emergency management – both human and financial'. Another commented that there had been 'cost shifting from state government to local government'. The theme was repeated by another respondent from a rural council who commented: 'The role of local government in emergency management needs to be reviewed'. The sentiment was endorsed by another rural respondent who wanted to 'reduce [our] involvement commensurate with resources as emergencies do impact on the team's ability to deliver against their normal program'. Two rural respondents wanted emergency response agencies to give them greater responsibility.

For questions related to training, there was a distinct (n=8, 30 per cent) preference for training on clear communication, the use of social media, and community engagement techniques and effects. A rural respondent noted that while there was not necessarily an opportunity to make a greater contribution than at present: 'We are currently working on improving communication in emergencies, particularly through

the use of social media. We are working with four other councils to develop communication protocols across the councils and to develop a communication framework'. The social media topic was picked up by another regional/rural respondent who was interested in training that was focused on how the right social media-based communication could influence 'community psychology'.

One metropolitan respondent wanted training around 'communicating before, during and after emergencies'. There was recognition of the challenges this might entail, with interest in training on 'dealing with different sectors of the community, dealing with traumatised… [and] angry people'. In line with this interest, another respondent from a rural council wanted training in 'handling rumours in an emergency environment' [because] 'rumours abound when official information is missing'. There was interest in 'communication recognised by emergency management specialists as critical to delivering strong performance outcomes' from another rural respondent, while a rural colleague sought training on 'emergency management planning, operating and working in a municipal emergency control centre including command, control, co-ordination, roles and responsibilities'. One comment envisaged communication training going two ways: 'For the most part a large number of communication professionals have a degree in crisis and emergency communication training/experience. Perhaps emergency managers need to be trained in the use of communication and engagement techniques'.

A respondent from a regional council was keen to be trained in 'how to develop "targeted" communication tools that ensure the message gets through to the "whole" community and how to keep EM (emergency management) in residents' front-of-mind rather than when an event is under way – but without becoming boring or they just turn the page'. One rural respondent wanted training in several areas—emergency management communication, HR management, time management, and resource management during an emergency incident.

A call for training on the roles and responsibilities of external agencies was well supported (n=7, 26 per cent).

In one case, a metropolitan respondent was keen to see a change in 'knowledge of council's role in emergencies'. A regional respondent identified 'understanding by outside agencies of the role of emergency management at local government level' as a barrier to making a greater contribution to emergency management. Another from a rural council wanted to see 'better communication inter-agency'. The latter respondent noted that there was a 'need to ensure that messages put out by other agencies accurately reflect our agency's role. Too often they get it wrong and cause increased workload'. However, many felt either that they were already adequately trained or gave no answer to this question. Asked for additional comments, two rural respondents called for emergency operations to be simplified. One metropolitan respondent saw a need to 'clearly define local government's role in an emergency, what our response is given various situations'.

State government's role was criticised by a respondent from a local government council encompassing both metropolitan and rural areas—a so-called rural-urban interface council. Replying to the question, *'If there was one thing you could change about you, or your team's involvement in emergencies, what would it be and why?'* the respondent indicated 'greater leadership and direction from State Government, which has abdicated significant responsibility in developing key policies and measures e.g. identification of vulnerable people'. The same respondent was interested in 'significantly improved warnings policy that is much more timely, more accurate and more blunt—and a clear authority [sic] of who will deliver the message'. Continuing, the respondent wanted 'a model…of what communication need to be made, when and by whom. Thus, when the Premier helicopters in, they could have a list of speaking points on which they could make announcements and not make policy on the run'.

Table 1 shows the responses to the question *'If you were to be given training in emergency management and associated communication, what topics do you think it should cover?'* How to best use social media and the most effective ways of working with external agencies are clearly seen as the most important areas to cover in future training.

Table 1. Training topics

Metro area		Rural area		COMBINED	
Interaction with External Parties/MECC	3	Agency roles/external responsibilities	4	7	26%
Communication/Social Media	2	Communication/Social Media/Engagement Techniques & Effects	6	8	30%
		Incident/Consequence Management	2	2	7%
		Various topics	2	2	7%
Nothing/No Answer	3	None/No Answer/Already trained	5	8	30%

Discussion

This survey has some obvious limitations. The sample was Victoria-based rather than national and therefore the findings presented may differ elsewhere. Responses came from 27 of 79 local government councils and may not capture behaviour and needs in the councils that did not participate. While the original aim was to explore the activity of professional communicators, MEROs constituted the largest group of respondents and therefore the results point to different perspectives and needs than those expected.

As emergency managers, MEROs are able to call in specific communication support they need (P. Fitz, personal communication, 18 October, 2012). However, the responses to the survey indicate that at least some MEROs do not consider that enough (or they do not have communication assistance available, or possibly they are unaware of what communication help they are able to call on). The improvements they seek are not merely a matter of increased personal knowledge of communication but also enhanced inter-agency communication and more effective communication to communities. Further, there is a need for clarification of communication roles and responsibilities, both locally and in relation to other agencies, such as the state and territory governments. These findings were not envisaged, as care had been taken to identify and invite participation from council staff with specific communication responsibilities. The fact that 63 per cent of participants came from MEROs may simply mean that the 'emergency' focus of the survey resulted in it being passed to the staff most readily identified with the emergency portfolio. The results however, do indicate both a need for action to improve communication at local government level and potential for further research. This might focus on why is it that MEROs want more communication training. Is it simply that they wish to improve their personal effectiveness or does their desire indicate a lack of confidence in communication resources available to them? How successfully are MEROs working with dedicated council communication staff? How confident are those staff in the value of their contribution to emergency communication? How specifically does the management of emergency communication differ between rural and urban local authorities? These and related questions demand answers and represent an agenda for future inquiry. Research might usefully focus initially on the relationships between MEROs and professional communicators in emergency management contexts.

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Impacts of wildfires: aftermath at individual and community levels?

Judith Kulig and Ivan Townshend, University of Lethbridge, Dana Edge, Queen's University, William Reimer, Concordia University and Nancy Lightfoot, Laurentian University consider impacts on individuals and communities in two rural communities in Canada.

ABSTRACT

Wildfires are becoming a greater concern in many areas of the world. In this article, focus is on wildfires in two rural communities in Canada with emphasis on the aftermath at both the individual and community levels. Through open-ended interviews, information was generated about individual experiences with recovery and the creation of groups in the communities post-wildfire. The findings reveal that despite the differences in the severity of the fires, residents at both sites experienced impacts after the event. Disaster management implications include the need to focus on all community residents, not just those who experienced losses, while investing in the social rebuilding of communities. R

Introduction

Wildfires are becoming a greater concern for a variety of reasons including climate change and increasing residential densities in wildland-urban interface areas (Brown, Hall & Westerling 2004, Ostry *et al.* 2008). Analysing past wildfire events offers the opportunity to document and understand evacuation and recovery experiences of individuals.

Literature

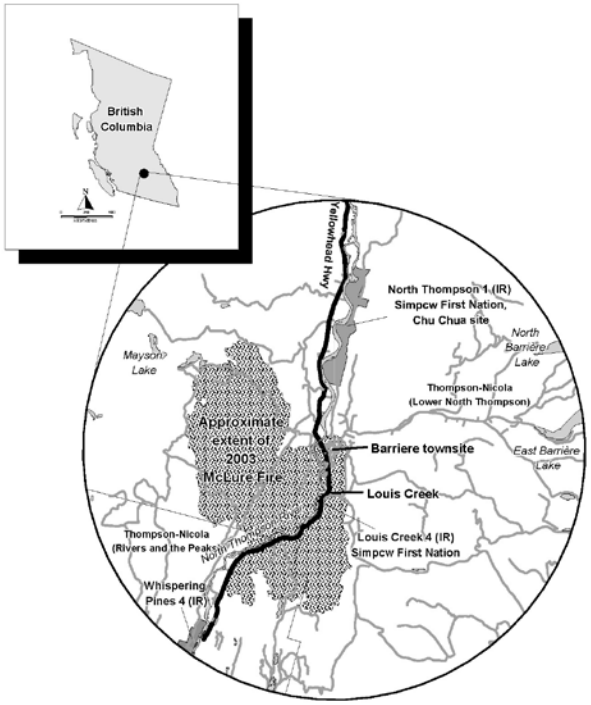
Research literature about the human and social impacts of such events on individuals and communities is limited, inconclusive, and equivocal. Some literature exists about mental health effects (Usher-Pines 2009) including research demonstrating an elevated risk for psychopathology among evacuated residents who sought emergency relief services (Marshall *et al.* 2007). Jones *et al.* (2002) examined the psychological impacts of fires on children and their parents and concluded that those with high losses had higher levels of post-traumatic stress disorder. However, the literature is contradictory and inconclusive about the temporal effects and duration of such responses for those who experience wildfires (Jones *et al.* 2002, McFarlane, Clayer & Bookless 1997).

Studies conducted in several American states confirm that in communities which have experienced wildfires, cohesion and conflict frequently occur among individual community members (Blatner *et al.* 2003; Carroll *et al.* 2005; Carroll *et al.* 2006). Carroll *et al.* (2005) found there were tensions between and within such communities attributed to variations in fire-related experiences. Tensions were experienced due to evacuation experiences (Cohn, Carroll & Kumagi 2006), fire attack processes (Carroll *et al.* 2005, Whittaker & Mercer 2004), or recovery experiences (Carroll *et al.* 2005). Findings from the Lost Creek Fire experience revealed that community cohesion and functioning were positively affected post-wildfire (Reimer *et al.* 2013). This growing body of literature provides an enhanced understanding of the wildfire experience but there is no concluding evidence about the connection, if any, between personal property losses and the impact of the event. This article reports on the aftermath from wildfires as experienced by the two rural communities in western Canada to answer the following question: 'Does the severity level of wildfires based on loss make a difference to the experience of individual and community impacts?'

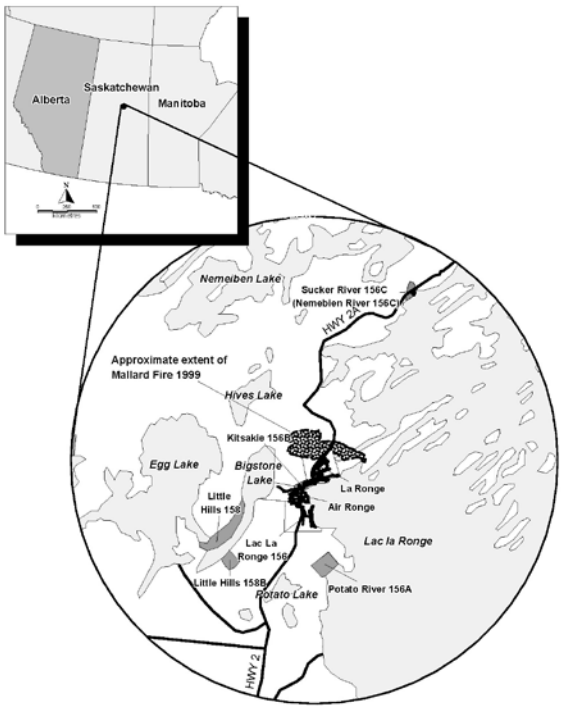
Study sites

Assessment of the Canadian National Disaster database (2012) generated a list of communities that had experienced wildfires with significant property damage and evacuation. From this list two communities in rural areas were chosen for further examination[1]. The first, in the Barriere area of central British Columbia, was the location of the 2003 McLure Fire caused by human error (the discarding of a lit cigarette as reported in Filmon 2004). It resulted in the evacuation of over 3 000 residents from several communities, the loss of 90 structures (homes, barns and other outdoor buildings), and burned 26 420 hectares of forested land.

1 Rural communities are defined as those with less than 10 000 residents outside the commuting zone of urban areas (du Plessis *et al.* 2001).



Barriere study area



La Ronge study area

Importantly, the community's major source of employment—a sawmill—burned down in the fire and was never rebuilt, adding to the losses experienced by the community. The second site, LaRonge, in northern Saskatchewan is comprised of three adjoining communities (the town of LaRonge, the village of Air Ronge, and the Lac La Ronge Indian Band[2]). It was the site of the 1999 Mallard Fire that was ignited by a lightning strike. Several hundred people were evacuated while the fire moved rapidly over an eight kilometre front, destroying 13 homes, ten of which were in an exclusive lakeside area.

Methods

The larger multi-methods study examined the links between wildfire experiences and community resilience (Kulig *et al*. 2011, Kulig *et al*. in press). It was conducted in collaboration with the participating communities using local advisory committees, local research assistants, and visits to the sites to conduct field work and discuss the findings. This article details the qualitative interviews conducted at both sites.

The research assistants were trained before conducting the 57 interviews in 2008 with residents from the two participating communities. Purposeful sampling was used to ensure that key organisations, policy-makers, and citizens affected by the fire recovery efforts were included in the sample. Subsequent to providing informed consent and completion of a demographic form, the research assistants used a series of open-ended questions to determine participant assessment of the community and fire experience. Examples of these questions include: 'How do you define a community?', 'What was your role in the community during and after the fire?', and 'What is the community like since the fire?' All of the interviews were recorded and confidentially transcribed. There were no refusals and data saturation was reached after 30 interviews at the McLure site and after 27 interviews at the La Ronge site.

Transcripts were analysed while the interviews were being conducted. This involved recording notes and re-reading the documents and reflecting on their meaning (Liamputtong 2013). In thematic analysis, frequent comparisons between and within the interviews occurs in order to identify common categories that describes the participants' perspectives (Schatzman & Strauss 1973). The categories led to the development of themes that were discussed with the advisory members to ensure the data were analysed appropriately for each local context. During this process, teleconference meetings were held with the research assistants to discuss the preliminary findings and ensure that clarification of emerging issues was achieved.

The adult participants included both genders and represented a range of professions. Participants experienced evacuation, helped fight the fires (as professionals and as individuals trying to save their home), and assisted with the recovery efforts of their communities or neighborhoods. While some

2 The Lac La Ronge Indian Band is the largest First Nation in Saskatchewan.

participants had left the La Ronge area, the majority remained in the community after the fire, so the interview responses represented a local perspective of the events and their aftermath.

Results

All participants were asked to discuss being a member of their community and their perceptions of the community's cohesion and resilience. Both the communities were described as friendly, welcoming, and caring with a strong sense of identity. In addition, both were described as having resilient characteristics, including cohesiveness, a willingness to help one another, a sense of community pride, and leadership that was proactive in addressing concerns.

'Feeling Closer'—'Lingering Effects'

The findings revealed a range of emotional effects from the fires. 'Feeling closer' was a common expression used by people in both communities. One woman from Barriere summarised a common sentiment among the participants as:

'I was really amazed how we were so taken care of and how everyone pulled in together. I really think that the fire really brought this community together.'

According to some, a greater sense of community cohesiveness had occurred since the disaster with an overall decrease in negativity. One female participant from La Ronge talked about how the experience of the disaster created a different kind of mentality among community members:

'You're part of my group now, because that happened to me, so maybe that brings us closer together or suddenly where we had no other reason to be friends or anything, we become friends. And probably disasters bring people closer together faster.'

After the fire, groups such as the local Search and Rescue and the Emergency Social Services experienced an increase in volunteerism that was attributed to the sense of caring for one another.

Even though positive outcomes from the fires occurred, there were individuals who spoke about the personal negative impacts of the event. Lingering effects from the fires, including physical and mental health symptoms, were experienced. These individuals found it difficult to cope with their losses. Other participants said they continued to fear that a fire would happen again: a fear that could simply be triggered by the smell of smoke. One woman from Barriere described it in this way:

'They just can't let go of fear. We never thought it would happen and now we know it can happen, so we think it's going to happen again.'

Feeling fragile in the wake of the fire was a common experience for individuals from both communities. One of the male participants from Barriere said,

'Before the fire I was fearless and capable of taking on the world', while another man from the same community said, 'I didn't feel I was alive until a year after the fire'.

The participants noted that the families who had lost homes in Barriere were under stress immediately after the fire. These families had to make decisions about rebuilding and how to manage financially, particularly because a number of them had no property insurance. For some of these families, the decision to curtail having property insurance, due to its high cost, led to guilt, regret, or frustration after they lost their home.

There were individuals in both communities who had ongoing difficulties with the fires, even though they may not have experienced being evacuated, or may not have lost their home or possessions.

Landscape around Barriere from the wildfire impact.

One woman from La Ronge said:

'I didn't personally lose a home, but I couldn't face it. I couldn't look at it because I knew there was so much pain and so much loss and people had lost irreplaceable items. It was very, very difficult because those extreme emotions lasted all through the summer.'

In contrast, another female participant from the same community talked about the long-term emotional impact from the fire experience:

'I know that for a year I was pretty screwed up. I got some therapy, I got some help. I left my job for two or three years, took a leave because I felt I wasn't in any shape to be able to be supervising people or making decisions about people's lives... And then the things that have happened to me since that fire – because that was a lot of loss, a lot of grief, and it wasn't – it's not your belongings, it's never your belongings. And I mean, I loved my house and I loved where I lived, but it's your animals and – I've always kept journals so I had journals since I was five years old, and I had pictures. So it's your history, you know, that got wiped out.'

Interviews also revealed that other community members were also struggling after the fires. Fatal heart attacks were perceived to be on the increase in the months following the fire in Barriere and concerns about a cancer increase linked to the use of fire retardants were mentioned. One female participant from Barriere said:

'You look at people that have health problems, and they were holding their own for a while and then they went downhill. We lost quite a few after the fire. Since that time there have been major health issues in the community and the rates of cancer have been high. I'm not sure if our community has blown up because of the fire or what, but it is horrendous the amount of people who are getting cancer.'

Image: Brent Kravetski

The Mallard Fire threatened the lakeside resort.

These beliefs were held by participants in both communities and therefore appear unrelated to the severity of the event. A male participant from La Ronge said:

'If you ask my father today he believes the fire is what killed my mother. That she ended up in such an emotional state around that time that her cancer came out. I mean, that's his belief. I don't know if I believe that. I mean, I believe that yeah, cancer lives in us all and yes, it is a big event sometimes or your body gets run down or something and suddenly that cancer becomes stronger than your good stuff. Was it the fire?'

Fragmented communities

Despite comments that people felt closer after the fires, there was evidence that several contrasting perspectives and experiences became important within the communities. After the McLure Fire these were:

1. those who wanted the community to stay the same and those who wanted change
2. those who lost everything and those who lost nothing, and
3. those who could not move on and those who put the fire behind and moved forward.

There was no evidence of outright conflict within the community related to these differences but they have the potential to serve as bases for social tensions.

One woman from Barriere referred to the first contrast as:

'I think in some instances they [impacts of the fire] are still ongoing. A lot of people have forgot and are willing to go on. But there is always that small element that seems to resist change. I think that some people have been changed for the rest of their lives from the fire.'

Another male participant from Barriere described the third contrast as:

'There are some who just can't let it go. I heard that people who go through great tragedies in their lives like to talk about it a lot, and part of that is trying to make sense of it. I think that is okay if you're a positive person. I think that there's a number of people who just can't seem to get past the fact that we had this tragedy and we lost members of our community who had to move away and took their young families with them. It hugely impacted us and it was a tragedy, but we have to move on and fight back.'

One issue that contributed to these different responses in the McLure Fire was the reaction by some participants about the assistance provided to those whose property was not insured. More specifically, a non-profit organisation built homes for individuals with no house insurance. Comments were made that these individuals were now living in homes that looked considerably better than their original mobile homes. In addition, some individuals who had their homes replaced through their insurance company chose to leave the community to secure employment elsewhere

after they learned that their workplace (i.e. the Tolko mill) was not going to be rebuilt. When they sold their newly-built homes, rumours circulated that these individuals did not abide by proper insurance company regulations that you had to own and live in the home for a year before you could sell it. Checks with the insurance regulatory board confirmed that no such regulation existed.

In the Mallard Fire situation, two different sets of viewpoints emerged. One perspective was that those who lost their homes did not need assistance, while the other was that those who lost their homes did not receive the assistance they needed. Some of the participants assumed that those who lost their homes at the lakeside resort area were generally more affluent, had the resources to rebuild, and thus, did not need any type of assistance.

The participants from the lakeside resort area who had experienced the most losses indicated they would have appreciated assistance from the wider community. They talked about how their loss was accentuated by living in a community environment that did not acknowledge their significance. Other viewpoints also emerged in the interviews. Some of the individuals who had lost their homes simply wanted time to reflect and deal with their loss, which may have been interpreted by the community residents as rejection. In Barriere there was a perception that separating those who experienced significant physical losses from those who had not was an inappropriate way to proceed.

One participant described it as the development of an 'exclusive club' for which community help was not welcome.

Discussion

In spite of the suggestions that reactions to wildfires may be affected by the size of the wildfire, its intensity, and duration (Kumagai *et al.* 2004), research found that individual responses to wildfires were not always related to property losses or with being evacuated. Individuals who were not evacuated and experienced no losses, still reported emotional impacts—in some cases, they also experienced physical or perceived physical effects. More information about these variations of responses by community residents who experience various types of wildfires is needed to understand the impact (Marshall *et al.* 2007) and the duration of the effects, and to determine appropriate disaster recovery efforts. The findings suggest recovery efforts should not focus solely on those who experienced losses.

The fires also provided the opportunity for the communities to become more cohesive and supportive of one another. However, this was not always put into practice. Unlike other investigations (Carroll *et al.* 2005) there was little conflict noted in the communities studied.

Image: Dr Judith Kulig

The Barriere monument for the fire is a 'fire dragon', carved out of an old-growth cedar tree for the anniversary event in 2008, five years after the fire.

A closer examination of this phenomenon in other wildfire communities in different social and economic contexts (e.g., publically- and privately-funded health care) would be worthwhile to determine the conditions under which social conflict results after wildfires. Furthermore, identifying the most likely social attributions and related interaction changes that occur post-wildfire will enhance the understanding of social conflict (Tajfel & Turner 1986).

The findings suggest that post-wildfire investment in social rebuilding and community resources would help mitigate negative effects. National policies to ensure disaster resilience also highlight the importance of a shared responsibility between government and community members to prepare for and address disasters (Commonwealth of Australia 2011). From the findings, it is suggested that this shared responsibility includes ensuring all members of communities receive timely access to services, whether or not they experienced loss.

Additional studies about the impacts of wildfires on individuals and communities are needed. Most importantly, we require clarification of long-term health, social, and financial problems that may result due to wildfires, regardless of evacuation experiences or losses. Research findings from such investigations have the potential to heighten awareness, understanding and attention to the short and long-term human and social effects of wildfires among relevant emergency and disaster agencies.

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About the author

The Rural Wildfire Study Group is a multi-disciplinary research group which includes investigators, research advisory members and local community members. It focuses on the social impacts of wildfires in its ongoing research program. Information about the research can be found at www.ruralwildfire.ca.

Mental health deployment to the 2011 Queensland floods: lessons learned

Katrina Hasleton and Assoc Prof. John Allan (NSW Ministry of Health), Garry Stevens (University of Western Sydney), Rosemary Hegner (NSW Health Emergency Management Unit) and David Kerley (Sydney Local Health District) share their experiences.

ABSTRACT

Following a request from Queensland Health for NSW staff to assist in the mental health response in areas devastated by the January 2011 floods, four teams of mental health staff travelled to Queensland for a series of two-week deployments to support their Queensland colleagues in responding to the flood disaster.

This was the first time NSW mental health staff have been deployed interstate and the lessons learned from this deployment were derived from the situation reports, participant feedback and an online survey. The lessons include the need for better communication between incoming and departing teams, the pivotal role of team leaders, and the need to use initiative and a flexible approach in undertaking strategic roles to support the emergency response.

The aim of this paper is to document the deployment in order to inform future policy and practice. R

Introduction

In January 2011 widespread flooding in south east Queensland required a massive disaster relief operation. Following a series of regional floods which began in December 2010, severe flash flooding, described as an 'inland tsunami', devastated communities in Toowoomba and the Lockyer Valley, killing 21 people (ABC News, Queensland Police 2011). Within days the Brisbane River also rose and by mid-January 23 000 homes had been inundated in Brisbane and Ipswich alone. By late January, 35 people had lost their lives (Queensland Police 2011, Brown *et al.* 2011, *Adelaide Advertiser* 2011).

Communications between Queensland Health and NSW Health covered a number of requirements and included specific concerns about the immediate needs of children and adolescents in this large-scale disaster. In addition, support of existing mental health services was required as many of the Queensland workers were either personally affected and/or involved in the wider response. A request from Queensland Health for mental health assistance was forwarded to the NSW Mental Health and Drug & Alcohol Office (MHDAO).

Brisbane homes under water in January 2011.

At that time flooding was also an issue in northern and western NSW. The NSW State Mental Health Controller requested the then Northern Sydney Central Coast Area Health Service to assemble an initial team of six mental health staff that would include some child and adolescent mental health expertise and a capacity to support adult mental health service delivery.

Subsequently, three further teams were deployed (from the then South East Sydney and Illawarra Sydney South West and Hunter New England area health services) on two-week rotations over a two-month period. Tasking of the four teams changed as the event phase moved from response to recovery, with primary tasks including:

- Psychological First Aid
- mental health assessments
- supporting existing mental health services
- community outreach with Red Cross
- supporting community processes

Image: D. Kerley

Team 3 ready for deployment. L-R: Hayley Conforti (O.T), Alice Maidment (RN EPIS), Tami Suzuki (SW), David Kerley (CNC CAMHS), Andrea Simpson (CNC EPIS).

The then NSW Health Counter Disaster Unit co-ordinated the deployment and took responsibility for logistics, centralised communication, and briefings prior to departure.

Although within-country deployments of mental health staff, either as specialist teams or members of medical/public health teams, have been documented in places such as the United States (North, Dingman & Hong 2000), to our knowledge no disaster-related mental health deployments have previously occurred in the Australian response context.

Disaster mental health preparedness in NSW

Mental health is one of the five major contributing health service components that constitute a whole-of-health response, both at a state and local health district level. Responses are co-ordinated and managed at the local health district level, with support from state-wide resources should local resources be overwhelmed. Recent events highlight the importance of a well-integrated mental health capacity; notably World Youth Day (2008), the Quakers Hill nursing home fire (2011) and airport responses for people returning from the Christchurch earthquakes (2011) (Hasleton, Stevens & Burns 2011, Kwek, Gardner & Howden 2011).

In calling on local health districts to provide teams for this deployment the State Mental Health Controller drew on a system of preparedness across NSW, the elements of which include:

- strong relationships with the NSW Health Emergency Management Unit, State Disaster Welfare Services, and other key stakeholders
- the Mental Health Disaster Education and Training Program
- the Mental Health Disaster Advisory Group which supports the role of the State Mental Health Controller
- the *Mental Health Services Supporting Plan,* a supporting plan to the *NSW Health Services Functional Area Plan* (NSW HEALTHPLAN)
- disaster mental health resources which includes a *Disaster Mental Health Manual* and a number of practice handbooks on specific elements of mental health disaster response (these and other resources are available on the NSW Health Emergency Preparedness website), and
- the Mental Health Help Line which is a 24-hour phone service that can be activated by MHDAO or by the State Mental Health Controller when a mental health line specific to the event is required.

Deployment tasking and transitions

Initial feedback about the deployments was compiled via the deployment co-ordinating team (the then NSW Health Counter Disaster Unit) and MHDAO from situation reports, verbal communications, and operational debriefing processes. Although the anticipated roles had been agreed and briefed, early feedback to the co-ordinating team indicated a lack of clarity about the roles of the first deployed team. A lack of experience with this type of deployment by both the receiving area and the deployed teams appeared to add to this initial uncertainty. The role of the team leader in further briefings and negotiations with local services was paramount in establishing both the first and subsequent teams.

An issue that followed was the changing focus of the deployments over the eight-week period which effectively spanned the early response through to the recovery phase. The nature of the changing roles and related issues facing the teams are detailed in Table 1.

Table 1. Team roles and tasking

	Team 1 (Jan 17-Feb 2)	Team 2 (Feb 2-Feb 16)	Team 3 (Feb 16-Mar 2)	Team 4 (Mar 2-Mar 18)
Tasks	support/assist Crisis and Assessment Team, Emergency Department and mental health team, cover shifts for fatigued staff assist at Ipswich Evacuation Centre and recovery centres community outreach with Red Cross assessments and support for flood related trauma support child care centre staff and parents.	work with welfare and recovery agencies identify vulnerable groups support ongoing clinical service delivery assess referrals from primary care provide support to community groups, continue to cover shifts for local staff.	support local staff personally affected by floods continue to cover shifts in local services to replace exhausted staff, and resource and inform local groups and agencies about mental health impacts and self-care.	presentations and information packages for NGOs deliver resources and education packages for continued use by local agencies and community groups.
Emerging issues	Lack of definition and multiple roles that changed during the deployment. Major role for team leader in negotiating with local services.	Trend towards more referrals from primary care.	Pre-existing local resource/ organisational difficulties apparent. Local staff exhausted.	Local residents anger at community meetings.
Transition	Feedback that Team 2 should adopt a flexible approach incorporated into briefing for Team 2.	Emergency role winding down. Recovery planning not yet implemented.	Need to respond to changing needs and seek out roles. Handover and briefing for Team 4 not adequate due to timing difficulties.	Creating exit strategies.

Excerpt from report to NSW Health (Team 2)

Two (2) team members are currently working 12 hour shifts (one commencing at 0700 hours and one commencing at 1900 hours) at the Ipswich Hospital conducting Emergency Department mental health assessments.

Team members visited community recovery centres at Fernvale and Esk (one hour north of Ipswich).

Following further discussion with the Fernvale Recovery Centre Team Leader it was agreed to establish a mental health clinic at Fernvale on Thursday. The clinic would serve to assess referrals made by Life Line and other centre staff and provide brief psychological interventions or refer on as required. A flyer for the clinic is currently been made up for distribution by a team member who will be manning the immunisation van at Fernvale tomorrow.

The team is in good spirits.

Post-deployment survey

An email request to complete a confidential online survey was sent to 23 mental health personnel involved in the Queensland flood deployments. The survey was constructed in SurveyMonkey and was distributed via MHDAO in early September 2011—six months after the final full team debrief.

The aim of the survey was to examine the efficacy and outcomes of the deployment in order to inform consideration of future regional or inter-state missions. Respondents were asked a range of open-ended and closed questions about:

1. the deployment planning and its management
2. the quality of operational briefing/debriefing
3. the appropriateness and delivery of their roles and tasking, and
4. their recommendations for future mental health deployments.

The survey was completed by 22 of the 23 deployed staff, effectively representing the entire mental health deployment group. Around two thirds of those deployed were female (68 per cent) and over 45 years of age (64 per cent).

Planning and management

Questions regarding aspects of overall management were rated on a binary scale ('satisfactory' to 'needs improvement') with the results presented in Figure 1. Most aspects of the deployment were regarded as being satisfactory including:

- selection of personnel (91 per cent)
- overall management (77 per cent)
- logistics including equipment and resources (72 per cent), and
- overall operations (68 per cent).

Areas perceived to 'need improvement' related to forward planning for deployments of this type (50 per cent), and communication within deployments i.e. between the deployed team and co-ordinating staff in NSW (59 per cent).

Community volunteers clean up in Fairfield, Brisbane in January 2011.

Operational briefing and debriefing

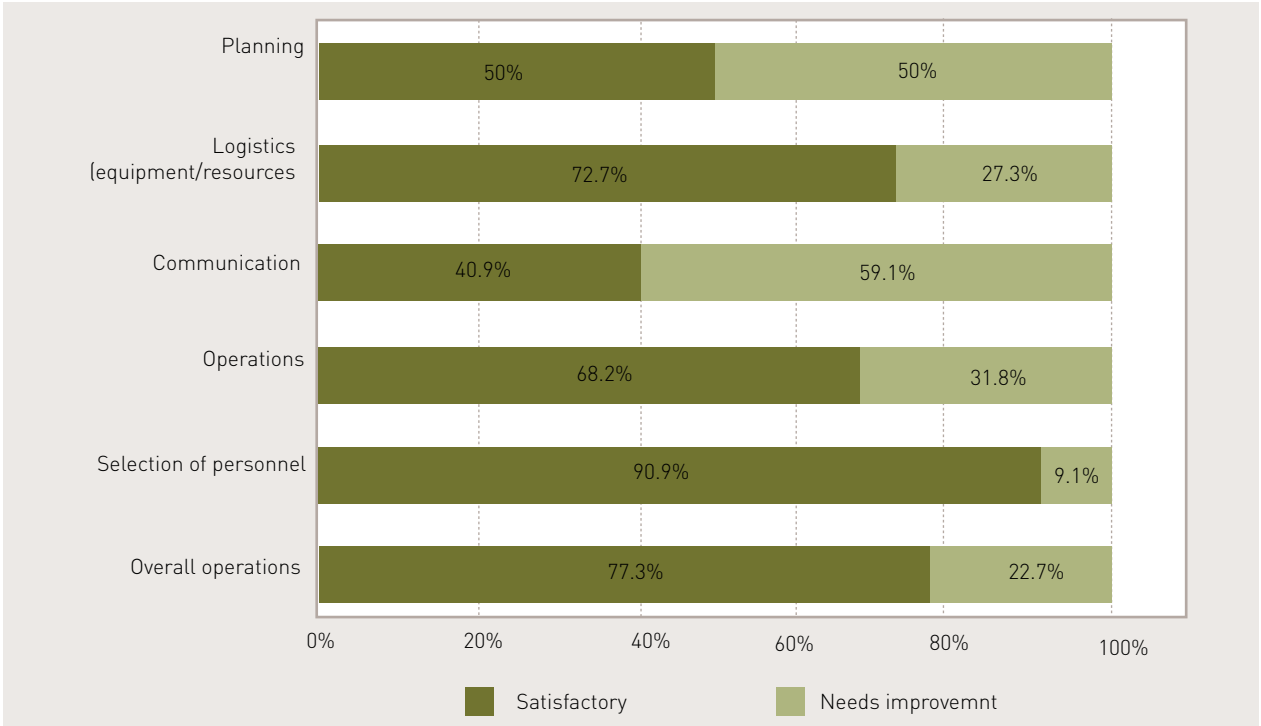
Perceptions of the operational briefing were equivocal with a small majority (54 per cent) agreeing they had been 'fully briefed on the mission prior to deployment'. The debriefing process was regarded as more effective with 90 per cent of respondents perceiving they had been appropriately debriefed on completion of their assignment.

Respondents indicated that while the operational briefings were generally comprehensive, some information was factually inaccurate or not up-to-date. For example staff were told to take heavier clothing and prepare for wet conditions and possible mosquito activity, which was ultimately not needed. Conversely GPS were needed by several members to travel around unfamiliar areas but were not considered at pre-deployment.

Roles and tasking

Respondents were generally confident in their professional skills and background training as it related to the deployment task. However, feedback also indicated a lack of role clarity regarding the deployments themselves. Respondents perceived they had the requisite skills for the deployment tasks they undertook (95 per cent), appropriate background training (86 per cent), were given appropriate organisational support to undertake their roles/tasks (82 per cent) and received effective support from their team leader (100 per cent). Around two thirds of respondents (68 per cent) perceived that they were able to perform a useful role within their specific deployment context and that local services and the community saw their role as useful (77 per cent).

Figure 1. Satisfaction ratings of deployment planning and logistics: mental health personnel.



Consistent with the noted findings regarding operational debriefing, only 36 per cent perceived their specific roles and tasks were clearly defined prior to deployment (i.e. briefing stage), with 50 per cent perceiving they were clear only 'to a degree' and 13 per cent reporting that they were 'not clear'. Notably, ratings regarding role and task clarity intra-deployment were lower with 27 per cent ('clearly defined'), 54 per cent ('to a degree'), and 18 per cent ('not clear').

Future deployments

Respondents made comments about improvements needed for future interstate deployments of mental health personnel. The key issues identified are summarised as:

- Better intelligence is needed at the time of the operational briefing and pre-deployment e.g. inaccurate information about weather and conditions on the ground resulted in inappropriate equipment and clothing.
- Clearer communication between the deploying and receiving agencies would assist transition of personnel to their field duties. While recognising the 'fluid' nature of the early response in particular, some receiving teams were unclear about roles and tasking of the deployed teams, which then required active negotiation on arrival.
- Hand-over between teams was often inadequate. This limited timely and comprehensive briefings regarding roles and tasking, organisational structures and key contacts, which could optimise outcomes.
- Greater recognition of the most likely roles at different post-incident phases would be important e.g. support of local mental health services, psychological first aid/support in evacuation centres in early deployments and community education/development in later phases. Mental health tasking in the interim phase may be less clear.
- As the team leader of Team 2 described, *'we were too late for the crisis and too early for the recovery phase'*.
- Workers felt they were often better received and more appreciated by community members when wearing their 'greens' (see team photo) and that for some people this provided an opportunity to raise issues or concerns.

Inter-team communication via social media

Respondents were asked whether future deployments may benefit from having a communication link via social media (Twitter or Facebook), particularly between departing and arriving teams. Having such an option available for future deployments was strongly endorsed, with 95 per cent indicating that they would see this as a useful initiative.

Flooded petrol station at Toowong, Brisbane in January 2011.

Lessons learned

- **Mental health roles and expectations:** mental health staff deployed following a major emergency must be prepared to adopt a flexible approach, adapt to changing role expectations, and design a response for the circumstances as they find them.
- **Education and training programs:** mental health workers need a clear understanding of emergency command-and-control structures as well as how the mental health role fits in the whole-of-health response and with welfare agencies. Familiarity with disaster mental health manuals and other resources is essential.
- **Vital role of team leaders:** previous research highlights that the negotiating skills of the team leader in the local response context may be a pivotal element in successful team outcomes (Stevens *et al.* 2008). The role of team leaders also includes promoting team cohesion, ensuring the best fit for varied roles for each team member, adapting to changing circumstances, and keeping channels of communication open.
- **The importance of briefing teams:** mental health personnel should actively participate in the briefing prior to deployment. Briefings should include emergency response elements, supporting core service delivery, and relieving fatigued local staff.
- **Handover and communication between teams:** communication activities should be built into the planning stage. If circumstances prevent a face-to-face meeting of outgoing with incoming teams, consider telephone contact between team leaders as a bare minimum.
- **Impact of uniforms and tabards:** staff expressed a lack of comfort wearing uniforms while carrying out community mental health functions. However, in evacuation and recovery centres as the recovery phase began, uniforms provided clear identity and were well-received by other agencies and the public.
- **Communication with mental health managers:** communication between managers as well as

through the central deployment agency would allow for clinical advice and support from within the base service.

- **Regular information to family and friends at home:** providing clear and regular information provides reassurance and decreases anxiety for those on deployment and their family members. While there may be unavoidable changes in circumstances such as return details, an identified family liaison officer can provide reliable information and reduce undue anxiety for family.
- **Manage the impact on teams that remain on standby and/or do not end up being deployed:** staff on standby pending a decision to deploy additional teams, need to plan and prepare for work and home absences, and there may be a considerable period of uncertainty. Their contribution should be acknowledged in any post deployment reviews. A comment from one non-deployed team leader was, *'the willingness to assist and put everything else on hold appears to wane over time'.*
- **Post deployment:** acknowledge teams for their contribution and provide opportunities to review the overall deployment, provide expertise and suggestions to guide future development of mental health deployments.

Conclusion

While mental health responses to such events require a response that is based on the best available evidence, each event presents unique challenges and requires a co-ordinated response tailored to the circumstances. This deployment was provided in response to a request from Queensland Health for NSW mental health staff to help sustain core services and assist with the disaster response. Early challenges about roles and expectations were overcome, with teams undertaking a broader range of roles than had been anticipated.

Future deployments may be enhanced with specific improvement in aspects of communication, planning, and team briefing processes. Broadly however, the knowledge and skills gained from this experience will promote effective future deployments of mental health staff in response to disasters and major adverse events within NSW, interstate and overseas.

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Community leadership in disaster recovery: a case study

Anne Leadbeater OAM explores the role of community leadership in a recovery setting.

ABSTRACT

This paper highlights the critical importance of locally-endorsed community leaders in the complex, post-disaster environment. It focuses on the work of the nationally-recognised Strathewen Community Renewal Association (SCRA) in the community of Strathewen, Victoria as a case study, and celebrates the capacity of profoundly impacted communities to shape and drive their own recovery. R

Introduction

Fire came to the small community of Strathewen at 4.20pm on Saturday 7 February 2009. As the Victorian Bushfires Royal Commission was later to learn, no warnings were issued for Strathewen's population of 200. For some, the first information about fire in the area was via hurried telephone calls or visits from neighbours. For many, it was the ominous roaring of the wind generated by the firefront and the sound of vegetation bursting into flame.

On that day, now known as Black Saturday, 27 people died in Strathewen. The primary school, community hall, tennis courts, cricket pavilion and 85 of the district's 130 homes were destroyed.

The importance of communities having influence over their own recovery has been recognised in Victoria for almost 30 years. The formation of 'area coordinating committees' following the Ash Wednesday bushfires in February 1983 reflected the concept 'that communities recover best when they manage their own recovery' (Hill, Hill & Grey 1987 p. 11). The formation of 'community recovery committees' or CRCs is now prescribed as part of the recovery arrangements set down in the *Emergency Management Manual of Victoria.* However, there is very little within the arrangements to legislate or even guide how the structures to facilitate community input should be established.

The Victorian Bushfire Reconstruction and Recovery Authority (VBRRA) was created three days after the February 2009 bushfires, with responsibility to oversee and co-ordinate the recovery and rebuilding program for 109 communities across the state. Within weeks of its inception, VBRRA had endorsed 30 community recovery committees. These committees, which had been established rapidly and through a variety of processes, were charged with the responsibility 'to coordinate recovery efforts and requirements in their community' (VBRRA 2009b, p. 9). According to VBRRA, a key outcome of the formation of the CRCs was that 'individual fire affected communities are now being supported to rebuild the way they want' (2009b, p. 2).

The fire's intensity rendered the Strathewen landscape black and white; blackened trees and white ash

The 'agenda' for recovery

In spite of a commitment to a holistic view of recovery (VBRRA 2009b), it was matters pertaining to rebuilding that were most commonly assessed, particularly by government and the media, as measures of progress or otherwise. Numbers of properties cleared, building permits issued, and houses commenced were all considered key indicators of recovery. Likewise, the numbers of people still in caravans and temporary villages, and instances of 'red tape' were highlighted as 'failures' irrespective of the factors responsible for the perceived 'delays' (McMahon 2010, ABC News 2011).

Unquestionably, the reconstruction of buildings and infrastructure is a key component of disaster recovery. But just as 'input soldiers' does not equal 'output democracy' (Ramo 2009, p. 69), 'input rebuilding' does not equal 'output recovery'. Such a one-dimensional focus fails to take account of the 'social fabric' of the community (Ursano *et al.* 2007, p. 3) or the importance

of allowing time to grieve and regroup and for the natural leaders that exist in communities to emerge. The imposed timelines run contrary to advice from experts, such as disaster psychologist Dr Rob Gordon, who cautions governments 'not to rush to set benchmarks or impose reconstruction timetables, because experience shows this can only add to the trauma by marginalising survivors' (Skelton 2009).

Marshalling community capacity and building consensus is particularly challenging when people have experienced trauma or have a diminished sense of personal safety (Beilharz 2002). Issues such as communicating with people dispersed by the fire, managing expectations and building trust, respecting diversity and the physical and psychological effects for individuals and communities illustrate the complexities facing recovery committees.

An important consideration in any analysis of disaster recovery is the way in which problems and solutions are represented (Bessant *et al.* 2006). Historically, the responsibility for community recovery would have rested, almost entirely, with the community itself through the ministrations of churches, welfare and aid groups, philanthropic organisations and individuals. Recovery as a responsibility of government is a more contemporary phenomenon, now forming part of the emergency management spectrum of 'Prevention, Preparedness, Response and Recovery' or PPRR (AGD 2011).

The 'problematisation' (Foucault 1984) of disaster recovery as a matter for government raises issues in terms of how it is 'constructed'. Recovery that is constituted externally by government is likely to reflect and be measured against government priorities and imperatives. Alesch, Arendt & Holly (2009) observe that too often, the restoration of basic services and rebuilding of the physical community is referred to as 'recovery'. They write:

> *'In general, we are very good at restoring basic services, and we are often good at rebuilding physical artefacts of the community. We are much less skilled, however, at what is sometimes called 'long-term community recovery,' which consists of restoring or building anew the social, political and economic elements of the community fabric that make a community viable over the long haul.' (Alesch, Arendt & Holly 2009, p. 1).*

Devolving key aspects of recovery to the community would seem to be an obvious solution to the challenges outlined, but this is not without issues. One particular 'regime of truth' (Foucault 1980a, pp. 131-3) regarding community leadership is that it is generic or non-specific; that any variety or combination of perspectives and opinions is as good as another, as long as it has been generated 'by the community'. Rubin *et al.* (1985, p. 30) observe that rapid, competent progress in recovery was most often observed where community leaders had a vision, both of what the community was at the time of the disaster, and of what it could and should be in its future. But how are these leaders

For more than 90 years the Strathewen Hall had been a hub for community connection.

The rebuilt hall, designed and managed by the community, was reopended in 2012.

identified and legitimised, not only by the community, but also in the eyes of government and recovery agencies? And, perhaps the most critical issue of all, as so clearly articulated by Alcoff (1991), is the peril of speaking for others. Alcoff observes:

> *'In both the practice of speaking for as well as the practice of speaking about others, I am engaging in the act of representing the other's needs, goals, situation, and in fact who they are, based on my own situated interpretation.' (1991, p. 9, original emphasis)*

In an effort to explore these issues, this research project was undertaken as a minor thesis using the bushfire recovery experiences of Strathewen, Victoria as a case study. Qualitative data was collected through 10 semi-structured interviews with Strathewen residents and former residents, members of the SCRA, and recovery workers from local and state government. A series of questions was used to guide the interview process with results analysed to discover key themes and indicators of success.

As a case study, Strathewen's recovery 'journey' provides an important contrast to the experiences of some other bushfire-affected areas. With communication, transparency, self-determination and accountability as its hallmarks, the SCRA has served as a critical link between the area's remaining residents, those who have returned, those who have permanently relocated, and those still displaced. The decision, almost from inception, to incorporate as an association is a further point of difference, as is challenging the dominant discourse of 'recovery' by aspiring to a more forward-focused state of 'renewal'. The work of the SCRA was recognised nationally in 2010, winning the volunteer section of the Australian Safer Communities Awards and is acknowledged as a best practice example of 'bottom-up', community-led recovery (AGD 2010).

The work of renewal

Strathewen is located in a sheltered valley at the foot of the Kinglake Ranges, 55km from Melbourne. With a pre-fire population of approximately 200 people, the area is primarily orchards, rural grazing and lifestyle properties. Local infrastructure comprised a community-owned hall and a primary school with an enrolment of just under 40 students. For more than 90 years the hall and the school had represented the hub of connection and cohesion for the community, and together with the cricket club, CFA brigade and Landcare group, had underpinned the social structure of the area.

Strathewen's plight in the aftermath of the fires did not stimulate the same degree of outside attention as was focused on some other impacted communities around the state. Respondents reported a strong sense of the community having been abandoned both on the day, and in the early recovery phase and this was also reflected in media reports (Franklin 2009, Manne 2009), and in evidence to the Victorian Bushfires Royal Commission (2009, p. 2253).

Within this vacuum, and motivated by an historical sense of autonomy and self-reliance, community members began to mobilise and plan the first elements of recovery. From Sunday 8 February, an authoritative record of properties impacted, homes destroyed and lives lost was compiled using a map and records from the local Landcare group. In the absence of electricity and telephones, information was collected and shared by means of personal visits to those still within the burnt and road-blocked area to reassure, or in many cases, break the news about the fate of friends and neighbours. Mobile phone numbers were collected and a data base of contacts developed, resulting in a local SMS messaging system used to provide relief and recovery information.

There was a sense that taking some sort of action was preferable to *'waiting for help to arrive'*. Of Strathewen's history and relationship with all levels of government, one person observed, *'if you wait, you will wait a long time'*. Many respondents mentioned a growing awareness of funding that would be made available being a key driver of the need for the community to plan. Rather than from any sense of opportunism, this was expressed as a serious concern about the tensions inherent in the collection and distribution of funds.

The need for a community-owned process to gather views and priorities and to manage grant applications and distribution of funds was seen as a primary response. This need was reinforced by a very distressing and difficult meeting held by local government and attended by approximately 500 people from Strathewen and surrounding areas in the days after the fires (Petrie 2009). Some interviewees felt that the grief, acrimony and outrage engendered by this meeting and the ensuing *'release of pent-up anger'* was key in reinforcing the need for a *bottom-up* approach, not only within the community but also with local government and recovery agencies as well. One respondent described *'the need to stand up in order to re-establish a sense of community'* as *'a defining moment'*.

In the second week after the fires, a small number of locals held a 'cautious' meeting to discuss how the community might manage its recovery. One of the questions posed was *'who are we to be having this conversation?'* Attendees queried their own legitimacy to make any sort of decisions on behalf of the community and sought to identify existing community leaders who should be involved. This initial group of people could have been considered broadly representative and was imbued with a range of skills and experience that has been universally acknowledged by every respondent to this project. However, they recognised the vital importance of connecting with, and seeking the endorsement of, the groups and networks that existed in Strathewen as well as that of the community itself.

A public meeting on 22 March saw strong support for the development and incorporation of the SCRA. Responding to a call for volunteers to develop a constitution, 30 people formed the group that met for six weeks to design the statement of purpose and

The Strathewan fires memorial features 10 000 words from local people captured in sandstone.

rules of the new association. Integrating thirty people's input would seem, on face value, to be a challenge but a number of respondents credit this process as a key element of success, delivering a document *'that we all agreed to and endorsed'*. Having a large, diverse group working on the constitution ensured that it reflected the community's issues and priorities from before and after the fires and ensured a strong sense of community ownership of the resultant association.

Another central aspect of incorporation was how eligibility for membership of the Association would be determined and geographical boundaries established. In the end, a profound but simple decision was reached; there would be *'no line around Strathewen – if you wanted to be a part of the association you could and, in fact, you had a right'*. While other affected communities struggled to determine criteria for 'membership' of their respective recoveries, Strathewen residents decided that theirs should encompass *'whoever feels affected and gets some comfort'*; that *'the connection is with "understanding" rather than with "geography"'*. The SCRA was formally endorsed at a public meeting in June 2009 with a membership of 189 people.

In the face of considerable expectation of community recovery committees generally, to be able to distil priorities and articulate united positions on behalf of their communities (VBRRA 2009a, p. 23), the SCRA seems to have maintained a different focus. On being asked to reflect on the responsibility of representing the community, research participants spoke about *'not being THE group'*, that not every person in Strathewen was a member of SCRA, so therefore, *'SCRA could not speak for everyone'*, and the important distinction between *'being a group that represents a community and an association that is responsible and accountable to its members'*.

What can we learn?

As part of the project respondents were asked to consider, based on their own experiences, what they would encourage other communities facing recovery to do and what they would warn them against. Table 1 provides a summary of the key findings. A full version of the paper is available at www.emknowledge.gov.au

Table 1 Findings across the six focus areas

Issue:	Key findings:	Responders said:
Time	Issues of timing are critical – taking the time needed to 'regroup' and for the community to reconnect; understanding that while some things need to happen quickly, others will need planning and consultation and should never involve *'pressure to make rushed decisions'*. Acknowledgement of how long recovery will take and recognition of the challenges created by imposed timelines for projects and funding applications.	*'...all of a sudden you start to realise that if you don't put in a bid for something, or make a claim, you might miss out on being in the process and the process [itself], after a while, encourages you to dream up some stuff that you haven't thought very well about yet.'*
Leadership	Respondents felt that leadership skills are represented in every community. It is more important to have skills and experience that suit the particular needs of the community, with the role of recovery agencies or government not to take over, but to address any gaps if required. Provided the community has a chance to regroup and begin to self-organise, it will be able to recognise its existing and emerging leaders.	*'...these leaders in Strathewen seem to me to be able to bring people along with them and that's one of the reasons why they've been successful - they invented their way of doing things and they stuck to it. They were strong enough and cohesive enough to stick with what they knew would work.'*
Relationships	The quality of pre-disaster relationships both within the community and with local government had a strong influence on attitudes and relationships afterwards. Respondents advocated for the establishment of inclusive, collaborative relationships around emergency planning 'before they are needed'. The great value of social events and opportunities to work together as a way of forming and reinforcing positive relationships was also observed, as was the need to be particularly understanding and supportive of the circumstances and experiences of others.	*...for all of us, we have to remember not to take what we are watching in this awful stewing pot of 'post-disaster', not to extrapolate that into our personal relationships – that's really hard.'* *'We had to keep the people of our community together, safe at least in the knowledge that someone cared how they were feeling, comforted them when they cried and could not cope with what they faced individually, as together, united, we hoped we could face the many hurdles that obviously lay ahead of us all.'*
Capacity	Despite the enormous shock and grief, respondents spoke of the capacity of community members to actively participate in Strathewen's recovery. Respondents observed their own ability, and that of others, to 'dig down' and tap into existing skills and experience to accomplish what was needed. Others spoke of having discovered new skills and abilities in the aftermath of the fires, such as public speaking and community advocacy that had served to enhance their personal capacity. Government and agencies need to engender confidence and to advocate for a 'bottom-up' approach that engages with local capacity.	*'...you can be a 'victim' of the event and still be a functioning contributor at the same time'.* *'I would say someone – and it's probably Council's role – someone should say 'don't fear – there's a process, other people have been through this process and it will go slowly and you will be able to see it and make decisions about it. Someone needs to reassure people.'*
Local knowledge	While local knowledge is vital in recovery, comprehensive local knowledge does not exist for an event that is outside the community's history or lived experience. In this situation, it becomes necessary for the community to extrapolate, as best it can, the knowledge it has about itself and its experiences onto an unprecedented situation. This critical process takes time and should not be interpreted as a void. Recovery staff and the community have to resist pressure to 'have the answers' and be willing to learn as they go.	*'I think the biggest challenge for a lot of staff working in recovery has been you don't actually know all the answers all the time. You need to collect that knowledge from the community, and from other agencies, and work out something that is going to work for that community based on what they think they need and what the resources are, and how you can help get them to the point they want to be.'* *'You need the confidence of knowing and the confidence of not knowing' and 'being OK about letting the answers emerge'.*
Communication	Communication in recovery needs to be consistent, honest, trustworthy, and readily available through a range of mediums that reflect the impacts and loss of infrastructure caused by the disaster and the challenges created by trauma and grief. Importantly, its availability needs to be ongoing to cater for the different rates at which people will move through the various stages of recovery.	*'We worked to keep up a steady stream of communication to our community with little or no resources. We held workshops to determine what our community needed and wanted. In the midst of all this we had to look after the social aspect when everything we were used to, all around us had been totally decimated...'*

Within days of the fire the 'Poetry Tree', pictured here on the first anniversary, became a spontaneous repository for poems and reflections.

Conclusion

Black Saturday was a life-changing, and tragically, life-taking event that wrought huge and lasting impacts on those who experienced it. Respondents spoke of the devastating effect of the fires, not only on the members of the Strathewen community but also on those who came to assist. One person observed, *'there has been so much loss; loss of people, our environment, our homes, our sense of place has been ripped away and so control over our lives is lost'*. Finding a way back from the brink of this disaster has, in many ways, been about regaining control for individuals over their own lives, and, collectively, over the functioning and future of their community.

A key aspect of this project's findings has been the critical importance of how recovery begins. Taking time from the outset to re-establish community connections, to revisit local priorities and aspirations and to support inclusive processes that are valued by and make sense to local people is vital. Recovery started badly is almost impossible to reclaim given its longer-term impacts on the structure, relationships and functioning of the community. Creating space and time for the community to come together and for the 'right' answers to emerge is an investment in meaningful, sustainable recovery.

If the value of community leadership in recovery is to be fully realised, it is imperative that recovery agencies and government at all levels acknowledge that disasters do not happen in a vacuum. Prior to being impacted, every community has existing values, networks, projects, relationships, knowledge, and capacity that underpin its day to day operations and indeed, it's very identity. But the imposition of externally constituted and 'templated' recovery models can seriously undermine inherent community resilience.

Created as an arts recovery project, colourful mosaic letterboxes adorn the Strathewen roadsides. As one local observed 'they lead us home'.

It will be important for policy makers, legislators and recovery managers to consolidate their understanding of the role and value of community recovery committees and to ensure that their composition is representative; that they are capable of, and supported to be self-determining; and, most importantly, that their function is not co-opted to serve a top-down approach.

As part of this project, participants were asked to nominate a word that best describes Strathewen's recovery— *'remarkable, gentle, profound, ongoing, inclusive, strong, independent, effective, resilient, dignified, courageous, connected'*, and *'magnificent'* are the words they chose. These reflections embody one of the most fundamental lessons about community leadership in recovery: it is not a question of who gets to speak on behalf of the community, but rather, who has the skill, patience, empathy and courage to restore to the community its own voice.

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Post disaster recovery arrangements for animals in South Australia

Dr Rachel Westcott and Emilis Prelgauskas describe the processes for animal rescue, triage, treatment, and return in South Australia.

ABSTRACT

Animal welfare is one of the targets in emergency response arrangements. This report outlines the evolution in structures and processes put in place for animal rescue, triage, treatment and return in South Australia. These arrangements are integral to the *State Emergency Management Plan* (Government of South Australia, 2012), and outlines how management of animals in emergencies impacts on the preservation of human life (Thompson 2012). This paper is a description of the current in-field state of this emerging discipline.

Introduction

In South Australia, the formation and operation of South Australian Veterinary Emergency Management (SAVEM) has driven the awareness across the sector for a structured response to animal welfare in an emergency incident. An entry in the 2012 Resilient Australia Awards, netted SAVEM a State Winner in the South Australian division and a Highly Commended in the national event.

Why we care about animals

The iconic visual image beamed around the planet after the 2009 Victorian fires was the photo of 'Sam' the koala being given water by a Country Fire Authority (CFA) firefighter. Images from the Queensland 2010-11 floods showed incidents where people at risk were reluctant to board evacuation boats or helicopters because their companion animals were being left behind (Thompson 2012). People care about animals. Actions in support of the innocent prove that, at times of distress, humans are capable of acting in the broader interest beyond personal self interest or survival.

Processes which include the rescue of animals post-event are a key input which encourages people at risk to make evacuation decisions in a timely manner. Processes which take the care for animals into consideration have a direct and beneficial impact on saving human life during an emergency. These aspects are increasingly discussed (see Barrett & Elks 2013).

There is a common misconception that animal welfare and veterinary involvement in the care of animals in an emergency can be locally delivered yet managed from a national or international platform. In Australia the jurisdictional framework within which emergency services organisations work, is state-based and its structure has to suit the particular legislative setting in the local context. National and international endeavours are not directly translatable. Similarly, while some academic work (Wenzel 2007, Wingfield & Palmer 2009) has been undertaken regarding management of animals in natural disasters, the reality is that little data has been gathered on animal management in an emergency response in the local context.

'Sam' the Koala receiving a drink from CFA volunteer, David Tree.

Background – South Australia's *State Emergency Management Plan* (SEMP)

South Australia has emergency management legislation and an emergency management plan that is, effectively, a set of regulations under the *State Emergency Management Act 2004*[1]. The Commissioner of Police implements protocols described in the Australasian Interservice Incident Management System™ (AIIMS™) at both State Emergency Centre level and within each of the responding agencies. The strength of the SEMP lies in its simplicity, flexibility and scope and its ability to suit any emergency profile. The result is a cohesive alliance of all emergency services organisations.

SAVEM is regarded as a 'participating agency' within the SEMP, under the Agriculture and Animal Services Functional Service. SAVEM's own plan describes the structural processes in place which suit the management of animals in the South Australian context.

The SAVEM plan is a useful model for other jurisdictions to assist them to develop their own procedures to suit particular jurisdictional purposes.

Traditional animal agencies

In South Australia, well-known animal welfare agencies such at the RSPCA and the Animal Welfare League are also 'participating agencies' in an emergency incident. Within the community the veterinary profession provides day-to-day care for animals owned by citizens and businesses as well as to a range of volunteer-based animal sanctuary community agencies which receive injured animals, including wildlife, for care. During emergencies the involvement with animals can include the Department of Environment, Water and Natural Resources in the management of wildlife, and the Department of Communities and Social Inclusion, where pets accompany displaced people to evacuation shelters and relief centres. However, amongst these diverse contributors, there is no single party that has the processes or the appropriate resources to enter a disaster area post-event and to search for and manage all animals (in particular companion animals, wildlife, and horses) in a wholistic veterinary context in any cohesive way.

2009 – the beginning

Immediately after the 2009 Victorian bushfires, some veterinarians living and working within the disaster area continued to operate their clinics left undamaged by the fires, even though their own homes had been destroyed. These veterinary clinics were the destination for an influx of injured, abandoned or retrieved companion animals and wildlife from the fireground. What was missing was an inflow of the supporting materials and resources to assist and support these efforts.

A collaboration between veterinarians and industry was established to collect and dispatch vital veterinary supplies to the fire-affected area. Within a few days the first of a total of 15 pallets of goods was delivered. Deliveries continued over a three-week period. This was possible through the ready participation of the veterinary supply industry. ProVet SA, conveniently located at Adelaide Airport, canvassed all South Australian vet clinics on their client list for donations. Yellow Couriers donated a van to collect donations from across the metropolitan area. Some clinics chose to donate money which was billed to their accounts and was used to purchase supplies that were pulled from the warehouse shelves to satisfy a list of required items. ProVet SA donated transport and handling. This was the beginning of veterinary emergency management in South Australia.

SAVEM was formally recognised a year later by the South Australia Government's State Response Advisory Group and its activities became eligible for support from the South Australian Fire and Emergency Services Commission and the Attorney-General's Department, via the Natural Disaster Resilience Program. This accelerated and broadened the ability of SAVEM as a volunteer not-for-profit agency to make firm its processes and resource base.

All the organisation's initiatives are volunteer-based, including positions of the web master, consultant clinicians, training officers, and Police liaison.

Team members:

Jan Mahoney, CSIRO, volunteered as the webmaster of the SAVEM web site which is real-time and updateable.

Dr Anne Fowler is an Emergency Veterinarian and highly skilled burns clinician who has been supportive and readily available to SAVEM both in developing organisational skills and technical skills training.

Dr Nancy Bombardieri is a Veterinarian with Biosecurity SA and fills one of the SAVEM Board positions. She is the principal Training Officer for the Level One program, is the point of contact with PIRSA, and develops links with other emergency agencies.

Dr Sam Mead is Executive Officer with SIDSforKids, having worked in a number of senior roles in the not-for-profit sector both nationally and internationally including in the veterinary industry. She offers her organisational expertise to SAVEM.

Sgt Kathy Newman is a Police Officer who assists SAVEM with outreach to other agencies and in Zone Emergency Centre locations.

1 *State Emergency Management Act 2004*. At: www.legislation.sa.gov.au/lz/c/a/emergency%20management%20act%202004/current/2004.30.un.pdf.

The koala in an intact tree canopy was healthy. It was located with a thermal imaging camera and checked visually, assisted by zoom photography and binoculars.

SAVEM volunteers led by a CFS Command car searched the burned forest the morning after the fire front had passed. Thermal imaging equipment lent to SAVEM by the CFS was used. About 20 mms of rain fell on the fireground overnight.

SAVEM protocols

SAVEM's animal rescue, triage, treatment and return protocols were developed between 2009 and 2012 and feature the following:

A formal structure, including formation of the incorporated not-for-profit association SAVEM Inc. The association has a management board and supporting structures and resources.

SAVEM's formal plan was State Government Assured at the end of 2010. This means that the plan was officially recognised and that SAVEM can apply to the South Australian Government for financial assistance post an event

The SAVEM Plan is written according to AIIMS protocols and principles, common to all other emergency services. SAVEM uses the same intra-State uniform boundaries as other government agencies for consistency and efficiency.

SAVEM has its own South Australian health department drug license to manage the restricted use of S4 and S8 drugs used in the field. SAVEM has alliances with other organisations, such as the SA Hunting and Conservation Branch of the Sporting Shooters Association of Australia, which provides capacity to deal with whatever is found in the field.

The South Australian Veterinary Surgeons Board licenses all veterinarians in the state, and includes in its annual registration documentation the option to 'tick the box' to be notified of a disease outbreak or emergency incident. Approximately 300 veterinarians have done so each year since the inception of this initiative. The SAVEM Board has the ability to advise those veterinarians at the time of an emergency activation via SMS, authorised by the Chief Veterinary Officer or his delegate.

From August 2011 to February 2013, SAVEM had undertaken formal training of 220 volunteers, many of whom are veterinarians, to Level 1 standard. Another 40 were trained to Team Leader standard. This provides a core resource for the response structure including the establishment of control centres, first response teams, and treatment stations.

There has also been training in specialist subjects including treating burns and leadership. Biosecurity South Australia offers training modules in Emergency and Disease Management which are available to all SAVEM volunteers. SAVEM participates in combined exercises with other agencies such as the Department of Community and Social Inclusion's Ring of Fire exercise in 2011.

Continuing the initiatives with industry formed in 2009, SAVEM activation has direct access to the warehouse of the veterinary wholesaler, ProVet SA, and their courier, transport group Toll, for rapid dispatch of support resources to in-field control centres and operations teams.

SAVEM is inclusive of other general community volunteers through its awareness program. Presentations to community groups and to local emergency services personnel at brigade level are supplemented by informative literature for distribution. This allows cohesion with other agencies, and attracts interested members of the wider community.

SAVEM is actively and consciously engaged in building strong and enduring relationships and alliances with other emergency services organisations as part of an integrated approach to emergency management in South Australia.

Allied expertise contributed by volunteer veterinary nurses and wildlife carers is encouraged and supported, which is evident in their open inclusion in the organisation's training opportunities.

The result is an established, human resource base from which nominated volunteers can be drawn at the time of response activation. Supporting this is the organisation's on-going evolution of Standard Operating Procedures, Policy Manual, and resource kits (To Go Kit, or TGKs). Efforts are underway to add to existing private resources with dedicated organisation-based equipment.

SAVEM volunteer and Team Leader, Tamarand Cresswell, searched the tree canopy for koalas using the thermal imaging camera.

Mainstream animal welfare agencies seldom have the at-call resources and the dedicated emergency management training or authorisations under the SEMP, which SAVEM has. SAVEM's surge capacity is in the 220-plus trained volunteers, volunteers who have registered to attend future training workshops, as well those on the 'reserve list' of opt-in veterinarians held by the Veterinary Surgeons Board of South Australia. This capacity of trained and committed volunteers means there are resources to put teams into the field and cycle them throughout the response.

Learning by doing

It is now generally accepted in the emergency management sector that cash donations are the most useful and a most helpful means of assistance, especially where goods can be purchased in or near the affected community. However, at the time of the Victorian fires in 2009, the first load of donations delivered after only two days included pet food, feeding utensils, carrier cages, leads and bedding, as well as veterinary medicines. The South Australian Department for Communities and Social Inclusion (2012) *National Guidelines for Managing Donated Goods*, was also a category Winner in the 2012 Resilient Australia Awards.

In January 2011, the fire near Wilmington which threatened the small town in the north of South Australia provided the next opportunity for response. SAVEM was still in its formative phase, and resources immediately available were limited to Dr Westcott's own mobile clinic—a long wheel base Mercedes Sprinter van which is fitted for in-field use and a passenger vehicle.

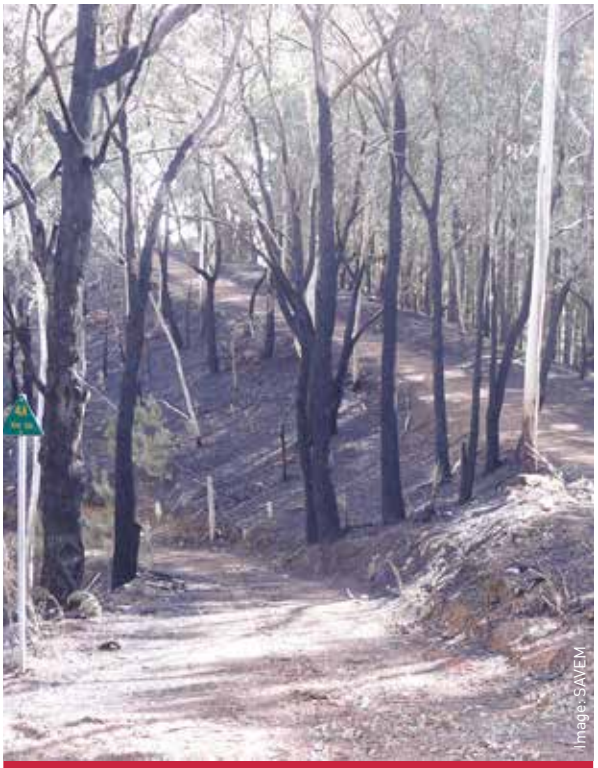
In November 2011, SAVEM had a First Response Team on standby for the Port Lincoln fires. While the team was not physically deployed, SAVEM offered support and expertise to local Port Lincoln veterinarians. Particularly helpful was the ability to tap into the knowledge of local volunteers who had previously attended a SAVEM workshop in Adelaide. This opened up a network of resources ranging from the very effective City Council Ranger, to private boarding kennels which provided an evacuation haven should animals be shipped out en masse. The location needed commercial flight access which was readily arranged alongside ProVet SA's Adelaide Airport presence, with one of the local clinics in Port Lincoln providing on-ground support with vehicles. The local freight company office was contacted and offered transport of veterinary emergency material for no charge.

In May 2013, South Australia experienced a bushfire in the Adelaide Hills, known as the 'Cherryville' fire, at the end of the official bushfire season. SAVEM was placed on standby on the second morning. A First Response Team was made ready, and the Coordinator travelled to the local Control Centre to better engage with emergency services organisations and to attend public and liaison meetings. Crucial communication was established with Police and Country Fire Services (CFS) personnel. A significant amount of rain that evening saw the majority of responding crews stood down and SAVEM was given permission to enter the fireground. Accompanied by a CFS Command car and CFS personnel, volunteers carried out an all-day

search and rescue exercise as a training exercise and as a public service.

The SAVEM team, as one of the early recovery agencies present after an event, gives support to home owners, as much as it carries out the recovery and treatment of injured animals. One resident, whose home was metres from the firefront, had her distress compounded by finding multiple badly burned animals coming out of the blackened forest onto her property for two weeks after the fires. SAVEM was able to alleviate animal suffering and offer the resident support and reassurance (SAVEM Inc. 2013).

The emphasis at all times is on a 'can do' attitude. As SAVEM's organisational arrangements mature, it is expected that more support resources for volunteers will be added. One of the great strengths is the resourcefulness of the team, and as SAVEM's place in emergency response in South Australia is consolidated, the ability to problem solve effectively and positively as veterinary professionals, alongside nurse and carer volunteers, not only fills the animal welfare void in emergency management, but provides an essential and identifiable community service in human terms.



The fireground the morning after. Typically this was very steep terrain, interspersed with dirt fire tracks, which became slippery after the overnight rain. The CFS Command car went ahead to assess accessibility before the rest of the team followed.

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About the authors

Dr Rachel Westcott is a First Class Honours veterinary graduate of Murdoch University in Perth, Western Australia. She is a Veterinarian in private practice, and the Founder and Coordinator of SAVEM Inc.

Emilis Prelgauskas is an Architect in private practice, and a Commissioner in the South Australian Environment Resources and Development Court. He is a SAVEM Board member and Logistics Manager in SAVEM's structure.

Further information

For more information about this and other projects, visit the SAVEM website: www.savem.org.au.

ALIES
AUSTRALASIAN LIBRARIES IN THE EMERGENCY SECTOR

Getting to know the AFP National Library Service

Karen York of the Learning and Development area within the Australian Federal Police provides an overview of the AFP National Library Service.

The AFP National Library Service is located at the Australian Federal Police (AFP) College, Barton in Canberra, and is more than just a library. It is central to the information needs of AFP officers and staff in Canberra, interstate and around the globe. The library has a wide range of open source information products and provides services that support both national and international policing operations. This contributes to the development of essential knowledge and skills for enhanced decision-making and effective policing.

The library offers all the traditional library services, such as books, journals and a quiet place to study. In addition it also includes language resources, online databases, training materials for its courses, space for group or private study, research services and an Internet café. The library offers secure 24/7 access for staff and has librarians on hand to assist from 8:00am to 5:00pm, Monday to Friday.

Library staff include the Library Manager, Library Team Leader, three Client Services librarians and an Interlibrary Loans Officer. There are also two Literacy and Training Support officers who facilitate courses for AFP clients on a variety of information and literacy subjects. Courses include:

- Database Searching
- Effective Internet Searching
- Legal Research
- Foundation Writing Skills
- Writing for Executives, and
- Study Skills.

Image: AEMI

The AFP Library delivers the information needs of AFP officers and staff in Canberra, as well as those located across Australia and internationally.

Currently there are more than 60 000 items listed in the library's catalogue in print and electronic form. Speciality topics related to policing are catered for in areas of:

- transnational and organised crime
- terrorism
- community policing
- drug trafficking
- cyber crime
- forensics
- law
- criminology
- leadership, and
- training.

The AFP Library is more than just a library.

Library products

The library produces the *AFP Digest* which is a database indexed and abstracted by library staff. The *AFP Digest* is available via the Internet by subscription from RMIT Publishing.

The library pushes out products such as Just Captured which is a list of new library collection purchases. Just Captured is often themed. For example a comprehensive list of recently released books and DVDs on emergency management was published in July 2012.

Library functions

A major function of the library is research. This is undertaken by the Client Services librarians. Each day brings new topics of interest for the AFP and the librarians constantly monitor newspapers, websites, and social media for new information. A series of alerting services is compiled and distributed to interested clients.

The library has a popular intranet site which provides access to a broad range of law enforcement information, including e-books, smart phone application updates, and a blog which highlights recently published material of relevance to the AFP and its intelligence partners.

The library supports the AFP College, which is a Registered Training Organisation located in Canberra. In addition to training new federal agents, ACT Community Police and Protective Service Officer recruits, the College offers training programs for AFP members and staff from other government and policing agencies. The AFP Library provides support to all attendees, through course and pre-course reading materials, computer access, and research services as required. The courses include the:

National Strategic Intelligence Course – the AFP, in partnership with Charles Sturt University and the Australian Crime Commission, provides course participants with a practical knowledge of strategic intelligence, research methods, program management, data collection, and analysis.

Management of Serious and Organised Crime – this course deals with management practices as they apply to the investigation of serious crime, developing and sharing information, skills, strategies and techniques, and creating collaborative networks, nationally and internationally to overcome serious crime.

Inter-agency Integrity Investigation Program – this is designed to provide investigators with an enhanced understanding of the integrity environment; exposing them to emerging issues and best practices.

Research support for police – related study and professional development is available to officers and staff engaged in tertiary studies.

Library staff regularly participate in recruit scenario and training days. This is important as library staff gain a great appreciation of the work of police officers, and training participants get to know their librarian support team.

Chipping in

The library staff are always eager to support good causes. They are involved in fundraising by selling chocolates or hosting morning teas for the College. Some of the causes and personnel supported include the Daniel Morcombe Foundation, Bravehearts, the RSPCA, UNICEF School-in-a-box, David O'Donohue, and other Police officers and their families.

Image: AFP

Anne Heathwood, Bianca Caputo, Tammie Brown, Sandy Tomley, Catherine James, Karen York, (absent Phillipa Gabelle) recently received acknowledgement in recognition of "excellent levels of customer service by the AFP National Library staff and their collective commitment to best practice around the delivery of information services."

AFP National Library contacts

Email: library-afp@afp.gov.au

Phone: 02 6270 4893

Website: www.afp.gov.au/library

Master Planner: Michael Arman, Planning Institute of Australia's Young Planner of the Year

By Linley Wilkie

Image: Michael Arman

Michael Arman: 2012 Young Planner of the Year.

When Michael Arman was a teenager, he was fascinated by spaces and places, from the tiny rural towns his family would visit during road trips, to Australia's capital cities, including his hometown of Adelaide. Then in Year 12, he had a geography teacher who challenged the processes that inform the ways cities run, the ways communities work and the ways the environment is managed. By then his enthusiasm for geography was so ingrained, it was only natural for him to follow a career path that allowed him to extend that knowledge. For Arman, planning was the natural extension, taking the principles of geography and applying them to real world communities and places.

Fast forward to the present day and 24-year-old Arman is living in the Philippines, working with the municipal government of Canaman in its planning and development office. As part of the Australian Volunteers for International Development program, Arman's year-long relocation comes hot on the heels of being crowned Young Planner of the Year by the Planning Institute of Australia. Arman couldn't have planned it better.

The national award followed his win as South Australia's Young Planner of the Year, the judges commenting that, "Michael impresses as a Young Planner who has exceptional qualities, demonstrated through his academic achievements, his breadth of involvement across the range of planning disciplines, engagement with the community and contributions to planning."

Honoured by the accolade, Arman says it draws attention to the importance research plays in planning. "In the different roles I've taken at URPS and also as a researcher at UniSA and even in the Philippines, my role has always had a stronger focus on research and trying to understand what all the research trends are telling us and what that means for the future."

Arman studied Urban and Regional Planning at the University of South Australia, where he won multiple awards for his studies, including the university's School of Natural and Built Environment's prize for Best Undergraduate Planning Student. Arman continued his research for the university post graduation and worked at Adelaide-based urban and regional planning consultancy firm, URPS. His personal interests have always complimented his professional pursuits, including his volunteer work for Trees for Life, the Australian Youth Climate Coalition and tutor work for the Australian Refugee Association.

Arman's work in the Philippines allows the Canaman planning office staff time to take a longer-term view of development, given there is normally only one person assigned to planning. "The project that I'm involved in as an extra resource means we've got the ability to press pause for a second and start to think a little bit long term about not just urban growth, but climate change, natural disasters, and that's really important for the community," Arman says.

"The Philippines is very good at the nuts and bolts of emergency planning and evacuation drills. But I think the real gap is around longer term planning and thinking about some of the longer term trends. We know what the current trends and natural disasters are, but there hasn't been a lot of thought yet about how these trends are changing with climate change."

Michael Arman running a workshop with Canaman municipality staff.

Arman says planning has always played an important role in reducing community exposure to risks.

"While many people think about reducing exposure to physical risk, for example, preventing people from living in areas known to experience bushfire or flooding, or rebuilding after an earthquake, planning also plays a role in shaping the formal and informal networks in a community," he says. Arman adds that networks, be it an informal connection between neighbours, or a more formal organisation, are critical to successfully preventing, preparing for, responding to and recovering from emergencies.

"Good planning can foster these networks by ensuring all communities have equitable access to the services and institutions they need.

"Thoughtful and carefully planned neighbourhood design and layout and on-the-ground community development also makes it easier for people to get to know each other," he says.

A passionate environmental advocate, Arman says climate change and the increasing uncertainty about the nature and magnitude of emergencies and disasters, means planning will be critical due to its role in supporting and strengthening networks within the community. "In addition to the traditional planning process focused on reducing exposure and risk to known disasters, the role of planning in fostering these connections and networks will become more important due to the increasingly unforseen nature of disasters and emergencies. It also puts people, not plans or institutions, at the centre of our thinking about emergencies, risks, disaster and climate change, which is where the most effective change is likely to occur."

Michael Arman on a boat with Canaman municipality staff, visiting one of the 'island' barangays (villages).

ANZDMC 2013 conference: 80 presenters, 30 poster displays, 300 delegates

The Australian & New Zealand Disaster and Emergency Management Conference was held in Brisbane at the end of May. This year's conference theme was around community resilience and aspects of 'whole-of-nation' resilience-based approaches to disaster management. Presentations, both academic and practice, considered the national, co-ordinated and co-operative efforts needed to withstand and recover from emergencies and disasters. The conference focused on Prevention, Preparedness, Response and Recovery.

Plenary streams covered risk and crisis management, social media, volunteerism, animals in disasters, business continuity, and relief and recovery. Practical workshops provided good opportunity to explore the issues around animals in disasters, business continuity, resilience and trauma, and disaster mental health.

The Hon Jack Dempsey MP, Minister for Police and Community Safety opened the conference and keynote presentations were by:

- Grant Morrison, Director, Disaster Prevention and Risk Reduction, AusAid
- Associate Professor Brett Aimers, Chief Nurse, St John Ambulance Australia, and, now, Assistant Director, AEMI
- Ian Stewart, Queensland Police Commissioner
- Dr Ian Dacre, Disaster Management Operations Director, Asia Pacific, World Society for the Protection of Animals
- Craig Lapsley, Fire Services Commissioner of Victoria
- Scott Milne, Response Manager and Global Director of the International Association of Emergency Managers

Assoc Prof. Brett Aimers presented on 'Taking Care of Business – a national response to a jurisdictional emergency'.

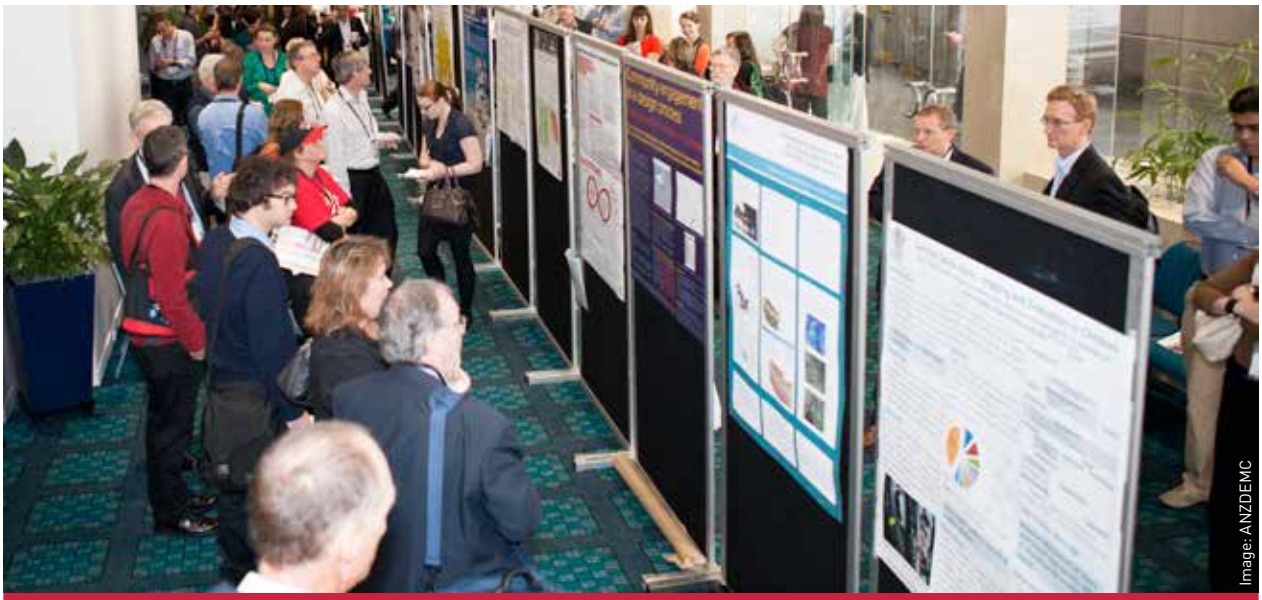
- Professor Philip Morris, President, Australian and New Zealand Mental Health Association
- Dr Rob Vertessy, Director and CEO, Bureau of Meteorology

Organisers indicate that new streams for 2014 conference are being added and they will include Australia's first Search and Rescue forum. Expressions of interest are now open

The conference is a joint initiative between the not-for-profit organisations of the Australian Institute of Emergency Services, the Australian & New Zealand Mental Health Organisation Inc, and the Association for Sustainability in Business Inc.

ANZDMC
May 2014
Brisbane

www.anzdmc.com.au



The conference poster series provided a wealth of additional information.

Chris Austin thanks Grant Morrision, AusAid after his presentation on 'Developing a new Hydro Framework for Action in Disaster Risk Reduction'.

EMPA 2013 conference: high-profile, international experts interact with em communicators

For its 7th annual conference, Emergency Media & Public Affairs (EMPA) continued to 'punch above its weight' with a program heavy with keynote speakers and innovative presentations.

EMPA is the only organisation in the world which is exclusively for emergency public information and warnings practitioners. It has established a professional accreditation program, and awarded its latest accreditations to Sam Colwell (FRNSW) and Heidi Groom (NSWSES) during the conference.

Held in Brisbane on 2-4 June, EMPA 2013 was opened by Assistant Commissioner Alistair Dawson of QPS, followed by the international keynote by Bob Jensen, Deputy Asst Secretary for Public Affairs at Department of Homeland Security, Washington DC.

Other keynote addresses were by Mark Crosweller, Director-General of EMA and Craig Lapsley, Victoria's Fire Services Commissioner. Crosweller impressed how public information has become the 'new capability' in emergency management. Craig Lapsley introduced the Public Information Master Class by pointing out that community information and warnings are second only to 'preservation of life' on the list of strategic priorities.

EMPA's 'Greatest Hits' was an innovative afternoon of vignettes from some of the best presenters at previous EMPA conferences. The enthusiastic, fast-talking 13 speakers, some via video, summarised in seven minutes, their subjects and what developments have been made since their first presentation. Delegates were given an expert overview of how public information and warnings have evolved.

At the conference dinner, EMPA founding directors, Alastair Wilson (ex AGD) and Peter Rekers (Crisis Ready QLD) hosted the popular 'Disastrous Trivia Quiz' which was convincingly won by the NSW Rural Fire Service group.

EMPA 2014 will be held in Canberra in 1-3 June, and a committee has been formed to launch an inaugural New Zealand EMPA in Auckland in 2014 as well.

Victorian Fire Services Commissioner, Craig Lapsley addresses EMPA's 7th conference.

EMPA communication research survey closes 31 August

Communication is at the heart of good emergency management. Please complete this survey to help us design research projects that meet real communication needs. EMPA will team with academics in the field to design specific, tailored research projects relating to communication. The survey gives you and your organisation the opportunity to specify the research that would help you to improve communication, before, during and/or after a disaster. It's easy, free and will take only about 15 minutes to complete:

www.surveymonkey.com/s/9JBZJXX.

EMPA
June 2014
Canberra

www.emergencymedia.org

Networking is a key aspect of the conference which brings together much of the emergency communications profession.

This 'wall art', produced during the conference 'Greatest Hits' session graphically depicts seven years of progress in emergency communication.

SPEECH:

Humility in action

Mark Crosweller AFSM, Director-General, Emergency Management Australia presented at the Emergency Management Public Affairs Conference in May 2013.

Accepting inevitability and respecting the nature of the hazard

Australia has experienced severe to catastrophic natural disaster events for many millennia and they have become commonplace not only in our history, but in our music, art, literature, and our poetry. There is hardly a long-term resident of Australia who doesn't have a story about a bushfire, a flood, a storm or a cyclone. It seems a little odd then that if these events are so much a part of our history and our own personal experiences, why do we continue to be surprised by them, and perhaps more importantly, why do we continue to see our efforts to deal with them as inevitable failures? The answers have remained elusive.

The reality is that severe to catastrophic natural disasters are inevitable in Australia. The only variables are 'where' and 'when'. And on some days, it won't be the 'when', just the 'where'. For example, over the last 10 years we have experienced the 2003 Canberra bushfires, the 2009 Victorian bushfires, the 2010/11 Queensland floods, *Cyclone Yasi*, the 2011 Victorian floods, major flooding events in NSW during 2011, 2012 and 2013 and the effects of ex-tropical *Cyclone Oswald* in January 2013 along the Queensland and NSW coasts.

It is hard for us to hear and accept their inevitability because, in my view, as a nation we don't want them! Not an unreasonable proposition, but unfortunately they are not for us to choose.

The reality is, while ever the right atmospheric conditions prevail: a severe to catastrophic bushfire will go wherever it wants and burn for as long as it wants while ever there is sufficient fuel in its path; a cyclone will go wherever it wants, will generate winds as strong as it wants and dump as much water as it wants for as long as it wants; and a severe thunderstorm will form wherever it wants, will go wherever it wants, drop as much water as it wants in a concentrated area of its choosing and produce winds as strong as it wants.

As harsh as it may sound, our propensity as a collective society to not truly accept their inevitability has a number of negative consequences. It exposes in us a degree of arrogance and ignorance of their full potential to adversely affect us. This limits our ability to effectively prepare for, respond to and recover from them; limits our ability to learn from the experiences and to use our imaginations, creativity and innovation in preparation for the next inevitable event; and establishes the basis for a blame culture.

However by respecting their nature, accepting both their inevitability and our inability to choose them, we can make wiser choices about how we prepare, respond and recover from them. In other words, we can move our thinking from resistance to acceptance and then be in a position to take more positive, creative, innovative and appropriate actions in anticipation of the next severe to catastrophic event.

Uniting in the face of adversity

Natural disasters insist that we come together as a society to deal with their effects. Not only are severe to catastrophic natural disaster events inevitable, they are also immeasurably complex in their science (their causes), their behaviour (what they do), and their impacts (who and what they effect and how). In the face of such complexity, it is important to acknowledge that the primary motivation for most of us will be to do the very best we can within the current limits of our own external and internal resources. Our external resources such as fire trucks, flood boats, helicopters, and frontline personnel (as examples) will be severely limited in their effectiveness by the scale and intensity of the event and our own internal resources will be severely tested as these events take

all of us beyond our own knowledge, skills, experience and imaginations.

In the face of such inevitability, adversity and limitation, it is critical that we use all of our collective physical resources, knowledge, skills, experience, imaginations, creativity and innovation before, during and after the inevitable event to help solve the immeasurable complexity of problems that natural disasters present. It is this acknowledgement that underpins the need for unity.

Exercising humility

Having the capacity to accept the inevitability and complexity of severe to catastrophic natural disaster events, accept our individual and collective limitations externally and internally in dealing with them and accept the need to unify in the face of such adversity requires all of us to exercise humility before, during and after a disaster.

Humility allows us to surrender our own fixed view of the world and presents the opportunity to expand our thinking, genuinely hear the contributions and suggestions made by others, grant ourselves and each other permission to say 'we don't know but we'll find out', and perhaps most importantly show a genuine vulnerability that allows for true connection and relationship between people.

Humility also assists us in using our collective imaginations to bring to mind things that are not present to our senses; creativity to develop original ideas that have value; and innovation to put new ideas into practice. These attributes become very important when we realise that the knowledge, skills and experience gained from previous disasters, while helpful, will not be enough to prepare for the next disaster which will probably be more intense and have a unique set of characteristics not previously understood or experienced. The culmination of these attributes could be termed our 'collective wisdom' and is essential as we need to prepare ourselves for the 'next' event, not the 'last' event.

Showing compassion

The physical, emotional and psychological impacts of severe to catastrophic natural disaster events are not limited to those directly or indirectly impacted but flow onto every corner of society including: those called to respond, lead and manage; those called upon to report; and those who bear witness either first hand or through the many forms of media that exist within society.

If we accept that the primary motivation for us will be to do the very best we can within the limits of our own internal and external resources and if we grant ourselves permission to reflect upon our own emotional response in the face of such adversity, then we cannot but have a deep sense of compassion and connection with all of those who are touched in some way by these events.

It is this sense of compassion that helps to alleviate our own emotional distress and motivates us to think beyond our own suffering and take actions for the benefit of others. The 'Mud Army' in Queensland, formed immediately after the Brisbane floods in 2011 is a powerful example of compassion in action.

Grant forgiveness

We will all feel to a greater or lesser degree feelings such as regret, remorse, anger and frustration. Understanding that we could not choose the event, that its severity went beyond our internal and external resources and knowing that we were motivated to do the best we could within these constraints, then we soon come to realise that there is so much more that we individually and collectively need to learn, but perhaps more importantly, that blame is futile.

In the face of such adversity most of us will reflect upon our own perceived limitations and forgive ourselves for those things that we did or didn't think, did or didn't say, or did or didn't do, and having reached some sense of inner peace about our own perceived limitations, we owe it to grant forgiveness to others for they have endured the same internal suffering.

To quote Archbishop Desmond Tutu *"To forgive is not just to be altruistic. It is the best form of self-interest. What dehumanises you inexorably dehumanises me. Forgiveness gives people resilience, enabling them to survive and emerge still human despite all efforts to dehumanise them."*

The bottom line

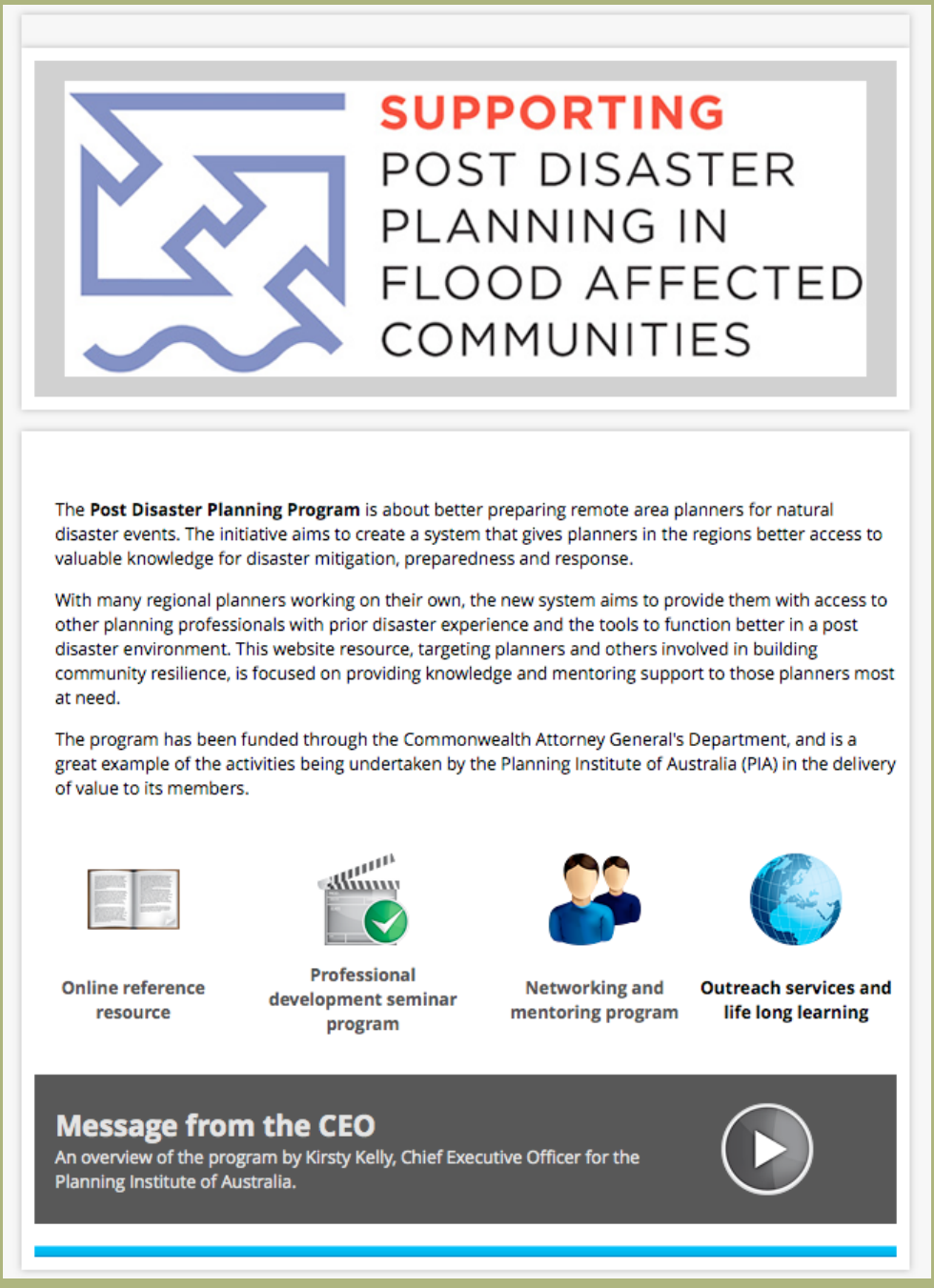
Our ability to:

- truly respect the nature and inevitability of the hazards that we face
- unify from the highest levels of Government to the 'end of the fire hose'
- have sufficient humility to put aside our 'fixed view of the world' and bring together our knowledge, skills, experience, imaginations and our creativity to develop a 'collective wisdom' and act accordingly
- develop sufficient compassion to understand that no one who is directly or indirectly involved escapes some level of emotional impact, and
- be able to forgive ourselves and each other for any perceived failings in the face of such overwhelming adversity

allows us the opportunity to make the most out of a set of circumstances that we do not get to choose, but from which we can choose to learn and grow from, and genuinely alter for the better the outcomes that arise from such adversity in the future.

EM ONLINE

Supporting post disaster planning in flood affected communities



The Planning Institute of Australia created this online resource for regional planners across Australia. It allows access to information to help planners better prepare for flood events and to function better in a post disaster environment.

The information in the site comprises a series of online seminars and talks with leading industry professionals associated with building resilience in the floodplain management sector. The collection may help planners, at all stages of their career, develop a broad understanding of the latest concepts and tools for mitigating against floods.

Post Disaster Planning Program: www.aemi.edu.au/pia/default.html.

More information on the Planning Institute can be found at: http://www.planning.org.au/.

Australian Government
Attorney-General's Department
Emergency Management Australia

DISASTER RESILIENT AUSTRALIA
GET READY

Australian Emergency Management Institute

The Australian Emergency Management Institute (AEMI) is a Centre of Excellence for education research and training in the emergency management sector. In support of the COAG *National Strategy for Disaster Resilience* (2011) AEMI:

- *Provides education and training*
- *Conducts strategic activities*
- *Undertakes applied research*
- *Promotes community awareness and education*

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29 Oct. - 01 Nov.	**Community in emergency management**
18 - 22 Nov.	**Facilitate emergency risk management**
27 - 29 Nov.	**Manage recovery functions and services**
02 - 04 Dec.	**Risk based land use planning (Stand alone unit)**
03 - 05 Dec.	**Develop and use political nous**

For information, contact: Australian Emergency Management Institute, 601 Mt Macedon Road, Mount Macedon VIC 3441
+61 (03) 5421 5100 ▪ aemi@ag.gov.au ▪ www.em.gov.au/aemi

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Building resilience through education, collaboration and innovation