A response by the Australian Psychological Society to the Draft Report of the Productivity Commission Inquiry into

Natural Disaster Funding

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The Australian Psychological Society (APS) welcomes the opportunity to respond to the Draft Report from the Productivity Commission's Inquiry into the efficacy of current national natural disaster funding arrangements.

We congratulate the Productivity Commission for the greatly increased focus on mitigation and risk reduction in this Draft Report. We agree that this is an important shift in focus for funding priorities, and has great potential to reduce risks from extreme weather event disasters, thereby lowering the potential physical, economic, social and psychological costs to communities affected by natural disasters.

We have a few further points to make in relation to the Draft Report, based on research evidence into disaster management from the fields of social, behavioural and health science. Most of these points have been made in our original submission (link), but we believe that the Draft Report would benefit from the addition of the following points:

- Greater emphasis on (lower-cost) mitigation activities like risk messaging to change people's risk-taking behaviour
- Greater emphasis on preparedness initiatives, including household and psychological preparedness
- Greater emphasis on the psychological and social impacts and costs of disasters, rather than the almost exclusive focus on risks to assets
- Greater emphasis on individual and community resilience in the form of skilling-up to reduce psychosocial and mental health costs following disaster.

Recommendation 1: Include more information on (lower-cost) mitigation and prevention activities like risk messaging to change people's risk-taking behaviour.

Much of the content of the Draft Report focuses on traditional mitigation approaches such as land-use planning, building regulations, built infrastructure, and insurance. Whilst these are important, the report overlooks critical (and low-cost) measures of risk reduction aimed at changing people's risk behaviour during an extreme weather event and substantially reducing their risk of injury, death and psychosocial harm. This omission reflects a very real and consequential level of analysis issue problematic in much disaster management work, in which an individual issue engagement and behavioural change focus gets entirely overlooked.

Much more attention needs to be paid in Australia to risk messaging which helps people to understand what to do, and what *not* to do, during a disaster in order to protect lives and reduce injury. There is considerable research evidence about known risks for injury and death in fires (see Bushfire CRC funded reviews by Ronan 2014c; Haynes et al., 2010), floods (e.g. BOM, 2014) and other hazards which result in clear recommendations for fairly simple messaging to reduce these risks.

For example, an analysis of all bushfire deaths in from 1901-2008 (Haynes et al. 2010), showed that most bushfire fatalities (552 civilian deaths) have resulted from late evacuations or, in the case of males, defending property and other assets outdoors; and for females, late evacuation. After the Black Saturday fires, the Victorian Bushfire Royal Commission in fact recommended that there should be greater emphasis on messages that early evacuation is the safest response option (2010)[1]. Despite that recommendation, survey research in Victoria shows that many households see late evacuation as a legitimate response option. This and other simple messages about behavioural risk-reduction strategies have enormous potential to reduce deaths, injuries and psychosocial harm.

In Australia, the Bureau of Meteorology (2014; see also Peden & Queiroga, 2014) reports that most flood-related deaths occur when people drive, walk, swim or play in floodwaters. Taking risks in floods, particularly for males, including driving through floodwaters, is a major problem both overseas (Jonkman & Kelman, 2005) and in Australia (Coates, 1999; Peden & Queiroga, 2014). In fact, it is such a problem that it has spawned a major government-sponsored advertisement campaign in Queensland ('If It Is Flooded, Forget It' campaign after 2010-11 floods).

Compared to the costs of response (e.g., rescue and recovery operations), both economic and social, investment in the prevention of these types of behaviours through simple messages would be likely to save both lives and money. Generally, in costing terms, changing people's risk-taking *behaviour* in the context of mitigating risk of natural hazards is a highly cost-effective means of reducing risk.

In fact, even a 1% savings would save in the millions of dollars and would represent an effective return, as suggested by experts, including a recent World Bank analysis (Kenny, 2012; see also Lindell & Perry, 2012):

> "In countries rich and poor, the simple logic of prioritising cheap, institutionally simple responses does not always prevail…. A broad concern with the comparative cost-effectiveness of some mitigation measures in some circumstances should not overshadow the efficacy of a number of simple approaches that will save both property and lives in a wide range of circumstances (p. 576)…. More fundamentally, a range of other public disaster risk reduction measures are likely to generate particularly high returns—emergency preparedness and emergency communication systems are likely to make a significant, cost-effective difference… (p. 579).

What these simple measures might look like is the subject of the next section.

[1] From the Royal Commission (2010): "Any policy must encourage people to adopt the lowest risk option available to them, which is to leave well before a bushfire arrives in the area. The Commission acknowledges, however, the reality that people will continue to wait and see, and a comprehensive bushfire policy must accommodate this by providing for more options and different advice" (p. 5).

Recommendation 2: Have a greater emphasis on preparedness initiatives, including household and psychological preparedness

Mitigation activities aim to improve the preparedness of communities by reducing the *vulnerability* of people and assets to natural disasters. While these activities can take many forms, they essentially revolve around the provision of information to help people understand the risk better and what action to take before or after a risk event to reduce the economic costs.

Preparedness measures, (like psychological or household preparedness strategies, developing and practicing emergency plans), however, can have additional benefits over the long run. They can reduce both the vulnerability and *exposure* of communities to natural disasters over time. Preparedness initiatives equip individuals and communities to protect themselves from a future disaster, provide people with a clear plan about what to do during a disaster event, reduce the impact of an event on individuals and communities, and hasten people's recovery. These measures have a much greater magnitude of influence and effectiveness than initiatives that come after the disaster. Unfortunately, there is very little in the current Draft Report on these sorts of preparedness initiatives. They are, however, a crucial funding priority.

<u>Household and community preparedness</u>

One key message across hazards is the cost effectiveness of helping households develop effective, and relatively simple, emergency plans. Whilst early evacuation warnings may help (see previous section), reactive approaches, including *reliance* on early warning messages, continue to produce major problems. For example, despite planning for early evacuation in bushfires being the key protective action according to the Black Saturday Royal Commission, survey research in Victoria shows that a late evacuation strategy continues to be seen by the public as a legitimate response to bushfires (Tibbits & Whittaker, 2007). Thus, it is no major surprise that the major cause of death in bushfires in Australia since 1908 has been either related to a lack of evacuation or evacuation initiated too late (Haynes et al., 2010).

Thus, investment in low-cost preparedness activities such as enhancing efforts to increase uptake of household emergency plans along with practice and other low-cost strategies is very important. There are a number of factors that increase the proportion of individuals who will prepare and practice a plan (for review and examples see our original submission APS 2014; Ronan & Johnston, 2005; Morrissey & Reser, 2001; APA 2006).

In general, more policy and agency investment in preparedness, moving from less effective passive approaches (e.g., information dissemination through various media) to interactive educational, socially-based approaches, is warranted (Ronan, 2014a). For example, school children have been shown to readily take on early evacuation and a range of other key messages in education programs, including bringing them home to parents as a homework exercise that translates into

enhanced planning and preparedness (e.g., Ronan & Johnston, 2003). A low-cost education program done in a youth community centre in a lower SES, higher bushfire risk area of Canberra resulted in parents reporting an increase of 6 additional disaster risk reduction activities done at home between pre- and post-test (Webb & Ronan, 2014).

In another example, a simple, low-cost community- and socially-based education program in Surrey BC (Canada) was seen to reduce house fires by 64% in high risk fire areas, saving an estimated $1.26M in house fire losses. This program included key messages related to both primary prevention (e.g., reducing known causes for house fires) and secondary prevention (installation of working smoke alarms alongside education about how to respond) (Clare et al., 2012). In conclusion, activities such as early evacuation and home-based activities that protect assets and reduce both vulnerability and exposure risk are cost effective and can save lives, reduce injuries, reduce property damage and increase resilience (e.g., more efficient return to work).

Psychological preparedness

The draft report would also benefit from the inclusion of psychological preparedness as a valid and important mitigation/preparedness measure.

Psychological preparedness refers to the process of anticipating how one will react to a threat or disaster, and identifying which emotions and cognitions are unhelpful (and helpful), in order to manage one's reactions to the event most effectively. People need to be aware that anxiety can get in the way of coping effectively. Not being able to manage anxiety, heightened arousal and occasional felt panic in an emergency can often lead to unnecessary risk-taking and exposure. Having a better understanding of their own likely psychological responses in emergency warning situations can help people feel more in control and better able to cope. Being psychologically prepared can assist people to think more clearly and reduce the risk of serious injury and loss of life or property. Being cooler, calmer and more collected can also be very helpful to family members and others who may not be as well prepared psychologically for what is happening (Morrissey & Reser, 2001).

Recommendation 3: Include a greater emphasis on the psychological and social impacts of disasters, rather than the almost exclusive focus on risks to assets

The draft report focusses a lot on risks to assets, which include privately-owned, shared, and government property. The draft report would benefit from a greater acknowledgement of the impacts of natural disasters on health and wellbeing. This would include risks of death and injury, as well as social, psychological and mental health impact. These risks are considerable in terms of both likelihood and serious impact.

Recommendation: Include a greater emphasis on individual and community resilience in the form of skilling-up to reduce psychosocial costs following disaster

Apart from physical consequences like injuries and death, there is a large literature speaking to the preventability of psychosocial consequences of hazardous events (Ronan, 2014b). Various resilience indicators (i.e., protective factors) are known to prevent conditions like post-traumatic stress, anxiety, depression, secondary family and social stressors and other known by-products of natural, and other, disasters (e.g., Norris et al., 2002; Hobfoll et al., 2007; Ronan & Johnston, 2005). These factors include social support, (both actual and perceived), a sense of perceived control/self-efficacy, an ability to solve problems, an ability to manage arousal/self-soothe, a sense of safety, and a sense of hope or optimism for the future.

Assisting individuals and communities to prepare more effectively for natural disasters, including having the ability to engage in self-help strategies, is part of an emergent paradigm moving emergency management away from a command and control focus to one that empowers individuals and communities to help their members look after themselves and others before, during and after an extreme event. Skilled-up community members have a substantially enhanced capacity to respond and recover more effectively from an extreme event.

The Draft Report could include more examples of individual and community resilience building, like the widespread training of community members in parts of the United States in Psychological First Aid ahead of a disaster. This is described in more detail in our original submission (Jacobs, 2007; Reyes & Jacobs, 2006).

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