

# Opinion: Emergencies and land use planning

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Given the plethora of workshops, conferences and working groups on climate change you might at first wonder why AEMI recently ran the 'Risk, Emergencies and Land Use Planning in Coastal Australia' workshop at the Australian Emergency Management Institute (AEMI) at Mount Macedon?

The AEMI developed the workshop as a response to requests from emergency management industry concerns about the paucity of information that links climate change and emergency management. Despite the large number of papers presented at a recent international conference on climate change, attendees noted the scarcity of land use planning and climate change topics specifically related to emergency management. This fact was alarming not only because emergency management and land use planning are thought to be critical to the climate-changed future, the information flow between people in these and engineering communities will create the best possible outcomes for safer communities.

Achieving a community understanding of the likely climate scenarios and the potential policy responses through land use planning and emergency management is important in shaping Australia's future. But does a conundrum between land use planning and emergency management exist? Planners are often focused on managing a diverse and complex range of land use and societal issues that are often politically sensitive, whereas emergency managers are primarily faced with the daily concerns of risk reduction and the safety and security of the community<sup>1</sup>. They are at first glance two unlikely groups to share a common goal. Yet on the topic of climate change adaptation this workshop revealed a strong common vision to avert future catastrophes by working closely with local and regional communities. Meanwhile the barriers to achieving safe coastal communities are many and they include diverse community views on the likely effects of emerging risks of climate change, and on-going short, medium and long term political and economic pressures that drive poor land use planning decisions.

Controls such as land use zoning, development assessment conditions, building codes, floor/site levels, setbacks (coast and rivers), buffers, drainage

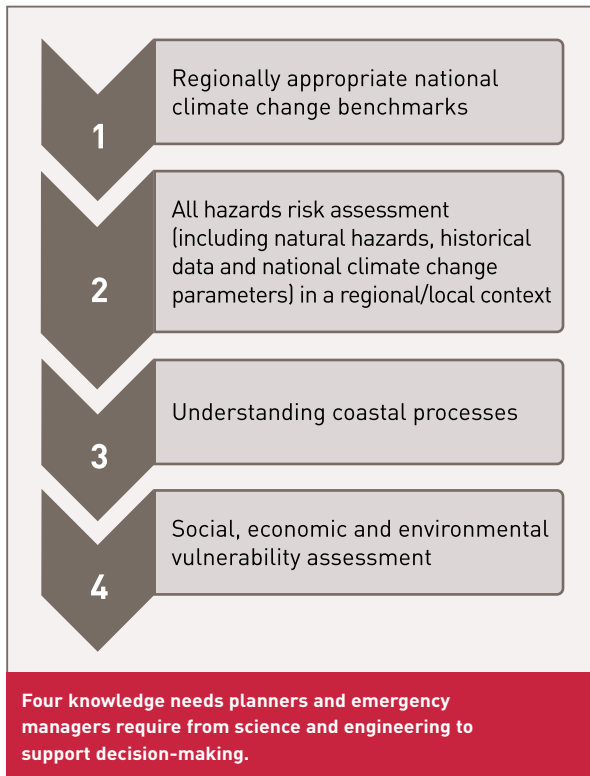
and detention basins (sea walls and levees), access and egress routes are examples of suitable planning responses to mitigate emergencies under climate change scenarios<sup>2</sup>. The planning provisions for these responses are usually a balance between costs of development and the acceptable risks. By determining these minimum acceptable safety standards, the true cost of emergency management is usually considered a residual risk and is not taken into account. Whilst this residual risk has (or has not) been tolerable for development now, increases in likelihood and consequences of emergencies as a result of climate change will affect this balance in decision making with a need to give more weight to considering controls. Existing zoning (the right to build), hazard exposure, information about hazards, population projections and growth, politics and land affordability and availability are all constraints in land use decision making

The aims of emergency management, (to protect life (no loss), property (minimise loss) and the environment (minimise and conserve)) should be achieved during the response to a major event, but also there is a duty to the public to achieve these aims both prior (planning and preparation) and after (recovery) events. Whilst land use planning needs to consider many real and potential constraints which are acknowledged in the decision making process, the constraints of emergency management providers (both now and in the future) are poorly considered or given adequate importance. Such constraints include limited resources/capability, uncertainty about the timing of hazards and their scale, community behaviours and attitudes about emergencies, and a societal misconception that emergency services are primarily focused on response activities (with little input to planning, preparation and recovery). Legacy issues of poor or minimal land use planning, and short term politics are also factors constraining the activities of emergency service organisations.

A central issue is that the cost of residual risk is borne by the individual property owner at the time of an event, not the developer or indeed the original property owner who may have accepted the risk given their land tenure. All levels of government inherit residual risk second

<sup>1</sup> David King, workshop keynote speaker.

<sup>2</sup> The first three paragraphs of this section summarise a workshop activity led by Steve Oppen.



hand through the direct impact on property owners and their possessions. These costs for both the land owner and governments are likely to increase significantly in coastal areas given the climate change scenarios. When land use planning decisions are made with assumptions about the magnitude of events and the likely behaviour of the public (that they will all evacuate by a given time for example) it should be incumbent on a land use planning decision to prove that these assumptions are likely to be correct. Government can support this decision making through a number of initiatives. The workshop participants identified four knowledge needs that both planners and emergency managers require from science and engineering to support decision making. The agreed criteria for choosing these items were that they should be important, efficient, useful, achievable, defensible, and urgent (often urgency relates to political decision making).

The four areas identified were as follows (seen as a cascading succession of topics rather than in order of priority): regionally appropriate national climate change benchmarks; all hazards risk assessment (including natural hazards, historical data, and national climate change parameters) in a regional/local context; understanding coastal processes; social, economic and environmental vulnerability assessment. Work groups identified the key need and components for each of these four priorities.

Going forward, the workshop gained consensus on the need for consistent policy framework between emergency management, planning and science that includes the following three elements:

- data accessible to the planning, engineering and emergency management communities; and
- professional links (relationships between stakeholders present at the workshop and incorporating those not represented); and
- communication and community education (clear, and delivered with meaning).

A major area identified for developing the capability is education and training. Courses currently available in Australia that relate to this need are few. Currently a climate adaptation and planning professional development course has been piloted by Planning Institute of Australia (PIA) and is now available as a PIA accredited course for planning professionals (with a non emergency management focus). The University of Queensland has developed a number of modules for teaching climate change adaptation that identify elements of risk management and emergency management principles<sup>3</sup>. The current status or roll-out of these modules is not known. AEMI conducts a Risk Based Land Use Planning course, but this does not specifically contain material on climate change issues<sup>4</sup>, which is also true for the University of Sydney which runs a post-graduate course in risk based land use planning<sup>5</sup>.

One challenge to incorporating emergency management into university undergraduate programs is the funding arrangements, as such subjects only support small student cohorts (<~30 students)<sup>6</sup>. Therefore the opportunities that a University has in meeting the professional development needs of emergency managers tend to be in post graduate studies. There is a gap between the qualification level of obtainment of many emergency service professionals and post-graduate studies.

Participants endorsed the approach and principles of the *Draft National Planning Principles for Climate Change* presented and discussed at the workshop. This document is a product of the Planning Officials Group (POG) of the Local Government and Planning Ministers' Council (LGPMC). The report arose from the proceedings of an expert Think Tank on National Planning Principles for Climate Change (Brisbane, 8 March 2010). As workshop chair, I intend to commend the full workshop report to the National Emergency Management Committee (NEMC) and to promote to the NEMC that this workshop should be the first of others to explore land use planning as a treatment for natural hazards.

To obtain a copy of the full workshop **Marc Bellette** may be contacted at the Australian Emergency Management Institute at [marc.bellette@ag.gov.au](mailto:marc.bellette@ag.gov.au)

<sup>3</sup> Marc Bellette, workshop comments.

<sup>4</sup> *ibid.*

<sup>5</sup> Steve Opper, workshop comments.

<sup>6</sup> Alison Cotterell, workshop comments.