Floodplain Management Association

Caring for People and the Environment
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Ms Sophie Dunstone
Committee Secretary
Standing Committee on Environment and Communications
Parliament House
CANBERRA ACT 2600

Submission to the inquiry into recent trends in and preparedness for extreme weather events

Thank you for the opportunity to provide comment to the inquiry into recent trends in and preparedness for extreme weather events.

The Floodplain Management Association (FMA) represents the interests of 100 local government councils, Catchment Management Authorities, consultants, businesses and individuals involved in reducing future flood losses. FMA members are particularly concerned that climate change predictions, which appear to be confirmed by current trends in extreme weather, will increase flood risks for life and property.

The FMA would be pleased to provide any further information or details which may be of assistance to the inquiry.

Yours faithfully

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Senate Standing Committee on Environment and Communications

Inquiry into recent trends in and preparedness for extreme weather events

Submission by

The Floodplain Management Association

Introduction

The Floodplain Management Association (FMA) (formerly the Floodplain Management Authorities of NSW) was formed after the disastrous floods in NSW in the mid-1950's to support and promote best floodplain risk management practice.

The FMA currently has a membership of 100 local government councils, Catchment Management Authorities, consultants, businesses and individuals involved in management of floods and floodplains. Membership and participation includes both technical staff and elected representatives. The FMA has links to equivalent organisations in the United States and Great Britain.

The FMA is recognised by State and Federal Government agencies as representing the interests of NSW floodplain communities and those authorities responsible for reducing future flood losses. A key role of the FMA is to provide advice and assistance to government on development and delivery of programs and investment directed at reducing future personal and property losses due to floods.

Flooding

Flooding is Australia's most deadly natural hazard, with almost half of recorded national flood fatalities occurring within New South Wales (Gissing, Morgan & Ronan, 2007). The

estimated annual cost of flooding in NSW between 1967 and 1999 was $128.4 million, while the annual cost of bushfires during the same time frame was $16.8 million.

It is estimated that there are approximately 170,000 properties susceptible to mainstream riverine flooding from 1 in 100 year flood events (Leigh & Gissing, 2010). Additional properties are liable to overland flooding and coastal inundation.

The more recent tragic floods across much of Australia emphasise the potential for flooding to simultaneously affect multiple communities. Climate change is expected to result in an increase in the frequency and severity of floods, with 1 to 2 degrees of warming predicted to increase the number of people exposed to flooding in Australia by 100% (CSIRO, 2006).

The FMA wishes to raise the following issues with particular reference to:

(b) (i) the costs of extreme weather events

(b) (iii) the availability and affordability of private insurance

(d) preparedness and adequacy of resources to prevent and respond to extreme weather events.

The Costs of Flooding

Flooding is the most costly and yet most manageable of natural disasters in Australia and causes considerable damage and community disruption. The average damage from flooding in coastal New South Wales and inland urban centres is presently around $200 million a year. Floods in the Hunter Valley and Newcastle in June 2007 cost the local communities around $1.5 billion, and the damage bill from the recent floods in Queensland is in excess of $2.5 billion.

Quite apart from tangible costs, floods also impose high levels of intangible damage, in the form of increased levels of stress on affected communities, and associated medical problems. Research has showed that householders usually regarded social effects as worse than financial losses, and that the economic cost of flood losses to households is significantly more than double the direct monetary cost of losses to household property (Lustig, T. 2012).

In addition, climate change trends towards an increase in storm severity with more intense rainfall and higher ocean levels are likely to increase the prevalence and severity of flooding and associated damage.

The NSW Office of Environment and Heritage website “NSW Climate Impact Profile” states:

Flooding behaviour is virtually certain to change
In lower portions of coastal floodplains, the combination of rises in sea level and catchment driven flooding is virtually certain to increase flood frequency, height and extent. More broadly, increases in the intensity of flood producing rainfall are likely to affect flood behaviour. However, catchment conditions at the time of rainfall events (soil moisture conditions and levels of major water storages) will influence the degree of the changes. Sea level rise is virtually certain to increase low, mid and high tide levels. This will result in larger areas of low-lying land around coastal waterways being exposed to more frequent tidal inundation.

The NSW Department of Environment and Climate Change 2007 guideline "Practical Consideration of Climate Change" indicated potential increases in rainfall intensity of up to 30%.

The guideline also states as follows:-

Climate change is expected to have adverse impacts upon sea levels and rainfall intensities, both of which may have significant influence on flood behaviour at specific locations

and:

Increased frequencies of events due to increased rainfall intensities… For example, in a particular town not influenced by sea level rise, a 30% increase in rainfall could increase Annual Average Damage by 300%.

Events in recent years would indicate that the trend has commenced, and larger floods are now more likely on a more frequent level. It is estimated that the current exposure to flooding across NSW in a 1 in 100 year event could rise from $12,000 million to $19,000 million if the 1 in 200 year event became the 1 in 100 year event due to climate change impacts on rainfall (McLuckie, Babister & Dewar 2010).

The cost of flood damage to Australian public infrastructure is on average in excess of $400m per year. With global warming and the resultant increase in rainfall intensity in many areas, these costs will obviously grow exponentially.

Flood Insurance

Flood insurance is proving very expensive in some areas, and more investment is needed in data collection and flood mapping to enable insurance companies to better evaluate the risks of flooding. More accurate flood level predictions would lead to lower insurance premiums as the risks are more accurately assessed than at present.

The FMA applauds the Commonwealth Government's investment in the National Flood Risk Information Portal as an important contribution to facilitating access to existing flood data. However, much of this data is not current, was not based on current technology, is limited to mainstream flooding and does not consider climate change implications.

As climate change brings higher rainfall intensities, more damage will occur and resulting insurance premiums will be unaffordable for increasing numbers of people. Given that private flood insurance has only been reintroduced since 2006, it is possible that such insurance will once again be withheld by insurance companies unless better data and mapping are available.

Flood Mitigation

Investment in flood mitigation infrastructure can reduce flood risks significantly, but government funding is presently far too low to provide a significant reduction in the average national flood damage cost.

As a result, Australia is spending more money year on year in restoration costs after each flood than the costs of mitigation measures which would reduce the costs.

Local Government Councils have a backlog of unfunded flood management and mitigation projects which could reduce these flood damage costs. For example, in New South Wales there are over 100 completed floodplain risk management plans, but at the present rate of government allocations they will take 20 years or more to implement.

With more severe and frequent flooding virtually certain, even more mitigation actions will be required. Local Government Councils have demonstrated that they do not have the capacity to fund major infrastructure alone, and realistic levels of funding assistance are required from Commonwealth and State/Territory governments to implement flood risk management plans in acceptable timeframes.

Minimising Flood Risks

Trends to increase the density of development on the floodplains will, without careful management of flood risk through appropriate land use planning, lead to increased flood damage exposure. Individuals and developers often say they are willing to accept risks of building in unsafe areas at the development approval stage, but when affected by subsequent natural disasters require assistance or compensation from councils or state and federal governments.

Land use planning is critical in avoiding or minimising flood risks to life and property, and measures for mitigating these risks must be considered at the land use planning stage. The FMA supports the development of resources which advise appropriate measures for managing these risks, such as the National Flood Risk Advisory Group's *Best Practice in Flood Risk Management*, which is presently being revised.

Climate change will further increase the importance of more suitable land use planning as larger and more frequent floods bring higher flood levels, faster flowing floodways, increased damage restoration costs and more frequent occurrences.

As previously highlighted, flooding is the most costly, but also the most manageable, natural disaster in Australia and it is imperative that flood risks, including allowances for predicted climate change implications, be considered at the start of the land use plan making process.

References

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