

Contemporary approaches to land use planning decisions for residential and infrastructure construction must balance consideration of the growing risk from increased frequency and intensity of natural disasters and growing pressure to increase the availability of land.

While it is widely recognised that disaster resilience of communities and landscapes can be improved through better linkages between the emergency management sector and planning of land use and the built environment, this potential is not yet fully realised. Barriers include the inability to determine and articulate the cost of the transfer of risk for the protection of life and property on an all-hazards basis. This applies to new development, extensions to existing development including brown field, in-fill and retro-fitting existing development, and critical infrastructure.

There is significant need to explore a greater understanding of how to include risk into land use planning decisions and the most effective mechanisms to enable this to occur.

**Throughout 2015-2017, emergency service agencies around Australia participated in workshops hosted by the Bushfire and Natural Hazards CRC to consider the major issues in natural hazards emergency management.**

**This publication on land use planning summarises the outcomes of one of these workshops and poses questions as a guide for a national research agenda in natural hazard emergency management.**



Photo: Bushfire and Natural Hazards CRC

Strategic planning has been identified by government, community and industry as crucial to community resilience and preparedness for natural disasters. For example, land use planning that actively uses flood management plans to manage the flood risk will reduce that risk significantly. However, disaster management and mitigation is just one element of a number of political, socio-economic and historical factors that drive land use planning in local government areas.

Some local and state governments and emergency agencies are attempting to be more inclusive in the land use planning process to enable greater understanding of risk and shared risk across communities. Because land use planning decisions are commonly political decisions, it is important that politicians champion that land use planning takes risk, for example local flooding, into account when important decisions are being made.

- **How can political processes be influenced to ensure that risk is taken into account in land use planning decisions?**
- **How is it possible to ensure that development is resisted in high risk, yet highly valued, areas?**
- **Can we develop a more strategic regulatory environment that acknowledges the complexity of imperatives of the land use planning environment?**
- **How do we integrate emergency management input across all hazards into land use planning, so as to avoid conflicting or contradictory requirements?**
- **Are public safety requirements expressed by emergency management agencies defensible in the legalistic environment of land use and building planning?**

Data is a key asset for the government, the community and the emergency management sector as it is integral to understanding risk and helping to build risk profile. Currently there is no centralised, open repository for hazard related data that is available to government, business and community. Consequently, we do not have good data to understand the size of the risk problem generally, and this is exacerbated by the lack of transparency in data collection methods and lack of consistency of available data. The better the data the better the risk models and or profiles built that can be from it.

Good quality openly available data will enable land use planners, the emergency management sector, the insurance and finance industries and other major stakeholders to be able to work together more effectively to develop policy and build more disaster resilient communities. At the granular level, good data can help to demonstrate to householders the different risk profiles of living in different areas. At a local government level, it can help local governments make decisions on where to invest in mitigation to get the best rewards for community, for example, flood levees. At a state level better data will help to develop better state risk assessments to understand better investment in mitigation activities.

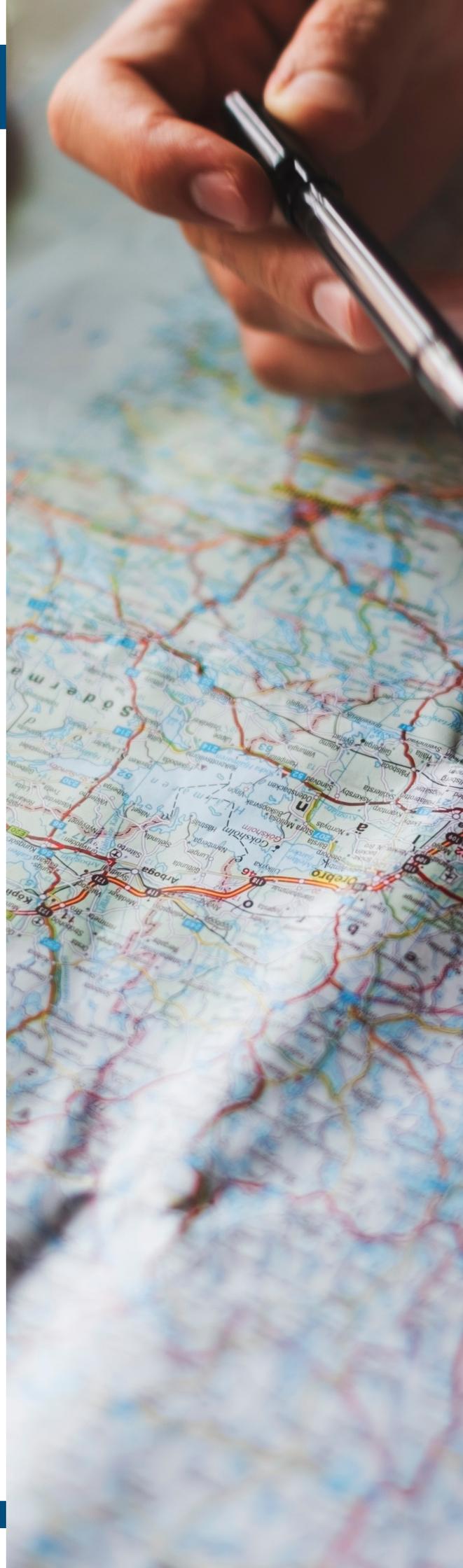
- **How can the various stakeholders be brought together to develop and fund an open data sharing infrastructure supporting risk modelling?**
- **What level of detail and consistency is required from data to meet the needs of government, business and community?**

## DEMONSTRATING THE VALUE OF RISK MITIGATION

The two main policy drivers in emergency management, the National Strategy for Disaster Resilience and the Productivity Commission's report into Natural Disaster Funding Arrangements, advocate to build disaster resilience through a number of mechanisms, and chiefly through risk mitigation. Despite this policy position, there is a lack of evidence to demonstrate to governments, emergency agencies and businesses the value of mitigation activities.

Risk mitigation involves activities that will reduce the risk. It can include activities at both the community and individual level. There is a significant lack of evidence that demonstrates the value of investing in risk mitigation for communities. This is in general because there is not always a direct relationship with the risk mitigation activity and the cost of disasters.

- **How can we quantify the long-term costs and benefits of mitigation investments across hazards?**
- **How do we assess the appropriateness of current standards and building codes, e.g. flood floor level, cyclone wind loadings, roof types and bushfire building codes?**





## National research priorities for natural hazards emergency management

*What are the most significant natural hazard emergency management issues Australia faces over the next 10 years?*

This was the question posed to emergency service agencies around Australia in a series of workshops hosted by the Bushfire and Natural Hazards CRC throughout 2016.

This publication is an outcome of one of these workshops and part of a broader national research agenda in natural hazards emergency management being developed by the CRC.

The workshops provided an exploration of major issues that would benefit from the support of research at a national level. There was no attempt to solve any of the issues or problems raised nor was there any discussion on the details of specific research projects. The participants discussed the issues they believed were relevant to the specific topic under discussion, the relative importance of the issues and the reasons underpinning their relative importance.

This series of publications summarises the outcomes of the workshops conducted so far – more will take place in 2017. They provide a guide for future research activities by identifying national priorities across major themes. The workshop outcomes have also influenced the evolving research agenda of the CRC.

This statement has been developed with the assistance of the Planning Institute of Australia (PIA) and Geoscience Australia (GA) who sponsored a workshop as a part of their conference with key stakeholders on 13 May 2016.



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