



Australia

National progress report on the implementation of the Hyogo Framework for Action (2013-2015)

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Outcomes

Strategic Outcome For Goal 1

Outcomes Statement

The integration of disaster risk reduction into sustainable development policies and planning.

Australia has achieved a substantial amount of progress in integrating disaster risk reduction into sustainable development policies and planning through continued implementation of the National Strategy for Disaster Resilience (the National Strategy), which Australian governments adopted in February 2011.

The National Strategy has guided action by all levels of government (Australian, State and Local), as well as businesses, communities and the non-profit sector in enhancing Australia's capacity to prepare for, withstand and recover from disasters. In implementing the National Strategy Australian governments have worked to better understand and communicate disaster risk, reduce risk in the built environment, and develop effective resilience-building capabilities.

Australia's specific achievements under this Outcome are outlined in detail in the following chapters.

Strategic Outcome For Goal 2

Outcomes Statement

Development and strengthening of institutions, mechanisms and capacities to build resilience to hazards.

Australia has continued to develop and strengthen the institutions, mechanisms and capabilities that contribute to building resilience to disasters. This has been achieved through a number of high-level emergency management committees which oversee implementation of the National Strategy and provide strategic leadership on emergency management policy, support capability and capacity development, and nationally coordinate in response to crisis. Further, Australia has continued to implement key funding programs that directly support the National Strategy and the building of resilience capability.

Recognising that a united focus and a shared sense of responsibility is the most effective in improving disaster resilience, Australia has also continued to forge productive working relationships with the private sector through information sharing

and research.

Australia's specific achievements under this Outcome are outlined in detail in the following chapters.

Strategic Outcome For Goal 3

Outcomes Statement

The systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes.

As a central tenet of the National Strategy, reducing risk has underpinned the design and implementation of emergency preparedness, response and recovery policies in Australia.

Australian, State and Local Governments have continued to work collaboratively to implement the National Strategy, including in supporting mitigation initiatives that contribute to safer, sustainable communities through:

- co-funding arrangements;
- developing nationally consistent methodologies for governments to assess risk for priority hazards;
- agreeing roadmaps to improve disaster resilience in the built environment; and
- continuing to fund emergency management projects which strengthen communities, individuals, business and institutions to minimise the adverse effects of disasters on Australia.

Australia's specific achievements under this Outcome are outlined in detail in the following chapters.

Strategic goals

Strategic Goal Area 1

The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.

Strategic Goal Statement 2013-2015

Australia will continue to integrate disaster risk reduction into sustainable development policies and planning through continued implementation of the National Strategy. This will include all levels of governments working to:

- analyse funding programs to achieve a more effective and sustainable balance of natural disaster recovery and mitigation funding to build the resilience of communities;
- prepare risk assessments for priority hazards that are available publicly to at-risk communities, stakeholders and decision-makers;
- undertake risk assessments using a robust and consistent methodology that considers risks and vulnerabilities and capabilities across the social, economic, built and natural environments;
- reduce risk in the built environment through policy and processes based on the best available hazard information and informed decision making;
- develop partnerships with those who can effect change in the private sector, including research sectors, volunteers, not-for-profit organisations and community groups; and
- manage consistent and accessible information from local, national and international sources.

Strategic Goal Area 2

The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards.

Strategic Goal Statement 2013-2015

Australia will continue to work to strengthen institutions, mechanisms and capacities at all levels through continued implementation of the National Strategy. This will include all levels of Government working to:

- ensure funding mechanisms are better aligned to enhance disaster resilience capacity and address community vulnerabilities;

- tailor disaster risk and mitigation information to different target audiences and make this information easily available and accessible via multiple platforms;
- ensure strong and effective networks across sectors and regions share information and build skills and understanding at all levels;
- support communities through appropriately targeted education and awareness activities, including those that highlight the role of volunteers to enhance local capacity to mitigate and cope with disasters;
- ensure vulnerable individuals have equitable access to appropriate information, education and opportunities;
- foster stronger partnerships between government, businesses and the not-for-profit sector to promote development of innovative risk management approaches and share understandings of disaster resilience;
- ensure emergency management arrangements are sound, well understood and rehearsed and involve diverse stakeholders, including members of the community;
- ensure that local planning for the response to and recovery from disasters takes into account community vulnerabilities and incorporates disaster risk reduction measures;
- develop recovery strategies in partnership with communities and account for long-term local needs and provide support and tools to manage their exposure to future disasters;
- ensure post-disaster assessments involving all stakeholders are routinely undertaken to consider the effectiveness of prevention and preparedness activities and response and recovery operations.

Strategic Goal Area 3

The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities.

Strategic Goal Statement 2013-2015

Australia will continue to systematically incorporate risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programs through the implementation of the National Strategy and other initiatives, including working to:

- base all levels of decision making in land use planning and building control systems on comprehensive and current information which takes into account risks to the social, built, economic and natural environments;
- ensure that settlements, businesses and infrastructure are, as far as is practicable, not exposed to unreasonable risks from hazards or have implemented suitable arrangements to protect life and property from known hazards;
- actively share information on the likelihood of damage from hazards, and ensure tools are available to support understanding of potential consequences and costs;
- regularly review building standards and their implementation to ensure they are appropriate for the risk environment;
- ensure development decisions take account of both private and public risks;
- include natural hazard management principles in tertiary and vocational education

and training curricula for relevant professional and building industry sectors;

- ensure that, following a disaster, the appropriateness of rebuilding in the same location, or rebuilding to a more resilient standard to reduce future risks, is considered by authorities, communities and individuals.

Priority for Action 1

Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.

Core indicator 1

National policy and legal framework for disaster risk reduction exists with decentralised responsibilities and capacities at all levels.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Is disaster risk taken into account in public investment and planning decisions? Yes

National development plan	Yes
Sector strategies and plans	Yes
Climate change policy and strategy	Yes
Poverty reduction strategy papers	Yes
CCA/ UNDAF (Common Country Assessment/ UN Development Assistance Framework)	No
Civil defence policy, strategy and contingency planning	Yes

Have legislative and/or regulatory provisions been made for managing disaster risk?
Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

Under Australia's constitutional arrangements State Governments have responsibility for emergency management within their jurisdiction and have the laws, funding mechanisms and organisational arrangements in place to deal with such emergencies. For example, each State prepares and maintains its own disaster preparedness arrangements, managed through a State emergency management plan. Legislation supports the work of each government and its agencies in carrying out its emergency management responsibilities. Local Governments also have significant roles and responsibilities for disaster mitigation and management at the local level through arrangements that vary according to state and territory laws, practices and agreements.

The Australian Government provides national leadership in disaster resilience and emergency management and provides support to State governments at policy, coordination, technical and financial levels. Implementation of the National Strategy guides national reform work across the disaster resilience spectrum, and underpins many other initiatives undertaken by States in their jurisdictions.

The relationship between all Australian governments in regards to emergency management is outlined in the Australian Emergency Management Arrangements (the Arrangements). The Arrangements outline the principles, structures and procedures that support national all-hazard coordination of emergency management in Australia and its offshore territories and bring together the efforts of all governments and private and volunteer agencies to deliver coordinated emergency management across all hazards.

Australia has recently completed a periodic review of the Arrangements to align these with the National Strategy and to reflect the national shift in emphasis from relief and recovery from natural disasters to preparedness and prevention.

A great example of Government working together with the private sector in building disaster resilience is the Critical Infrastructure Resilience (CIR) Strategy. Under the CIR Strategy, the Australian Government works closely with owners and operators of critical infrastructure to enhance their capacity to better manage both foreseeable and unforeseen or unexpected risks to their operations and thereby ensuring the continued provision of essential services in the face of all hazards. The Trusted Information Sharing Network (TISN) is the most visible part of the business-government partnership on CIR. The TISN is made up of critical infrastructure owners and operators, Australian, State government representatives and peak national bodies, and is designed to raise the awareness of risks to critical infrastructure, facilitate information exchange, develop strategies and solutions, assess and mitigate risks, and build resilience capacity within organisations.

Further, examples of sector strategy plans and related supporting documents are evident in the national health sector. The National Health Emergency Response Arrangements and National Health Security Agreement, are supported by the specific disease management plans for the health sector such as the Australian Health Management Plan for Pandemic Influenza (AHMPPI), the publication of relevant information for Health Professionals, the operation of the National Incident Room and

the National Medical Stockpile.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

The National Strategy and the Arrangements describe the respective roles and the responsibilities of the States.

States are responsible for ensuring that effective legislative and regulatory provisions are established to support the work they do to manage disaster risk. For instance, most public investment and town planning approvals that might involve a disaster risk element are taken at the State level, either when building State owned infrastructure, or approving the construction by the private sector of infrastructure and buildings.

The Australian Government supports State investment in disaster mitigation through co-funding arrangements and the funding of national emergency management projects.

Local governments with responsibilities for specific towns, cities and shires, also have defined responsibilities of relevance to disaster preparedness, including through land use planning, controls of building design, siting and occupancy, flood mitigation measures and provision of community facilities and local response to emergencies.

Core indicator 2

Dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

What is the ratio of the budget allocation to risk reduction versus disaster relief and reconstruction?

	Risk reduction / prevention (%)	Relief and reconstruction (%)
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National budget	See below	See below
Decentralised / sub-national budget	Not known	Not known
USD allocated to hazard proofing sectoral development investments (e.g transport, agriculture, infrastructure)	See below	

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

In Australia, Australian Government funding for natural disasters spans all aspects of Prevention, Preparedness, Response and Recovery. This funding supports the States, which are responsible for providing dedicated and adequate resources to implement disaster risk reduction plans and activities at all administrative levels within their borders.

Standing Australian Government funding mechanisms for disaster resilience purposes include, but are not limited to:

- the National Emergency Management Projects (NEMP) grant programme which funds projects of national significance that directly contribute to the implementation of the National Strategy.
 - o NEMP expenditure of \$3.6m in 2013-14 was used to develop 13 emergency management capability projects including the National Emergency Management Mitigation Program, development of the Emergency Communication Service (Triple Zero) Policy, development of a framework and standards to address community expectations, volunteer initiatives contributing to the implementation of the National Emergency Management Volunteers Action Plan 2012, a review of the National Warning Framework, and a National Impact Assessment Framework – Phase 2.
- the Natural Disaster Resilience Programme, which is key funding mechanism through which the Australian Government supports states and territories in implementing the National Strategy.
 - o The National Partnership Agreement (NPA) is the joint funding agreement between the Australian and State Governments which established the mechanism through which the Australian Government provides the States with approximately \$26 million per annum to invest in disaster resilience projects which are prioritised in accordance with their respective state-wide natural disaster risk assessments.
 - o Through the NPA, States have increased flexibility to effectively meet the requirements of local communities threatened by disasters in the strategic context of their risk priorities. This recognises that different jurisdictions have different priorities

and that these may change over time.

- The Natural Disaster Relief and Recovery Arrangements (NDRRA), which has seen substantial funding provided by the Australian Government to support the States in the aftermath of disasters for relief and reconstruction purposes.

Other Australian Government investment is also improving the disaster resilience of Australian communities, such as the investment made in infrastructure, for example road and rail. The Australian Government is investing \$36 billion on road and rail infrastructure through the Nation Building Program over the six year period from 2008-09 to 2013-14. This investment is delivered through a range of road and rail programs and projects across the National Land Transport Network. The network is based on national and inter-regional land transport corridors that are of critical importance to national and regional growth.

Australian Government investment will also improve the Bureau of Meteorology's (BoM) capacity to respond to future extreme weather and natural disaster events via the injection of \$58.5 million over four years. This is a response to the review of the BoM's capacity to respond to future extreme weather and natural disaster events and to provide seasonal forecasting services.

The National Security Science and Innovation Strategy is a further vehicle by which funding is provided for broad national security purposes that include a disaster resilience element, such as research into issues including protecting Australia from invasive diseases and pests, health protection and biosecurity, and forecasting, modelling and risk assessment.

The private sector owns and operates most transport, agriculture, electricity grid and communications networks in Australia and is therefore responsible for hazard proofing such facilities, and recovering from disasters when they occur. No central database of this expenditure is maintained.

The Australian Government also engages significantly in the building of national capability, for example in areas such as education/training and development.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

The issue of resource allocation will always be complex due to the level of residual disaster risk that cannot be anticipated, or that may not be effectively or efficiently mitigated in advance. In Australia, under the NDRRA, the Australian Government reimburses state and territory recovery costs when certain thresholds are met. These arrangements, which were intended to provide a financial safety-net for states and territories when faced with extraordinary impacts from unforeseen events, have become a regular and significant financial outlay of government Budgets nationally.

In Australia, approximately \$12 billion in financial assistance will be provided by FY2015–16 for disasters that have occurred since 2009. By the end of FY2015–16, it is estimated that \$10 billion of this assistance will have been spent on restoring essential public assets—mostly roads owned and maintained by the states and territories. With future events not yet taken into account, there is the potential for significant growth in this expenditure.

With current investment heavily balanced towards recovery efforts, this may be distorting the incentive for other levels of government and the broader community to invest in prevention measures. Consequently, in early 2014, the Australian Government established a Productivity Commission inquiry into natural disaster funding arrangements. The Productivity Commission inquiry has considered the full scope of national expenditure on disasters and the effectiveness of current mitigation support arrangements with a view to identifying ways to realign the collective programmes and funding arrangements across all levels of government, to improve our understanding of disaster risk, communicate that understanding to the public, and support prevention strategies, while maintaining a safety-net for states and territories when the risk of natural disasters cannot be avoided.

Core indicator 3

Community Participation and decentralisation is ensured through the delegation of authority and resources to local levels

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Do local governments have legal responsibility and regular / systematic budget allocations for DRR? Yes

Legislation (Is there a specific legislation for local governments with a mandate for DRR?)	Yes
Regular budget allocations for DRR to local government	No
Estimated % of local budget allocation assigned to DRR	Not known

Provide description and constraints for the overall core indicator

(not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

The National Strategy acknowledges that community participation should be at the forefront of strengthening disaster resilience in Australia. The work of community organisations is critical to helping communities to cope with, and recover from, a disaster. All levels of government have continued to partner with the community to find practical ways to strengthen disaster resilience.

Volunteers are a crucial component of community participation in preparing for and responding to emergencies in Australia. Australia has some 500,000 emergency management volunteers. Extensive work at a national level continues to identify and resolve systemic issues that hinder the attraction and retention of emergency volunteers, including requirements for accreditation and training. The Australian Government supports the national Australian Emergency Management Volunteers Forum (AEMVF) to advocate on such matters.

The National Volunteer Strategy also aims to support and recognise the many contributions of volunteers across Australia, including in emergency management and recovery. The National Emergency Management Volunteer Action Plan for the attraction, support and retention of emergency management volunteers aims to improve the preparations, coordination and operations of the emergency management volunteer effort. A Regional and Remote Volunteer Leadership Development Program was rolled out in 2012-13 to facilitate the development, delivery and evaluation of an off-campus leadership training and learning module tailored to enhance leadership capability within the volunteer emergency management sector.

The Regional and Remote Volunteer Leadership program has now concluded. However, the Australian Emergency Management Institute (AEMI) within Emergency Management Australia continues to support the emergency service volunteer sector by resourcing and conducting the Volunteer Leadership Program. This program has been conducted twice yearly in partnership with the AEMVF and is funded by AEMI in recognition of the contribution of Australia's emergency services volunteers.

The re-established Community Business Partnership will also bring government, community and business leaders together to develop practical strategies to unlock Australia's full potential for philanthropy and continue to support and grow Australia's already strong volunteering culture.

Further, the Community Engagement Framework has also been published as part of the Australian Emergency Management Handbook series to support the National Strategy's direction for a national emergency management approach based on achieving community and organisational resilience. The Framework provides guidance for those working in emergency management to engage effectively with the community and outlines a shared understanding of community engagement values,

principles and practice in Australia. It highlights the importance of placing communities at the centre of the process.

The Australian Government also sponsors, and the States participate as partners, a national awards program for the disaster resilience sector – the Resilient Australia Awards. Established in 2000, the Awards recognise and promote innovative projects and initiatives that support communities to be better prepared and more disaster resilient.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

As emphasised in the National Strategy, while allocation of government resources to support the community and community organisations is crucial to effective preparation and response to emergencies and disasters, fundamental to the concept of disaster resilience is that individuals and communities should be more self-reliant and prepared to take appropriate responsibility for the risks with which they live. Knowledge is fundamental to helping communities assess and understand local hazards and risk, and informing preparation and mitigation measures. To assist in ensuring that our communities have the knowledge to help prepare for, mitigate and respond to natural disasters, the Australian Government has contributed up to \$8 million per year to delivering emergency management education, research and training programs to emergency management professionals across Australia, through AEMI. AEMI's courses and programs have been aimed at both the volunteer and professional emergency services sectors, with the aim of improving community engagement and the management of volunteers in emergency management.

Core indicator 4

A national multi sectoral platform for disaster risk reduction is functioning.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Are civil society organizations, national finance and planning institutions, key economic and development sector organizations represented in the national platform? Yes

civil society members (specify absolute number)	Precise number not known
national finance and planning institutions (specify absolute number)	Precise number not known
sectoral organisations (specify absolute number)	Precise number not known
private sector (specify absolute number)	precise number not known
science and academic institutions (specify absolute number)	precise number not known
women's organisations participating in national platform (specify absolute number)	precise number not known
other (please specify)	

Where is the coordinating lead institution for disaster risk reduction located?

In the Prime Minister's/President's Office	No
In a central planning and/or coordinating unit	No
In a civil protection department	Yes
In an environmental planning ministry	No
In the Ministry of Finance	No
Other (Please specify)	Attorney-General's Department

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

Australia has a number of platforms, bodies and mechanisms for disaster risk reduction. These platforms include:

- the newly created Law, Crime and Community Safety Council which reports to the

Council of Australian Governments, and comprises Ministers responsible for policing and emergency management—it oversees implementation of the National Strategy;

- the Australia-New Zealand National Emergency Management Committee (ANZEMC), which is the senior officials group supporting the above ministerial council—it provides strategic leadership on Australia-wide, whole-of-government emergency management policy and supports related capability and capacity development activities;
- the Australian Government Crisis Committee (AGCC), which is a coordination body raised during a crisis, comprising senior officials from relevant Australian Government agencies.
- the Trusted Information Sharing Network for Critical Infrastructure Resilience (TISN), which is a business-government engagement mechanism that provides a forum in which owners and operators of critical infrastructure can work together by sharing information on security and resilience issues which affect critical infrastructure; and
- platforms for engaging with volunteers, such as the Australian Emergency Management Volunteers Forum (AEMVF), which provides a national platform, representative of the volunteer emergency management sector.
- National Emergency Management Forums to consider new and emerging technologies, focussing on floods (October 2011), developments in Emergency Warning Systems (June 2012) and Intelligence Gathering for Situational Awareness (October 2013). The forums bring together the private and emergency management sectors to discuss the latest scientific and technical expertise in building disaster resilience capability;
- the Disaster Resilient Australia and New Zealand School Education Network (DRANZSEN) provides strategic advice on disaster resilience and emergency management policy and directions for alignment to the Australian Curriculum and school education programs delivered by relevant bodies, nationally and regionally;
- ongoing engagement with academia, research institutions and peak bodies such as the Bushfire and Natural Hazards Cooperative Research Centre and the Australasian Fire and Emergency Service Authorities Council and through various forums conducted by universities and research organisations on a range of disaster resilience topics;
- the National Emergency Risk Assessment Guidelines Working Group, which was responsible for revising the nationally agreed methodology for undertaking emergency risk assessments, and included representatives from Australian, state and local governments, as well as academic experts in risk management; and
- the Australian Business Roundtable on Disaster Resilience and Community Safety Working Group which brings together a range of businesses that play a role in community planning or disaster recovery (e.g. banks, insurers, communications etc) with input from government.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

The range of platforms listed above reflect the large number of governmental, private sector and not for profit sector organisations that have parts to play to support and enhance Australia's disaster resilience. Mechanisms exist to facilitate communication, consultation and where appropriate coordinated action, while recognising the authority and responsibilities of each organisation.

The Federal Department of the Prime Minister and Cabinet has a key role in national security and emergency management. In times of crisis it plays a significant part in ensuring coordinated policy advice to government and effective coordination among agencies.

The Federal Attorney-General's Department leads the development of emergency management policy at the national level and coordinates crisis management activity both within Australia and when Australia assists with overseas disasters.

Priority for Action 2

Identify, assess and monitor disaster risks and enhance early warning

Core indicator 1

National and local risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Is there a national multi-hazard risk assessment with a common methodology available to inform planning and development decisions? No

Multi-hazard risk assessment	Yes
% of schools and hospitals assessed	100
schools not safe from disasters (specify absolute number)	Absolute number not known
Gender disaggregated vulnerability and capacity assessments	No
Agreed national standards for multi hazard risk assessments	Yes
Risk assessment held by a central repository (lead institution)	Yes
Common format for risk assessment	Yes
Risk assessment format customised by user	Yes
Is future/probable risk assessed?	Yes
Please list the sectors that have already used disaster risk assessment as a precondition for sectoral development planning and programming.	Not known

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

Australia is continuing to progress its work on national and local and sectoral risk assessments through continued implementation the National Strategy. This work includes:

- revising the National Emergency Risk Assessment Guidelines (NERAG) which will foster a consistent, best-practice approach to disaster risk assessment at the state and territory level, and help inform national risk management strategies;
- States conducting state-wide risk assessments of their priority hazards and identifying the likelihood and consequences of a range of natural disasters within their jurisdictions;
- agreement by all states and territories to make their existing risk assessments public, and to develop new risk assessments by 2017, based on the revised NERAG;
- States maintaining registers of significant risks to inform decision making at all levels of government and by the private sector and communities;
- the Australian Building Codes Board continuing to monitor the impacts of natural hazards that are addressed in the National Construction Code - the standards in the Code will be reviewed to take into account these projections where this delivers a net benefit to the community;
- implementing a National Work Program for Flood Mapping, which will provide a clear understanding on the coverage of existing flood maps, their level of detail and the tools to improve the quality of flood maps within Australia;
- Geoscience Australia implementing the National Flood Risk Information Project (NFRIP) which includes:
 - o the development and population of the Australian Flood Risk Information Portal (the Portal) to provide a central point of public access to flood hazard data and flood related imagery,
 - o the development of associated guidelines and standards, including the current national guide for estimating flood characteristics and the Australian Rainfall and Runoff guidelines, and
 - o analysing Australia's archive of satellite imagery to derive water observations to better inform our understanding of past flood events.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

In Australia, State and Territory governments are responsible for conducting risk assessments within their jurisdictions, including for facilities in the education and

health care sectors. In this context, risk assessments are generally conducted at a State, area, industry sector or facility level, depending on the purpose of the assessment. The NPA includes a requirement for States to amend a State wide natural disaster risk assessment in accordance with the nationally agreed risk assessment methodology – the newly reviewed NERAG. While the NERAG will foster a consistent, best-practice approach to disaster risk assessment across jurisdictions, underlying data to inform more localised risk management is not always readily available—particularly in relation to flood risk. The data that exists has been made available to the insurance industry to inform premiums, but is not directly available to the public in a digestible format. Local and state governments have cited resource constraints, intellectual property restrictions, and potential litigation as the principal barriers to providing specific risk information to their communities. Initiatives that leverage contemporary science and technology to better understand and predict natural hazards, along with enhanced public communication of risk information, would enable all levels of society to understand their exposure to, and better prepare for the impacts.

Core indicator 2

Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Are disaster losses and hazards systematically reported, monitored and analyzed?
Yes

Disaster loss databases exist and are regularly updated	Yes
Reports generated and used in planning by finance, planning and sectoral line ministries (from the disaster databases/ information systems)	Yes
Hazards are consistently monitored across localities and territorial boundaries	No

Provide description and constraints for the overall core indicator

(not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

A number of Australian Government agencies monitor and analyse disasters and resultant losses and have developed systems and databases to facilitate this.

Examples include:

- the Australian Government Crisis Coordination Centre provides 24/7 all-hazards situational awareness and briefing products of emerging threats to the Australian Government and states and territories;
- the Australian Emergency Management Knowledge Hub Disasters Information Database, which contains records of natural and non-natural disasters within Australia, and outside Australia where a number of Australians have been affected, records insured and uninsured losses;
- the Bureau of Meteorology monitors weather-related hazards including flood, heat, drought, and tropical cyclones, and Geoscience Australia monitors earthquake hazards. Other hazards are not monitored across localities or territorial boundaries;
- Geoscience Australia maintains the national archive of satellite data, which can be analysed to derive water observations to help understand where flooding may have occurred in the past. This analysis can be utilised to support emergency response efforts during flood events;
- Geoscience Australia, in collaboration with the then Department of Climate Change and Energy Efficiency, has also conducted post-disaster surveys in Queensland following the 2010/2011 floods. These surveys gathered data on flood hazard (e.g. water depth) and the damage caused by the flood. This data was provided to the Queensland Government in March 2012. This data can be used to validate flood models as well as to develop flood vulnerability models for specific building classes. The Australian Government has a number of tools to monitor particular hazards both within Australia and within the region either during an emergency or to help with planning. These are outlined below:
 - Monitoring:
 - o robust observational network of the Bureau of Meteorology, that includes radars, satellite and automatic weather stations, for monitoring severe weather events and large scale weather systems such as tropical cyclones and monsoonal activity
 - o satellite capability for monitoring fires;
 - o seismic monitoring for earthquakes
 - o seismic and sea level monitoring for tsunami (via the Australian Tsunami Warning System);
 - o rainfall and river level monitoring (in time this will be available via the Australian Water Resources Information system which is currently under development);
 - o weather element and environmental (fuel load) monitoring for hazardous fire conditions;
 - o the National Situational Awareness Tool which enables geospatial incident and meteorological data to be shared in real time between jurisdictions and the Australian Government.
 - Hazard modelling for planning purposes:

- o the Australian Flood Studies Database is the main catalogue of flood information that supports the portal being developed as part of the National Flood Risk Information Project and contains metadata on flood studies, and where available, access to the study itself and associated maps;
- o local combined storm surge / flood inundation assessments in Australia;
- o an open source modelling tool for local onshore tsunami hazard assessments in Australia, Indonesia and Papua New Guinea;
- o an open source earthquake risk model that has underpinned the release of the 2012 version of the Australian earthquake hazard map and local earthquake impact assessments, as well as disaster risk reduction activities in Indonesia and Papua New Guinea; and
- o an open source tropical cyclone risk model that has underpinned the National Wind Risk Assessment and disaster risk reduction activities in the Philippines and the Pacific.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

Australian States also gather, assess and maintain data on key hazards and vulnerabilities within their jurisdictions. As the information is gathered for a range of State-specific purposes, it can be challenging to correlate this data for national purposes when this is needed, for example to inform national policy development.

Core indicator 3

Early warning systems are in place for all major hazards, with outreach to communities.

Level of Progress achieved? 5

Comprehensive achievement with sustained commitment and capacities at all levels.

Key Questions and Means of Verification

Do risk prone communities receive timely and understandable warnings of impending hazard events? Yes

Early warnings acted on effectively	Yes
Local level preparedness	No
Communication systems and protocols used	Yes

Active involvement of media in early warning dissemination Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

Australian governments have, and continue to develop and introduce, a range of technological solutions to warn affected people of hazards, through a multi-modal approach.

Emergency Alert, Australia's national, intrusive telephone-based emergency warning system, has been enhanced and now sends SMS warnings to mobile phones based on the location of the handset at the time of an emergency as well as to fixed-line and mobile telephones based on the customer's registered service address (see www.emergencyalert.gov.au).

The Australian Government is investing \$100 million over four years to improve mobile phone coverage in some outer metropolitan, regional and remote communities which do not currently have reliable coverage. The program will improve coverage along major transport routes, in small communities and in locations prone to experiencing natural disasters, as well as addressing unique mobile coverage problems, ensuring greater reach of warning messages to mobile phones.

The Australian Government, in consultation with the States, has developed a suite of national policies to provide best practice guidance on developing, disseminating and republishing warnings. The Emergency Warning Arrangements provide a high level overview of the delivery of public warnings to Australians in the event of an impending disaster. The Best Practice Guide for Warning Originators outlines best practice in the creation and dissemination of emergency warnings, acting as a reference guide to assist originators and managers make critical decisions about what to warn about, when to warn, who to warn, and how to issue an emergency warning. The Code of Practice for Warning Republishers provides republishers with guidelines for reproducing and/or rebroadcasting emergency warnings to the public that are accurate and have appropriate source attributions and disclaimers.

Australian Government warnings are issued through the Bureau of Meteorology. The Bureau of Meteorology issues warnings and watch notices via a range of mediums directly to the public for weather warnings (such as severe thunderstorm, high sea, flood and tropical cyclone warnings) and, in conjunction with Geoscience Australia, also issues tsunami warnings, via the Australian Tsunami Warning System. Warnings issued by these agencies also inform the warning messages that State control

agencies disseminate to the public.

The Australian Broadcasting Corporation (Australia's public broadcaster) and commercial broadcasters continue to provide timely information on hazards, by radio, television and the Internet when appropriate.

There is also an increasing awareness among State emergency services of the significant role that social media can play in informing communities, and the benefits of crowd sourcing to gain critical intelligence on emergencies and natural disasters. A number of States have updated, or are working to update, their emergency plans to include a social media component to address this important trend.

Agencies are also developing smartphone applications to provide information to the community on emergencies or to assist with accessing appropriate emergency services in the event of an emergency (e.g. DisasterWatch national disaster app by the Australian Government and Emergency+ phone app in support of the Triple Zero emergency national telephone number).

More information on emergency warnings can be found at (<http://www.em.gov.au/Emergency-Warnings/Pages/default.aspx>).

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

Australia's emergency service agencies take a multi-modal approach to warnings and the public are advised not to rely on receiving any single warning, but should tune in to the radio, watch television, check emergency services websites and stay aware of local conditions.

The development, adoption and implementation of emergency warning systems are primarily the responsibility of State governments and their agencies. State emergency management agencies have full autonomy in relation to:

- whether and when to issue an emergency warning;
- which delivery mechanisms to use to disseminate the emergency warning; and
- the content of the warning.

Individual States choose which warning technologies to adopt and when to activate them in accordance with the specific circumstances of an incident. All States have disaster emergency plans that include a communications component for the dissemination of rapid onset emergency warnings to the community. Nationally agreed emergency warning principles also underpin warning arrangements.

The Australian Government actively assists States in instances where a national focus for emergency communications and warnings is warranted.

While risk prone communities receive timely and accessible warnings of impending hazard events, there are still challenges in this area. These include precisely assessing who should be warned, and how to express the appropriate degree of urgency of the situation to the wide range of people who will receive the warning. The provision of information is not always sufficient. Work is ongoing towards better preparing and presenting warnings to ensure appropriate action occurs.

Core indicator 4

National and local risk assessments take account of regional / trans boundary risks, with a view to regional cooperation on risk reduction.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Does your country participate in regional or sub-regional actions to reduce disaster risk? Yes

Establishing and maintaining regional hazard monitoring	Yes
Regional or sub-regional risk assessment	Yes
Regional or sub-regional early warning	Yes
Establishing and implementing protocols for transboundary information sharing	Yes
Establishing and resourcing regional and sub-regional strategies and frameworks	Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

Australia works closely with governments in the Asia-Pacific region to help manage the risks associated with natural disasters and to ensure that stabilisation and recovery programs are resilient to future shocks.

Australia's investment in disaster risk reduction through the international aid program has been over \$100m per year for the past four years. This is more than 2 per cent of the total Australian budget for overseas development assistance – double the UN target of 1 per cent.

Examples of Australian engagement in the international arena include:

- Australia's strong partnerships with the major global players in disaster risk reduction; the United Nations Office for Disaster Risk Reduction (UNISDR) and the World Bank-managed Global Facility for Disaster Reduction and Recovery (GFDRR).
□ The partnership with the World Bank-managed Global Facility promotes mainstreaming of disaster risk reduction activities into government planning, budgeting and resilient disaster recovery and reconstruction. It also generates new information in areas that reduce risk, such as early warning, disaster modelling and risk financing strategies.
- Australia co-chairs, with Indonesia, Peru and Norway, the New York-based Friends of Disaster Risk Reduction group that focuses political commitment on the post-2015 sustainable development agenda. The group successfully advocated for strong references to disaster risk reduction in the outcome document of the UN Conference on Sustainable Development (Rio+20).
- Australia's contribution to UNISDR's Technical Advisory Groups for the development of HFA2, studies and publications, including through Geoscience Australia for the Global Assessment Report 2013 and 2015.
- Support to advocacy and policy events, including the 3rd World Conference on Disaster Risk Reduction, the Asian Ministerial Conferences for DRR, the annual Pacific Platforms for Disaster Risk Management, and a workshop on Risk Information held in Canberra in June 2013.

Australia is working through the East Asia Summit (EAS) and the ASEAN Regional Forum (ARF) to progress closer regional cooperation, and is working through the ASEAN Defence Ministers Meeting Plus forum to encourage and build practical cooperation between regional Defence forces on humanitarian assistance and disaster relief.

Australia also supports the ASEAN Agreement on Disaster Management and Emergency Response, including the provision of ongoing technical and financial support to the ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management (AHA Centre).

Through the East Asia Summit disaster management initiative, Australia and Indonesia are working with the region to improve response coordination and capability. This includes the development of an EAS rapid disaster response toolkit, implementing international arrangements of Foreign Medical Teams and the establishment of a central repository for member countries' response information.

In addition, through APEC's Emergency Preparedness Working Group (EPWG), Australia has pursued the EPWG's goal of building capacity in the region to mitigate, prepare for, respond to, and recover from emergencies and disasters. Australia

continues to lead an EPWG project to promote the use of business continuity plans in developing economies in the region.

Australia is supporting a number of programs in the Asia-Pacific region to identify disaster risks. For instance:

- in Indonesia, Australia collaborated with the Government and the World Bank to develop InSAFE, a hazard impact modelling tool. This is helping local officials and communities to better prepare for and manage the impacts of floods, earthquakes and tsunami;
- Australia has worked with the Philippines Government agencies to deliver hazard and risk assessment maps and an exposure database containing physical information, population and socio-economic characteristics of communities in Greater Metro Manila;
- Australia has worked with PNG government agencies to collaboratively deliver a tsunami, earthquake and volcano impact assessment for a high risk province, and to continually monitor volcanos in the country;
- in the Pacific, Australia supports the United Nations Development Program to deliver the Pacific Risk Resilience Program (\$16 million, 2012-2017) to help communities in four countries to identify disaster and climate risks, strengthen community links to local government and work with central agencies to incorporate disaster risk reduction into national policies, plans and budgets. The program operates in Fiji, Solomon Islands, Tonga and Vanuatu; and
- Australia has supported the Pacific region in the development of a new 'Strategy for Climate and Disaster Resilient Development in the Pacific', which will provide an integrated framework for all partners to work together on climate change, disaster risk management, natural resources management and related development sectors in the Pacific.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

Given Australia does not share land boundaries with other countries, its national risk assessments are primarily domestically focused.

However, Australia continues to contribute to improved risk assessments and planning in the Asia-Pacific region, including through:

- contributing to capacity development in Pacific Island national meteorological services, particularly in forecasting and preparing for extreme weather events including drought and flooding;
- supporting the long term collection of highly accurate sea level and geodetic data from 14 Pacific countries, enabling the prediction of extreme wave events and tsunami tracking;

- supporting the development of early warning systems, helping Pacific meteorological services develop their capacity to generate and deliver tropical cyclone and severe weather warnings, and fostering effective community responses to warnings;
- providing core support to Pacific regional organisations to assist countries and coordinate regional responses to assessing the risk of weather, climate and other events to marine resources, and coastal and ocean environments;
- delivering programs under the International Climate Change Adaptation Initiative (2008-2014), to enhance partner country capacity to assess key climate vulnerabilities and risks, formulate appropriate adaptation strategies and plans, and mainstream adaptation into decision making; and
- undertaking extensive research into climate processes and climate change in the Pacific region, published as *Climate Change in the Pacific: Scientific Assessment and New Research*, Volume 1: Regional Overview and Volume 2: Country Reports, which are informing adaptation planning by Pacific countries and their development partners.

To enhance regional cooperation further, in July 2012 the Council of Australian Governments (COAG) welcomed New Zealand's move from long-term observer to a member of the Australia-New Zealand Emergency Management Committee (and the Australia-New Zealand Counter-Terrorism Committee) to ensure the closest possible coordination and cooperation on emergency management and counter-terrorism issues.

Australia – through the 1992 FRANZ Agreement – cooperates with France and New Zealand to exchange information to ensure the best use of their assets and other resources for relief operations after cyclones and other natural disasters in the Pacific.

Australia supports post-disaster needs assessments across our region. For example, following Cyclone Evan at the end of 2012, GFDRR led the Post Disaster Needs Assessments (PDNA) process to support sustainable recovery in Samoa. The PDNA provided comprehensive analysis of the impact of the disaster to the economy and was a key document for national decision making to develop and prioritise the recovery and reconstruction. Five Australian specialists deployed to Samoa to support the PDNA and subsequent recovery efforts.

In May 2011, a multi-year Humanitarian Partnership Agreement (HPA) was established between the Australian Government and six Australian non-government organisations (CARE Australia, Caritas Australia, Oxfam Australia, PLAN International Australia, Save the Children Australia and World Vision Australia), as a standby international emergency response mechanism and disaster risk management capacity building initiative. The HPA has facilitated peer learning networks, linking program staff across multiple locations, identification and development of best practice case studies and learning exchange in DRR and DRM.

Priority for Action 3

Use knowledge, innovation and education to build a culture of safety and resilience at all levels

Core indicator 1

Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, development of information sharing systems etc)

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Is there a national disaster information system publicly available? Yes

Information is proactively disseminated	Yes
Established mechanisms for access / dissemination (internet, public information broadcasts - radio, TV,)	Yes
Information is provided with proactive guidance to manage disaster risk	Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

The National Strategy recognises the need for disaster risk information to be available and accessible to individuals within communities, all levels of government, and other industry and non-government organisations, to inform risk reduction.

Information on disasters is available via a number of means, including via:

- www.em.gov.au, the key online access point for emergency management information from the Australian Government;
- Australian Emergency Management Knowledge Hub, a virtual and actual knowledge

environment, with access to resources in the Australian Emergency Management Library – it provides information on current and historical disasters and ready access to evidence-based research, as well as a social media platform;

- Disaster Resilience Education for Schools website - a comprehensive resource for Australian students and teachers, from late primary school to secondary school. It includes a range of teaching and learning activities presented in an engaging way underpinned by current teaching pedagogy;
- Bureau of Meteorology, the official weather and ocean warnings and alerts on its website and dedicated mobile website. The Bureau also provides access to current observations of weather and climate elements, information about hazards and relevant research;
- State operated websites, such as State police and emergency management websites, that inform the public of disaster risk reduction and emergency management matters;
- Multi modal warning systems, including through television broadcasts, such as the Australian Broadcasting Corporation's ABC Emergency, websites, such as the DisasterAssist website provides the public with information on assistance for current disasters as well as links to assistance and response to previous disasters that have impacted Australians, both in Australia and overseas, social media sites and systems such Emergency Alert;
- smartphone apps, developed at the Australian and state levels to improve access to disaster information, providing accurate and timely information to the public;
 - o one example is DisasterWatch, which provides information about disaster events in Australia via direct feeds from a range of authoritative sources in the States and Territories and nationally;
- the Trusted Information Sharing Network for Critical Infrastructure Resilience is, in part, a forum to share information with the owners and operators of critical infrastructure on all hazards, including natural disasters;
- national publications, such as the Australian Journal for Emergency Management and the Australian Emergency Management Handbook, are published regularly and are free to download via www.em.gov.au; Other community awareness resources are also available such as Pictorial Community Safety Action Guides which show what could happen and how best to be prepared to minimise any adverse effects from six natural hazards;
- promulgation of a National Strategy Communications Engagement Framework and Communications Plan, with key messages that all governments have agreed to use to promote disaster resilience activities; and
- implementation of the National Flood Risk Information Project.

Australia recognises that it is important that information is provided in a language and format that facilitates understanding. Some of the work done includes converting existing community emergency action guides into languages other than English.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be

overcome in the future.

As outlined above, Australia has numerous information channels which make information on disasters available and accessible at all levels and to all stakeholders. The challenge is in ensuring that information is consistent, accurate, timely and easily shared among all stakeholders. As noted above, through the revision of the NERAG work is currently underway to ensure that information and data about natural hazards is available to the public. However as outlined previously in this report, there are a number of barriers in this area, such as the ongoing concerns of governments in relation to potential litigation, that need to be resolved.

Core indicator 2

School curricula , education material and relevant trainings include disaster risk reduction and recovery concepts and practices.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Is DRR included in the national educational curriculum? Yes

primary school curriculum	Yes
secondary school curriculum	Yes
university curriculum	Yes
professional DRR education programmes	Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

To ensure that that disaster risk reduction knowledge be included in relevant education and training programs, the Australian Government has implemented a number of education and training initiatives, including the:

- provision of freely available teaching resources to educators when designing lessons that will help students understand disasters, including how they occur, their possible effects, and how individuals and communities can prepare for and recover from a disaster event—a new website called ‘Disaster Resilience Education for Schools’ is available at <http://schools.aemi.edu.au>;
- development of the Triple Zero Kids Challenge Game and website which helps parents and schools teach children aged from 5 to 10 years old about the importance of planning for emergencies and the practical steps on how to identify, confidently react to and report emergencies. To complement the Kids Challenge Game, the Australian Government contributed to the development of a Teacher’s Guide, which is aligned with the Australian Curriculum. The Triple Zero Kids Challenge Game and Teacher’s Guide can be found at <http://kids.triplezero.gov.au>
- development of a new web resource Disaster Mapper to help school students and teachers find information about disasters. Aimed at year 5-10 school students the resource provides statistics, images, video and text for more than 50 significant disasters that have occurred in Australia since the 1900s;
- development of Before the Storm, a game for iPhone and iPod Touch, which is a freely available educational game for middle year primary students;
 - o The game is designed to encourage thinking about storm preparation and disaster resilience, specifically preparation, actions during the storm, and after the storm and is based on the Australian Government’s Storm Action Guide;
- development and delivery of educational courses and professional development programs in emergency management and disaster resilience at AEMI - aimed at senior level volunteer and professional emergency services sectors;
- a number of Australian universities offering undergraduate and post-graduate degrees or courses in emergency management and disaster resilience.
- active contributions and participation in a range of academic forums and conferences and providing school groups with a program to raise awareness of natural hazards aligned with the Australian Science curriculum.

The States also incorporate disaster preparedness and risk reduction concepts into school programs. Examples of these include:

- a Bushfire Education website that provides learning activities for children and advice to teachers commissioned by the Victorian Curriculum and Assessment Authority.
 - o Four modules have been developed that target children in the Early Years, Lower Primary, Middle and Upper Primary and Secondary years, each of which have four themes: Learning about Bushfires, Learning to Prepare for Bushfires, Learning to Respond to Bushfires and Learning to Recover from Bushfires.
- A program to help high school students in Queensland better prepare for floods.
 - o Some 900 high school students in over 20 schools across the state went through a program which has received a positive response from schools, teachers, student and community. (see <http://www.youtube.com/user/VolunteeringQldT>)

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities

and partner agencies; and recommendations on how these can/ will be overcome in the future.

In Australia’s federated system, the state and territory governments are responsible for the provision of education to all school aged children, for the administration and major funding of vocational education and training (VET) and for legislation relating to the establishment and accreditation of higher education courses.

The Australian Government plays a role in helping to set the national curriculum. For example, Emergency Management Australia’s School Education Program the Australian Government has contributed to the development of the Australian National Curriculum through input on draft documents in key learning areas of most relevance to disaster resilience (i.e. Geography, Health & Physical Education, Civics and Citizenship) with an emphasis on alignment to elements of the National Strategy.

Core indicator 3

Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Is DRR included in the national scientific applied-research agenda/budget? Yes

Research programmes and projects	Yes
Research outputs, products or studies are applied / used by public and private institutions	Yes
Studies on the economic costs and benefits of DRR	Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

A wide range of research is undertaken in Australia to improve the understanding of our hazards and risks, as well as understanding and assessing community resilience. As the frequency and intensity of extreme weather events around Australia continues to change, research is essential in determining new and increased risks for emergency management and disaster resilience. The Australian Government is investing in a number of research initiatives, including:

- the Bushfire and Natural Hazards Cooperative Research Centre which conducts research surrounding the social, environmental and economic impacts of natural hazards with a view to improving resilience through projects in all aspects of the disaster risk reduction spectrum.
 - o As noted elsewhere, funding of \$47 million for eight years from 2014 to 2022 has been contributed by the Australian Government, with funds more than doubled by contributions from stakeholders and researchers.
- environmental and climate research to improve understanding of the causes, nature, timing and consequences of climate change so that industry, community and government decisions can be better informed, including through:
 - o support for the development of a comprehensive set of national and regional projections of future climate to support risk management, to be released in the first half of 2015 ;
 - o continued funding for the National Climate Change Adaptation Research Facility (NCCARF) to lead the research community in a national interdisciplinary effort to generate the information needed by decision-makers in government, industry and in vulnerable sectors and communities to manage the risks of climate change impacts.
- Under the previous phase of NCCARF funding (2008-2013) the NCCARF National Adaptation Research Plan (NARP) for Emergency Management identified the information that decision-makers may need in order to effectively respond and adapt to the impacts of climate change.

Research to develop models and tools is also being undertaken. For instance in FY2012-13, the Torrens Resilience Institute in South Australia worked on a practical tool that a community can use to assess resilience in the face of major disasters or emergencies. Through a Community Disaster Resilience Toolkit Scorecard, a community is now able to self-assess its performance in areas such as community connectedness, preparedness and response, resources and vulnerability/risk. The Institute has been awarded FY2013-14 National Emergency Management Projects (NEMP) funding to support implementation of the toolkit in communities and to establish a suitable system for evaluation of the factors affecting take-up, and the impact of using the scorecard on resilience capacity and capability building. This project will promote uptake of the toolkit and ensure that it is used easily and widely and has significant impact on resilience building within Australian communities.

Also through the NEMP, Australia has committed funding to develop a National Emergency Risk Measurement and Mitigation Programme. The programme will deliver a decision-support tool to inform investments in risk mitigation; a multi-criteria decision analysis framework for measuring community resilience to disasters; an analysis of the economic costs of natural disaster in Australia; and guidelines on available datasets to support the emergency risk assessments.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

The National Strategy notes the importance of improved information and data sharing on the costs and benefits associated with risk management and disaster impacts to build the evidence base for prioritising and targeting interventions. It also recognises the need to engage with research institutions providing advice on policy-driven research.

A number of government agencies, educational and research institutions are working in this area and contributing to the increasing body of knowledge and literature, as well as identifying gaps in research. Such research is over time being developed and strengthened and used to inform work in the disaster resilience and related sectors. It contributes to policy and program development and at an operational level.

Core indicator 4

Countrywide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Do public education campaigns for risk-prone communities and local authorities include disaster risk? Yes

Public education campaigns for enhanced awareness of risk.	Yes
Training of local government	Yes
Disaster management (preparedness and emergency response)	Yes
Preventative risk management (risk and vulnerability)	Yes
Guidance for risk reduction	Yes

Availability of information on DRR practices at the community level Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

The National Strategy emphasises the importance of developing continuous and consistent messaging about disaster resilience and the use of a variety of delivery mechanisms and channels, including prospects for social media engagement.

To achieve a consistent message about disaster resilience, all levels of government have adopted a nationally consistent approach to deliver key resilience messages to a range of audiences identified across all sectors of the Australian community which are simple and action oriented.

A 'Disaster Resilient Australia' logo has been developed as the visual identity for the National Strategy and to promote awareness of disaster resilience.

The Australian Government, via the Attorney-General's Department (AGD), Bureau of Meteorology and Geoscience Australia produces numerous public awareness raising publications which are provided to the States for dissemination. AGD also publishes the Australian Journal of Emergency Management and produces triennial emergency management related podcasts.

The AEMI coordinates education, training and research opportunities for emergency service professionals including local government personnel responsible for emergency management.

State-specific websites exist to inform local communities, including rural communities, of the risks they face and provide them with the information they need to prepare and recover from natural disasters. This is consistent with states constitutional responsibilities.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

State government authorities are responsible for coordinating and planning for the response to disasters and civil emergencies. Each has its own strategies to develop and maintain public awareness of particular hazards and disaster resilience generally

with a particular focus on the role of the individual to be prepared to respond effectively in time of emergency.

Priority for Action 4

Reduce the underlying risk factors

Core indicator 1

Disaster risk reduction is an integral objective of environment related policies and plans, including for land use natural resource management and adaptation to climate change.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Is there a mechanism in place to protect and restore regulatory ecosystem services? (associated with wet lands, mangroves, forests etc) Yes

Protected areas legislation	Yes
Payment for ecosystem services (PES)	Yes
Integrated planning (for example coastal zone management)	Yes
Environmental impacts assessments (EIAs)	Yes
Climate change adaptation projects and programmes	Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

The Australian Government conducts a wide range of programs in the areas of climate change and related risk assessments and capability development. The following are examples of such work:

- Between 2008 and 2013 the National Climate Change Adaptation Research Facility

(NCCARF) funded research projects under nine themes, including Emergency Management. As noted elsewhere:

- o \$1.8 M was provided between 2008 and 2013 to address the research priorities detailed in the National Adaptation Research Plan for Emergency Management. The outcomes of this research are now publicly available, and includes extensive information to decision makers on adaptive responses required by the emergency management sector

- o NCCARF also managed the Emergency Management Adaptation Research Network which fostered information exchange and sought to support and facilitate research to inform the way the emergency management sector responds to climate change.

- The Australian Government has committed renewed funding of \$9 million over three years to NCCARF from 2014-15, to deliver practical hands-on tools and information to help governments, businesses and communities manage climate risks, particularly in the coastal zone.

- o The 2009 Climate Change Risks to Australia's Coasts Report presented the findings of the first national assessment of the risks of climate change for the whole of Australia's coastal region. In June 2011 a supplement was released: the Climate Change Risks to Coastal Buildings and Infrastructure. This report identifies the exposure of coastal infrastructure to inundation and erosion from a sea-level rise of 1.1 metres.

- The Coastal Urban Digital Elevation Modelling in High Priority Regions project has involved acquiring, processing and providing whole of government access to high resolution elevation data for priority coastal areas of Australia. The project has also developed information products to assist decision-makers to plan for the impacts of climate change, such as through a national portal (<http://www.nedf.ga.gov.au>).

- The National Strategy recognises that responsible land use planning can mitigate the likelihood of loss of life, as well as damage to and/or destruction of property and infrastructure. The Australian Government is working with the States to implement changes to land use policy and procedures – all jurisdictions have agreed in-principle to a Roadmap to improve disaster resilience in the built environment. Details of the roadmap are outlined further below.

- AEMI, in collaboration with the Planning Institute of Australia, has coordinated the Risk-Based Land Use Planning short course with a focus on reducing the impact of hazards on communities.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

While the Australian Government has broad powers to deal with environmental matters, the States have extensive powers to make legislation related to environmental matters in their own jurisdiction.

The National Strategy notes that Australian communities are frequently subjected to the damaging impacts of disasters caused by destructive bushfires, floods and severe storms. The impacts of these disasters on people, the economy, our infrastructure and the environment are a reminder of the need to continue improving Australia’s resilience to disasters. The predicted impact of climate change on sea level for example, and the frequency and intensity of extreme weather events must be considered in an integrated long term approach to natural hazards in land use planning schemes and building code standards.

Core indicator 2

Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Do social safety nets exist to increase the resilience of risk prone households and communities? Yes

Crop and property insurance	Yes
Temporary employment guarantee schemes	No
Conditional and unconditional cash transfers	Yes
Micro finance (savings, loans, etc.)	No
Micro insurance	No

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

In Australia, government policies aim to reduce the vulnerability of communities by mitigating the risks posed by disasters, and providing comprehensive recovery assistance for disaster affected communities. The Australian Government administers a broad range of social development programs, services, benefits and

payments to reduce the vulnerability of Australian communities, including those affected by disasters. This assistance is targeted towards at-risk populations, including children and seniors, people with disabilities and their carers, unemployed people and Indigenous Australians.

The Australian Government also administers disaster-specific assistance programs, such as the Australian Government Disaster Recovery Payment (AGDRP) and the Disaster Recovery Allowance (DRA). The AGDRP is only provided when the impacts of a disaster are considered so significant that further Australian Government assistance in addition to that provided under the Natural Disaster Relief and Recovery Arrangements (NDRRA) is warranted. The AGDRP is a one off cash payment to eligible adults and children. The DRA is a short-term (13 weeks) income support payment to individuals who have lost income as a direct result of a major disaster.

Broader post-disaster recovery and rehabilitation costs are shared between the Australian and State and Territory governments under the NDRRA. The NDRRA assists to alleviate the financial burden on State governments and the community following natural disasters. A range of assistance is available under the NDRRA to help individuals, communities, local, state and territory governments and industry sectors. Assistance can include reimbursement for certain costs associated with: emergency food; clothing and accommodation for individuals; loans, subsidies or grants for certain small businesses, primary producers and voluntary non-profit organisations; concessional interest rate loans for small businesses, primary producers and voluntary non-profit organisations; certain counter disaster operations; and the repair or replacement of essential public infrastructure.

Australian Government financial support can also include community recovery funds in circumstances where a community is severely affected, and recovery grants for small businesses and primary producers that assist with the cost of clean-up and reinstatement of businesses which have suffered direct damage as a result of a natural disaster.

Australian governments also reduce the vulnerability of communities before disasters, such as through the provision of access to emergency information. For example, national guidelines have been developed, in consultation with the disability sector, to assist emergency managers to communicate with people with a disability. They are intended to enhance the delivery of public information and emergency warnings to people with disabilities.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

Social development policies and plans are in place to reduce the vulnerability of populations most at risk. The National Strategy recognises that assistance to

vulnerable communities must not inadvertently reduce incentives for individuals to properly prepare for disaster events. As such, disaster assistance is often reviewed to ensure that it is structured in a manner that does not discourage individuals from taking responsibility for their own safety.

The Australian Government Department of Social Services also develops broader social development policies and plans to reduce the vulnerability of populations most at risk. The Department is responsible for families and children, housing support, seniors, communities and vulnerable people, disability and carers, ageing and aged care, and settlement and multicultural services. Support is provided through programs and services and benefits and payments. In response to disasters, the Department provides support to adversely-affected communities through mainstream programs and services such as community mental health services, emergency relief services, financial counselling services and through the provision of support to culturally and linguistically diverse communities.

Core indicator 3

Economic and productive sectorial policies and plans have been implemented to reduce the vulnerability of economic activities

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Are the costs and benefits of DRR incorporated into the planning of public investment? Yes

National and sectoral public investment systems incorporating DRR.	Yes
Please provide specific examples: e.g. public infrastructure, transport and communication, economic and productive assets	
Investments in retrofitting infrastructures including schools and hospitals	Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

The National Strategy recognises that businesses can and do play a fundamental role in supporting a community's resilience to disasters. They provide resources, expertise and many essential services on which the community depends.

Economic activities both within and across jurisdictional borders, are vulnerable to disruption from disasters. Accordingly, all Australian governments have roles to develop and implement policies and plans to reduce the vulnerability of economic activities.

Examples of work by the Australian Government to reduce the vulnerability of economic activities include:

- the commissioning of a Productivity Commission inquiry into natural disaster funding arrangements to consider the full scope of national expenditure on disasters and the effectiveness of current mitigation support arrangements;
- continued implementation of the NDRRA, which provides concessional loans, subsidies or grants to small businesses and primary producers;
- continued implementation of the DRA which may be activated to assist employees, primary producers and sole traders who can demonstrate they have experienced a loss of income as a direct result of a disaster;
- conducting a national stocktake of small and medium sized business continuity planning programs and information relating to businesses across Australia—the Australian Government Department of the Treasury continues to monitor the development of business resilience and continuity planning programs and information resources available to help support small businesses;
- implementation of the Critical Infrastructure Resilience Strategy which aims to achieve the continued operation of critical infrastructure in the face of all hazards, as this critical infrastructure supports Australia's defence and security, and underpins our economic prosperity and social wellbeing; and
- contributing to the Strategy, the Australian Government's Critical Infrastructure Program for Modelling and Analysis (CIPMA) has analysed scenarios disasters to help enhance Australia's emergency and business continuity planning, preparedness, recovery and resilience in a range of locations—these analyses provide accurate and reliable information to the owners and operators of critical infrastructure, and assist in developing prevention and preparedness plans that will allow for an appropriate response and a quicker recovery in the event of a disaster.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

The risk reduction criteria and strategies adopted in the planning of public investment

is a matter for each responsible government and its agencies. State governments have identified sites of economic and critical infrastructure significance within their borders and engage with the owners of such facilities on security and resilience measures.

Core indicator 4

Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Is there investment to reduce the risk of vulnerable urban settlements? Yes

Investment in drainage infrastructure in flood prone areas	Yes
Slope stabilisation in landslide prone areas	Yes
Training of masons on safe construction technology	Yes
Provision of safe land and housing for low income households and communities	Yes
Risk sensitive regulation in land zoning and private real estate development	Yes
Regulated provision of land titling	Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

The National Strategy recognises the need for planning and management of human settlements to incorporate disaster risk reduction elements, including application of building codes. Reducing risks in the built environment is one of the seven strategic

objectives of the National Strategy.

Through the ANZEMC process, all levels of government have agreed in principle to a 'roadmap' to improve disaster resilience in the built environment. The Roadmap identifies seven priority areas:

- detailed hazard mapping;
- training and mentoring to raise awareness of hazard risks and mitigation strategies;
- building hazard assessment skills;
- legislation and policy reforms that embed natural hazard risk assessment;
- governance arrangements to ensure that land-use planning expertise is available to relevant committees, that research is available, and that liability and indemnity issues are addressed;
- vendor disclosure of risk; and
- cross-jurisdictional collaboration to ensure that efforts are not impeded by state boundaries.

All jurisdictions are currently developing capability and investment plans to articulate the level of progress to which they can commit.

Strategies undertaken by state, territory and local government in planning and management of human settlements include hard infrastructure investments, such as flood levees, dams, the hardening of existing infrastructure (such as raising houses or adapting roads to avoid flood damage, and land buy-back schemes), as well as policies and practices that embed risk mitigation into decision making, such as land use planning, road scheduling, land management, building code reforms, and disaster insurance policies.

Given natural disaster often cross over state and territory lines, there are a number of measures that have been developed by the Australian Building Codes Board to assist in planning efforts, for example:

- Australia's building code requires residential buildings in designated bushfire-prone areas to be constructed to reduce the risk of ignition from a bushfire while the fire front passes. Measures are prescribed for assessing the level of bushfire attack and for the design and construction of buildings in order to improve their resistance to ember attack, radiant heat or flame generated by a bushfire;
- development of a 'Performance Standard for Private Bushfire Shelters';
- working with Standards Australia to update the Australian Standard on the Construction of Buildings in Bushfire-prone Areas;
- publication of a Handbook for the design and construction of Community Bushfire Refuges, as well as new standard and accompanying handbook for 'Construction of Buildings in Flood Hazard Areas';
- release of a discussion paper to inform and seek feedback from stakeholders on the resilience of new buildings to extreme weather events.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular,

highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

Planning and management of human settlements to incorporate disaster risk reduction elements, including application of building codes are the responsibility of State and local governments, with a number of non-government organisations also playing important roles. While an all-hazards approach is needed, the risks specific to a particular hazard, or area, need to be considered in a fit-for-purpose manner. Population increases, and movements out of major cities present challenges for State governments to facilitate land development approvals for housing in a disaster resilient way. Further, local governments face some of the greatest challenges, in that disaster-risk-based land use planning decisions often have to compete with the pressure to release highly desirable land on waterfronts and on the peri-urban fringe.

Core indicator 5

Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Do post-disaster programmes explicitly incorporate and budget for DRR for resilient recovery? Yes

% of recovery and reconstruction funds assigned to DRR	NA
DRR capacities of local authorities for response and recovery strengthened	Yes
Risk assessment undertaken in pre- and post-disaster recovery and reconstruction planning	Yes
Measures taken to address gender based issues in recovery	Yes

Provide description and constraints for the overall core indicator

(not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

As noted previously, Australian governments share post-disaster recovery and restoration costs under the NDRRA. The NDRRA Determination 2012 outlines the types of relief and recovery assistance that may be cost shared, the criteria for that assistance (eligibility), as well as the terms and conditions the states and territories must meet to access Australian Government funding. These arrangements are intended to provide a financial safety-net for states and territories when faced with extraordinary impacts from unforeseen events.

The NDRRA includes provisions for the 'betterment' of an asset following a disaster, that is the restoration or replacement of an essential public asset to a more disaster-resilient than its pre-disaster standard. Current Australian Government financial support for betterment is a discretionary activity under the NDRRA, which is limited to essential public assets. Betterment proposals must demonstrate cost-benefit to all three levels of government. In early 2013, the Australian and Queensland governments agreed to share equally the cost of an \$80 million betterment fund for local government owned assets damaged by flood, storm and cyclone events of early 2013. A number of projects will be considered as part of a value-for-money trial, with initial assessments expected in the last quarter of 2014.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

While the investment made through arrangements such as the NDRAA is highly valued, the relatively low eligibility thresholds, high percentage of Australian Government reimbursement, and the flexibility of states and territories to decide the level and means of recovery support has led to considerable Australian Government liability for risks it does not directly manage, rising costs, and a community, industry and political expectation that grants would be provided as a relatively standard measure. The availability of funding has in some circumstances operated as a disincentive to adequately mitigate disaster risks.

Australian governments continue to consider how to best integrate disaster risk reduction measures into the NDRRA and other forms of recovery assistance, and ensure that the manner in which recovery assistance is provided actively encourages the building of more disaster-resilient Australian communities. As previously mentioned, the Productivity Commission inquiry into natural disaster funding arrangements will develop options for achieving a more effective and sustainable balance of natural disaster recovery and mitigation funding to build the resilience of communities, which may impact upon current arrangements, including the NDRRA.

Further information on the Productivity Commission inquiry can be found at <http://www.pc.gov.au/projects/inquiry/disaster-funding>

Core indicator 6

Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Are the impacts of disaster risk that are created by major development projects assessed? Yes

Are cost/benefits of disaster risk taken into account in the design and operation of major development projects? Yes

Impacts of disaster risk taken account in Environment Impact Assessment (EIA)	Yes
By national and sub-national authorities and institutions	Yes
By international development actors	Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

The Australian Government has a range of programs in place to support decision-makers in considering the impacts of major development projects. For instance:

- the Critical Infrastructure Program for Modelling and Analysis (CIPMA) has analysed disaster scenarios to help enhance Australia's emergency and business continuity planning, preparedness, recovery and resilience in a range of locations. These analyses assist in developing prevention and preparedness plans that will allow for

an appropriate response and a quicker recovery in the event of a disaster.

- The Regional Infrastructure Fund assesses applications for funding based on criteria which require projects to demonstrate that they meet established standards in implementation and management, including that project risks have been analysed and strategies developed to mitigate risks. The identification of any risk of disaster, and its possible cost, will be one of many risks assessed as part of that process.

- Specific risks to the environment, arising from the project, including risks related to potential disasters, may also require assessment and approval, under Federal and/or State legislation. For example the Australian Government Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) provides a legal framework to protect and manage matters of national environmental significance, including nationally and internationally important flora, fauna, ecological communities and heritage places. Under the EPBC Act a person must not take an action that is likely to have a significant impact on a protected matter without the prior authorisation of the Minister for the Environment. The Minister may attach conditions to mitigate impacts on matters of national environmental significance, including impacts from disasters.

- The environmental impacts or risks of a proposed development may also require assessment and authorisation under State and Territory legislation. Whilst the legislative and policy framework in each jurisdiction differs, each includes the assessment and conditional approval of actions to avoid, minimise and manage environmental impacts and risks.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

The procedures adopted to identify and assess project impacts, including the risk of disasters, are the responsibility of the government agency or the private sector organisation owning or managing the project. The Australian Government, through the National Strategy, and other programs, including the One-Stop Shop for Environmental Approvals, is aiming to provide State governments with enhanced tools to assist their assessments of the likely environmental and disaster risk impacts of projects. This is necessarily a long term body of work, involving multiple agencies at Australian and State Government levels. This makes achieving changes and improvements to standards and procedures to assess the disaster risk-impacts of major development projects, especially infrastructure, challenging and time consuming but nonetheless essential.

Priority for Action 5

Strengthen disaster preparedness for effective response at all levels

Core indicator 1

Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Are there national programmes or policies for disaster preparedness, contingency planning and response? Yes

DRR incorporated in these programmes and policies

Yes

The institutional mechanisms exist for the rapid mobilisation of resources in a disaster, utilising civil society and the private sector; in addition to public sector support.

Yes

Are there national programmes or policies to make schools and health facilities safe in emergencies? Yes

Policies and programmes for school and hospital safety

Yes

Training and mock drills in school and hospitals for emergency preparedness

Yes

Are future disaster risks anticipated through scenario development and aligned preparedness planning? Yes

Potential risk scenarios are developed taking into account climate change projections

Yes

Preparedness plans are regularly updated

Yes

based on future risk scenarios

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

At the national level in Australia, there are a range of plans and committees to coordinate effort across the policy, institutional and technical space. Some of the plans address specific hazards such as animal and plant diseases; pandemic influenza and marine pollution. Others such as the Australian Government Disaster Response Plan (COMDISPLAN) outline how assistance will be provided to the States.

With respect to capabilities, the Australia-New Zealand Emergency Management Committee is working towards the development of the first national emergency management capability development framework for Australia. This aims to identify and address national capability gaps in the emergency management sector.

There are also a number of specific technical initiatives currently in place or under development, that assist Australia's public safety agencies' preparedness, prevention, response and recovery efforts for all types of disasters. These include:

- the development of a nationally interoperable mobile broadband communications capability for public safety agencies across Australia (the Public Safety Agency Mobile Broadband capability); and
- the Critical Infrastructure Program for Modelling and Analysis (CIPMA) which models different scenarios to provide insight into disruptions to services whether caused by natural or human-made disasters.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

In most emergencies, State and local resources provide the first line of emergency response and incident management support. As the scale of impact and complexity of an emergency increases, States have the option to request assistance from other States, or from the Australian Government where national coordination efforts need to be invoked.

One example of the context in which policy, technical and institutional capacities and mechanisms for disaster risk management exist, is in the aged care sector. While such services are located in the States, and subject to State legislation for

emergency events, in regard to those services subsidised by the Australian Government, national programmes and policies are in place to promote the safety of such services in emergencies.

Federal legal and contractual obligations require service providers of Federal subsidised aged care residential and community services ('providers') to:

- comply with quality standards, against which all aged care services are regularly assessed;
- develop and enact plans in consultation with local emergency service agencies to protect the health, safety and wellbeing of care recipients;
- identify and ensure compliance with all relevant legislation, regulatory requirements, professional standards and guidelines about emergency management planning and response; and
- exercise key elements of their emergency management plans.

Providers are reminded every year to update plans which should take an all hazards and business continuity approach, and as noted above, are expected to work closely with local emergency service agencies in developing and exercising their plans.

Core indicator 2

Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response programmes.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Are the contingency plans, procedures and resources in place to deal with a major disaster? Yes

Plans and programmes are developed with gender sensitivities	Yes
Risk management/contingency plans for continued basic service delivery	Yes
Operations and communications centre	Yes
Search and rescue teams	Yes
Stockpiles of relief supplies	Yes

Shelters	Yes
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Secure medical facilities	Yes
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Dedicated provision for disabled and elderly in relief, shelter and emergency medical facilities	Yes
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Businesses are a proactive partner in planning and delivery of response	Yes
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Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

The Australian Government works to enhance plans and arrangements and test disaster readiness through implementation of a number of initiatives. For example, the Australian Government hosts an annual all sector exercise which brings together owners and operators of critical infrastructure, all levels of government and subject matter experts to explore the cross-sectoral impacts of various scenarios. The all-Trusted Information Sharing Network (TISN) exercise in 2012 event focused on three emerging issues: water contamination, the offshoring of business functions, and global navigation and satellite systems. In 2013, TISN members focused on future risks such as global warming and changes in technology. In addition, there are regular exercises held across the sectors that make up the TISN, with scenarios as diverse as natural disasters, cyber attacks and supply chain disruptions.

The Australian Government also maintains a range of plans and operates a number of facilities to assist with the monitoring and response to hazards across the all hazard spectrum and exchange of information. These include facilities that operate or can be contacted 24 hours/7 days a week, such as the:

- Australian Government Crisis Coordination Centre (CCC) described in detail elsewhere in this report; and
- The Department of Health's National Incident Room which enables efficient coordination of emergency response personnel, and facilitates communication between Australian Government agencies, State health authorities and international organisations, such as the World Health Organization.

Search and rescue teams also exist around Australia, within the police and emergency services agencies.

There are growing linkages and coordination between all levels of government, industry sectors, and not-for-profit organisations with a view to increased disaster resilience, both within and between jurisdictions and nation-wide. In some

jurisdictions there are also regulatory requirements for particular organisations in certain sectors or locations to prepare such plans.

For example, in regard to the security of medical facilities specifically, such facilities are the responsibility of the State government or a private sector owner and operator. States are supported by the Australian Government, both with funding for the operation of hospitals, and with measures such as the:

- collection of national level communicable disease surveillance data;
- National Critical Care and Trauma Response Centre, which maintains a state of readiness to respond to a major incidents; and
- National Medical Stockpile, which includes counter-terrorism medical counter-measures and pandemic influenza related antimicrobial medicines and immunisations, and a range of personal protective equipment.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

As previously outlined, under Australia's constitutional arrangements, State Governments have responsibility for emergency management within their jurisdiction and have the laws, funding mechanisms and organisational arrangements in place to deal with emergencies. State and local governments are also responsible for having disaster preparedness plans, contingency plans and related training drills and rehearsals in place.

Contingency plans are in place in the relevant Australian Government agencies to meet State requests for federal assistance arising from large-scale emergencies or disasters.

Core indicator 3

Financial reserves and contingency mechanisms are in place to support effective response and recovery when required.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Are financial arrangements in place to deal with major disaster? Yes

National contingency and calamity funds	Yes
The reduction of future risk is considered in the use of calamity funds	Yes
Insurance and reinsurance facilities	Yes
Catastrophe bonds and other capital market mechanisms	Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

Australian Government financial reserves and contingency mechanisms are in place to support effective response and recovery when required. As outlined previously, Australian and State governments share post-disaster recovery and rehabilitation costs under the NDRRA.

A condition for Australian Government assistance under the NDRRA is that the State must have reasonably adequate capital or access to capital to fund liabilities or infrastructure losses before being granted access to funds under the NDRRA, including through, but not limited to, commercial insurance/reinsurance and state department premium contributions.

The National Strategy emphasises that households and businesses should mitigate against the effects of disasters by taking out insurance.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities and partner agencies; and recommendations on how these can/ will be overcome in the future.

Under the Australian federal system, State governments have primary responsibility for emergency management, including by ensuring that sufficient financial reserves and contingency mechanisms are in place to fund recovery efforts.

The States have specific responsibilities in relation to applying for Australian Government assistance through the NDRRA, including the provision of information to the Australian Government on assets repeatedly damaged by disasters.

There is a body of work required to be undertaken in relation to insurance for road assets. The 2012 Review of the Insurance Arrangements of States and Territories under the Natural Disaster Relief and Recovery Arrangements Determination 2011 (the Insurance Review) found that the majority of states and local governments have insurance in place for non road assets that mitigate the financial exposure of tax payers under the NDRRA, however, a significant gap still exists with respect to the insurance of road assets. The Productivity Commission inquiry into natural disaster funding arrangements will examine the full scope of national expenditure on natural disasters, and the effectiveness of current mitigation support arrangements, including general issues around insurance affordability.

Core indicator 4

Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews.

Level of Progress achieved? 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities.

Key Questions and Means of Verification

Has an agreed method and procedure been adopted to assess damage, loss and needs when disasters occur? Yes

Damage and loss assessment methodologies and capacities available	Yes
Post-disaster need assessment methodologies	Yes
Post-disaster needs assessment methodologies include guidance on gender aspects	Yes
Identified and trained human resources	Yes

Provide description and constraints for the overall core indicator (not only the means of verification).

Please describe some of the key contextual reasons for the country's ranking/ assessment for the indicated level of progress.

The Australian Government Crisis Coordination Centre operates 24 hours, 7 days a week and provides all-hazards monitoring, whole-of-government situational awareness information, and Commonwealth response coordination. The Centre supports the Australian Government Crisis Committee, National Crisis Committee and other committees and agencies across Australian and state government levels during a crisis.

It also works with the Australian Government Department of Foreign Affairs and Trade to coordinate Australia's response to international disaster events, by sending expert teams including search, rescue, medical and engineering specialist capabilities. The coordinated deployment of such teams to the affected countries has proven effective.

Procedures are also in place for Australian Government agencies to provide warnings, information and support to States during hazard events. Some of the support provided includes mapping support for major bushfire events and other natural disasters and weather and flood related information during and after events.

Further, procedures are in place at both the Australian and state level for conducting post-disaster reviews. The Australian Government also contributes information to post-event reviews conducted by State governments, such as the Queensland Floods Commission of Inquiry, the Victorian Bushfires Royal Commission and the Victorian Floods Review and considers recommendations from these reviews when developing national policies. State government agencies also exchange relevant information during hazard events and disasters, either through the Australian Government Crisis Coordination Centre, or bilaterally between State police, fire and emergency service organisations.

A nationally consistent approach to the way organisations manage lessons and knowledge is being developed. The outcome of this work will support cross-jurisdictional and agency planning at the strategic, operational and tactical levels. Australian Government and State fire and emergency officials participate in an annual roundtable at the conclusion of summer (traditionally Australia's disaster season), to consider successes and challenges of the season and to identify potential areas for national improvement.

The private sector also shares lessons learned with government and each other. Critical infrastructure owners and operators regularly share their experiences and the challenges they face maintaining essential service delivery to the community, other business and to governments during disasters. The information they provide has proven to be useful to both business and government stakeholders in identifying and understanding the types of issues that inhibited response and recovery activities during a disaster.

Provide an explanation of some of the key contextual reasons for the country's ranking assessment at the indicated level. In particular, highlight key challenges encountered by the country/ national authorities

and partner agencies; and recommendations on how these can/ will be overcome in the future.

It is important to note that post-event reviews are generally a matter for the government of the State where the event occurred to decide what, if any review will be conducted, and if so, the form it should take. It is also a matter for State governments to consider and accept the findings and recommendations, however, as noted above, the Australian Government takes account of those reviews in the national context and where relevant.

Drivers of Progress

a) Multi-hazard integrated approach to disaster risk reduction and development

Levels of Reliance

Significant and ongoing reliance: significant ongoing efforts to actualize commitments with coherent strategy in place; identified and engaged stakeholders.

Do studies/ reports/ atlases on multi-hazard analyses exist in the country/ for the sub region?: Yes

If yes, are these being applied to development planning/ informing policy?: Yes

Description (Please provide evidence of where, how and who)

Work by the Australian Government continues towards an 'all-hazards' and integrated approach to disaster risk reduction and development. This approach is largely driven through implementation of the National Strategy. The National Strategy emphasizes there is no end point to such a process; rather it is a long-term continuing process which will pay more dividends over time.

This is reflected in the various activities to build disaster resilience underway; the evolution of the critical infrastructure protection program to one of critical infrastructure resilience; and the closer cooperation and linkages between national security and non-national security elements in the government sector.

Necessarily this work requires close consultation with all stakeholders, particularly the governments of the States and their agencies, as well as the local government sector, private sector and the not-for-profit sector.

The multi-hazard integrated approach to disaster risk reduction and development is exemplified by the research and other work of Geoscience Australia, the Bureau of Meteorology and the Critical Infrastructure Program for Modelling and Analysis work described in this report.

b) Gender perspectives on risk reduction and recovery adopted and institutionalized

Levels of Reliance

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Is gender disaggregated data available and being applied to decision-making for risk reduction and recovery activities?: Yes

Do gender concerns inform policy and programme conceptualisation and implementation in a meaningful and appropriate way?: Yes

Description (Please provide evidence of where, how and who)

Gender concerns do form part of the considerations of all ministerial councils, including the Law, Crime and Community Safety Council. The Council of Australian Governments requires all ministerial councils to pursue its priority issues of national significance including, amongst other things, gender equality.

The National Strategy does emphasize that Australian communities are varied in their composition.

Consideration of gender issues are taken into account as appropriate during the policy development and program development processes.

A consideration of gender may also be relevant in the implementation of certain risk reduction and recovery measures adopted by State or local government agencies, for instance the local demographic of the populations of areas may be taken into account in disaster planning.

In a regional context, the Australian Government is committed to integrating gender concerns into disaster risk reduction where relevant. For example, the Department of Foreign Affairs and Trade's Philippines program funded a publication that compiled stories of women's resilience in disasters.

The Australian Government has also contributed funding to the Global Facility for Disaster Reduction and Recovery's Gender Action Plan and guidance notes. In 2012 Australia tripled its funding to the Sexual Reproductive Health (SRH) in Emergencies Initiative that provides policy recommendations and SRH field guidance to national governments. This ensures better mitigation of life-threatening SRH risks before and during an emergency.

Further, the Australian Government is working in partnership with ActionAid and the Economist Intelligence Unit to develop a gender sensitive framework for disaster resilience in South Asia. This index will contribute to the evidence base for our partner governments, civil society and the private sector to invest in reducing disaster risks in the region, with particular regard to women.

Australia also co-sponsored the draft resolution on Gender Equality and the Empowerment of Women in Natural Disasters that was adopted at the 58th Session of the Commission on the Status of Women on 21 March 2014.

c) Capacities for risk reduction and recovery identified and strengthened

Levels of Reliance

Significant and ongoing reliance: significant ongoing efforts to actualize commitments with coherent strategy in place; identified and engaged stakeholders.

Do responsible designated agencies, institutions and offices at the local level have capacities for the enforcement of risk reduction regulations?:
Yes

Are local institutions, village committees, communities, volunteers or urban resident welfare associations properly trained for response?: Yes

Description (Please provide evidence of where, how and who)

The National Strategy emphasizes the need for capacities for risk reduction and recovery to be identified and strengthened. It notes that relevant capacities will exist in a range of government agencies, the private sector and the not-for-profit sector, and decision-makers in all these bodies need to be conversant with the importance of disaster resilience principles.

As discussed throughout this report, capacities for risk reduction and recovery are primarily the responsibility of the government of the relevant jurisdiction. However cooperative arrangements are in place to share knowledge, information and experience, within and between governments, their agencies and in the private and not-for-profit sectors.

Volunteers, properly trained for response, are a crucial component of Australia's capability to prepare for and respond to emergencies. Capacities are under continuous development including through the provision of nationally consistent training curriculum and delivery of training; support for the peak body representing emergency management volunteers, the Australian Emergency Management Volunteer Forum; and the implementation of the National Action Plan for the Attraction, Support and Retention of Emergency Management Volunteers.

d) Human security and social equity approaches

integrated into disaster risk reduction and recovery activities

Levels of Reliance

Significant and ongoing reliance: significant ongoing efforts to actualize commitments with coherent strategy in place; identified and engaged stakeholders.

Do programmes take account of socio-environmental risks to the most vulnerable and marginalised groups?: Yes

Are appropriate social protection measures / safety nets that safeguard against their specific socioeconomic and political vulnerabilities being adequately implemented?: Yes

Description (Please provide evidence of where, how and who)

Australia has a comprehensive social security program to support people in times of need, including in the aftermath of disasters. These programs, described elsewhere in this report, were applied in the aftermath of natural disasters such as the Victorian bushfires and Queensland flood disasters in recent years.

Social equity considerations are taken into account in the development and administration of the programs and their application after particular events.

e) Engagement and partnerships with non-governmental actors; civil society, private sector, amongst others, have been fostered at all levels

Levels of Reliance

Significant and ongoing reliance: significant ongoing efforts to actualize commitments with coherent strategy in place; identified and engaged stakeholders.

Are there identified means and sources to convey local and community experience or traditional knowledge in disaster risk reduction?: Yes

If so, are they being integrated within local, sub-national and national disaster risk reduction plans and activities in a meaningful way?: Yes

Description (Please provide evidence of where, how and who)

Engagement and partnerships with non-governmental actors, civil society, and the private sector, is a critical element of the National Strategy. Protecting communities from the impact of disasters is a shared responsibility that cannot be borne by governments alone. Two specific examples of engagement and partnerships with non-governmental actors, civil society, and the private sector are the Trusted Information Sharing Network for Critical Infrastructure Resilience (TISN) and the National Emergency Management Volunteer Action Plan.

Further, Australian Government emergency management programs, such as Inclusive Emergency Management with Culturally and Linguistically Diverse (CALD) Communities programs focus on building capability through increased engagement and the building of partnerships with non-government and private multicultural organizations including peak national organisations and CALD community leaders and members.

Additionally, facilitators initially trained to assist in delivery of the Regional and Remote program have continued to enhance capability in the volunteer sector through their involvement in facilitating the AEMI) delivered Volunteer Leadership Program. The materials produced in developing the Regional and Remote Volunteer Leadership Development Program are also available for future training needs.

Contextual Drivers of Progress

Levels of Reliance

Significant and ongoing reliance: significant ongoing efforts to actualize commitments with coherent strategy in place; identified and engaged stakeholders.

Description (Please provide evidence of where, how and who)

Australia's exposure to severe weather events affecting human settlements is significant and rising, even before climate change is taken into account.

Australian cities are growing and some development is occurring in areas exposed to the impacts of events like floods. Some rural and regional areas are also becoming more populated, exposing communities to events like bushfires. Businesses and communities rely heavily on electricity and telecommunications infrastructure. When services delivered by this infrastructure are disrupted due to severe events, communities become more vulnerable to the impacts.

While the concept of resilience is not new, the endorsement of the National Strategy in February 2011, marked a significant shift in Australian emergency management policy. This shift followed several devastating disasters, as it became clear that the Australian community needed to reframe its thinking and commit to a more sustainable approach.

Applying a resilience based approach is not solely the domain of emergency management agencies. Many of the actions needed to improve Australia's disaster resilience sit well outside the emergency management sector.

The National Strategy emphasises the principle of shared responsibility between governments, business, communities and individuals. This is distinct from relying on increasing government intervention, which is unsustainable and may actually undermine community resilience. It also acknowledges that achieving a shift to disaster resilience will require long term behavioural change.

Australian governments will continue working together to achieve the goals of the Strategy.

Future Outlook

Future Outlook Area 1

The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.

Overall Challenges

The more effective integration of disaster risk considerations particularly in the areas of disaster prevention, mitigation, preparedness and vulnerability reduction will continue to be a major focus of work under the National Strategy. There will be continued efforts towards effective risk identification and mitigation in cooperation with State governments, and building capability at the local government level.

Implementing the National Strategy and building disaster resilience involves a number of significant challenges. These include the range and number of stakeholders, within and across jurisdictions and beyond the emergency management sector. As outlined elsewhere in the report, a further challenge is balancing the Australian and State government spend on recovery with appropriate spend on mitigation activities to continue to support the National Strategy's objectives.

The availability of the necessary expertise to complete a number of the National Strategy's action items is also important, particularly when disaster events are experienced and all efforts to be focused on response and recovery.

Jurisdictions need to balance adequate operational preparedness and recovery while ensuring investment in far-sighted systematic disaster resilience is maintained. While assessing, managing and treating risk is not new to emergency management authorities in Australia, a coherent national resilience based approach to disaster risk continues to break new ground and has wide ranging policy implications. Building disaster resilience is also contingent on the outcomes of work underway in other areas of government, across Australian, State and local levels.

Future Outlook Statement

Continued progress towards implementation of the National Strategy will be maintained, involving gradual cultural change, including managing increasing public

expectations and managing an expected increase risk in the severity and frequency of disasters.

The Australian Government Productivity Commission's inquiry into natural disaster funding arrangements will review how Australia's funding arrangements align with the National Strategy and propose options for improving the balance between mitigation and recovery funding assistance.

In addition, ongoing work will continue to develop or refine a number of initiatives to more effectively integrate disaster risk considerations into sustainable development policies, planning and programming. These include:

- adoption and publishing, as part of the Australian Emergency Management Handbooks series, a national community engagement framework, supported by key disaster resilience messages, to guide emergency management practitioners in effective engagement approaches, thereby assisting the community to better understand risks and use risk information to inform decision making (and current initiatives to make the Handbooks series and publications such as the quarterly Australian Journal of Emergency Management all available for online download or subscription);
- endorsement and implementation of plans to reduce risk in the town planning and built environment;
- the publication of risk assessments that are consistent with the National Emergency Risk Assessment Guidelines by all states by June 2017;
- the establishment of the National Flood Risk Information Project to improve the quality, availability and accessibility of existing flood information to enhance community awareness of flood risk and improve decision making;
- implementation of the regularly updated National Emergency Management Volunteer Action Plan; and
- work to improve business continuity planning for small and medium sized businesses.

Work to progress the National Strategy will also continue to take account of other relevant developments, such as work on climate change adaption and outcomes of significant commissions of inquiry.

In the international arena, Australia will continue to work to integrate disaster risk reduction into the post-2015 Sustainable Development agenda, emphasising that Disaster Risk Management enables development and is a key driver of economic growth.

Future Outlook Area 2

The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards.

Overall Challenges

The development and strengthening of institutions, mechanisms and capacities at all levels, that can systematically contribute to building resilience to hazards is a key element of the National Strategy. The complexity, interconnectedness and evolving nature of the threats Australia faces has demanded this shift to a resilience based approach. Individuals need to know and understand their risks and feel empowered to take responsibility for their own decisions and actions, with information and support from appropriate sources.

Strengthening Australia's disaster resilience is not a stand-alone activity that can be achieved in a set timeframe, nor can it be achieved without a joint commitment and concerted effort by all sectors of society. By working in partnership with all levels of government and the non-government sector, we can build on our current strengths and capabilities, better understand the risks we face and allocate our resources accordingly.

Work must continue to recognise trends in society such as movements of population; new areas of residential development, particularly in urban fringe and coastal areas; and an increased reliance on critical infrastructure that supports the provision of essential services to the community.

Work will continue in a number of initiatives arising from the National Strategy to strengthen institutions, mechanisms and capacities at all levels, including development of a national impact assessment framework for natural disasters to enable consistent collection of data and information across jurisdictions and the development of a monitoring and evaluation framework to measure the effectiveness and value-for-money of relief and recovery assistance.

Future Outlook Statement

Progress to implement the National Strategy, and to grow other initiatives that build resilience, will continue as a collaborative effort across the Australian and State Government.

One of the key capabilities, particularly at the community level that can systematically contribute to building resilience to hazards is through the effective use of volunteers. The intensive work already underway to attract, train, and retain the services of volunteers in the emergency management sector will be maintained.

In addition a wide range of emergency management and disaster resilience work is underway in the States, especially in the areas of risk assessment and communicating risk to decision-makers and communities generally. This includes improved approaches to risk communication and then publishing of risk assessment

information; further work to develop and apply risk registers; ongoing implementation of the National Work Program for Flood Mapping; and further action to influence and effect land-use planning and building codes to better consider priority hazards.

In the international arena, there is a continuing responsibility for governments to consider the evidence and drivers of disaster risk in decision-making and planning processes. This will require commitment and risk governance mechanisms across levels of government – through sub-national and district levels – as well as greater encouragement for inter-sectoral coordination, planning and budgeting for disaster risk reduction efforts. Continued commitment to climate change adaptation policies and programming will also be needed.

Future Outlook Area 3

The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities.

Overall Challenges

The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programs in the reconstruction of affected communities is at the core of the National Strategy. Work will continue to incorporate risk reduction approaches into all stages of the design and implementation of the reconstruction of disaster affected communities.

Potential escalation in the frequency and magnitude of hazards and our increasing vulnerability to disasters presents Australian governments with unprecedented calls on their resources and expertise. Government's desire to help communities in need, and pressure to help those affected may be creating unrealistic expectations and unsustainable dependencies and pressure on available resources. Work will continue towards empowering communities to take shared responsibility for coping with disasters.

The balance between expenditure towards disaster mitigation and recovery will need continuing attention. It is important to ensure that Australian Government financial support to assist in the recovery of disaster affected communities does not lead to reduced efforts to mitigate and prepare for disasters by State governments or by communities and individuals. The Australian Government Productivity Commission's inquiry into natural disaster funding arrangements will specifically consider this challenge.

Future Outlook Statement

Australia is continuing to reform its approach to managing disaster risk to improve the resilience of individuals, communities, businesses and countries in our region.

Such resilience will enable communities to adapt to change, reduce their exposure to risks, and allow them to bounce back from disasters. State governments have primary responsibility for managing domestic disaster risk. The Australian Government will continue to provide national leadership, funding and coordination for State governments, so the nation can better manage disaster risks, and ensure the costs of disasters are shared equitably.

Any reforms will be informed by the findings of the Australian Government Productivity Commission's inquiry into natural disaster funding arrangements.

Work will also continue in a number of risk related initiatives arising from the National Strategy including the completion of disaster risk assessments of priority hazards by all states and territories, publication of relevant risk assessment information and the use of these assessments in informing key decisions and planning. As an example, in the flood risk arena future work includes the development of the capability to publish more, and improved, flood risk mapping and modelling data via the online portal developed through the National Flood Risk Information Project for community and business use, agreement on associated guidelines, and ongoing implementation of the national Work program on Flood Mapping and reform of recovery arrangements.

With a new standard for emergency messaging now available for use around the country with the release of the Australian Government standard for the Common Alerting Protocol - Australia Profile (CAP-AU-STD), further work will be undertaken to promote its use by warning agencies. Work is also required on measuring the effectiveness of warnings and warning systems.

Stakeholders

Organizations, departments, and institutions that have contributed to the report

Organization	Organization type	Focal Point
Attorney-General's Department	Governments	Mike Rothery, First Assistant Secretary, National Security Resilience Policy Division, Attorney-General's Department
Department of Prime Minister and Cabinet	Governments	
Department of Health	Governments	
Department of Environment	Governments	
Department of Social Services	Governments	
Department of Foreign Affairs and Trade	Governments	
Geoscience Australia	Governments	
Bureau of Meteorology	Governments	
Department of Communications	Governments	
Department of Industry	Governments	
Department of the Treasury	Governments	