NSW GOVERNMENT | Ministry for Police & Emergency Services

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Commissioners Coppel and Chester
Natural Disaster Funding Arrangements
Productivity Commission
Locked Bag 2, Collins Street East
MELBOURNE VICTORIA 8003

Dear Commissioners

Productivity Commission Inquiry into Natural Disaster Funding Arrangements

I write to you regarding the Productivity Commission's Inquiry into Natural Disaster Funding.

On 19 June 2014, my colleague at the NSW Department of Premier and Cabinet, Ms Rebecca Falkingham, presented the first stage of the NSW Government submission to the Inquiry. This first stage contained factual information about natural disaster governance and funding in NSW.

I am pleased to present the second and final stage of the NSW Government submission, which considers the questions that were raised in the Productivity Commission's Issues Paper.

I trust that the NSW Government submission, in both its parts, will assist the Commission with its inquiry.

Should you have any further queries please do not hesitate to contact the Communities and Social Investment Group within the Department of Premier and Cabinet on 02 9228 5308, or the Response and Recovery Branch within the Ministry for Police and Emergency on 02 8247 5932.

Yours sincerely

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Executive Director, Counter Terrorism and Disaster Resilience
Ministry for Police and Emergency Services

NSW Government Submission

Productivity Commission Inquiry into Natural Disaster Funding Arrangements

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Abbreviations

AASFA	Agriculture and Animal Services Functional Area
AGDRP	Australian Government Disaster Recovery Payment
AMPLAN	NSW Ambulance 'State Major Incident/Disaster' Plan
APZ	Asset Protection Zone
BFRMP	Bush Fire Risk Management Plan
CGC	Commonwealth Grants Commission
CP Act	*Coastal Protection Act 1979*
CRF	Community Recovery Fund
CZMP	Coastal Zone Management Plans
DCP	Development Control Plans
DEC	NSW Department of Education and Communities
EMA	Emergency Management Australia
EP&A Act	*Environment Planning and Assessment Act 1979*
FDM	*NSW Floodplain Development Manual 2005*
FPLP	NSW Flood Prone Lands Policy
FPMP	NSW Floodplain Management Program
IPCC	Intergovernmental Panel on Climate Change
IRVA	Integrated Regional Vulnerability Assessment
LEP	Local Environmental Plan
LGA	Local Government Area
LGA Act	*Local Government Act 1979*
NCOA	National Commission of Audit
NDRP	Natural Disaster Resilience Program
NDRRA	Natural Disaster Relief and Recovery Arrangements
NPANDR	National Partnership Agreement on Natural Disaster Resilience
NSDR	National Strategy for Disaster Resilience
NSW DPI	NSW Department of Primary Industries
NSW OEH	NSW Office of Environment and Heritage
NSW RFS	NSW Rural Fire Service
NSW SES	NSW State Emergency Service
PBFB	Planning for Bush Fire Protection
PPRR	Prevention, Preparedness, Response and Recovery
RAA	NSW Rural Assistance Authority
RMS	NSW Roads and Maritime Services
SERM Act	*State Emergency and Rescue Management Act 1989*
TELCOFAC	Telecommunications Functional Area
the Hub	NSW Adaptation Research Hub
TMF	Treasury Managed Fund

Executive Summary

The consequences and impacts of natural disasters are felt by communities regularly across Australia. Natural disasters regularly threaten the lives, assets, infrastructure and valuables of our communities. They leave both visible and invisible scars, some which may never be recovered from. The cost of mitigating, preventing, preparing for, responding to and recovery from natural disasters is also increasing. Governments have a responsibility to ensure that, as much as possible, we are prepared for the occurrence of natural disasters, and that this is done effectively and efficiently.

In order to ensure these communities are as resilient and prepared as possible, the three levels of government conduct a variety of mitigation activities. This resilience and preparedness is conducted on the principle that responsibility for these areas is largely held by those individuals or private enterprises that are most affected by the natural disaster risk. Individuals and private enterprises need to ensure they have arrangements in place to manage their risk. It is possible that some current arrangements may dis-incentivise entities, whether they are local governments, business or private citizens, in making sure they have appropriate risk mitigation mechanisms in place.

Likewise, the relevant levels of government also need to ensure their risks are adequately managed or transferred through a mechanism such as insurance. The NSW Government has in place adequate mitigation measures for natural disasters, including coverage of its assets through either the Treasury Managed Fund (TMF) or commercial insurance. The exceptions are assets such as roads. Generally, commercial insurance for roads is either not available or, where it is available, not financially viable. The absence of insurance for roads does not represent a lack of risk management, but a commercial reality that the NSW Government accepts a large financial responsibility for.

The involvement of the Commonwealth Government in natural disaster funding, including the repair or restoration of roads, is important given its capacity to better withstand the financial and budgetary shocks presented by natural disasters. The two main ways in which the Commonwealth funds natural disaster mitigation, resilience and recovery activities are through the Natural Disaster Relief and Recovery Arrangements (NDRRA) and the National Partnership Agreement on Natural Disaster Resilience (NPANDR). On the whole, the majority of costs for mitigation, resilience and recovery incurred by NSW are borne by NSW. Historically, the reimbursement rate for NSW has been approximately 30 per cent of eligible costs through the NDRRA.

Mitigation and resilience work by the NSW Government is evident in more than just the specific and identifiable works such as flood levees. It is done in the form of compliance with engineering and environmental standards and funding the core business of emergency agencies. It is also done in the form of planning for emergencies and recovery, as having effective operational frameworks in place and being able to respond quickly can reduce the impact of a natural disaster on a community.

Effective risk management and community safety needs a balance between efforts in mitigation, resilience and recovery. Efforts need to be made in each area, ensuring one does not receive investment to the detriment to another and overall detriment to the community. While the Productivity Commission seeks to find the optimum balance of investment across these streams, this is a complicated proposition. The optimum level of investment will differ for each community, based on a wide variety of factors including the hazard they face, geography, demography, and the built environment. NSW favours investing and mitigating on a risk basis, however believes the current tools have not been developed to apply this methodology beyond a case by case basis. A strategic shift to mitigation and resilience over response and recovery would require a significant increase in expenditure under risk management programs such as the Natural Disaster Resilience Program (NDRP), and this may necessitate the achievement of savings in some response and recovery programs.

Planning, land use and infrastructure are important elements in ensuring effective risk mitigation. Planning frameworks and standards, the way in which land is allotted for use and the infrastructure in place has a direct and long term impact on the level of natural disaster risk faced by communities. These issues are considered through the NSW Government planning and land use system. State and local governments are involved in this system to support decision making that effectively considers both current and future risks, with an eye to avoiding issues currently faced through legacy decisions.

In considering how to manage natural disaster funding into the future, NSW believes that in lieu of more comprehensive reforms to address issues of vertical fiscal imbalance between Local, State and Commonwealth governments, the NDRRA and the current level of Commonwealth investment in natural disaster funding should be maintained. These arrangements have meant, while still accepting a high burden, States and Territories are better able assist those communities at risk. Like all mechanisms and policies, the NDRRA can be reformed for the benefit for all, and NSW supports investigating ways in which to do this.

The funding of road restoration and recovery has been an issue for many jurisdictions, and a significant driver of natural disaster expenditure. The Productivity Commission presents an opportunity to assess whether there are options to reform the arrangements governing this.

Finally, in the view of the NSW Government, the options considered or recommended by the National Commission of Audit (NCOA) are not the appropriate way in which to reform natural disaster risk management, relief or recovery. Reducing the amount reimbursed by the Commonwealth to jurisdictions will not encourage a better management of their risk.

Reducing the support to jurisdictions will merely reduce the support to communities. Natural disaster threats need to be approached cooperatively as a Federation. Natural disasters do not consider what jurisdiction a community is in before they strike.

Incentives and Disincentives for natural disaster risk management and mitigation spend

Natural disasters are just that, disasters. The way in which natural disaster funding is provided is important to ensure that it incentivises, rather than dis-incentivises, effective risk management of these disasters. NSW believes the arrangements it has in place, through insurance and other mechanisms, are appropriate and demonstrate that natural disaster funding arrangements have not resulted in a "moral hazard" for the NSW Government.

The Productivity Commission Issues Paper notes that the Commonwealth Department of Finance and Deregulation assessed NSW to not have adequate insurance arrangements for roads, but did so for other assets. While the Issues Paper also notes part of the explanation for this is that commercial insurance for roads is not available, NSW considers this to be the main driver in obtaining insurance for roads. NSW is of the view that not having a form of insurance that is generally not available or commercially viable does not make its insurance arrangements inadequate.

Arrangements need to be in place to ensure that all entities, whether they are local governments, business or private citizens, have appropriate risk mitigation mechanisms in place. At the moment it is possible that some arrangements may dis-incentivise this effort.

Incentivising insurance as a mitigation and risk management tool

Insuring assets against damage or destruction from natural disasters is one of the most common and effective forms of risk transfer. As such the natural disaster funding arrangements should be crafted to ensure they do not dis-incentivise the take up of appropriate insurance arrangements. The NSW Government believes the current funding arrangements incentivise it to do that, as it has appropriate arrangements in place.

It is difficult, from a risk management perspective, to fully protect against the devastating impact of disasters. To mitigate the impact of disasters asset owners:

- Ensure that their assets are fully maintained and then prepared in some way when an event is imminent;
- Ensure their assets are constructed to standards effective at time of construction and upgraded subject to authority driven amendment in accordance with current standards; and
- Maintain a financially viable risk transfer solution. The most easily accessed and financially viable of which is insurance.

For entities with large asset bases and / or revenue raising capacity such as State, Territory and Commonwealth governments, it is often prudent to retain some risks, however the majority of parties that are the end recipients of funding under natural disaster arrangements cannot manage the scale of potential losses from natural disasters without a risk transfer solution. Commercial insurance is generally the most efficient means of achieving this, with premiums which price risk providing incentive to mitigate and reduce total losses over time. The Productivity Commission should consider how current arrangements affect incentives for asset owners to insure their assets, and where this is not possible how natural disaster funding arrangements can be altered to replicate the typical incentives of insurance arrangements.

It is recognised that commercial insurance is not always viable, so the commission should consider what action could be taken by governments at all levels to improve risk information to allow insurers to better price risks. Where there is limited appetite from the insurance industry to underwrite certain risks such as for roads, there may be a role for the Commonwealth to facilitate risk pooling for lower levels of government as a more cost effective alternative to commercial insurance or current funding arrangements.

Incentives and disincentives for the NSW Government

NSW Government agencies responsible for State-owned assets are required to manage natural disaster (and all other identified) risks as part of their normal operations. Where NSW claims NDRRA reimbursement for expenditure on its own assets, the NSW Government agencies which own those assets do not themselves have access to this funding source, and as such the eligibility criteria have no impact on their incentives for risk management. Further detail on the risk management and mitigation activities of the NSW Government, including the structure and approach of the NSW Self Insurance Corporation, have been provided in the NSW Factual Information Submission.

In structuring the funding of insurable risks, each jurisdiction has taken its own approach. These decisions have usually taken place independent of other jurisdictions. The focus for NSW is to create, maintain and purchase the most responsive protection available whilst understanding the costs of risk transfer relative to other available funding avenues.

The review of state insurance arrangements conducted by the Commonwealth Department of Finance and Deregulation which reported in 2012 found that the NSW Government had "insurance arrangements for non-road assets that are appropriate, cost-effective for both the State and Commonwealth, and meet the obligations under the Determination to minimise the financial exposure of taxpayers at both levels of governments."

Generally, insurance for roads and bridges is not commercially available, or if it is available it does not represent value for money. While State bridges are covered by the TMF and rail assets are covered by commercial insurance, road assets are not covered by insurance or the TMF. This does not reflect an absence of risk management or "morally hazardous" behaviour. In this case it has been determined by the State that it is better to retain the risk of damage to State owned roads from natural disasters because of the likely high costs of commercial insurance due to significant uncertainties in calculating the probably maximum loss, the geographic spread of risk and the capacity to reallocate maintenance budgets to fund repairs.

As such, the NSW Government does not believe that current natural disaster funding arrangements provide a dis-incentive for natural disaster risk management and mitigation with respect to its assets.

Incentives and disincentives for private asset owners

Financial assistance to individuals and households under current arrangements is mostly limited to emergency works and does not provide compensation for major losses. This has not been a major expenditure driver under the NDRRA (around 5 per cent of total eligible expenditure in NSW since 2002-03). Therefore, it is difficult to determine the level to which the NDRRA provides a dis-incentive for risk management by individuals and households However, events in different jurisdictions have shown that communities are increasingly turning to government to play a major role in disaster clean up and recovery.

To assist individuals and households, the efforts of the NSW Government are focused on responding to events to protect life, property and the environment, as per the legislated mandate of the NSW emergency services agencies. These measures, and the investment in operational capacity that underpin them, reduce the later need for recovery assistance and are a form of resilience expenditure.

Many mitigation and resilience projects funded under current arrangements are geared towards educating communities on the natural disaster risks they face and steps that can be taken to mitigate them. These programs explicitly encourage better risk management rather than providing any dis-incentive.

For small businesses and primary producers there is grant funding available under current arrangement for post-disaster clean up and repair. This financial assistance could arguably be covered by private insurance arrangements.

There are many reasons for underinsurance by private asset owners, separate from natural disaster funding arrangements. The Phase 2 Report of the Commonwealth Government *Natural Disaster Insurance Review, Inquiry into flood insurance and related matters, September 2011*[1] has previously considered the subjects of underinsurance and non-insurance.

The Review noted there is evidence of underinsurance and that there is a serious community issue around the availability and affordability of flood insurance. The Review made four recommendations regarding architecture, availability, affordability and funding.

In considering underinsurance, specific points are extracted from the Report:

- Following the 2003 Canberra Bush Fires it was estimated that structures were under-insured, on average, by 40 per cent of their replacement cost; and
- The Insurance Council has noted that the average claims for homes that were total losses from the 2009 Victorian Bush Fires was $132,000 compared with a then average cost of building a home in Victoria of $230,000, indicating an average level of under-insurance of around 40 per cent.

The accessibility of insurance for households and businesses is a factor here. The insurance industry has had access to detailed information regarding the flood risk for a large proportion of NSW. This understanding of risk exposure has translated into the cost of insurance premiums. Significant natural disaster events (e.g. Wollongong floods 1998, Sydney Hailstorm 1999, Hunter and Central Coast Storm 2007, widespread flooding in Queensland and Victoria in 2011, Cyclone Larry and Cyclone Yasi) have progressively changed the landscape for insurance over time.

[1] Natural Disaster Insurance Review, Inquiry into flood insurance and related matters, September 2011, http://www.ndir.gov.au/content/Content.aspx?doc=home.htm

While the affordability of insurance premiums can act as a price signal to mitigate natural disaster risk in new areas of development, it may act as a barrier to uptake of adequate and appropriate insurance in areas of existing development where risk exists.

Government and industry communications should continue to emphasise that disaster assistance is not a mechanism of insurance, and encourage appropriate individual arrangements to ensure businesses and individuals are fully protected.

Incentives and disincentives for Local Councils

For assistance to councils, consultation has indicated that the most contentious eligibility provisions under the NDRRA are those relating to the restoration or replacement of essential public assets, particularly as applicable to local council assets.

The NDRRA provides strong incentives for the restoration or replacement of essential public assets to their pre-disaster standard. One view is that this assistance provides a form of implied insurance to local councils that has itself become the risk management tool for dealing with natural disaster risks. While this may be an effective risk management outcome for those councils, the higher levels of government which contribute resources carry a financial liability for the restoration costs of those assets and from their perspective this risk is not effectively managed through rebuilding to the same level of risk exposure after relatively frequent disaster events.

A possible answer to this issue is the concept of 'betterment'. Under the NDRRA funding is available for betterment works, which involves the restoration or replacement of essential public assets to a more disaster-resilient standard than its pre-disaster standard. Limits to councils undertaking this 'betterment' work, and effective risk management in general, independent of the NDRRA are likely to result from a combination of financial shortfalls (limited ability to raise revenue - vertical fiscal imbalance), the scale of risks left as a legacy of past planning decisions, the inability to get insurance coverage for road assets which carry the greatest natural disaster exposure and the capacity to manage financial risks through the NDRRA.

While there is strong support for betterment from local councils, as the asset owners, they may perform works to improve the resilience of their assets and mitigate risks at any time.

Given the need for higher levels of government to provide funding support to local councils for road assets which are not commercially insurable, the Productivity Commission should consider options which more actively incentivise risk mitigation for road assets. This is further discussed within this Submission.

Incentives to adequately mitigate the risk to roads

Within the NSW Government, damage to roads and subsequent repair or replacement is funded from the budget of NSW Roads and Maritime Services (RMS). The NSW Transport budget includes a natural disasters contingency fund, but in years when there are severe floods this is unlikely to be sufficient to cover all natural disaster-related expenses. A flood mitigation program with an allocation of $3.1 million is also underway. The program provides funding for the construction of new drainage infrastructure and upgrades of existing drainage structures to provide increased hydraulic capacity to mitigate regular flooding impacts on State Roads.

Resilience in transport infrastructure is mainly achieved through the design and construction of the infrastructure. Assets are designed to meet certain engineering standards which require the asset to withstand certain natural disaster events identified in risk assessments conducted as part of the design process.

It is currently impossible to estimate how much is spent on such resilience, as NSW Government agency designers do not as a matter of course prepare a number of design options with different resilience levels and cost each option. Rather they design to the requirements of the engineering standards and the risk assessments. There are also methodological challenges in costing resilience achieved through design, such as apportioning the cost of structural strength between natural disaster resilience and traffic resilience.

State roads are generally designed to significant resilience levels. Local and Regional roads are often designed to lower resilience levels. Some local councils are proactive in building resilience into their road network however, willingness, capacity and capability to do this will vary considerably from council to council.

Balance between mitigation, resilience and recovery

To ensure effective risk management and community safety, there needs to be a balance between efforts in mitigation, resilience and recovery. This balance needs to be carefully managed to ensure that the right efforts are made in each area, and that one area is not invested in at the detriment to another and overall detriment to the community following a natural disaster. NSW acknowledges the importance of increased mitigation works and that properly designed recovery programs enhance future preparedness and resilience. Risk assessments are required however, to ensure that investments are appropriate for mitigation, resilience and recovery to ensure overall benefit to the community.

The NSW Government's commitment to mitigation and resilience building is demonstrated by the range of programs and significant levels of spending in these areas. As shown in the data to be provided to the Productivity Commission and examples of mitigation and resilience expenditure in this submission.

NSW emergency management agencies and policy makers also appreciate that expenditure on targeted mitigation and resilience building programs can reduce the need for much higher levels of spending on response and recovery, and such spending can represent excellent value for money over the long term. State legislation, strategic plans and supporting policies emphasise the importance of mitigating disaster impacts, building disaster resilience across all sectors of the community, as well as facilitating effective recovery when communities have been impacted.

While the Productivity Commission will, rightly, seek to determine the optimum level of investment in each stream, NSW does not believe the tools are currently developed with which to apply this optimum level to a variety of communities. Determining this level is complex, and what is optimum for one community, will not be for another. This is due to the complex differences between hazards, communities and the mitigation, resilience and recovery measures for each. NSW does however support further work to help deliver these tools.

NSW governance and institutional arrangements promote efficient and effective management of mitigation, resilience and recovery activities

NSW governance and institutional arrangements for mitigation, resilience and recovery are outlined in the NSW Factual Information Submission.

Key elements of these arrangements include:

- The State Emergency Management Committee and its various sub-committees;
- The NSW Self Insurance Corporation;
- Floodplain Risk Management Committees;
- Coastal Management Committees;
- The Bush Fire Coordinating Committee and local Bush Fire Management Committees;
- Legislation, strategic plans and supporting policies; and
- The NSW Disaster Assistance Guidelines.

These governance and institutional arrangements are designed to promote efficient and effective management of mitigation, resilience building and recovery activities at local and State level.

Achieving a balance between mitigation, resilience and recovery

Achieving a balance of funding across mitigation, resilience and recovery is complex. While mitigation can be expected to reduce the expenditure on recovery efforts, the exact balance of this is relationship is not known and will vary for each community.

An effective balance between mitigation, resilience and recovery is a situation where the community's overall expenditure on natural disasters has been kept to a minimum because:

- The physical impact of natural disasters on people and property has been reduced through mitigation;
- The social and economic impact of natural disasters has been minimised through resilience building activities undertaken before, during and after disaster events;
- Recovery costs are avoided or reduced through these mitigation and resilience building activities; and
- Recovery activities actively promote increased community resilience and betterment of key infrastructure.

The most effective distribution of spending across mitigation, resilience and recovery spending will differ for every community. Communities have different natural disaster risks, socio-economic characteristics and recovery needs.

Policy makers who wish to find the most effective balance between mitigation, resilience and recovery must consider all of these factors through a process of Emergency Risk Management, which involves the identification, analysis, evaluation and treatment of emergency risks.

NSW understands that the Commission proposes to assess the current funding arrangements in terms of its impact on risk management; in particular, how recovery, mitigation and resilience expenditures and associated funding contributes to and influences the management of the State's natural disaster risks.

Determining spend and investment based on risk is supported, and NSW does not necessarily disagree with this approach. However, NSW is of the view that a tool does not yet exist to make objective assessments of the relative balancing across mitigation, resilience and recovery. There are also a number of reservations held by NSW, as outlined below.

Programs are often targeted at reducing risks to life and private assets rather than public assets which are the target of NDDRA funding

A significant proportion of expenditure on dedicated resilience and mitigation programs are aimed at reducing the risk to life and to private assets from natural disasters. These programs have a significant 'public good' element, which is difficult to compare directly to natural disaster recovery expenditure under the NDRRA framework. While there is undoubtedly a strong correlation between mitigation of private risks to life and property and to future recovery costs, it has been established that a significant proportion of recovery costs are for the repair of public assets, as opposed to items such as grants for private citizens.

Community education programs do little to reduce the risk to public assets, so it should be noted that not all resilience expenditure is directly aimed at reducing future government recovery costs. The mitigation of private risks through resilience programs have benefits to governments through a reduced future call on welfare and health services that would not be reflected in only natural disaster recovery data.

Legacy issues skew expenditures toward response and recovery

There are legacy issues associated with the current level of risk exposure. Mitigation of these can be at great expense to owners and the government, if involved. Prioritisation of limited resources, costs and difficulties of convincing communities to move to areas of less risk means that risks will continue to be under-mitigated with continued high recovery expenses to be expected.

Development and implementation of Emergency Risk Management Tools

NSW supports taking an individual risk based approach to treat the risks in different areas. While the tools to make objective assessments to balance resources across mitigation, resilience and recovery are not yet advanced enough to achieve that assessment, work to develop them is under way, including via the development of the National Emergency Risk Assessment Guidelines and the National Impact Assessment Model.

Although not at a stage to be capable of delivering this balanced assessment, NSW supports this development work, noting the tools are as yet relatively unsophisticated and rely too much on subjective assessments of severity of impact.

Estimating the impact of natural disasters is difficult

An example of the difficulty of balancing the costs across mitigation, resilience and recovery is quantifying the true cost of flooding events on the community. Some aspects are relatively easy to estimate, such as direct damage to houses and their contents, businesses and infrastructure, and emergency response and clean-up costs.

Indirect costs are harder to quantify, including the social cost on a community, ongoing psychological impacts caused by isolation or severe impact, changes to supply chains and levels of demand, business interruptions and the cost of loss of life.

The longer term impact of isolation of a flooded town is also hard to estimate. For a town cut off by flood waters, and emergency supplies being delivered by helicopter, supplies are likely to be sourced from the largest nearby regional centre. This is likely to be at the expense of smaller commercial centres in the district, even those that are not cut off from floodwaters. This in turn affects the viability of towns in surrounding areas and changes the dynamics by favouring larger regional centres, rather than smaller feeder towns.

All of these factors are then going to be different for various communities across NSW, and across Australia. This makes the assessment of the appropriate level investment in each area difficult.

Australian Government Disaster Recovery Payment

The NSW Government recognises the importance of the Australian Government Disaster Recovery Payment (AGDRP) in helping genuinely needy individuals and households that require immediate relief from the impact of a natural disaster. However, it also acknowledges that previous activations of the payment have created confusion and unsustainable expectations within disaster affected communities, as well as not being tightly targeted to the genuinely needy.

More targeted and consistent activation and eligibility criteria for the AGDRP should be developed to enhance its efficiency and effectiveness. Increased communication regarding the purpose of the AGDRP and the circumstances in which it is to be activated will also assist in the efficient administration of the payment.

In recent years, Commonwealth Government spending on the AGDRP has been very significant. This level of AGDRP spending, together with high levels of expenditure on NDRRA 'Category C' grants has not resulted in identifiable outcomes, at times has acted as a disincentive to resilience and contributed to the vast disparity between recovery and mitigation funding.

Savings achieved in the more efficient and effective administration of the AGDRP may create opportunities for increased investment in the areas of mitigation and resilience, and further reduce the need for recovery spending over the long term.

Resilience is an intrinsic element underpinning much of NSW's response and recovery expenditures and programs

It is difficult to segregate and determine the total spend on resilience as it is inherent in, and inseparable from, response and recovery activities as most projects include resilience building elements and initiatives. For example, while assisting in the recovery activities, NSW personnel also provide individuals and communities with an array of financial and non-financial support tools to help them not only recover but also make them stronger and more resilient to similar events in the future.

NSW Government agencies inherently promote mitigation, resilience and recovery through usual business practices.

The NSW Government inherently promotes mitigation, resilience and recovery activities through the usual business practices of agencies not directly involved in emergency management. For example:

- Agencies conduct risk assessments, implement Work Health and Safety practices, purchase insurance and implement business continuity plans as a part of their normal activities;
- Government buildings, roads and other infrastructure are designed to withstand the impacts of fires, storms, earthquakes and other natural hazards;
- Management of bush fire risk is undertaken in National Parks, State Forests and on other State-owned property;
- The NSW Department for Primary Industries (NSW DPI) and Local Land Services promote mitigation practices and resilience in the primary sector; and
- The Office of the Small Business Commissioner may assist businesses to improve their resilience through the Small Biz Connect business advisory program.

Spending on these inherent mitigation, resilience and recovery activities may not be readily distinguished from other expenditure and may not be reported as mitigation, resilience and recovery expenditure. Examples of this are provided with the section outlining examples of NSW's mitigation and resilience expenditure.

NSW has built mitigation and resilience through the State Natural Disaster Risk Assessment

The selection of mitigation and resilience building activities must be informed by comprehensive and accurate risk assessment processes, to ensure that they are effective and achieve optimal value-for-money.

NSW agencies that have responsibility for key natural hazards have well established risk assessment processes in place. The NSW Rural Fire Service (NSW RFS) has a comprehensive bush fire risk management planning process that is integrated with decision making. The NSW Office of Environment and Heritage (NSW OEH) supports local government to undertake floodplain risk management studies, which inform the management of flooding and the Coastline Management Program.

As part of the NPANDR, the Commonwealth Government provided funding to all states and territories to assess state-wide natural disaster risk.

During 2010 and 2011, NSW Government agencies participated in the inaugural State Natural Disaster Risk Assessment, which focused on identifying cross-hazard, State level risks that may impact on the ability of agencies to manage natural disaster risk.

The risks identified through the assessment and their associated control or management strategies fell into the following categories:

- Community awareness and engagement;
- Infrastructure capability and capacity;
- Intra-sector operations;
- Resource management and volunteer capacity;
- Capability;
- Information sharing and knowledge management; and
- Governance.

The NSW State Natural Disaster Risk Assessment continues to inform ongoing emergency management planning.

NSW has built mitigation and resilience through improving emergency response

The concept of mitigation and resilience also includes the capability to respond to the impacts of natural disasters. This response capability can reduce the impact a natural disaster has on communities, assets and infrastructure. The following are some examples in the way in which NSW are supporting the improvement or innovation in emergency response.

Use of aerial resources in fire fighting

Aerial resources in bush firefighting, while becoming part of the regular arsenal against bush fires, represent a significant investment in mitigation and resilience spending. The use of aerial resources significantly enhances the response to bush fires. Aerial resources can reduce the intensity of a bush fire front allowing ground crews to more easily carry out combat operations, they can slow the progression of a fire to allow ground crews to reach a remote location, and in situations of immediate threat they can provide protection to specific assets or ground crews.

Recently the NSW RFS and National Parks and Wildlife Service have developed the Rapid Aerial Response Team program. Combined with the NSW agencies Remote Area Firefighter Team capability, this is designed to enhance NSW's ability contain fires in remote areas before they cause widespread damage.

NSW Urban Levees Review

The NSW Urban Levees Review project aims to improve emergency planning and response capabilities by improving information available to the NSW State Emergency Service (NSW SES) and other agencies that manage community safety and trigger evacuations. The project will provide an improved understanding and management of risk by developing an updated and reliable database containing information on existing levees.

Stage 1 of the project, the collection of data and initial assessment of levees is due to finish in July 2014. Stage 2 has just commenced and will trial the use of levee owner's manuals, further develop the levee database and develop a levee safety emergency plan and guideline.

The contribution of emergency service volunteers

The immeasurable contribution of emergency management volunteers cannot be discounted from the efforts of NSW to ensure communities are resilient. It is to these volunteers, at the forefront of strengthening disaster resilience that communities often turn for support or advice. The dedicated work of these agencies and organisations is critical to helping communities to cope with, and recover from, natural disasters.

Australian governments must continue to partner with these agencies and organisations to find practical ways of making communities more disaster resilient.

The National Emergency Management Volunteer Action Plan 2012 notes:

- *"Without dedicated, well prepared, resourced and equipped volunteers the ability of Australian communities to prepare for, respond to and recover from disasters would be catastrophically reduced.";* and
- *"Emergency management volunteers not only provide emergency response services but are active within their local communities delivering prevention, preparedness and recovery programs, cadet schemes and community education programs. The input by emergency management volunteers is particularly important in rural and remote areas where they may provide the only emergency management activity."*

NSW has built resilience through recovery planning

The concept of resilience includes the capability to recover from the impacts of natural disasters.

Since 2009, the NSW Government has made considerable efforts to enhance the ability of communities to recover from natural disasters. These efforts include:

- The establishment of the State Emergency Recovery Controller and Deputy State Emergency Recovery Controller positions as statutory positions under the *State Emergency and Rescue Management Act 1989* (SERM Act);
- The development of the NSW Recovery Plan and supporting documents;
- The provision of support staff and recovery coordinators to local communities during recovery operations; and
- The trial and ongoing development of recovery training.

NSW is building resilience through the use of Community Recovery Funds

Community Recovery Funds (CRF) are a joint State and Commonwealth assistance measure available under 'Category C' of the NDRRA.

These funds may be used to support a number of recovery measures such as:

- Employment of a community development worker(s);
- Funding for a range of community activities;
- Grants to community service organisations providing recovery services;
- Assistance for restoration of facilities owned by non-profit organisations;
- Community information initiatives;
- Funding commemorative events and/or memorials;
- Advocacy and monitoring services;
- Tourism and small business initiatives;
- Economic development initiatives; and
- Heritage and cultural sites initiatives.

The activation of a CRF can directly enhance the resilience of a community by providing it with additional resources that it can use to recover from a natural disaster.

When CRFs are used to support certain activities such as community information initiatives and employment of community development workers, they may indirectly enhance long-term resilience. This occurs if funded activities lead to the development of skills, knowledge and relationships that will enhance the ability of community members to prevent, prepare for, respond to and recover from (PPRR) future disaster events.

A CRF was activated in February 2014 by the NSW and Commonwealth Governments for communities that were impacted by the October 2013 Blue Mountains Bush Fires. The CRF provides support for a number of initiatives which will support the immediate and long-term resilience of the community. These include employment of recovery and community development staff, a flexible community grants program which may provide funding for resilience building projects.

Mitigation and resilience is built through community engagement

An important aspect of building resilience is ensuring the individual readiness for a disaster. NSW Government agencies communicate risk and preparedness information to at risk communities through a number of programs.

Individuals are encouraged to be more resilient, with the aim of enabling them to:

- Understand their risks;
- Be aware of relevant community emergency management planning;

- Consider risks in their decision making when investing in natural disaster prone land;
- Have emergency management planning in place at home and in business; and
- Have financial arrangement including potentially taking out insurance that provides coverage to their assets against relevant natural disasters.

The community engagement undertaken by NSW's emergency service agencies was highlighted in the NSW Factual Information submission.

Ensuring NSW is resilient for worsening natural disasters

The current predicted climate change scenarios suggest the frequency and severity of natural disaster events will increase. The Intergovernmental Panel on Climate Change (IPCC) indicates that natural hazards will be exacerbated by the impacts of climate change on extreme weather conditions and on sea level. The demand for mitigation measures is likely to continue to rise. Further knowledge will be needed to understand how these risks will grow and change over time so that they can be managed.

The NSW Government, through the NSW OEH, aims to provide the community, government and business with the information and tools to help them:

- Understand the present climate of NSW, how the climate has changed in the past and how it is likely to change in the future;
- Adequately assess risks from climate and climate change to human health, society and the environment, across regions and business and service sectors; and
- Incorporate the assessment of climate risk to human, environmental, manufactured and financial capitals, as a routine part of corporate and government planning decisions.

In seeking to build the State's capacity to adapt to climate change, NSW OEH uses the concept of 'vulnerability'. Vulnerability is the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes.

A process has been developed that uses local knowledge to identify potential threats and possible options for response across multiple sectors. This cross-agency initiative is called an Integrated Regional Vulnerability Assessment (IRVA) for Climate Change.[2]

In 2013, the NSW Adaptation Research Hub (the Hub) was established to harness the capabilities of NSW academic institutions to deliver climate impact and adaptation science research of state significance. The NSW Government's investment of $2.75 million is matched by funds contributed by each of the three leading organisations, and the Hub is expected to leverage upwards of $6 million in research activity over three years. The Hub comprises three priority research nodes in the areas of Coastal Processes and Responses, Biodiversity and Adaptive Communities.

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[2] Further detail on IRVA is available at: http://www.environment.nsw.gov.au/resources/climatechange/130016IRVAguide.pdf

Sustainability and effectiveness of current arrangements

The two main ways in which the Commonwealth funds natural disaster mitigation, resilience and recovery activities is through the NDRRA and the NPANDR. The Commonwealth Government plays an important part in natural disaster funding, given its capacity to better withstand the financial and budgetary shocks presented by natural disasters and therefore assist States and Territory Governments in financially managing them. This is why NSW supports the retention of the NDRRA.

The NSW Government also recognises the importance of mitigation and resilience programs, and acknowledges that a strategic shift to mitigation and resilience over response and recovery would require a significant increase in expenditure under risk management programs such as the NDRP. This may necessitate the achievement of savings in some response and recovery programs.

Natural Disaster Relief and Recovery Arrangements

The stated aim of the NDRRA is to assist State and Territory Governments with the financial burden of large scale expenditure arising from natural disasters. This is consistent with the objectives of the support provided by State governments to local councils and other recipients of assistance, which recognises that at lower levels, the capacity to manage natural disaster risks is reduced.

Given the potential for “moral hazard” arising from this assistance, the NDRRA Determination also states that the general principles of the arrangements are that assistance is not to provide disincentive for risk management and is designed to achieve an efficient allocation of resources. Arrangements are in place that avoids a “moral hazard” for the NSW Government.

This principle of avoiding the disincentive for risk management is reinforced through cost sharing arrangements, eligibility conditions and oversight requirements placed on assistance provided by the Commonwealth. These clarify the circumstances under which these arrangements will partially cover expenditure.

Consistency of current arrangements with the NDRRA objectives

The NDRRA does not create a “moral hazard” issue for the NSW Government, which is continuing to review its own financial assistance arrangements in light of the significant costs it has carried in recent years.

The current arrangements provide financial assistance based on a formula capturing the level of expenditure over the financial year and the financial capacity of the state. This formula has meant that over the past decade NSW has met around 70 per cent of its expenditure, with 30 per cent of eligible expenditure being reimbursed by the Commonwealth. Queensland has received a significantly higher proportion (and quantum) of funding under NDRRA due to its high incidence of natural disaster events in recent years, while other States that have less exposure have received less than NSW in keeping with the objectives of the policy.

The formula for assistance to the States has resulted in NSW continuing to carry a significant financial and administrative burden from natural disasters, including over one billion dollars of eligible recovery costs in the past 11 years from 2002-03 to 2012-13 which were not funded by the Commonwealth under NDRRA.

The scope of the NDRRA has changed over time

While the stated NDRRA objectives do not appear to have changed over time, the scope of measures covered under these arrangements has changed in ways that suggest a broadening of policy objectives.

For instance, while the objective of the NDRRA is to assist State and Territory governments with the financial burden of natural disasters, the introduction of recovery grants to small businesses and primary producers has resulted in a commitment to increased recovery expenditure by those governments following a natural disaster.

In this case, the expansion of the NDRRA is more consistent with a joint policy decision by the States, Territories and the Commonwealth to assist this important part of the community because of the significant role played by small businesses and primary producers in the economic recovery of a region, rather than to support the stated aim of the arrangements.

Enforcement and oversight of NDRRA criteria

The NDRRA does not cover all recovery expenditure in NSW (some operate outside of the conditions of NDRRA and as such are not claimed for partial reimbursement), however where the NSW Government intends to claim expenditure under NDRRA the criteria are rigorously enforced.

The State has developed a number of policies and processes to comply with the NDRRA criteria and oversight is provided through the NSW Audit Office which performs an annual audit of claimed NDRRA expenditure against these criteria.

Appropriate threshold levels for NDRRA reimbursement

The current use of thresholds based on expenditure and financial capacity is consistent with the stated objectives of the NDRRA. They appear to be fair and based on measurable and consistent criteria that provide a financial safety net for the states whilst requiring them to retain a significant amount of risk before the thresholds are reached.

The NSW Government believes that vertical fiscal imbalance should continue to be considered alongside natural disaster arrangements. It is unlikely that the States and Territories would be able to undertake the levels of recovery to support at risk and disaster affected communities without Commonwealth support.

Between 2002-03 and 2012-13 NSW received 30 per cent reimbursement for eligible NDRRA expenditures. In many post-disaster announcements, there are suggestions that the Commonwealth will provide funding support to the States and Territories of between 50 and 75 per cent, when the actual level of contribution is not yet known due to the requirement to reach thresholds for reimbursement.

This may be confusing and misleading to the public in some instances, causing the perception that State Government agencies responsible for spending decisions in recovery are withholding Commonwealth funding.

Effectiveness of facilitating effective and sustainable risk management

The residual financial risk which the NDRRA places on States and Territories provides them with an incentive to actively promote risk management. The NSW government has responded to the significant increase in NDRRA eligible costs from natural disasters in recent years by reviewing the effectiveness and sustainability of its funding and governance arrangements.

Enhancing the concept of betterment

Betterment is an option within the NDRRA which provides for the restoration of essential public assets to a more disaster resilient standard, after they have been damaged or destroyed by a natural disaster. However, applying the concept of betterment has proven problematic. Although betterment projects may be worthwhile, the administrative burden to prove betterment is high, they require an acceptance of a higher financial burden by both local and State governments, and they are usually rejected in favour of more immediate and less costly initiatives. Local governments are required to increase their contribution to one third, and while this is not an unreasonable expectation it requires the council to be willing or able to do so.

Betterment also requires a higher financial risk to be borne by the States and Territories, as a betterment application must be supported by the jurisdiction before proceeding to the Commonwealth. In practice this leaves the State financially exposed in the event that the Commonwealth does not provide a reimbursement of funds already spent on betterment projects.

Betterment has rarely been applied in NSW and so it is difficult to assess its sustainability and effectiveness within NSW.

The very limited utilisation of the betterment provisions reflects the ineffectiveness of the NDRRA in providing a strong incentive for post-disaster mitigation works. To this extent, the current betterment provisions could be seen as being ineffective and ultimately unsustainable.

Betterment funded through the NDRRA is also inconsistent with incentivising risk management prior to a disaster, as the consideration of how to improve mitigation and resilience is taking place following the damage or destruction of an asset.

The concept of betterment accepts that higher levels of government carry a financial risk for the assets through their existing NDRRA commitments and as such the risks should be managed collectively.

The NSW Government supports the concept of betterment, however there is room to refine and improve the effectiveness of betterment which the Productivity Commission is well placed to investigate.

NDRRA Category C assistance

NSW, in conjunction with the Commonwealth Government, has recently implemented a CRF in the Blue Mountains, with community-led prioritisation of recovery efforts. This represents an alternative recovery option to the more regularly applied grants to primary producers and small businesses under 'Category C' of the NDRRA, devolving decisions on the best use of limited resources for disaster recovery to local communities as embodied within the National

Strategy for Disaster Resilience (NSDR) principles. This aim is to allow greater flexibility in directing recovery resources to local priorities, be they reconstruction, economic recovery (including tourism), social recovery or to enhance resilience to future events.

The current Blue Mountains CRF package will be evaluated in late 2015 with a view to including it as one of the available recovery options if found to be effective. The principles of the CRF model of community led prioritisation of recovery efforts is one that the Productivity Commission could examine as an alternate mechanism of assistance to those provided under the NDRRA and NPANDR to help build mitigation and resilience following a natural disaster.

Frequency of Category D assistance

In NSW there has only been one instance of Category D assistance being used. This occurred in 2007-08 and totalled $600,000. This assistance was provided for the purpose of supporting the tourism industry to recover from the impact of severe floods on the North Coast of NSW.

National Partnership Agreement on Natural Disaster Resilience

The NPANDR aims to enhance the resilience of communities against the impact of natural disasters. The NPADR allows funding to target activities that enhance disaster resilience in accordance with the NSDR.

A key aim of the NPANDR is to enhance Australia's resilience to natural disasters through mitigation works, measures and related activities that contribute to safer, sustainable communities better able to withstand the effects of disasters, particularly those arising from the impact of climate change.

Between 2009 and 2013 NSW entered into the four year NPANDR with funding provided through the NDRP. In NSW, the Program was divided into a number of separate schemes to target specific mitigation and resilience activities. Projects were awarded through a competitive application process to a range of agencies, local and state government and non-government organisations with a role in emergency management. The schemes were:

- The Natural Disaster Resilience Grants Scheme;
- The State Emergency Management Projects Scheme;
- The Bush Fire Risk Management Grants Scheme;
- The Floodplain Risk Management Grants Scheme;
- The Auxiliary Disaster Resilience Grants Scheme; and
- The Emergency Volunteer Support Scheme.

The two largest schemes are the Floodplain Risk Management Grants Scheme and the Bush Fire Risk Management Grants Scheme. Projects that are funded under the Floodplain Risk Management Grants are selected following systematic assessment of their benefit to the community. Grants provided under the Bush Fire Risk Management Grants Scheme are allocated in accordance with the priorities identified in local statutory Bush Fire Risk Management Plans (BFRMP). These schemes are effective in reducing the impacts and costs of natural disasters.

The delivery of the NDRP in NSW via a number of separate schemes ensures that the program is appropriately focused. Key priorities can be targeted across the range of strategies to promote resilient communities – for example, targeted mitigation works through flood and fire programs, State projects for larger projects with State-wide benefits, and specific funding targeted to support volunteers.

Evaluation has been a component of all funded projects, however usually undertaken within the project team and the focus has been on the effectiveness of the project to deliver what it intended to, rather than evaluating its effectiveness in promoting resilient communities. The NSW Government acknowledges that formally evaluating project outcomes to promote resilient communities is an important component that requires further development. In order for this to occur significantly more funds would need to be directed towards project evaluations.

The NSW Government also acknowledges that a strategic shift to mitigation and resilience over response and recovery would require a significant increase in expenditure under risk management programs such as the NDRP, and this may necessitate the achievement of savings in some response and recovery programs.

Impact of horizontal fiscal equalisation arrangements for natural disaster risk management by state and territory governments

In response to the Productivity Commission's Issues Paper, the impact of horizontal fiscal equalisation is not a consideration made by the State in determining its natural disaster risk management approach.

It is noted however that States and Territories do not all have the same spending policies for natural disaster relief, as assumed by the Commonwealth Grants Commission (CGC) when distributing revenue. As such the treatment of natural disaster expenditure by the CGC may not be consistent with the principle that GST distributions are made on an effort neutral basis.

Planning, land use and infrastructure

Planning, land use and infrastructure are important elements in ensuring effective risk mitigation. The way planning frameworks and standards are set, the way in which land is allotted for use and the infrastructure in place has a direct and long term impact on communities living in natural disaster risk areas.

The NSW Government considers the threat posed by natural disasters through its planning and land use system. Both State and local governments are involved in this system, to support decision making that effectively considers both current and future risks, with an eye to avoiding issues currently faced through legacy decisions.

Capacity of different levels of government to deliver effective planning, land use and infrastructure policy

Local government has the primary responsibility for planning policies and managing development on natural disaster prone land. Local governments receive support from the NSW government to ensure the risks of natural disasters are considered in local planning decisions.

Local government in NSW is facing major sustainability issues, with an Independent Local Government Review Panel finding around a third of all councils are 'at risk' from weak revenue, infrastructure backlogs and declining populations. A copy of the Report is publicly available[3] and the NSW Government is responding to the recommendations of the Panel. Local government has very limited ability to raise revenue and recover costs from beneficiaries to manage critical infrastructure such as roads. Many rely heavily on both Commonwealth and State Government grants to manage these.

Floods

Local councils operate within the strategic planning context of the NSW Flood Prone Lands Policy (the FPLP) as set out in the *NSW Floodplain Development Manual 2005* (the FDM). Councils manage flood risk by defining areas at highest risk and acting to avoid or mitigate potential impacts through appropriate zonings in Local Environmental Plans (LEPs) and setting development controls in LEPs and Development Control Plans (DCPs). Determining appropriate flood planning levels and interpreting technical information can be complex and the NSW Government supports local government by providing financial and technical assistance to local government to consider flood risk in their planning. The key areas of NSW Government support are:

- Setting land use planning parameters through issuing of planning direction and/or circulars that include a model clause in relation to the flood planning area for the Standard LEP template and the ability to develop and apply additional local clauses where warranted;
- Establishing regional direction and priorities through the development of Regional Growth Plans;

[3] Independent Local Government Review Panel Report available at http://www.localgovernmentreview.nsw.gov.au/Index.asp?areaindex=LGR&index=49&acode=GL&ml=1

- Setting flood policy direction. The NSW Government has had a long history in flood risk management extending back to the 1950s. It has the FPLP (first instigated in 1984) and FDM (developed in 1986 and most recently updated in 2005). These are consistent with Australian Emergency Management Handbook 7: Best practice in flood risk management in Australia (2014). The Manual provides a risk management framework for making decisions on managing flooding;
- Section 733 of the *Local Government Act 1979* (the LGA Act) is an important element in encouraging councils to understand and manage flood risk by providing a limited legal indemnity for information provided and decisions made in a manner consistent with the relevant manual gazetted by the Minister for Planning (in this case the FDM). Council also has to act with good faith and within their administrative powers;
- Administering the NSW Floodplain Management Program (FPMP) and making available dedicated technical expertise within the NSW Government (flood risk management in the NSW OEH, flood emergency response management in the NSW SES) which support local councils in developing an understanding of their flood risk, examining options to manage this risk, making informed decisions on managing this risk and implementation of risk management options. This support has seen many local governments undertaking studies and developing and implementing plans to manage flood risk to both existing and new development since the 1980's;
- The FPMP also supports the instigation of flood mitigation infrastructure, where practical, feasible and cost effective, to reduce the impacts of flooding on the community. Funding under the program is allocated based upon a state-wide prioritisation process and there are a significant number of projects identified in management plans that are yet to be implemented due to the financial limitations of both local government and/or State and Commonwealth mitigation programs. The FPMP sources funding from a specific allocation of $19 million to Local Government Programs and additional funding provided through the implementation plan of the Commonwealth NDRP;
- Relevant design, building and construction standards influence the resilience of infrastructure to flood risk. State roads, bridges and other assets in NSW are built to meet engineering standards that require the asset to be able to withstand certain natural disaster events, as identified in risk assessments. Local and regional roads are typically built to lesser standards. The standard of local road networks depends on the capability, capacity and willingness of local governments; and
- Improvements to access to flood data for government decision making. Local government holds the majority of flood planning data, and this data needs to be effectively fed into broader strategic planning and associated decision making at a State government level. To provide a single pathway of flood risk information from local government to state government the NSW OEH and NSW SES are working in partnership to develop the NSW Flood Database for information sharing across government. This is a work in progress and is identified under Goal 28 of the NSW 2021 Plan.

Bush Fires

NSW Government agencies also support local councils to ensure bush fire prone land is mapped and zoned appropriately to manage risks. The NSW RFS has produced guidelines to assist councils to map bush fire prone areas in an accurate and State-wide consistent manner.

Section 146 of the *Environment Planning and Assessment Act 1979* (EP&A Act) requires councils whose local government area (LGA) is covered by a BFRMP to map bush fire prone land in their LGA in consultation with the Commissioner of the NSW RFS who is responsible for approving the map and so designating the land. These maps become the basis for planning for bush fire protection, which seeks to minimise exposure to bush fires. The NSW RFS has produced guidelines to assist councils to map bush fire prone areas in an accurate and State-wide consistent manner.

The NSW RFS has also produced a document called *Planning for Bush Fire Protection (PBFP)* which aims to use the NSW development assessment system to provide for the protection of human life and to minimise impacts on property from the threat of bush fire. More specifically, its objectives are to:

- Afford occupants of any building adequate protection from exposure to a bush fire;
- Provide for a defendable space to be located around buildings;
- Provide appropriate separation between a hazard and buildings;
- Ensure that safe operational access/egress for emergency personnel and residents is available;
- Provide for ongoing management and maintenance of bush fire protection measures, including fuel loads in the asset protection zones (APZs); and
- Ensure that utility services are adequate to meet the needs of fire fighters.

Coastal management

Local government has primary responsibility for managing and mitigating coastal hazards on council managed and owned land (including Crown land on behalf of the NSW Government) which includes beach erosion, shoreline recession, coastal inundation due to processes such as storm surge, and cliff instability (landslide), including as exacerbated by climate change. The NSW Government provides councils with technical advice and financial support for hazard mapping and planning, with the majority of funding for risk assessment and planning activities. Capacity amongst councils varies, and the NSW OEH adjusts its level of support accordingly. A consistent strategic planning context is provided through a number of policy and guideline documents and legislation including the:

- NSW *Coastal Protection Act 1979* (CP Act) that provides for the protection of the coastal environment for the benefit of both present and future generations; it defines the Coastal Zone with reference to maps (described as generally one kilometre landward of the high water mark around any bay, estuary or coastal lake and 3 nautical miles seaward of the coast);
- EP&A Act that sets out matters for consideration and provides the framework for State Environmental Planning Policies and LEPs;
- *NSW Coastal Policy (1997)* that sets out key principles for the protection of the coast, including the provision of public foreshore access and the accommodation of natural coastal processes;
- *State Environmental Planning Policy No. 71* – Coastal Protection that gives statutory effect to the Coastal Policy;
- *NSW Coastal Planning Guideline*: adapting to sea level rise (2010) that assists councils to incorporate the sea level rise allowances into their strategic and statutory land use planning and development assessment processes; and

- Guidelines for preparing coastal zone management plans (2013) that set out the process and content for councils to follow. Acting in accordance with those Guidelines is one way councils can demonstrate that they have 'acted in good faith' for the purposes of section 733 of the LGA Act, which then protects councils from future liability in relation to coastal hazards.

Planning decisions have allowed residences to be built in coastal areas at risk of erosion and storm damage. The NSW Government has identified 15 coastal erosion hot spots where approximately 200 houses are at imminent risk from coastal erosion. There are additional areas where public assets such as roads and other infrastructure are also under threat. In the longer term between 44,000 and 68,000 NSW residential buildings may be exposed to the combined impact of inundation and shoreline recession at a projected sea level rise of 1.1m in 2100.[4] The 2008 replacement value of the buildings is estimated between $14 and $20 billion.

As for flooding, management of coastal hazards first requires an understanding on the nature of the hazard and which areas / assets are at highest risk. The most effective way to manage future risk is through a risk management approach that adopts a range of measures from avoidance to ensuring appropriate land use planning controls are in place.

Ongoing management of legacy issues is more challenging. At the simplest level, the options available to manage legacy risks are protection or retreat (abandonment or relocation).

A third option of accommodation may be possible – this option usually allows for occupation of land for as long as possible (through structural alterations such as raised floor levels and higher freeboard, which can allow episodic inundation and occupation to continue without abandonment) to a pre-defined point or trigger, followed by abandonment when it is no longer feasible to continue occupation of the land.

The timing and recurrence of coastal events is not able to be predicted with any degree of accuracy, meaning that an adaptive risk management approach is required so that councils or other asset owners are able to deal with uncertainty.

Impacts of policies regarding land-use planning and infrastructure

Urban planning and land use policy is used to control and restrict new development in natural disaster prone areas. NSW is well advanced in managing the major natural resource hazards of bush fire, flooding and coastal erosion for new development. A multi-disciplinary and multi-level approach is taken, working with other relevant agencies, addressing strategic, local and site planning for hazards.

Land use planning is less able to reduce the exposure of existing developments to natural hazards. In existing areas, local government and other relevant agencies implement risk management strategies as appropriate.

[4] http://www.climatechange.gov.au/sites/climatechange/files/documents/03_2013/risks-coastal-buildings.pdf

Policies at both local and State Government level can have a significant influence on the growth of flood risk or coastal risk due to development or redevelopment within the floodplain or within the coastal zone. The development of strategic planning policies to ensure hazards are adequately considered in strategic land use planning should help ensure risk is not intensified into the future.

All NSW councils are required to prepare 10 year (or more) asset management plans for all asset classes. These assess the condition of assets, cost to bring them to an acceptable standard, and include appropriate actions in their delivery programs and budgets. A recent asset infrastructure audit found that council asset management planning is improving. A number of NSW councils are also now undertaking infrastructure vulnerability planning through integrated consideration of asset, flood, stormwater and other plans to prepare for and mitigate against natural disaster.

Bush Fires

Local Planning Direction No. 4.4, issued under section 117 of the EP&A Act applies to councils preparing a LEP that is in, or within proximity of, mapped bush fire prone land. It requires such councils to:

- Consult with the NSW RFS;
- Have regard to the requirements of PBFP;
- Avoid placing developments in hazardous area;
- Provide specified inner and outer APZs;
- Provide for an appropriate performance standard, in consultation with the NSW RFS, for infill development where provision of an APZ is not possible; and
- Other measures to provide effective access for evacuation and water for defence.

Floods

The FPLP does not seek to sterilise the use of flood prone land, recognising it as a valuable resource. It therefore promotes a merit based approach to flood risk management that balances social, economic and environmental considerations. Given flooding effects may not be able to be fully addressed by limiting land uses through zoning within the flood planning area, councils are encouraged to apply the model local provision for flood planning with associated mapping.

The flood planning development controls aim to:

- Minimise the flood risk to life and property associated with the use of land;
- Allow development on land that is compatible with the land's flood hazard, taking into account projected changes as a result of climate change; and
- Avoid significant adverse impacts on flood behaviour and the environment.

LEPs provide the primary mechanism for regulating land use on flood prone land. The appropriateness of using a particular land use zone will depend on the level of flood hazard associated with the land. However, land use zoning options should be determined after a council has undertaken its strategic planning work, including relevant floodplain risk studies and management plans.

Local Planning Direction No. 4.3 - Flood Prone Land, issued under section 117 of the EP&A Act, requires that LEPs on flood prone land must give effect to the FPLP and FDM and must not contain provisions that permit development:

- In floodway's, or where significant flood impacts on other properties are likely;
- That would result in substantial increases in spending on flood mitigation measures, infrastructure or services; or
- Without development consent unless it is for agricultural purposes, roads or is exempt development.

DCPs can also include flood related development controls so long as they are consistent with the provisions of the relevant LEP. The DCP can specify more detailed development controls that can be applied to the whole, or sections of, the flood planning area.

Such development controls may potentially cover required mitigation works, minimum floor levels, construction methods or materials including electrical elements, size of the development, building design, the need for development to be relocatable or temporary and the location of utilities or services within the site. In areas likely to be affected by sea level rise in the future, the DCP can specify the use of time and / or trigger limited conditions (pursuant to section 80A(1) of the EP&A Act) to allow sustainable use of the site until such time as the flood impacts affected by sea level rise may compromise life and property.

Planning Certificates issued under section 149(2) of the EP&A Act advise whether any development controls apply to a parcel of land. Flood related development controls must be noted on such Certificates. The flood related development controls are set out in the flood clause of the relevant LEP and any associated DCP.

Coastal management

Coastal Zone Management Plans (CZMPs) are an important tool for councils to minimise exposure of new development to coastal risks as well as identifying where protection works may be required for existing development. CZMPs also must be taken into consideration by consent authorities when determining long term coastal protection works. Where no CZMP exists, *State Environmental Planning Policy – Infrastructure – 2007* identifies the NSW Coastal Panel as the consent authority. Public authorities who intend to construct coastal protection works where no CZMP exists must also consult the Panel.

Local Planning Direction No. 2.2 – Coastal Protection, issued under section 117 of the EP&A, requires that planning proposals in the Coastal Zone must give effect to the *NSW Coastal Policy*, the *Coastal Design Guidelines* and the *Coastline Management Manual*.

As part of developing their CZMPs, councils undertake coastal hazard studies. The hazard lines produced by those studies may be incorporated into their LEP and DCP and specific coastal hazard related development controls may be applied. In addition, for all land within the Coastal Zone, the Standard Instrument LEP 'clause 5.5 development within the coastal zone' must be applied.

That clause requires that all developments within the Coastal Zone must consider the effect of coastal processes and coastal hazards and potential impacts, including sea level rise, on the proposed development and arising from the proposed development. The clause aims to implement the principles of the *NSW Coastal Policy*.

DCPs can also include coastal risk related development controls so long as they are consistent with the provisions of the relevant LEP. A mapped coastal risk area could be included in a DCP, which can make detailed provisions with respect to development. Development controls may potentially cover required mitigation works, construction methods or materials, development size, building design, the need for development to be relocatable or temporary and the location of utilities or services within the site. The DCP could also specify the use of time and / or trigger limited conditions to allow sustainable accommodation of the coast until such time as the impacts of sea level rise compromise life and property.

Impact of current natural disaster funding arrangements on land-use planning, risk reflective asset pricing and infrastructure investment

Policies at both local and State government level can have a significant influence on the growth of flood risk or coastal risk due to development or redevelopment within the floodplain or within the coastal zone. NSW planning policies encourage development in suitable areas and avoid areas of significant environmental and resource values and natural resource constraints.

Proposals to develop a State planning policy to ensure hazards are adequately considered in strategic land use planning should help ensure risk is not intensified into the future.

Land use planning and infrastructure reforms

Bush Fires

A regulatory amendment commenced in May 2014 aimed at streamlining development assessment processes relating to bush fire assessment. The amendment removes the need for applicants to undertake an assessment of bush fire risk when they lodge their development application, provided that the NSW RFS has completed an assessment of bush fire risk at the subdivision stage.

Additionally, draft legislation was introduced into the NSW Parliament in May 2014 to provide landowners with the ability to clear specified trees and vegetation from around their property in bush fire prone areas.

Coastal management

In relation to coastal issues, the last decade has seen councils focus on better communication of information and refinement of understanding of the areas at risk – both now and in the future. There has also been more emphasis placed on understanding the roles and responsibilities of public and private landholders, and work has focussed on ensuring that options for managing coastal risks are better understood. Implementation of many actions has been impeded through a lack of available funding models, and a continued reliance on the public purse.

The NSW Government is currently developing coastal reforms which are directed at improving the management of coastal hazards. In particular, they aim to:

- Establish a simpler and more integrated legal and policy framework for coastal management;
- Provide improved guidance and technical advice to councils, while enabling and supporting local decision making; and

- Identify potential funding options, particularly to implement coastal asset management strategies.

The Department of Planning and Environment is preparing guidance for councils on how they should report on coastal hazards when issuing Section 149 planning certificates. Section 149 planning certificates must be obtained as part of the property conveyancing process, but can also be purchased from council at any point in time. The planning certificates include a variety of specified information, including matters that restrict development of the land. The guidance emphasises that in providing information on planning certificates it is important to clearly distinguish between a current exposure and a future exposure to a coastal hazard, as well as being clear on the type of coastal hazard affecting the land. These enhancements will assist in ensuring that property buyers get accurate, complete and reliable information.

Options for reform

NSW believes that in lieu of more comprehensive reforms to address issues of vertical fiscal imbalance between Local State and Commonwealth governments the NDRRA and the current level of Commonwealth investment needs to be maintained. The NDRRA has ensured that, while still taking on an appropriate burden themselves, States and Territories is better able to provide assistance to communities at threat from natural disasters. The NDRRA however, like all mechanisms and policies, can be reformed for the benefit for all.

The NSW Government does not believe the options considered or recommended by the Commission of Audit are the appropriate way in which to approach natural disaster risk management, relief or recovery. Reducing the amount reimbursed by the Commonwealth to jurisdictions will not encourage a better management of their risk. As outlined above NSW's arrangements are appropriate and the NDRRA, having provided only 30 per cent reimbursement historically, provides the right level of risk management incentive for the NSW Government.

Reducing the support to jurisdictions will merely reduce the support to communities. Communities across Australia face a variety of natural disaster threats and Australian Governments at all levels need to continue approaching these hazards cooperatively as a Federation. Natural disasters do not consider what jurisdiction a community is in before they strike.

The funding of road restoration and recovery has been an issue for many jurisdictions, and a significant driver of natural disaster expenditure. The Productivity Commission presents an opportunity to assess whether there are options to reform the arrangements governing this.

National Commission of Audit Recommendations

The NCOA recommended that Commonwealth involvement in natural disaster funding be significantly reformed by:

- Replacing the NDRRA with a grant in the case of each major natural disaster, with the Commonwealth contribution based on a designated proportion (between 25 per cent and 33 per cent) of the estimated reconstruction costs; and
- Maintaining the AGDRP but abolishing the Disaster Recovery Allowance with the Commonwealth's direct contributions being paid to only those individuals severely affected by natural disasters.

While ultimately not recommended, the NCOA also considered retaining the NDRRA, but tightening its thresholds and Commonwealth contribution rates. This included:

- Increasing the small disaster criterion from $240,000 to $50 million (a 208-fold increase);
- Narrowing the range of essential public assets that would be covered; and
- Doubling the State threshold at which the Commonwealth starts to provide a reimbursement for Category B expenses (for NSW, this would increase the current first threshold from $142,841,250 to $285,682,500).

The NSW Government does not support the NCOA recommendation or the alternative option considered. The NCOA did not recognise the role that the Commonwealth has, given its ability to withstand large financial and budgetary shocks, and the support that this capacity can provide States and Territories when trying to assist the community to recover from natural disasters.

Implementing the recommendations would place significant strain on the NSW's ability to carry out natural disaster mitigation, resilience and recovery

If implemented as per the NCOA recommendation, Commonwealth reimbursement payments to NSW would reduce by more than half. This would require NSW to explore alternative options for the delivery of assistance to affected communities and entities, potentially requiring the cessation of some forms of assistance altogether.

This excludes the impact of limiting recovery eligibility to major disaster events which the NCOA did not define. If this relates to an event in excess of $50 million considered by the NCOA for a "small disaster", the reimbursement loss would be greater. Especially when considering that over the past ten years, only 16 of 187 natural disaster events in NSW exceeded $50 million.

The size of the grants proposed in the NCOA recommendation fall within the range of 25 per cent and 33 per cent of estimated reconstruction costs. This is a very different set of contribution rates than currently provided in the NDRRA. Rather than the current rate of up to 75 percent in the case of extremely catastrophic disaster events, the Commonwealth's contribution under the NCOA recommendation would be capped at 33 per cent, no matter how large the disaster.

While the historic reimbursement rate for NSW is approximately 30 per cent, should a significant disaster occur, such as those experienced in Victoria and Queensland, NSW would be significantly worse off under the NCOA recommendation. The lack of flexibility in the NCOA's proposed arrangements presents a serious risk to the NSW community and the NSW Government's ability to support the community in recovering from a catastrophic disaster.

The recommendation does not account for non-reconstruction costs

The language of the NCOA explicitly refers only to reconstruction. This is contrary to established holistic disaster recovery principles and practice. Focussing solely on physical infrastructure also will not lend itself to building community resilience.

Reconstruction costs are not the only expenses involved in recovery. While restoring infrastructure is one of the most significant costs, there is a wide range of recovery support provided to communities that does not involve physically rebuilding assets.

Assisting communities through psychological, social and economic recovery is an important part of restoring a community to normal functioning and minimising negative impacts. Recovery support in this area includes assistance to small business, primary producers, voluntary not for profits as well as personal hardship and distress assistance.

As discussed earlier in this Submission, counter disaster operations mitigate against the severity of a disaster. Some significant disaster events have a very large counter disaster operations component and a relatively small reconstruction component. The recommended NCOA grant system would provide relatively little assistance in such events if they were limited to reconstruction.

NDRRA Reform

As discussed above, in absence of the comprehensive reforms to address issues of vertical fiscal imbalance between Local, State and Commonwealth governments. NSW does not support the removal of the NDRRA by the Commonwealth. These arrangements have assisted NSW to deliver recovery assistance to communities across the State. NSW does not have the financial capacity to absorb the Commonwealth's contribution should it be removed. However, there are however two issues which could improve the functioning of the NDRRA:

- Addressing the significant amount of expenditure on road asset damage; and
- Improving incentives for betterment.

Expenditure on road asset damage

NSW Government agencies and local councils are faced with the difficult challenge of managing highly variable and unpredictable natural disaster expenditure peaks and troughs.

Most NSW roads, including those that are most vulnerable to damage by floods and other natural disasters, are local roads owned and maintained by local government, the level of government with the least capacity to raise revenue and recover costs from beneficiaries.

NSW councils are also responsible for maintaining regional roads, albeit with a financial contribution toward maintenance from the NSW Government.

Estimating the cost of natural disaster damage to roads is difficult. It is commonplace for NSW RMS assessed value of works to be significantly lower than a council's original damage estimate. For example, a council claimed $9 million in road damage arising from a declared storm and flood event. When this claim was assessed by RMS, the assessed value of damage was $6.8 million, representing a 24 per cent reduction. Assessing the value of restoration to the pre-disaster standard is further complicated in cases where councils do not have the necessary records to verify pre-disaster asset conditions.

A significant proportion of NDRRA expenditure is for the repair and restoration of road infrastructure. However, insurance for roads and bridges is generally not commercially available, or if it is available it does not represent value for money. Combined with the mismatch between the road maintenance responsibilities of the three levels of government and their respective capacities to fund those responsibilities, the management of road recovery expenditure represents a significant issue.

In 2012, the Commonwealth Department for Finance and Deregulation conducted a Review of the Insurance Arrangements of State and Territory Governments under the NDRRA Determination 2011 ("the Insurance Review"). Part of this review examined the issue of expenditure on road assets.

On page 42 of its Phase 2 report, the Insurance Review made the following finding:

> *"Finding 1: Given State obligations under the Determination to have access to adequate capital to fund infrastructure losses, alternative funding options to meet the cost of road asset damage should be further explored."*

The Report did not make any recommendations on the preferred approach to funding road asset damage as the options were only preliminary and conceptual in nature. Rather, the need to explore the options further was identified. The assessment of one option, a national roads funding pool, by the Australian Government Actuary is contained within Appendix D of the Phase 2 Report.

The Productivity Commission should further the work of the Insurance Review in exploring alternative funding options to meet the cost of road asset damage. The funding of road asset damage is a complex issue, with many levels of government, business and the community having an interest. Any reforms in the way road damage caused by natural disasters is funded will require a discussion between all levels of government and cannot be a decision of the Commonwealth alone, given the impacts on the various parties.

Improving incentives for betterment

The NDRRA include funding of betterment works, which involve the restoration or replacement of essential public assets to a more disaster-resilient standard than its pre-disaster standard.

However, the current arrangements for betterment works are seldom utilised in NSW and the overwhelming majority of restoration projects return assets to their pre-disaster level of disaster resilience, in accordance with current building and engineering standards.

The low up-take of the betterment arrangements is due to a number of factors, including:

- The requirement to seek Commonwealth Government approval for funding of betterment works;
- The lengthy application process for seeking Commonwealth approval; and
- The lower rate of Commonwealth reimbursement for expenditure on betterment, as compared to expenditure on restoration to pre-disaster standards.

In NSW, the majority of road restoration costs are for assets owned by local councils. Betterment applications for local government assets require support of the State to access NDRRA betterment funding. In practice this leaves the State financially exposed in the event that the Commonwealth does not provide a reimbursement of funds already spent on betterment projects.

Restoration to a better standard of value for money

Alternatives to the replacement of damaged assets need not be confined to betterment. In some cases it may be more economical to rebuild a damaged asset to a lower cost standard, to provide for the lost service through alternate means, or not to rebuild at all if the asset was of low value to the community it served.

More flexible arrangements could be introduced which allow for a wider range of works that improve the disaster resilience of a damaged asset. The requirement of the NDRRA to restore or replace assets, whether to pre-disaster standard or better, provides a disincentive for asset owners to consider significantly different options.

The Productivity Commission should explore options to allow asset owners to replace one damaged asset with a different type of asset that offers better disaster resilience and value for money, as it may not make sense to replace an asset to its pre-disaster standard for it to be then damaged again.

As an example, in 2009 a natural disaster caused significant damage to a road in northern NSW that serviced a very small community. A decision was made to repair the northern section of the road to provide access for the community, whilst the southern section would be permanently closed. The cost of repairing the southern section of the road was estimated at $16 million. However, a further $20 million of mitigation works would have been required to reduce the risk of further land slips and damage. The significant cost of the mitigation works, and the fact that they would not have entirely eliminated the risk of future slips, meant that the mitigation cost outweighed the benefits.

NDRRA funding support that allowed for replacement of one type of asset for another that represented better value for money without loss of disaster resilience could help to facilitate more efficient expenditure in this area.

Regular review of the NDRRA

Regular review of the NDRRA occurs through the Council of Australian Governments with the assistance from the Australian New Zealand Emergency Management Committee and its various sub-committees and working groups. NSW supports the ongoing review of the NDRRA and continued work on a number of specific matters including:

- The trial of the Category C CRF activation framework;
- The development of greater flexibility in Category C to enable industry associations/groups to assist directly in the implementation of industry-wide business continuity, resilience and recovery measures; and
- The movement of Recovery Community Development Officers as an eligible measure under Category C of the NDRRA to Category A of the NDRRA.

Implementing Reforms

Given the timing of the Inquiry and likely scale of reforms to be presented to the Commonwealth Government, a minimum period of 18 months should be set aside for transitional arrangements for the implementation of any recommendations. This would broadly align with implementation of any new arrangements from 1 July 2016, a few months before the 2016-17 natural disaster season would be expected to commence.

That length of time will be needed for the States to negotiate the details of any new funding arrangements with the Commonwealth and then allow time for the States to consider the ramifications of these changes – and how they affect their relationship with councils - and how they will implement the revised arrangements within their jurisdictions.

Currently Emergency Management Australia (EMA) administers the NDRRA and has done so for several years. Utilising this extensive experience but recognising the likely additional responsibilities and activities to be borne by the States, NSW would support the establishment of a Steering Committee comprising two Commonwealth representatives and one from each State and Territory to oversee this significant change management program.

Mitigation and Resilience Data

In response to the Productivity Commission's data request as outlined in the Issues Paper, NSW has compiled data on mitigation and resilience expenditures to be provided to the Productivity Commission. This is far from comprehensive as a significant portion of the NSW investment in resilience is incurred in compliance with engineering standards and environmental regulations and through the business as usual activities of NSW Government agencies, all these mainly funded from agency capital and operating budgets.

Six agencies were able to segregate and report specific mitigation and resilience works, detailed in the data to be provided to the Productivity Commission. The range of mitigation and resilience works are diverse including:

- Fire trail maintenance and fire hazard mitigation;
- Identification of levees and infrastructure at risks;
- Dam failure mappings;
- Flood extent studies for various local councils;
- Tsunami simulation and review;
- Warning awareness review; and
- Studies and reviews on land planning, emergency planning and capability assessment, and flood water movements, etc.

With the exception of projects funded under the National Partnership Agreement on Disaster Resilience discussed on page 23 of the Submission to the Productivity Commission, all these projects are funded from agency budget.

The following section further provides a selection of examples whereby NSW Government agencies (grouped in terms of emergency management functional areas) have carried out mitigation and resilience works. Likewise, being integral to the agencies' core functions, their associated costs are difficult to determine.

A Functional Area is a category of service involved in the PPRR arrangements for an emergency. Functional Areas are business units within NSW Government agencies that, consistent with the scope of their portfolio, perform specific emergency management functions. This may be to support Combat Agencies to resolve the consequence of an emergency, or they may provide emergency risk management leadership within a sector. They have critical roles across the full PPRR spectrum.

The following are a selection of Functional Areas and the work they perform.

Telecommunications Services Functional Area Coordinator

The Telco Authority hosts the Telecommunications Services Functional Area Coordinator (TELCOFAC) and acts as a link between telecommunications carriers and emergency services agencies. In an emergency, it will provide information on hazards to telecommunications carriers and may assist them to access critical infrastructure. This might include arranging escorts from public safety agencies or air transport for telecommunication carriers' emergency repair teams during a flood or bush fire. In order to meet these objectives, the State's telecommunication infrastructure, like its private sector counterpart, should meet if not exceed minimum resilience standards.

Carriers assist TELCOFAC with the deployment of emergency communication services and information on network outages caused by natural hazards. TELCOFAC acts as a coordinating entity and does not bear any funding responsibility for actions or resources deployed by other agencies or carriers.

The Telecommunications Services Functional Area Supporting Plan sets out the NSW arrangements to coordinate emergency telecommunications services support and resources required by the community, combat agencies and other essential services, in the event of an emergency.

Agriculture and Animal Services Functional Area

NSW DPI is designated as a support agency in natural disasters under the Agriculture and Animal Services Functional Area (AASFA) Supporting Plan. The key functions under this plan are PPRR activities relating to all agriculture and animals (livestock, wildlife and pets) across the community.

NSW DPI coordinates 30 participating and supporting organisations to assist in the delivery of specialist resources and services under the auspices of the Supporting Plan. These organisations include other government agencies, industry bodies, professional bodies and not-for-profit volunteer and special interest groups.

NSW DPI places a strong organisational emphasis on mitigation, risk management, resilience and recovery on an all hazards basis.

In response, AAFSA supports the combat agency by:

- Identifying at risk animals and agriculture and implements warning and preparedness measures; and
- Coordinating support to primary producers, animal holding establishments and the community in emergencies, including:
    - Rescue, evacuation and emergency care for all at-risk animals; and
    - Assessment, humane destruction and disposal of affected animals.

In the recovery phase AASFA supports recovery arrangements including:

- Providing agricultural damage impact assessments;
- Contributing to recovery centres and recovery committees;
- Delivering recovery information including workshops; and
- Providing emergency veterinary assistance, emergency fodder and water.

All external government departments, non-government organisations and interested parties can access NSW DPI's emergency management information on the NSW DPI websites.[5]

[5] www.dpi.nsw.gov.au/agriculture/emergency/management/operational-guidelines/plans and www.dpi.nsw.gov.au/agriculture/emergency/management

NSW DPI is spending an increasing amount on mitigation, resilience and recovery. It is estimated that spending was approximately $1 million per annum in 2002 and has increased to approximately $4 million per annum in recent years.

This figure includes preparatory actions conducted under governance, documentation, systems, capacity and capability development, exercising and community engagement processes. The majority of these funds are from NSW consolidated revenue, although grants are occasionally received from other sources, both government and industry.

Facilitating financial assistance measures

NSW DPI, through the NSW Rural Assistance Authority (RAA) provides financial assistance measures to farmers and small businesses following a specifically declared event. The guidelines relating to the assistance measures are on the RAA website.[6]

There is no doubt that the cost of maintaining staff, in readiness for and during an event, is increasing. In addition, the percentage of staff time and resources devoted to natural disaster events has also been increasing over time.

Transport Services Functional Area

The responsibilities of the Transport Services Functional Area are to:

- Contribute to the Emergency Risk Management process to identify hazards, assess threats to life and property, and the taking of measures to avoid or reduce the consequences of emergencies on the community;
- Undertake planning for response and recovery operations;
- Coordinate the provision of transport support as required by a Combat Agency and other Functional Areas, whilst maintaining as far as practicable, the normal operations and activities of public and commercial transport services. Tasks for providing transport to other agencies might include:
    - Movement of emergency equipment and personnel
    - Movement of emergency supplies and goods, including water, fuel and food
    - Evacuation of people and animals
    - Assistance for medical transport;
- Provide inputs into food and fuel supply management for communities experiencing, or expect to experience isolation and resupply issues;
- Maintain and operate a road condition/closure advisory service to Combat Agencies, Functional Areas and members of the public; and
- Provide transport support to recovery operations including participation in Recovery Committees, where required.

The Transport Services Functional Area Supporting Plan is a supporting plan under the NSW State Emergency Plan. It sets out in further detail the responsibilities of the Transport Services Functional Area, responsibilities within the Transport Services Functional Area and governance structures.

[6] RAA Guideline available at http://www.raa.nsw.gov.au/assistance/natural-disaster-relief

Rail infrastructure planning

It is not possible to state the cost of design measures that achieve resilience against natural disasters in current rail infrastructure. This is because rail infrastructure is procured to meet the relevant standards and the natural disaster resilience requirements which the standards specify.

Alternative design options are not costed with different levels of natural disaster resilience and the cost differences considered. Natural disaster resilience in relation to rail infrastructure is achieved through the infrastructure being designed to various engineering standards that require it to achieve resilience to natural disasters.

Rail infrastructure design also addresses issues identified through a robust hazard identification and risk assessment process. This process may also identify risks that are related to natural disasters and resilience.

Road infrastructure planning

Resilience in transport infrastructure is mainly achieved through the design and construction of the infrastructure. Assets are designed to meet certain engineering standards which require the asset to withstand certain natural disaster events identified in risk assessments conducted as part of the design process. It is currently impossible to estimate how much is spent on such resilience.

Designers do not as a matter of course prepare a number of design options with different resilience levels and cost each option – rather they design to the requirements of the engineering standards and the risk assessments. There are also methodological challenges in costing resilience achieved through design, such as apportioning the cost of structural strength between natural disaster resilience and traffic resilience.

Recovery Operations

The Transport Cluster provides recovery support services, including:

- Transportation of people being evacuated;
- Transportation of people working in recovery operations;
- Transportation of goods and equipment for recovery operations;
- Management of traffic conditions affected by natural disasters; and
- Transportation of displaced people to obtain essential services (e.g. to attend medical appointments).

Six full-time positions support these services, attending to both natural disaster emergencies and non-natural disaster emergencies. It is estimated more than 50 per cent of their time is spent on natural disaster emergencies. Approximately 30 volunteers are also available to assist these support services.

There are a further nine staff (Regional Transport Coordinators) in different regional locations who provide recovery support services during natural disasters.

Recovery support services are generally funded through the Transport Cluster's ordinary budget.

NSW Health Services Functional Area

NSW Health contributes to emergency management — specifically the development of policy and training to build resilience, by hosting the NSW Health Services Functional Area, and developing and maintaining the NSW HEALTHPLAN.[7] The Plan outlines NSW Health's services, governance arrangements and PPRR activities.

NSW Health has a number of supporting plans to the HEALTHPLAN to further enhance Health's capability, e.g. Ambulance 'State Major Incident/Disaster' Plan (AMPLAN), and Medical Services Supporting Plan.

- AMPLAN[8] — identifies NSW Ambulance Service emergency arrangements and coordination of the ambulance response in the event of an emergency; and
- Medical Services Supporting Plan[9] — identifies the emergency management arrangements necessary for the coordination of medical services at a State level when the NSW HEALTHPLAN is activated.

NSW Health's mitigation and resilience activities are embedded in the planning and scoping of health infrastructure. The preliminary design phase for hospital projects takes into account whether the hospital will be in a bush fire zone or flood plain. Examples include:

- Commissioning of a flood report for the design of Bega Hospital; and
- Consideration of building a new car park at Coffs Harbour Hospital as the existing car park is prone to flooding

NSW Health has a dedicated unit for Emergency Management — Health Emergency Management Unit (HEMU) and has dedicated personnel in each Local Health District to directly manage the implementation of policies that build resilience.

Within Health obligations for response capacity and business continuity planning are met from within existing budgets and services i.e.:

- Health Emergency Management Unit;
- Local Health Districts Disaster Managers;
- Ministry of Health - Chief Health Officer and Emergency Response Coordination Unit, Office of the Chief Health Officer;
- Health Protection NSW;
- NSW Ambulance Special Operations Unit functions; and
- Pillar Agency Health Services Functional Area Coordinator (HSFACs).

Mitigating and preparing for natural disasters in other portfolios

Education and Communities

NSW Department of Education and Communities (DEC) Schools and Department workplaces are required to develop emergency management plans to minimise damage and disruption resulting from natural disasters.

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7 NSW HEALTHPLAN available at http://wvvw0.health.nsw.gov.au/policies/PD/2014/PD2014 012.html
8 AMPLAN available at http://www.narrabri.nsw.gov.augiles/uploaded/file/Public%20Exhibition%20and%20Notifications/Draft%20DISPLAN%202013/Ambulance%20Service%20of%2ONSW%20-%20AMPLAN.pdf
9 Medical Services Supporting Plan is available at http://www0.health.nsw.gov.au/policies/g1/2010/pdf/GL2010 011.pdf

DEC's In Case of Emergency system (accessed through the staff portal) provides an electronic lodgement repository for emergency plans, including site plans to support the Department's emergency management guidelines. School principals and workplace managers are responsible for the maintenance of emergency plans and for administering emergency procedures for each site.

Each Departmental portfolio is required to have in place a Business Continuity Management Plan. These provide a framework for responses to severe, unexpected events that affect portfolio business locations. The plan outlines the emergency response, continuity response and recovery response for the resumption of critical business functions for various scenarios, such as the loss of a building due to fire, flood or other local event. Business continuity plans are reviewed twice per year.

Risk assessment of educational facilities

There were a number of recommendations from the Royal Commission into the Black Saturday Bush Fires in Victoria that highlighted the importance of school management during bush fires.

In response, the Fire Safety Risk Management Project was initiated to fully assess fire risks in DEC sites, take appropriate corrective action where required and make recommendations for improving management practices to mitigate risks across the Department.

Following bush fire risk assessments of 695 NSW government schools, TAFE campuses and Office of Communities facilities in bush fire prone areas, and in consultation with the NSW RFS, DEC established a bush fire register of 125 sites that are considered at high risk of bush fire. The educational facilities on the bush fire register are required to temporarily cease operations on days when there is a catastrophic fire danger rating issued for the area in which they are located.

Other key recommendations of the Fire Safety Risk Management Project include coordinating planned and regular maintenance of APZs, appropriate consideration of APZs when locating demountable classrooms in school sites and identification of relevant fire safety standards when scoping capital works projects within DEC workplaces.

Bush fire plans in fire-risk educational facilities

A range of strategies are implemented to assist workplaces in bush fire prone areas to prepare for and respond to bush fire conditions during the spring and summer months.

Preparation for the 2014-2015 bush fire season will include strategies such as:

- Development of e-learning materials to build capability in emergency management and response;
- Published facts sheet on the bush fire season on the intranet;
- A dedicated bush fire website, updated regularly during the bush fire season to include warnings and notification of schools that have temporarily ceased operations;
- DEC has established communication protocols including notification to DEC workplaces in bush fire prone areas of weather warnings as they are issued by the Bureau of Meteorology; and
- Liaison and briefings with emergency service agencies.

Impact of bush fires on educational institutions

In October 2013, NSW experienced devastating bush fires. Over the period of the bush fires, many schools were pre-emptively closed for the next day. On 15 October, under the direction of the RFS, 33 NSW schools did not operate. Schools in the vicinity of the Blue Mountains were also affected due to staff being unavailable.

A dedicated counsellor was deployed for principals in the Blue Mountains and further trauma support services were arranged for staff on an as needs basis. The cost for these support services are met by DEC as are salary costs to cover the release of volunteer fire fighters employed by the Department.

Housing

Valued at approximately $30 billion, NSW's social housing portfolio consists of a diverse range of asset type spread throughout the state. Around 181 sites have been identified as within bush fire or flood zones.

Assets owned by Aging and Disability, Community Services and Aboriginal Housing are covered by the TMF while those owned by the Land and Housing Corporation, a public trading enterprise, are insured up to $440 million for each and every insured event. Being based on probable maximum loss, this cover is considered adequate.

Tourism

Through the Australian Standing Committee on Tourism, Destination NSW works with the State Tourism Organisations of all Australian States and Territories to assess incidents of national importance to determine the need to implement the National Tourism Incident Communication Plan. The National Tourism Incident Communication Plan was last activated in October 2011 in response to Qantas' decision to ground its fleet.

In response to natural disasters, such as the October 2013 bush fires, Destination NSW works with Regional Tourism Organisations and other regional tourism stakeholders including NSW RFS and RMS to ensure that key messages are delivered about the affected region and where appropriate to ensure that visitors know whether it is safe to visit the region. Destination NSW also works with the affected regions to develop marketing and publicity programs that will increase visitation and help it recover from the incident.

Destination NSW was a member of the Industry Resilience Working Group as part of Tourism 2020, the National Long Term Tourism Strategy. A key output of this group's work was the Industry Resilience Kit, which is a self-help guide for mitigating risks to enhance business continuity. Two versions of the kit have been produced, one for Regional Tourism Organisations and one for tourism businesses, both documents are available for download from: http://www.austrade.gov.au/Tourism/Policies/National-long-term-strategy/Working-groups/Industry-Resilience.