

Submission Number: NND.001.00329

Submission Of: Professor Bruce Thom AM

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What is your submission based on? I am making this submission based on my professional knowledge, qualifications or experience or on behalf of a group or organisation

What is your area of professional expertise?

If you are lodging your submission on behalf of a group or organisation, what is the name of the group or organisation?

Your Submission

In your experience, what areas of the bushfire emergency response worked well?

In your experience, what areas of the bushfire emergency response didn't work well?

In your experience, what needs to change to improve arrangements for preparation, mitigation, response and recovery coordination for national natural disaster arrangements in Australia?

There is a need for the Commonwealth to rethink mechanisms for supporting the states in disaster management through the establishment of a climate change adaptation action arm within the Defence portfolio. A model is offered based on the US Army Corps of Engineers.

Please see attached.

Is there anything else you would like to tell the Royal Commission?

Do you agree to your submission being published? Yes I agree to my submission being published in my name

Supporting material provided:

Bushfire Royal Commission.docx

Establishment of a Climate Change Adaptation and Disaster Management Arm in the Department of Defence

There is a need for the Commonwealth to rethink mechanisms for supporting the states in disaster management through the establishment of a climate change adaptation action arm within the Defence portfolio. A model is offered based on the US Army Corps of Engineers.

The Prime Minister's evolving ideas on climate change indicates a burgeoning interest in climate change adaptation. This is interesting given how federal Coalition governments in recent years have abandoned research in this area as seen with the demise of the CSIRO Climate Change Adaptation Flagship and the National Climate Change Adaptation Research Facility (NCCARF). The fact that adaptation along with disaster management is spread around several agencies in Canberra following recent changes in machinery of government does not give confidence to the delivery of adaptation outcomes.

This point is reinforced by recent statements of the former head of Disaster Management, Mark Crossweller. He was located in Home Affairs (but the Minister responsible is also Minister for Agriculture and Water, not Home Affairs). Mark led the work on the National Disaster Risk Reduction Framework. He was quoted in the AFR Weekend (11-12/1/2020) as saying that changing climate required a radical rethink in the way Australians interacted with the land. He said "we cannot rely on historical experience to anticipate future impacts"; it had been impossible to get proposals adopted "so that significant work can be done in preparation and mitigation"; and "we need a step-change in addressing climate change in the future". This is from a man who has enormous on-ground and administrative responsibilities in disaster management.

What can be done? A model exists in the USA in the form of the US Army Corps of Engineers. Established in the early 1800s it has evolved into serving the nation in both military and civil affairs. Over decades it has played a role in both preparing for natural disasters and in post-disaster recovery in all US states. There are well-established protocols for how it operates with state planning and resource management agencies and with the National Guard, the equivalent of our reserve force. Although not without its critics, what is important is that it has an on-going research role largely staffed by civilians along with operational units that can plan and undertake works that aim to mitigate the impact of disasters such as floods and storm surges.

I have personally benefitted from an association with the Corps. First as a student in learning about coastal and river processes. The Corps maintains a massive research facility at Vicksburg, Mississippi, which provides high-quality experimental research which aids engineers and scientists in the application of this know-how to different situations. Fundamental work on coastal engineering has emerged from this facility. Second, the work I have been undertaking in coastal management in NSW and elsewhere, in association with my engineering colleagues, frequently has utilised information produced by the Corps. And third, in 2013 I visited the Corps office in Alexandria, Virginia, after spending time examining impacts of Hurricane Sandy in New Jersey. This visit alerted me to the plans for restoring coastal infrastructure and their broader interests in climate change impacts and adaptation actions.

Disaster management at a federal level used to be within the Defence portfolio before being moved to Attorney General and now Home Affairs. Former Department of Climate Change under the Rudd-Gillard years had a section that assessed future national risk of climate change along the Australian coast. I was engaged to assist with this work and was encouraged by the passion and quality of staff in that Department; by now they have either retired, made redundant or working elsewhere and

there has been little follow-up to that work. I observe churn in staff in many agencies working in this general area of risk reduction and long-term climate impact assessment. We need a permanent federal entity that can attract the best and brightest in engineering, biophysical science and other fields that can offer the nation the best way forward in these uncertain and threatening times. If we consider our national security is at risk then we need an appropriately tasked entity to become the action arm of climate change adaptation, utilising where appropriate research from, for instance, CSIRO. The entity should also possess capabilities to use defence personnel to offer technical and other support to areas adversely affected by a natural hazard when requested by a state government.

The formation of such an entity would require cooperation with the states. It is critical that the states under their constitutional roles continue to carry out their existing functions in land planning, management and disaster mitigation and prevention. In the USA the states undertake similar tasks although not with such a wonderful engagement with volunteers as we have here. I appreciate that there are some constitutional issues at stake and perhaps require changes to the Defence Act, but with the agreement of the states, it would open up a pathway for the establishment of Corps of Engineers like entity. It could aid the states in the design of works to mitigate disaster impact as well as develop the case for joint funding of actions both pre and post disaster of a magnitude and frequency now expected in the “new normal” under climate change.

The main advantage of such a new arrangement would be threefold. First, it would embed into one permanent entity the R&D work of organisations such as the existing CRC for Bushfires and Natural Hazards, whilst also looking at technical issues associated with other hazards such as coastal erosion and inundation, river flooding and drought (I am reminded that at the last COAG there was a reference to coastal erosion but where will this go within the federal sphere?). All these matters have a climate change dimension and require consideration of actions that may or may not need “hard” or “soft” engineering interventions that could over time cost the nation billions. All the work done by those organisations such as NCCARF on policy and management practices could be brought together under this new entity.

Second, the entity would have within it a defined capability to act in an emergency in ways trained and supported by personnel within the structure along with other branches of defence. Here is where we achieve high levels of coordination and planned collaboration with state emergency service. This is where national training and skill enhancement would become more effective. The civilian side would be in a position to offer technical advice. It would be seen as the “action arm” of adaptation.

The third arrangement is more long-term. This involves what is termed transformative adaptation. It goes beyond intervention and recovery that just seeks to enhance “resilience”. This more dramatic form of adaptation requires assessment of whether risks and costs of continuing with a settlement or a function such as maintaining a long-established land use outweighs economic, social and environmental benefits. There needs to be some entity that can deliver options to governments on the basis of best science. An engineer-oriented organisation can assist by bringing the options to the table with the assistance of staff skilled in a range of disciplines. The US Corps is now a multi-discipline organisation. This is vital to provide the entity with credibility amongst professionals. The advice would of course then be the subject to political consideration. But the nature of uncertainty of future impacts anticipated in the new climate era (+ 2-3 degrees?) is surely an issue of national security and warrants a greater role in the defence of the nation.

Professor Bruce Thom AM, FTSE