

Managing disaster risk to enhance preparedness

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Growing concern about the effects of a variable and rapidly changing climate combined with increasing potential for loss and harm are forcing us to question what can be done differently - before disaster strikes - so Australians can successfully live with intensifying natural hazards.

Over the coming decades and with a population expected to double by 2050, more people, assets and infrastructure than ever will be exposed to the impacts of extreme climate and weather events and we will be challenged in ways we have not experienced before. We need to rethink our approach to disaster risk and better understand the implications of our decisions on future vulnerability and resilience.

Australia's increasing exposure and the desire to sustain a prosperous nation requires us to adapt to complex and changing circumstances and become more effective in talking about and managing disaster risk; scaling our efforts to bring maximum benefit.

Building on the excellent work underway across the country, we can do more to connect and coordinate this effort - sharing our successes and understanding of the likely future - what it means for decisions we make about where and how Australians live, the infrastructure and services we rely on and our collective ability to prepare and respond.

Importantly, we must create an environment to talk about the ways in which we (as individuals and as a nation) are vulnerable so that resilience can be fostered. Building resilience requires an understanding of what is valued and what we stand to lose. With that knowledge, we can learn where vulnerabilities lie and how social and economic systems contribute to disaster risk, preparedness and resilience.

Responsibility cannot be equally shared

Responsibility for preparedness and resilience cannot be equally shared. Risk transference and individual and collective capacity to cope and be resilient has its limits. Knowing where vulnerabilities are in our social and economic systems can help inform and prioritise efforts to minimise, mitigate or avoid future risk.

The task of preventing natural hazards developing into disasters is complex. People from all sectors must get better and be more transparent about high-stakes decisions; continually adapting and taking new knowledge into account.

Many disasters are not 'natural'

Weather and climate don't cause disasters—vulnerability does. Australia has a variable and changing climate and a growing population. Natural hazard events have always been a factor in the Australian way of life and social and economic costs escalate when events happen concurrently and with greater regularity. These events are expected to get worse and the potential for loss and harm is increasing day by day.

The decisions we make—where we live and how we manage our lives, settlements, infrastructure, assets and services - has shaped and continues to shape our strength, prosperity and ability to successfully live with natural hazards. The level of loss and disruption that we tolerate and how we function as a society depends on the extent to which disaster risk is understood and who has or is making the decisions and for whom.

There is risk in every decision made. How well we manage the trade-offs contributes to whether or not disasters occur and how bad the effects are. What we value and tend to assume will always be there, such as viable economies, strong cohesive communities, reliable and accessible services, affordability of insurance and a healthy environment, are linked to what we value and therefore prioritise. Decisions are ultimately informed by what is assessed as valuable and at-risk against what we are willing to trade-off.

The way decisions are made and the rules governing them have evolved over time and during periods of relative stability. They have been effective in creating a vibrant nation and a valuable network of highly



Natural hazards like storm surges and coastal erosion have been a factor in the lives of people since European settlement.

Image: Bushfire and Natural Hazards CRC

interconnected, specialised and efficient systems that we depend on. When livelihoods are disrupted by catastrophic events and values shift, latent vulnerability in our systems is exposed and new ones not prominent in everyday life rapidly appear. As such, the limits of resilience will become evident. Disruption to the systems we rely on will be a shock and could have disastrous consequences depending on our level of preparedness.

All Australian governments and sectors of society recognise there is a need for change. As a result, there is a great deal of investment and effort already under way to adapt to complex and rapidly changing circumstances. There is a significant opportunity for greater cooperation and unified effort to do more than change at the margins.

The Australian Vulnerability Profile project

The Australian Vulnerability Profile project intentionally looked at the ways and means the highly dynamic systems that support Australian society are vulnerable when disasters happen. The project sought an answer to the question *“what makes Australia vulnerable to disaster when severe to catastrophic events impact what people and society value.”*

Our social, economic and environmental systems are connected across local, regional, national and global scales and are structured and designed to work together as a whole. We need to pay more attention to the intersection and interdependencies across these systems as many elements are not currently configured or calibrated to deal with the nature and scale of a rapidly changing climate and extreme events.

There is limited knowledge or understanding, not only among decision-makers but also the public, of how these complex and highly dynamic systems interact and the cascading impacts when one or other part of the system fails or is disrupted. There is also little knowledge about

the patterns within them that can build resilience and reduce vulnerability, including the common practices for risk transfer used by institutions and carried across generations.

The Department of Home Affairs, National Resilience Taskforce partnered with CSIRO to ground the project in social science methods and create a solid evidence base to inform key findings. Working with a multi-sector project team and advised by a panel of academic scholars a series of Deconstructing Disaster workshops were co-hosted by Home Affairs and South Australia, Queensland, Western Australia and the Northern Territory. The CSIRO team created and facilitated a bespoke workshop approach to gathering and curating the data.

Deconstructing disaster events and mapping cause-and-effect flows were used to provide a way to diagnose the root causes of vulnerability, consider the different values that are prioritised or traded off and identify points of intervention that can inform new pathways to resilience. A report that consolidates the thoughts and experiences of over 200 workshop participants about the ways people and systems are vulnerable when emergencies and disasters happen is nearing official release. The report distils the project findings into narratives that people can interact with, including:

- how we build and where we place people, homes, infrastructure and assets
- how essential goods and services are accessed and supplied
- the type of health care system we have
- how we share information and communicate
- how we identify and manage what is at risk, and
- how values shift with changing circumstances.

The purpose of this work is to promote discussion, provide ways to talk about the complex systems that support livelihoods and draw attention to how values influence decisions and how those values shift with changes in circumstances. The work informs proactive, integrated planning and action.

The project intentionally speaks to vulnerability; the least understood dimension of disaster risk and to frame the problem in a way that connects with and mobilises our collective efforts. Engaging one another early and often will help identify synergies with existing work, create links to other aligned projects, provide advice and guidance and potentially collaborate on solving other complex national challenges. In this way we will collectively invest in resilience by re-imagining and better connecting existing activity, resources and investment streams.

Australia will face extreme events in the future and these events will adversely impact the nation. Understanding where we are vulnerable allows vulnerability to rise as a strength and lies at the heart of building resilience and prosperity. Successfully living with natural hazards requires a systemic, cross-discipline, collaborative and inclusive approach to being better prepared.