Submission to the Productivity Commission's Public Inquiry of Natural Disaster Funding

Coastal Communities Protection Alliance – Wooli Inc.

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Introduction

This submission focusses on three aspects of the Productivity Commission's (PC) inquiry:

- An emerging type of disaster, which, if forecasts are correct, will steadily become a major long term problem around the whole of Australia's coastline;
- A mitigation strategy to effectively prevent or at least greatly reduce the impact of this type of disaster;
- A funding model based on a Public Private Partnership approach which would make this strategy sustainable indefinitely.

The Disaster

As noted in the Inquiry's terms of reference, Background section:

"***Many communities experience repeated disruptions from flood, cyclone and fire events. Some of these events are unforeseen and the damage is unavoidable, but in many cases the consequences of natural disasters could be mitigated***."

The list of disruptions mentioned above does not yet include **coastal erosion and inundation**. But if forecasts of increased storm activity and sea levels are even close to correct this type of disaster has the potential (note 1) to head the list in terms of the size and frequency of the damage it inflicts on communities and assets (note 2)right around Australia's coastline.

The timing of this Inquiry is fortunate in that **coastal erosion and inundation** disasters on a large scale are not here yet. This provides the PC with a relatively "blank canvas" on which to map out a solution which better meets its target of balancing mitigation and recovery than has been achieved to date with floods, cyclones and fire events.

The Mitigation Strategy

The Scope section of the Inquiry notes that "**the benefits associated with building the resilience of our communities and investing in disaster mitigation include improved community safety and resilience, a reduction in damage to property, speedier recovery, and a reduction in overall costs to the national economy."**

It therefore goes on to identify the need for "***Mechanisms and models to prioritise mitigation opportunities and evaluate the costs and benefits of a range of mitigation options***".

CCPA is pleased to propose *Offshore Sand Sourcing for Beach Nourishment* as a primary strategy for mitigating the coastal erosion and inundation disaster described above.

This proposal draws on the work of Mr. Angus Gordon, (member of the NSW Coastal Expert Panel) As Mr. Gordon notes in his 2009 paper (attached):

"*A range of options exists for managing the coastal impacts of climate change in developed areas of the coast. The appropriateness of any one option depends on a number of factors in regard to what is at risk and what the consequences are as compared with the costs (NCCOE 1991, 2004). Of the available options most are mutually exclusive. For example, a seawall option means progressive loss of public beach as against an asset retreat option which maintains a beach but results in the loss of assets. When dealing with a shoreline that is fully developed with high value assets the available options, given the social, economic and political realities, is significantly limited. (…) the assets at risk include not only high value private property but also beach front parks, parking areas, amenities, surf clubs and infrastructure such as water, sewerage, power and roads. The one option that can maintain all aspects of the current configuration of the (..) coastline, certainly in the short to medium term (say 100 years), and cope with climate change impacts is beach nourishment.*"

While the attached paper focusses on the Sydney coastal region the model it describes has the potential to be generally applicable for many coastal communities and environments once adjusted for the local situation.

The Funding Model

The Background section of the Inquiry's terms of reference also notes that "**current Commonwealth funding arrangements are heavily weighted towards disaster recovery, which reduces the economic incentive for state, territory and local governments to mitigate disaster risk.**

The NSW government and Sydney's commercial marketplace has been wrestling with sourcing sufficient sand for beach nourishment and construction projects since the 1970's (as discussed in Angus Gordon's paper). Mr. Gordon's research has clearly demonstrated the availability of suitable sand offshore but state government regulatory and funding barriers have prevented this being accessed.

These barriers will be sorely tested if forecasts of sea level rise and more frequent and violent storms eventuate resulting in a dramatic long term increase in the pace of coastal erosion and inundation.

In the 1980's the NSW government came close to resolving the need for more sand for both the beach nourishment and commercial construction industry by

- adjusting regulations to permit offshore sand mining with suitable environmental safeguards and

- introducing a public-private-partnership (PPP) funding model in which the license whereby commercial sand miners would have access to the offshore sand for their construction clients would oblige them to also undertake and pay for an agreed beach nourishment program (such as the one in the attached paper).

The political, technical and/or commercial situation prevented this solution being implemented at that time. But 30 years on the coastal disaster risk, the commercial need and new technical capabilities makes this model necessary and achievable.

In summary, CCPA proposes that the Commonwealth government adjust current disaster funding arrangements so that:

- **State governments emphasise mitigation of coastal erosion and inundation disasters and adopt as their preferred mitigation option the above PPP model with compatible regulations.**

- **And, that tangible community action plans (including resourcing) at a range of disaster scales from localised (specific assets) to whole of community using proven mitigation methodologies are facilitated. These plans should typically be available for rapid pre-emptive implementation once hazard likelihood increases rise to pre-established thresholds, and/or augment low cost ongoing mitigation strategies.**

Notes

1. Risk is typically quantified as the product of Hazard Consequence and Likelihood. The Intergovernmental Panel on Climate Change's forecasts allow hazards of increased storm events and sea level rise to be predicted, and their consequences estimated with reasonable confidence. Likelihood of major climatic hazards has proven very difficult to predict historically, and is likely to remain challenging given the anticipated increased frequency of major events.

2. Community assets under threat have a high value given that the majority of Australia's population live in the coastal environment that will be subject to both atmospheric and ocean born hazards associated with climate change phenomena.