BUILDING COMMUNITY RESILIENCE TO NATURAL HAZARDS IN NORTHERN AUSTRALIA

Proceedings of the Research Forum at the Bushfire and Natural Hazards CRC & AFAC conference
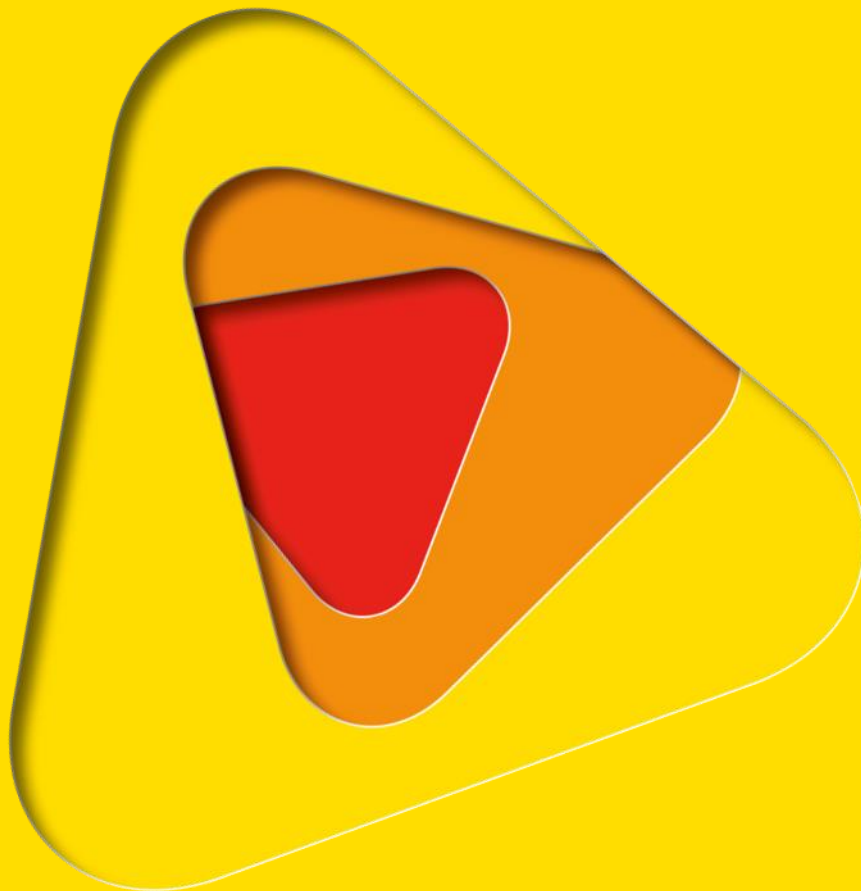**Wellington, 2 September 2014**

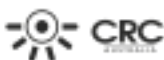**J. Gould[1,3], B. Sithole[1,3], A. Campbell[1,3], G. James[2,3] and S. Sutton[1,3]**
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ABSTRACT

Sparsely settled regions of northern Australia are extremely vulnerable to a range of annual natural hazard impacts, including those from cyclones, flooding and extensive fires. Outside of large towns, the majority of the population is Indigenous with limited access to infrastructure, or readily available institutional support for dealing with bushfires and natural hazards (BNH). Low population densities and poor communications mean that even relatively large communities have almost no formal emergency management capacity.

Natural hazards are being amplified by climate change, with likely more and bigger fires, on-going sea level rise, potentially fewer but more destructive cyclones, and more days of severe heat stress, with consequent risks to economic productivity, infrastructure and human health and wellbeing. Improving community resilience to bushfire and natural hazards in the north is an evident priority and challenge; approaches that might apply in other regions of Australia are unlikely to work in the unique institutional, infrastructural, demographic, ecological and climatic contexts of the northern third of the continent.

This paper explores potential pathways to improve community preparedness, response and recovery capabilities in remote Indigenous communities, and broader implications for public policy and government agencies in northern Australia, with reference to the research portfolio being developed in the northern hub of the Bushfire and Natural Hazards CRC.

INTRODUCTION

Over 30% of the north Australian community is Indigenous (Altman et al. 2009). In remote areas, this proportion rises dramatically, with the majority living in communities ill-served by existing emergency services. While these communities have significant Indigenous and local knowledge capacities which afford a degree of resilience in the face of bushfire and natural hazard (BNH) events, poor health, under-investment in infrastructure, restricted communication services and flawed governance models heighten vulnerability to an increasing array of natural hazards extant across the region (Green et al. 2009). There is wide acknowledgement that current government services appear ill-equipped to deal effectively with BNH events in remote areas (COAG 2004, FESA and KLRC 2008, Leonard et al. 2013, Newman and Smith 2004). Further, there is the question of how local needs can be best served within the existing framework of disaster relief, and what expectations Indigenous people have of these. Cost, logistical challenges, and different social, institutional and infrastructural settings mean that urban service models are not suited or perhaps even applicable in remote areas. Consequently, there is a strong push to find service models which are informed by local realities and which respond to the needs and priorities that local Indigenous people identify. The wide variety of situations, needs and circumstances found across the remote north also means that models must be capable of being adjusted and made to suit diverse community settings.

To meet these challenges, the Bushfires and Natural Hazards CRC is supporting a suite of projects under the broad theme, *Building Community Resilience in Northern Australia.* Collectively, these projects provide an opportunity first to map out the current preparedness and capacity of remote communities in northern Australia, and to then assess the steps that need to be taken to develop the infrastructural, institutional and governance capacities of local communities for better dealing with BNH events. An allied aim of the project is to better understand, and engage with, BNH issues in the broader geographical context of northern Australia and its near neighbours, especially Indonesia, Timor Leste and Papua New

Guinea. The full northern Australia resilience research program is due to be rolled out sequentially over the next few years.

The aim of this paper is to briefly introduce the scope, methodology and rationale for two component projects which specifically address gaining a better understanding of how Indigenous community governance institutions interact with wider institutional structures in the context of BNH management and response, and how these interactions could be improved. The first component, *Scoping Remote North Australian Community Resilience*, will engage the Aboriginal Research Practitioners Network (ARPNet) and employ Participatory Action Research (PAR) methodologies to canvass community views, expectations and current response strategies in the context of natural hazards. ARPNet will engage community-based Indigenous research practitioners to explore local views and preferences on current and possible future service models. The second component, *Action Research on Appropriate Governance Models for Building and Maintaining Resilience in Local Communities*, will commence once the *Scoping* subproject is completed at the end of 2015, and aim to design grassroots models of service delivery.

The *Scoping* stage of the project has already commenced, although is in its infant stages. It will involve multiple research institutes, agency stakeholders and northern Australian Indigenous communities. Crucially it will employ Indigenous researchers to engage with community members in the project. The involvement of many stakeholders means that there will be parallel yet interconnected streams of data collection, allowing all stakeholders to participate separately and sometimes collectively in spaces the project creates.   This project involves the participation of two key Aboriginal organisations, the North Australian Indigenous Land and Sea Management Alliance (NAILSMA) and ARPNet, in delivering the project, and also is linked to a host of key government agencies including NT Police Fire and Emergency Services, Bushfires NT, and local service agencies such as relevant Shires, land management organisations, medical services and representative bodies. The Research Institute for Environment and Livelihoods (RIEL), at CDU, is the coordinating agency for the project.

The project will initially be implemented in two selected remote Northern Territory communities, although it is anticipated that additional communities in Queensland and Western Australia will be incorporated as the project unfolds. The two initial communities involved are Gunbalanya (located just east of Kakadu National Park in Arnhem Land), and Ngukurr (located west of Katherine, on the Roper River and close to the Gulf of Carpentaria).

The *Building Community Resilience* projects are one of several suites of projects being run through the Northern Hub of the Bushfire and Natural Hazards CRC. This broader suite of projects seek to understand the drivers and constraints to building greater community resilience in the monsoonal north, both in remote communities and in the larger urban centres; and to then work with end users to develop new tools and build new capabilities that improve management of bushfires and natural hazards across northern Australia and the region. In doing so linkages will be built with neighbouring countries who face many of the same hazards (as well as tsunamis, volcanoes and earthquakes) with even fewer resources than are available in a remote north Australian context.

THE SCOPING RESILIENCE PROJECT

Resilience is broadly seen as a capacity to respond to and 'bounce back' from a major natural hazard. But what does this mean in the context of remote Indigenous communities in Australia's remote north? Remote communities are generally seen as 'vulnerable' because of poverty, poor health, low education levels, and the lack of services and infrastructure associated with their isolation from major urban centres (on the complexity of examining 'vulnerability' in remote Australian Indigenous communities see Ellemor 2005, Howitt et al. 2012, Leonard et al. 2013, Petheram et al. 2010, Veland et al. 2013). Remoteness, and cultural and linguistic diversity, compound the issue of poor communication between communities and the structures of political representation, resource allocation, and service provision which are centred in the city. These vulnerabilities exacerbate the impacts of natural hazards present across the region such as cyclones, bushfires, and floods. However, it is also important to consider in this context the existing strengths of communities, such as local decision making and authority structures, communication networks and customary/local knowledge which afford a degree of resilience in the face of natural hazards (McLachlan 2003, Veland et al 2010). These 'resilience factors' may themselves be vulnerable to external forces such as inconsistent government policy, funding priorities, and the imposition of inappropriate governance structures or 'over-governance' of communities.

Current Australian policy positions resilience as "the collective responsibility of all sectors of society, including all levels of government, business, the non-government sector and individuals". It describes "a disaster resilient community" as "one that works together to understand and manage the risks that it confronts" (COAG 2009:iii). In a remote Indigenous setting, the risks which need to be managed are different to those affecting other locales, as are the capacities of local communities. 'Working together' in such settings requires different kinds of partnerships and response structures. This unique context underpins the rationale for the *Scoping Resilience* project.

The *Scoping Resilience* project addresses the complexities inherent in identifying and building on the existing scaffold of knowledge and understanding of bushfire and natural hazards in a remote Indigenous Australian context. Its aim is to develop a fine-grained understanding of how local knowledge and other capacity relate to existing risk management and post-event responses, and what changes would be most effective and valued. This project will employ a participatory, applied and action-oriented approach to engage residents of two remote Northern Territory communities along with relevant agency stakeholders.

The key aims of the Scoping phase of the project are to:
- Describe the types of natural hazards and impacts of greatest present concern to Indigenous communities in remote northern Australia;
- Summarise the aspirations of participating communities for social and economic development and meeting cultural obligations, and identify those aspirations that appear most vulnerable to natural hazards;
- Describe present approaches to dealing with natural hazards and outline Indigenous views of their appropriateness and effectiveness, including eliciting suggestions for improvements;
- Describe human capability, including skill sets and experience, formal institutions and social networks, presently available within participating communities.

As noted above, the project is a collaboration between RIEL, ARPNet and NAILSMA. Each of the collaborating research partners will undertake a subset of the research. NAILSMA will conduct an asset mapping exercise, a survey of relevant literature, and an action research component of the project focused on service delivery models. ARPNet will be undertaking research within the two case study communities. RIEL will liaise with key emergency services agencies at the Federal, Territory and community levels.

CONCEPTUAL ISSUES AND METHODOLOGICAL CHALLENGES

Bringing together these three research partners with complementary competencies, the project benefits from ARPNet's experience and tools for working in remote communities, while NAILSMA is able to bring its wealth of experience in delivering culturally appropriate and effective programs based on Indigenous knowledge and contemporary science in the management of land and seas. By drawing in researchers from The Northern Institute and the School of Psychological and Clinical Sciences at Charles Darwin University, RIEL will bring experience in emergency services management, project management, and in working with stakeholders to collect, synthesise and coordinate the different components of the project. The strength of the project lies in recognition of the direct need from the government for data with a strong explanatory value, while acknowledging that communities have a heightened sense of awareness of vulnerabilities and resilience factors, given their history and experience of hazards.

Community resilience among Indigenous communities in remote areas is an interesting but complex concept (Veland et al. 2013). Initial discussions at a focus group meeting to plan for the project elicited responses from remote community residents which showed both the complexity of the concept and the context that defines it. For example, one participant in the focus group said….*'them mob government worrying for natural hazards when being in a community is hazardous itself",* suggesting the complexities inherent to the notion of community resilience in the context of the 'disaster of colonisation' (Howitt et al. 2012), and the implications for how Indigenous people view natural hazards vis a vis the hazards they face in daily life. This is indicative of the need to read community responses carefully and from within the context of local realities which include many intricacies beyond the basic architecture of emergency service delivery.

An appreciation of the complex nature of Aboriginal circumstance, lifestyle and history is crucial for the project. Current service models pit mainstream ways of reading the environment and notions of community against those employed by Indigenous people. This is perhaps unintended, but a real consequence of a broader historic failure to recognise and explore Indigenous knowledge and experience. This project requires that service providers acknowledge local knowledge systems and forms of social action, and prepare responses which incorporate these (FESA and KLRC 2008, Leonard et al. 2013, McLachlan 2003, Petheram et al. 2010, Veland et al. 2013). Inherent to this challenge is to comprehend and mediate parallel, and at times conflicting, readings of hazards. For example, the notion that hazards may be punishments from ancestors of people because they failed to look after country or are not living on country is strong (Leonard et al. 2013, Veland et al. 2013). The belief that hazards can be minimised, stopped or averted with good natural resource management presents an interesting dimension to this work, and may represent an emerging space for developing mitigation and preparation/response strategies which bring both Indigenous and Western knowledge systems together.

The project underscores the need for building local models suited to the remote indigenous situations and circumstance, and there is an explicit suggestion that government will support or use the results. But Aboriginal people have been promised many things and they have received - in equal measure - expectations of government action which did not materialise. Lack of or inadequate delivery is an everyday occurrence for communities. This project is thus being implemented in a context where promises mean very little. It is not clear how the project will address the scepticism which may prevail in the communities regarding government genuineness to support a grassroots model of service delivery. To a certain degree one sees a level of resilience within communities as they develop strategies to survive the impacts of poor policy, inadequate service provision, short funding cycles, constantly shifting policy regimes and a lack of meaningful engagement from government (cf. Ellemor 2005). A key component of this research is to identify these strategies. A key assumption is that these are the best place to start in building greater resilience. On the one hand, 'top-down' approaches to policy development and service provision will at best suffer from a lack of engagement and at worst undermine existing community capacity. On the other, current policy approaches to hazard preparedness and response focus on the responsibilities of communities - so it is at this level that needs, priorities and modes of action must be clearly understood if existing strengths are to be built upon.

The literature on resilience contains some material on remote Australia. By and large, this literature raises the need to foster greater community engagement, capacity development and empowerment, on better communication strategies, and the need for better education regarding how emergency services are delivered (Attorney General's Department 2007, COAG n.d., FESA and KLRC 2008, Hocke and O'Brien 2003, Leonard et al. 2013). This work however contains few detailed case studies about how such goals can be realised (some of the notable exceptions have been referred to throughout this paper). The involvement of ARPNet will allow fresh insights into notions of community resilience in the remote north. ARPNet will also explore local notions of risk. While service providers traditionally focus on hard assets (such as houses, power supplies, and roads) and notions of personal safety (minimising injuries, deaths and other health impacts) there are likely to be different understandings of these risks, and additional assets which are valued, at the community level (Bird et al. 2013, Veland et al. 2013). These may for example include cultural assets; relationships; particular aspects of country; and livelihood activities vulnerable to BNH events. As noted earlier, these 'community assets' may be regarded not only as vulnerable to natural hazards but also key factors in ensuring the ongoing resilience of communities.

POLICY IMPLICATIONS AND LIKELY OUTCOMES

Key documents such as 'Keeping Our Mob Safe' by the Remote Indigenous Communities Advisory Committee of the AEMC, highlight issues such as the need for better engagement and communication with Indigenous communities (Attorney General's Department 2007). The questions posed by the Scoping Project are not new. However they do represent a chance to apply these concepts in concrete terms within specific community contexts. While much varies from one community to the next, general insights are likely to be made regarding the:

- Key institutional relationships which allow for coordinated responses during a natural hazard, and the day-to-day interactions which determine the strength of these relationships;
- Key areas of divergence in notions of 'hazard' and 'risk' between service providers and remote Indigenous communities, and consequent implications for communication tools, messages and strategies;
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- Key opportunities to enhance institutions, resources and human capacity to enhance natural hazard readiness;
- Key aspects of how broader aspects of community resilience interact with natural hazard preparations and responses.

The involvement of a multi-stakeholder group encompassing both community end users and agency service providers provides an opportunity to identify gaps in communication, capacity and understandings of what does (or should) happen during an emergency event. Communities will get to review and put together their plans for response, and the service providers will gain direct insights about the situation and views of the local community. The creation and testing of response models by NAILSMA will create another direct platform for engagement, where results will be applied and hopefully the process validated and legitimised.

While still in their early stages, this and the wider set of Northern Hub projects hope to deliver findings of wider policy import, while making a substantial contribution to building bushfire and natural hazards research and management capacity in northern Australia and the region. Our scope deliberately extends beyond local bushfire and natural hazard events, to encompass the role of Darwin in particular as the base for Australia's response to events in our region, and as a south-east Asian knowledge hub for disaster resilience and emergency management. Charles Darwin University has a newly-developed Masters in Humanitarian and Disaster Management (delivered online and face-to-face) that is building strong links with government agencies, non-government organisations and practitioners working across the region, and is likely to be complemented by short-course intensives over the next couple of years. Research through the Northern Hub and other Bushfire and Natural Hazards CRC projects will feed into this training, providing an excellent outreach vehicle for the CRC into the region.

CONCLUSION

This project has elements which make it a unique and exciting flagship project. It has been developed with the involvement of two key Aboriginal organisations and is connected to a host of stakeholders including service providers and other expertise relevant to the provision of emergency services in a remote northern Australian context. The Indigenous ownership of and participation in the project is crucial for ensuring meaningful engagement and ownership of the PAR process and outcomes of the project. On another level, this project provides an integrated platform for practitioners, experts and policy makers to interact. Maintaining the integrity of the local processes during PAR and the local voice will be the main objective of the research.

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