



New Zealand

National progress report on the implementation of the Hyogo Framework for Action (2011-2013)

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Section 1: Outcomes 2011-2013

Strategic Outcome For Goal 1

Outcome Statement:

The National Civil Defence Emergency Management (CDEM) Strategy, approved by the Government in 2007 with a time frame of up to 10 years, continued to set the strategic direction for managing hazards and risks having the potential for civil emergencies (or disasters).

Local authorities are currently undertaking 5-10 yearly reviews of their core planning documents for CDEM and resource/land-use management (including hazard risk management). The new plans are generally demonstrating better alignment and integration of policies and programmes supporting hazard risk management.

During the review period a range of significant emergency events occurred that heightened awareness of the risks that New Zealand communities and society faces. The need to further understand and plan for tsunami risk followed from the events in Samoa/Tonga in September 2009 and northern Japan in March 2011. Key examples of work include translation of national risk assessments to local mapping of potential inundation pathways, establishing early warning systems in high risk communities, and developing guidance on risk avoidance/mitigation as part of land-use planning.

The biggest test in decades of New Zealand's hazard risk and emergency management arrangements has been the Canterbury earthquake sequence that started with a M7.1 event in September 2010, followed by a highly devastating M6.3 aftershock at close proximity to Christchurch city, directly affecting an area with a population of approximately 450,000 (New Zealand's second largest metropolitan area).

This event has led to a range of reviews on the efficacy of different aspects of the emergency response and some of the hazard risk reduction practices that may have contributed to loss of life and high property damage. The key reviews have yet to be finalised, though preliminary findings are being incorporated into policy and planning work at both the national and local level.

Strategic Outcome For Goal 2

Outcome Statement:

The CDEM reforms of the last ten years aimed to achieve greater levels of local risk awareness and management. In particular this is to be achieved through improved integration of planning and coordination of resources across agencies and service providers supporting communities and individuals.

During the 2009-11 period a National CDEM Monitoring & Evaluation programme commenced with individual reviews of the planning, administrative and operational arrangements for hazard risk and emergency management of all regional CDEM Groups (local authority lead consortia supported by emergency services and lifeline utilities operators). A national summary report of key findings and recommendations has been completed (see link below). Overall results have been varied, with Groups in different parts of the country having different issues to address.

The Canterbury earthquake series experience has also highlighted the importance of resilience building across the areas of hazard risk reduction, and readiness for, response to and recovery from major disasters across areas of both central and local government, the private sector and also various community groups that may not have previously regarded themselves as in the 'front-line' for such activity. During the reporting period a focus, alongside ongoing recovery, has been the capturing of experiences and lessons to be learned through a series of review processes. Considering and acting on findings is likely to lead to reforms in policy, programmes and procedures across many areas at both national and local levels.

Strategic Outcome For Goal 3

Outcome Statement:

Encouraging responsible agencies and partner organisations to enhance risk reduction within their emergency response and recovery activities is a core aim of New Zealand's CDEM framework and the Government's National CDEM Strategy.

In general the re-siting, re-designing or upgrading of damaged structures and infrastructure as part of post-event repair, to make them more resilient, is largely for the asset owner to determine. Pre-existing rights to occupy land may allow for reinstatement of a structure or activity regardless of whether they continue being at-risk, though new building work (and repairs) is required to conform to current regulations (building code standards).

The Canterbury earthquake recovery programme has required an intensive approach involving a new national recovery agency and enabling orders-in-council to be used to both expedite recovery processes and, where necessary over-ride normal rights and protections in other law. Most notable in this regard has been the Government purchasing at pre-event values homes and property within areas in which it is uneconomic to rehabilitate properties and infrastructure that have suffered from severe liquefaction and lateral spreading (and also those hill areas having a high life safety risk from slope instability and rock fall). In other areas, rebuilds are requiring land remedial measures and improved building foundations. Damaged horizontal infrastructures (pipe and energy networks) are being replaced using up

to date technologies and products based on an improved understanding of the risk and economic benefits of doing so. Existing infrastructure can also be improved, for example by adding plastic linings to pipes with a high vulnerability.

The Christchurch experience is feeding through to decisions and actions elsewhere in the country. For example, an earthquake risk assessment of all government owned property has led to the closure of some facilities and accelerated programmes to upgrade others to acceptable levels of risk relative to use.

Section 2: 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:

The Government's National Civil Defence Emergency Management Strategy (2007) outlines national goals and objectives for hazard risk and emergency management. The Strategy's vision is Resilient New Zealand – communities understanding and managing their hazards. The Strategy supports, and is supported by, the broader national goals and policies of Government collectively aimed at sustainable development and ensuring the safety of citizens and communities.

The goals and objectives of the National CDEM Strategy seek continual improvements towards creating resilient communities through risk awareness, effective risk reduction actions and appropriate emergency readiness, response and recovery capacity and capability.

The Government's key priorities for New Zealand's development in the short to mid-term are:

- Responsible fiscal management by making government investment and expenditure more productive and effective;
- Making the economy more competitive and productive, and in particular improving regulations and increased investment in national infrastructure;
- Rebuilding Christchurch City following the 2011 earthquake impacts.

In applying these priorities within their policy and service delivery programmes, public agencies can be expected to consider the risks that hazards may pose in achieving them.

Government agencies otherwise are to support, in line with their core functions and roles, the state's responsibilities in providing for the public safety risks to citizens and visitors throughout New Zealand. This includes assisting with reducing vulnerabilities to, and building resilience to withstand adverse events when they occur, at all levels in society.

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:

The National CDEM Strategy sets out the national goals and objectives for managing risk reduction, and preparing for, responding to and recovering from civil defence emergencies. Supporting the vision of 'Resilient New Zealand', the goals and objectives are:

Goal One: Increasing community awareness, understanding, preparedness and participation in civil defence emergency management:

Objective 1A: Increasing the level of community awareness and understanding of the risks from hazards.

Objective 1B: Improving individual, community and business preparedness.

Objective 1C: Improving community participation in CDEM.

Objective 1D: Encouraging and enabling wider community participation in hazard risk management decisions.

Goal Two: Reducing the risks from hazards to New Zealand:

Objective 2A: Improving the coordination, promotion and accessibility of CDEM research.

Objective 2B: Developing a comprehensive understanding of New Zealand's hazardscape.

Objective 2C: Encouraging all CDEM stakeholders to reduce the risks from hazards to acceptable levels.

Objective 2D: Improving the coordination of government policy relevant to CDEM.

Goal Three: Enhancing New Zealand's capability to manage civil defence emergencies:

Objective 3A: Promoting continuing and coordinated professional development in CDEM.

Objective 3B: Enhancing the ability of CDEM Groups to prepare for and manage civil defence emergencies.

Objective 3C: Enhancing the ability of emergency services to prepare for and manage civil defence emergencies.

Objective 3D: Enhancing the ability of lifeline utilities to prepare for and manage civil defence emergencies.

Objective 3E: Enhancing the ability of government agencies to prepare for and manage civil defence emergencies.

Objective 3F: Improving the ability of government to manage an event of national significance.

Goal Four: Enhancing New Zealand's capability to recover from civil defence emergencies:

Objective 4A: Implementing effective recovery planning and activities in communities and across the social, economic, natural and built environments.

Objective 4B: Enhancing the ability of agencies to manage the recovery process.

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:

Adopting a comprehensive risk management approach underpins each of the National CDEM Strategy's goals and objectives (see Strategic Goal Area 2 above).

This approach encourages seeking cost effective means to reduce risk during the recovery stages after an event. For public infrastructure works and services, as part of special policy, the Government may provide funding to local authorities to support mitigation strategies where these are shown to provide sufficient benefits and yet are too costly for local government funders.

The Canterbury recovery process, due to its scale, is being led by a new state sector agency called the Canterbury Earthquake Recovery Authority (CERA) established with special legislation. CERA has developed a Recovery Strategy (see link below) that aims for increased resilience across the five environments: - economic, social, built, cultural and natural. One of nine guiding principles under the umbrella of sustainability includes reducing risk from natural hazards, taking account of climate change and allowing for the needs of future generations.

A wide range of practical steps have been undertaken already aimed at cost effective hazard risk reduction. CERA and the local councils have undertaken detailed risks assessments of land subject to liquefaction, lateral spreading and rock fall in terms of its suitability for remediation and on-going uses. By and large horizontal infrastructure (water, energy, telecommunications and transport networks) are being upgraded to higher levels of seismic resilience as they are repaired.

Section 3: Priority for action 1

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

Priority for action 1: 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	No
Sector strategies and plans	Yes
Climate change policy and strategy	Yes
Poverty reduction strategy papers	No
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

Description:

New Zealand maintains a strong national legislative framework for addressing hazard risk management. Three core acts promoting risk reduction are the Resource Management Act (1991), the Civil Defence Emergency Management Act (2002), and the Building Act (2004).

Other legislation addresses specific aspects of hazard and risk management, such as the Soil Conservation and Rivers Control Act 1941, Earthquake Commission Act 1993, Local Government Act 2002, Health and Safety in Employment Act 1992, Maritime Transport Act 1994, Health Act 1956, Epidemic Preparedness Act 2006, Fire Service Act 1975, Forest and Rural Fires Act 1977, Terrorism Suppression Act 2002, Hazardous Substances and New Organisms Act 1996, Petroleum Demand Restraint Act 1981, International Energy Agreement Act 1976 and the Biosecurity Act 1993. This legislation underpins a framework of strategies, plans, policies, codes, and practices supporting risk reduction outcomes. See Related Links below for online access to New Zealand's legislation.

Two key principles underlying the legislative framework are:

- Responsibility for managing risks resides as close to the community/individual at risk as practicable, and;
- Planning and actions are integrated across national and local levels.

New Zealand's climate change adaptation programme coordinates work across many sectors of the economy. The programme focuses on preparing for and adapting to climate change, including engaging with the community on the importance of planning and strategic approaches. The Ministry for the Environment is coordinating central government work on adaptation to climate change, except in the sectors of agriculture and forestry, which are coordinated by the Ministry of Primary Industries. Central government is concentrating its efforts in six main sectors:

- Primary production ([link below](#));
- Biodiversity ([link below](#));
- Biosecurity ([link below](#));
- Water ([link below](#));
- Coasts ([link below](#));
- Infrastructure ([link below](#)).

Context & Constraints:

The principal statutes together advance risk management, through reduction (avoidance & mitigation) of risks, and enabling readiness (or preparedness) for, and response to emergencies and undertaking holistic recovery.

Improving risk reduction associated with existing development and historical settlement patterns is the biggest challenge. Intensification of land-use and development based on existing use rights is leading to increased risk, particularly in coastal areas.

The Canterbury earthquake series has provided greater awareness nationally of hazards and risks, and is the impetus for a series of reviews and reforms of various aspects of the national institutional framework. Implementing the review findings and reforms are on-going.

Related links:

- [New Zealand Legislation](#)
- [Biodiversity \(Ministry for the Environment Website\)](#)
- [Biodiversity \(Ministry of Primary Industries Website\)](#)
- [Water \(Ministry for the Environment Website\)](#)
- [Coastal climate change \(Department of Conservation Website\)](#)
- [> Infrastructure \(Climate Change Information Website\)](#)
- [Primary production \(Ministry of Agriculture & Forestry\) & climate change](#)

Priority for action 1: 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 (%)
National budget	Not aggregated	Not aggregated
Decentralised / sub-national budget	Not aggregated	Not aggregated
USD allocated to hazard proofing sectoral development investments (e.g transport, agriculture, infrastructure)	Not aggregated	

Description:

There is no single allocation of funds that is easily quantifiable. At the national level each government agency manages its resource requirements in line with its functions and responsibilities for supporting risk reduction through an annual statement of intent and governmental budgetary process. Agencies with a significant role in relief and reconstruction may have some contingent funding within their baseline funding levels. Otherwise new projects, and additional demand on top of regular services, are subject to additional budget bids as the need arises.

Local government has independent powers to fund its activities (see Indicator 3 below). Lifeline and critical infrastructure owners are encouraged to adopt sound hazard risk management practices to underpin both new investment, and the use and maintenance of existing assets. Under s60 of the CDEM Act specified lifeline services' entities have a duty to "...ensure that [it] is able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency".

Context & Constraints:

Competing priorities within tighter economic conditions can create challenges for public and stakeholder groups in recognising a return on investment from risk reduction programmes. These challenges not only concern the direct costs of programmes, but also perceived lost opportunity due to restrictions on development within high hazard risk prone areas.

One approach to risk mitigation has been to take advantage of heightened community awareness of, and willingness to act on, local hazard risks following an event. A common example is supporting additional flood control works. Relevant events overseas may also be used to raise general awareness of similar risks in the New Zealand context. For example tsunami risk management in New Zealand has greatly increased since the Boxing Day 2004 Indian Ocean and the 2009 Samoa events.

Looking forward, the Canterbury earthquake series has raised awareness and promoted further opportunities for earthquake risk reduction nationally, especially in regard to those buildings and infrastructure at high risk. These events have also highlighted the broader social and economic implications following from a large scale event.

Priority for action 1: 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 aggregated

Description:

Local authorities manage local risks through policy planning and regulatory code compliance, community asset management (including flood control schemes), emergency management and community resilience/hazard risk awareness programmes. They can set general and targeted property rates, raise loans, make uniform charges and set user fees for services provided.

Local councils are required to develop Long Term Council Community Plans based on the social, economic, environmental, and cultural well-being outcomes sought by their communities. These plans enable consistent strategic goals and priorities for all policy and funding arrangements across the council's regulatory and service delivery programmes. These plans are updated on a three yearly cycle.

The Civil Defence Emergency Management Act 2002 requires local authorities (regional, city and district councils) to establish CDEM Groups across 16 regions of the country. Each Group has a senior elected representative from the constituent local authorities, and is supported by a Coordinating Executive Group of their senior managers and local emergency services. The Group's secretariat links to other stakeholders, such as local lifeline infrastructure organisations. The Act requires each Group to develop and implement a CDEM plan. The first generation of plans are currently being reviewed and updated. A national framework has also been set in place to enable monitoring and evaluation, and for establishing benchmarks and best practice.

Other hazard management legislation, notably the Resource Management Act, also require open local government processes covering consultation, requests for information and review of decisions.

The Ministry of Civil Defence & Emergency Management has published a guideline for community engagement in CDEM, and continues working with local authorities on community resilience building strategies and programmes.

Context & Constraints:

Community participation processes, and consequential risk reduction programmes are often resource and time intensive and local authorities are under budget constraints in what they can deliver.

The Canterbury earthquake events have also highlighted the need for coordinated support in recovery, notably requiring additional legislation and a management structure, to oversee all aspects at the local, regional and national levels. As a consequence the Government has begun a review of the legislative framework for recovery from civil defence emergencies. The purpose is to assess the need to make changes to the existing legislative framework in order to improve and better manage recovery after future events. As such, the review could result in proposals for new or amended legislation to address varying recovery needs across the scale of potential civil defence emergencies nationwide.

Related links:

- [Community Engagement in CDEM](#)

Priority for action 1: Core indicator 4

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

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

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? No

Civil society members (specify absolute number)	NA
National finance and planning institutions (specify absolute number)	NA
Sectoral organisations (specify absolute number)	NA
Private sector (specify absolute number)	NA
Science and academic institutions (specify absolute number)	NA
Women's organisations participating in national platform (specify absolute number)	NA
Other (please specify)	NA

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

In the Prime Minister's/President's Office	Yes
In a central planning and/or coordinating unit	No
In a civil protection department	No
In an environmental planning ministry	No
In the Ministry of Finance	No

Other (Please specify)

Description:

No single national committee or forum for all-hazards disaster risk reduction exists in New Zealand. However, various clusters of agencies with like functions and interests do exist, for example national lifeline utility services. These clusters, along with professional associations, may work together on risk reduction activities.

A formal structure exists nationally for emergency preparedness, response and recovery management. The central decision-making body of executive government that addresses emergency management is the Cabinet Committee for Domestic & External Security Coordination (DES). The DES committee is chaired by the Prime Minister, and includes those Ministers responsible for departments that play essential roles in such situations. To support that process, an Officials' Committee for Domestic and External Security Coordination (ODESC), consisting of the departmental chief executives, provides strategic policy advice to the DES ministers. The ODESC process is supported by the National Crisis Management Centre that coordinates operations nationally and is led by the agency that has primary responsibility for managing the emergency, depending on its type.

In 2009 an all hazards-all risks review of national security arrangements has led to a strengthening of comparative risk assessment processes along with a better defined structure of lead and support agencies to address different strategic areas of risk. This structure is primarily focused towards threat monitoring, preparedness, response and recovery needs, and an overview report of National Security was produced in 2011 (see next Indicator for link).

These working group processes for strategic areas of risk could provide an overview of risk reduction/mitigation programmes of work as well, though the ongoing policy and institutional arrangements for such programmes generally occur through other officials' and Cabinet committee processes.

Context & Constraints:

Continuing risk management and integrated policy and planning processes are intended to ensure that national priorities for risk reduction are established, and also that gaps/issues in institutional frameworks are identified and addressed, without a singular forum or committee for hazard risk reduction.

Section 4: Priority for action 2

Identify, assess and monitor disaster risks and enhance early warning

Priority for action 2: 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? Yes

Multi-hazard risk assessment	Yes
% of schools and hospitals assessed	NA
Schools not safe from disasters (specify absolute number)	NA
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)	No
Common format for risk assessment	No
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 complete --

Description:

The Officials' Committee for Domestic & External Security Coordination published the National Hazardscape Report (2007) (link above) that provides a contemporary summary of the physical nature, impacts, distribution and frequency of occurrence of the seventeen key hazards affecting New Zealand. These include geological, meteorological, biological, technological and infrastructure failure hazards.

The Report outlines the principal means for managing each hazard across risk reduction, readiness, response and recovery. These arrangements include a range of legislation, national policies, plans and standards that have risk assessment as a core tenet. As such, research and assessments are undertaken in many forms for different hazards and risks at the national level. For example, national tsunami risk modelling is currently being updated. Also Riskscape, a nationally applicable loss modelling tool is undergoing continuing development. The National Security System (see indicator 4 above) enables broad comparisons across risks, and addressing like consequences in a coordinated manner.

Local authorities undertake hazard risk assessment as part of their environmental planning and in developing CDEM Group plans. It is at this level that assessments of specific hazards, risks and vulnerabilities are undertaken, and practicable management options are developed. One sectoral outcome of the Canterbury earthquake series is that public agencies have taken a stronger lead on understanding the risk they are to manage within their portfolio area.

Context & Constraints:

Challenges include improving ability to assess the full range of consequences and vulnerabilities, especially in regard to secondary impacts, undertaking comparative economic analyses and assessing non-monetary (social & environmental) costs.

Other challenges concern improving understanding of inter-dependencies across sectors, and overcoming commercial sensitivity that may limit disclosure by private entities in some circumstances.

For means of verification regarding school and hospital assessments (assigned NA above), to note is that following the Canterbury earthquakes all public schools and hospitals have been re-assessed against existing stringent seismic safety codes and in some circumstances additional retrofitting or strengthening work is being conducted.

Related links:

- [National Hazardscape Report](#)
- [Ruapehu Lahar Risk Assessment](#)
- [National Tsunami Risk Assessment](#)
- [New Zealand's National Security Report](#)

Priority for action 2: 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? No

Disaster loss databases exist and are regularly updated	No
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	Yes

Description:

There is no centralised system for collecting and collating all hazard information and risk data.

There are different systems for monitoring the main natural hazard agents (meteorological or geological), and these generally form part of, or link to, early warning systems (see Core Indicator 3 below).

Data on the human elements of hazards, including vulnerabilities, are collected and disseminated through many means. Base population statistics are collected five yearly by Statistics New Zealand, with data available at different scales often down to small mesh-blocks. Statistics New Zealand also collects other relevant data on a more regular basis. Local government, central government and NGOs may collect additional data relevant to their responsibilities.

Various agencies gather information on different aspects of loss from actual hazard events. For example, the Earthquake Commission collects claims data for building, contents and land damage to residential properties that it insures. Private insurance companies may collect and disseminate their data also. The Ministry of Primary Industries maintains information on the rural sector economy that includes its losses from hazard events.

A multi-hazard disaster loss modelling capability at the regional scale is being developed under a national research funding contract. It aims to provide decision support for hazard risk

planning and for response and recovery management.

During the current reporting period a new emergency management information system (EMIS) is being rolled out nationally that enables easier sharing of information and a common operating picture for an emergency event managed locally, regionally or nationally.

Context & Constraints:

Work is continuing on developing data sharing protocols and mechanisms to underpin a common national geospatial infrastructure.

In 2011 the Government established an open-data policy. Increasing volumes of data, including some hazard data, are freely available via <http://data.govt.nz/>.

Limited availability of standardised and fully populated data sets to inform 'at risk' components' of society is the key constraint to making significant progress in improving loss modelling capability.

Priority for action 2: Core indicator 3

Early warning systems are in place for all major hazards, with outreach to 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 risk prone communities receive timely and understandable warnings of impending hazard events? Yes

Early warnings acted on effectively	Yes
Local level preparedness	Yes
Communication systems and protocols used and applied	Yes
Active involvement of media in early warning dissemination	Yes

Description:

Regional councils and the National Institute of Water & Atmospheric (NIWA) monitor, model and advise on river flows (flooding), climatic events (droughts), storm surge, sea level rise, and coastal geomorphologic processes. Climate and weather-related event forecasting is increasingly becoming more accurate, with services tailoring information that enables

people and businesses to undertake preparedness steps such as moving farm stock.

GeoNet is a modern geological hazard monitoring system comprising of a nation-wide network of geophysical instruments, automated software applications and skilled staff. It detects analyses and informs responses to earthquakes, volcanic activity, large landslides, tsunami, and the slow deformation that precedes large earthquakes.

The MetService is contracted to monitor and disseminate free, via website and other media, severe weather warnings, outlooks and forecasts. Select organisations, and others using a paid service, may also receive direct notices.

New Zealand receives advisories and warnings from the Pacific Tsunami Warning Centre in Hawaii, and has commenced with installation of a local sea level monitoring network. Local public alert systems have been upgraded in many areas over the last 18 months.

A 24/7 National Warning System operates as part of the National Civil Defence Emergency Management arrangements. Warning messages are communicated to relevant response agencies and, when necessary, directly to the public via the media. Response agencies develop their own internal and local area systems as an extension of the national network.

Memoranda of Understanding, supported by procedures and exercises, are in place with major radio and TV broadcast companies to provide public warnings. Following improved understanding of agencies' needs, new advances in technology, and experiences of recent events (Pacific-wide tsunami threats) these arrangements have been revised and strengthened.

Work has also been on-going at the community level to establish and strengthen local warning and evacuation arrangements for tsunami in coastal areas.

Context & Constraints:

The efficacy of early warning systems for meteorological events is generally well established.

National warning messages for tsunami have also been improved. However, on-going awareness and appropriate responses may tail off from the high level of support following recent events and exercises. Establishing effective warning systems and response arrangements for near source tsunami events, especially during the holiday season in isolated coastal areas, is an on-going challenge because of limited local resources.

Keeping up with increasing expectations for immediate and directly accessible information via ever evolving social media also poses on-going challenges for hazard warning and event management.

For some hazard risks, for example earthquake and local source tsunami, the key concerns are less about public warnings, and more about individuals being prepared for self-action, necessitating on-going public education programmes at both the national and local level. The Canterbury earthquakes also highlighted issues about how scientific information is packaged for public communications, mostly concerning possible aftershock sequences.

Priority for action 2: 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

Description:

Because New Zealand shares no land boundaries with other countries, its risk assessments are mainly domestic processes. It does participate within international science fora, such as the IPCC and in collaborative threat monitoring, for example WHO on pandemic risk.

NZ currently chairs the Intergovernmental Governance Group of the Pacific Tsunami Warning System (ICG- PTWC) and the 'Awareness and Response' Working Group. Through the 'South West Pacific' Working Group it assisted Pacific Island Countries evaluate Exercise Pacific Wave in 2011 and co-organised training on tsunami warning in Samoa in 2012.

An Administrative Agreement with Australia's Attorney-General Department to enhance understanding of each nation's emergency management systems is to:

- better facilitate cooperation during disasters
- enable shared development of programmes for community resilience; and;
- facilitate NZ participation in the Ministerial Council for Policing and Emergency Management (MCPEM), since July 2012 now called the Australia-New Zealand Emergency Management Committee (ANZEMC).

New Zealand is also an active participant in a number of sub-committees and joint activities at the Australian Federal and State levels.

Under an MOU with the Ministry of Foreign Affairs & Trade, the Ministry of Civil Defence & Emergency Management works with the Disaster Management Offices of the Cook Islands, Tonga, Tokelau, Niue, and Samoa on improving disaster risk management capability and capacity. This also includes working with these countries on the Pacific Tsunami Risk Management Project to strengthen in-country end-to-end tsunami warning and mitigation systems. New Zealand participates in the South Pacific to improving disaster management capacity through supporting the Pacific DRM Partnership Network of the Applied Geoscience and Technology Division of Secretariat of the Pacific Community (SOPAC) and UN OCHA's Pacific Humanitarian Team. New Zealand hosted the Pacific Platform for Disaster Risk Management in August 2011, the regional mechanisms for harmonising disaster risk management in the Pacific.

Context & Constraints:

The key challenge is that New Zealand's relatively small size and distant location can mean that on-going involvement in many regional and international activities is a significant resource issue for the agencies and personnel concerned.

An additional service that New Zealand provides beyond its borders is maritime rescue. The Rescue Coordination Centre New Zealand (RCCNZ) is responsible for coordinating all major maritime and aviation search and rescue missions within New Zealand's search and rescue region. The region is one of the largest in the world covering much of the South Pacific and down to Antarctica.

The RCCNZ responds to many incidents annually beyond territorial waters utilising military aircraft and ships, and supported by civilian air and sea traffic in the search vicinity. This is a relatively expensive service, though one that New Zealand regards as important to provide to its South Pacific neighbours and as part of a global international sea and air emergency monitoring network.

Section 5: Priority for action 3

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

Priority for action 3: 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

Description:

Civil defence emergency management legislation encourages and seeks to enable communities to achieve acceptable levels of risks through:

- identifying and managing risks
- consulting and communicating about risks
- identifying and implementing cost-effective risk reduction
- monitoring and review of the process.

Relevant government agencies, local authorities, emergency services and lifeline utilities have a legislative responsibility to participate in emergency planning at the national and local level. Statutory national and local plans are open to public submission during preparation, are approved and managed by political representatives of communities, and are made publicly available while in force (most easily accessible through the relevant agencies' websites). These planning arrangements facilitate open information-sharing and accountability. Similar processes exist for environmental planning.

Plans are based on risk assessments to identify priority concerns, and may include hazard risk mapping or zoning. Publicly funded hazard and risk information from research institutions and government agencies is generally available, and is often packaged for targeted outreach

programmes.

Information on hazards associated with a particular parcel of land or property may be linked to its legal title documents. This Land Information Memoranda (LIM) or Project Information Memoranda (PIM) is available from the local council to any party upon request and payment of a fee. This information may have a bearing on people's decisions to purchase a property, and indicate restrictions on further development or changes in use.

Public information campaigns (leaflets, media) are based on the steps that citizens should take to help protect themselves from nationally generic and locally specific hazards and risks (see Indicators Three and Four for more information).

Context & Constraints:

Raising people's awareness of hazards and risks needs to be linked to means for them to reduce their risks. For example, an on-going challenge is increasing community involvement in, and hence support for, land-use policy and planning development processes that will achieve hazard risk reduction.

Priority for action 3: 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	No
University curriculum	Yes
Professional DRR education programmes	Yes

Description:

A comprehensive package for teachers and schoolchildren enables civil defence emergency related learning across all areas of the New Zealand curriculum for students aged 8–12 years. Called "What's the Plan Stan" it covers what to do before, during and after six types of emergency events: earthquakes, tsunami, volcanoes, storms, floods and non-natural disasters (see link below).

Recognised potentially as “international best practice”, "What's the Plan Stan" was subject to a Fulbright scholar's research in 2011, and evaluation by the Department of Internal Affairs in 2012. The research highlighted the important role of relationships between schools and their local emergency managers, and outreach to the wider community.

Learning about hazards management may also form part of social studies and geography programmes at the secondary school level in line with national curricula requirements.

The Ministry of Civil Defence & Emergency Management and the Ministry of Education have jointly developed a Best Practice Guide to assist Early Childhood Education services to develop emergency plans and put them into practice (see link below).

A CDEM Competency Framework for civil defence emergency management provides a useful evidence basis for evaluating the relevance and effectiveness of current and proposed programmes of study in the tertiary education sector. Generally tertiary providers in New Zealand have particular complementary niches within the hazards and emergency management fields which enables them to work together to form learning pathways. The Framework is also informing the development and review of unit standards to support practitioner work-based learning.

The Treaty of Waitangi between the Crown and iwi Maori has resulted in requirements to consult on and take account of Maori cultural values, resources and protocols within public sector processes, including natural hazard management. Tribal networks and marae (communal facilities) are an important part of local emergency management community welfare arrangements.

Context & Constraints:

The school education package, while freely available, is not yet used by all schools, though is well supported by those that do with outreach to the wider community. Ministry of Education and the civil defence emergency management sector are planning how to better encourage schools and support teachers to use the resource.

A similar challenge exists in raising awareness across professionals and society alike of the need for coordinated, multi-faceted approaches to hazard risk management issues to achieve effective disaster risk reduction. Challenges include linking general messages in national public education and curricula to awareness of, and involvement in, local hazard and risks reduction processes and emergency planning.

On-going challenges in relation to the tertiary education fields are largely around capacity and resources. The Ministry of Civil Defence & Emergency Management is working closely with training providers to ensure that they are committed to, and being supported with, implementing the CDEM Competency Framework. A key finding through the development of the Framework is the lack of emphasis on risk management in relation to the emergency management context, particularly in work-based learning programmes. This will be addressed by the Ministry in the short to mid-term through participation in educational institutes' Boards of Studies and Programme Advisory Groups.

Related links:

- [Early Childhood Education \(ECE\) Services Emergency Planning Guideline](#)
- [Whats the Plan, Stan?](#)

Priority for action 3: 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
<ul style="list-style-type: none">• Natural Hazards Platform - Interim Research Strategy (2009)	
Studies on the economic costs and benefits of DRR	No

Description:

New Zealand's National CDEM Strategy emphasizes the importance of well promoted, coordinated and accessible hazards and disaster research in achieving national resilience. A wide range of fundamental and applied research is undertaken for improving quantitative understanding of the hazards and risks, assessing community and infrastructural vulnerabilities, understanding community preparedness and response behaviours, and developing models and tools to assist hazard risk and emergency management practice.

Priorities for central government funding of hazards and disaster research emphasises a multi-hazards approach with research objectives linked to national outcomes. Central government (via the Earthquake Commission) funds science capability and technology for a nationwide geological monitoring and reporting network (GeoNet). National research and science capabilities are applied to national models and to specific regional level issues within the constraints of local resources.

Since 2010 the New Zealand Government has moved towards longer-term negotiated funding for hazards and disasters research, principally through the establishment of a multi-agency, trans-disciplinary Hazards Research Platform. The self-managed Platform aims to enhance collaboration between researchers from different organisations (including Crown-owned research institutes, universities, and private researchers), and promote effective

engagement between researchers and research users. Funding is contingent on the research directly contributing to improved economic, infrastructural and social resilience to natural hazards in New Zealand. The science capability supported by the Platform is also available to assist decision makers during significant hazard events.

In response to the Canterbury earthquakes, government has invested an additional NZ\$12M over 4 years from 2011-12 for the Platform to undertake research of direct relevance to the earthquake recovery, and to inform lessons for disaster risk reduction nationally.

Context & Constraints:

Key challenges are:

- New Zealand's relatively small economy which limits the total available investment in hazard and disaster research;
- Effective engagement between researchers and research users to support improved accessibility, transfer and uptake of research;
- Developing more robust formal and informal pathways from research to policy development and practice.

The Natural Hazards Research Platform seeks to address aspects of these challenges through better alignment of funding streams, promoting strategic integration across research organisations, and requiring participation of research users in the development of research programmes that include identifying mechanisms of transfer and uptake into practice.

The Hazards Platform has been tested by the Canterbury earthquakes and proven the value of a coordinated, multi-agency science response during large-scale emergencies. Science and research (including geophysics and engineering as well as social sciences) were integral to the emergency responses in Canterbury and are part of the on-going recovery activities (see link below).

Ensuring robust cost-benefit analyses for hazard risks mitigation programmes, particularly for those risks with long return periods is difficult to achieve. The Canterbury earthquakes have provided a strong reminder about seismic risk within the built environment, especially in regard to the secondary economic and social impacts of the event, and uncertainties involved in an extended recovery process, that are often overlooked in pricing hazard risk reduction strategies.

Related links:

- [Canterbury Earthquake Research Strategy 2011](#)

Priority for action 3: 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

Description:

Awareness of hazards is increasing through higher levels of engagement within many areas of society on risk reduction and civil defence emergency management matters. This increase is attributed to better research knowledge, public education, and to news media portrayal of emergencies and disasters in New Zealand and in other countries.

A long-term national public education programme and social marketing campaign, “Get Ready Get Thru” (web link below), was launched in 2006 aimed at increasing individual and community preparedness for disasters. Research in 2010 indicates that the preparedness messages are continuing to have an impact with increased awareness of hazards and growing numbers of people who are prepared. On 26 September 2012 ‘ShakeOut NZ’, a national earthquake drill, was undertaken with 1.38 million registrants (approximately 30 % of the population).

Other national public education activities related to hazard risk management include:

- The On-farm Adverse Events Recovery Framework promotes a shared understanding of the roles and responsibilities of central government, local government and the primary production sector in preparing for, and recovering from, adverse events. Adverse Events are

severe climatic, biosecurity or natural disaster events that are beyond the ability of the community to cope with (web link below)

- Earthquake preparedness, EQ-IQ (link below);
- Published alert levels signalling the current state of volcanic unrest in active areas (link below)
- National brochure and signage for tsunami hazards
- Fire-safety: “C'mon guys, get fire-wise” (link below) and rural (wild) fire awareness and threat levels;
- Pandemic health messages are broadcast at times of heightened risk (link below);
- Biosecurity risks are heavily promoted to travellers and workers at border entry points (link below);
- Climate change (link below).

Much information is now available in different languages to ensure ethnic communities are included. Within CDEM resources have also been developed for people with a hearing disability.

Context & Constraints:

The challenge for emergency management agencies is to sell messages of preparedness, resilience, self-responsibility and community responsibility. Achievement is defined by a growing increase in percentages of people aware of the risks of hazards and taking action to mitigate or prepare.

Research had indicated that, despite high levels of awareness of the potential for disasters in New Zealand, many individuals and communities are not as prepared as they need to be to deal with, and recover from, events when they happen.

The major challenge is changing behaviour of individuals and organisations, and progressing intentions into actions. Behaviour changes can result from sustained education campaigns over the long term, for which the maintenance and refreshing of programmes are an on-going requirement. An increasing focus is to work with communities (geographic, social and cultural) to build resilience through supporting their ownership of hazard risk issues and solutions as part of their broader community goals, planning, organisational structures and programmes.

Related links:

- [Get Ready Get Thru](#)
- [EQ-IQ](#)
- [Fire Safety](#)
- [Pandemic Health Messages](#)
- [Climate Change](#)
- [Adverse events -rural communities](#)
- [Biosecurity & animal welfare](#)

Section 6: Priority for action 4

Reduce the underlying risk factors

Priority for action 4: 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)	No
Integrated planning (for example coastal zone management)	Yes
Environmental impacts assessments (EIAs)	Yes
Climate change adaptation projects and programmes	Yes

Description:

The Resource Management Act 1991 seeks to achieve the sustainable management of natural and physical resources and this includes addressing the potential adverse effects of natural hazards, and requiring particular regard to climate change.

Under this Act, local authorities are to undertake natural hazard assessments and mapping, set overarching policy in Regional Policy Statements, and apply specific policies and methods (rules, advocacy and services) through Regional and District Plans. Quality Planning Best Practice Guides are available nationally, and include:

- climate change
- natural hazards
- coastal land development (with aspects on coastal hazards), and
- use of emergency provisions (to undertake necessary works and activities, that normally are subject to environmental regulatory controls, to mitigate likelihood or consequences of, and facilitate responses to, life safety and property damage threats).

Hazard risk reduction within the environmental area is linked to communities' broader goals and aspirations through Long-Term Council Community Plans, community asset management plans and annual plans (setting out budgets & outputs) of local authorities, produced in accordance with the Local Government Act 2002.

To help New Zealand build its resilience and plan ahead for climate change, the government has formed partnerships with organisations such as local government, engineers, the insurance industry and the agriculture sector. The Ministry for the Environment also produces a range of information and guidance materials on the impacts of climate change and how different groups within New Zealand, can adapt to, and prepare for these impacts (see Related Links below).

Context & Constraints:

A continuing challenge is translating known hazard information into effective and integrated policies and plans for risk reduction, and undertaking coordinated and concerted action across different agencies' roles, functions and processes.

Of particular concern are the existing use rights attached to developments in areas with long-term high hazard exposure. An increasing concern are coastal properties now recognised to be at higher risk from storm surge, coastal erosion, tsunami and the effects of climate change. Key to this challenge is changing the risk perceptions and behaviours of individuals and communities.

The Resource Management Act is undergoing reform to improve processes and outcomes. As a consequence of the Canterbury earthquake experiences, the Government has identified better natural hazards management as a key area of interest for improvements.

Related links:

- [Quality Planning](#)
- [Climate Change Resources](#)
- [Local Government Guidance Materials](#)
- [Adaptation and local government](#)
- [Adaptation and planning](#)
- [Adaptation in agriculture and forestry](#)
- [Engineering Lifelines and Emergency Management](#)
- [Adaptation in the community](#)
- [Adaptation and central government](#)
- [Adapting to sea-level rise](#)
- [Environmental Protection Authority](#)
- [Hazardous substances & new organisms management](#)
- [Natural hazards management](#)

Priority for action 4: 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	Yes
Conditional and unconditional cash transfers	No
Micro finance (savings, loans, etc.)	No
Micro insurance	No

Description:

Many policies and programmes of central and local government address concerns of at-risk and vulnerable groups within society. They are more often integrated within strategies that address more generally the needs of socially and economically disadvantaged persons and communities. These strategies can increase peoples' ability to help themselves in further reducing their vulnerability to hazards and risks. However, as these strategies support broad social outcomes, they are not necessarily classed and evaluated as a hazard risk reduction measure per se.

Emergency health care is provided through the public health system at no cost to the user. A no-fault national accident compensation scheme (ACC) covers the costs (with limits) of on-going injury treatment and rehabilitation of disaster victims.

A national natural disaster insurance scheme (EQC) provides automatic coverage (with a cap) for house, site and contents through a levy attached to private household insurance. Other than earthquakes, the scheme covers damage from land subsidence and slips affecting a house, its utilities access and adjacent land. The Fund reserves and reinsurance has underpinned much of the Canterbury earthquake household losses. As a result of this experience a review of the EQC funding model to better reflect current risk and operational needs is currently been undertaken.

The National Welfare Coordination Group, made up of government and non-government agencies, plans for the provision of coordinated welfare services during major emergency

events. In response to recent earthquakes in Canterbury the Government has developed a range of additional targeted financial support [see Related Link below].

Also see other core indicators in this section for further context.

Context & Constraints:

A significant increase in insurance premiums nationally after Canterbury earthquakes suggests that the insurance/reinsurance market is reassessing risks in New Zealand. This has had significant financial implications for owners of highly earthquake prone buildings. This reflects a market rebalancing in the short to mid-term, and further incentivises building upgrades. Of particular concern are the impacts on cultural heritage building management, such as churches, for which neither upgrades nor on-going insurance costs are financially sustainable.

Building community resilience to disasters is recognised as an on-going activity that is linked to issues associated with improving social and economic outcomes generally.

Related links:

- [Social support measures for Canterbury earthquakes](#)

Priority for action 4: 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	For example, the Government Policy Statement on Land Transport Funding and the National Land Transport Programme 2012-15 give effect to a significant programme of investment. Part of this involves

maintaining roads and other infrastructure to an appropri

Investments in retrofitting infrastructures including schools and hospitals

Yes

Description:

Lifeline utility infrastructure (water, wastewater, energy, communications, and transport) risk reduction and recovery is a core component of emergency management/disaster risk reduction planning. A duty of utilities under the Civil Defence Emergency Management Act is to ensure that they can function to the fullest extent possible, even though this may be at a reduced level, during and after an emergency. A variety of intra and inter-sectoral arrangements and plans are evolving, as a result of experiences from exercises and emergency events.

The On-farm Adverse Events Recovery Framework is building primary sector resilience to adverse events through clarifying the roles and responsibilities of central government, local government and the primary sector in preparing for and recovering from adverse events. The Ministry of Primary Industries, Ministry of Social Development, and local emergency agencies can work with local Rural Trusts in providing assistance to affected farm properties and rural communities through means such as tax relief, additional labour for restoration and clean-up, financial payments and mentoring support services.

National pandemic planning has led to better collaboration and improvements in business continuity planning within the fast moving consumable goods (FMCG) sector.

New Zealand has stringent border protection controls, and arrangements for rapid response to suspected disease outbreaks. These are in place for bio-security threats to the agricultural and horticultural industries, and also to the natural environment upon which tourism is based.

Context & Constraints:

A period of relatively low level of emergency events during the late 1980s and 1990s, coupled with significant changes in the ownership and market arrangements for some infrastructure and industries, may have led to increased vulnerability over that period. More recently, greater awareness of societal risks from hazards, including business risk, is leading to higher levels of business continuity planning, intra-sector collaboration, and resilience building. Progress is likely dependent on economic drivers within the economy as a whole.

The Canterbury experience has highlighted the need for the Government and emergency management practitioners to work with the business sector to regenerate business activity as an essential early step in enabling community recovery.

Related links:

- [Biosecurity measures](#)
- [National Influenza Pandemic Plan](#)

Priority for action 4: 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

Description:

At the local level, the Resource Management Act 1991 requires addressing natural hazards in the context of managing the use and development of land. Local authorities are to plan to avoid, mitigate or remedy adverse effects of land development that includes risks of creating or adding to natural hazard exposure (and any changes resulting from climate change).

A revised National Coastal Policy Statement 2010, under the Resource Management Act, provides additional policy direction to local authorities in managing land use and development within coastal areas, including mitigating the risks of hazards.

The Building Act 2004 establishes a national building code and regulations, with compliance managed by certified persons. All new buildings and renovations are to meet current code, and commercial and multi-resident buildings are also generally required to have additional compliance schedules and building services undergo a regular 'warrant of fitness'. Building products are also required to meet 'fit for purpose' standards.

Context & Constraints:

Following the loss of life in Christchurch from building structural failures during the 22 February 2011 earthquake a Royal Commission of Inquiry was established to review the causes and the legal and best-practice requirements for the design, construction and maintenance of buildings in central business districts throughout New Zealand. The Commission's findings are broad ranging, and include matters of structural and design performance, improved regulatory processes and capabilities, and an improved post-event building evaluation system.

New Zealand has a national Earthquake Prone Building Policy to address legacy risk within the existing building stock. In March 2012, in light of the Canterbury experience, a review was begun of whether:

- the Policy settings and standards adequately balance life and safety considerations against economic, heritage and other considerations
- Policies and standards are effectively implemented and administered.

The Government has yet to make decisions on a new or revised Policy.

The Canterbury earthquakes series also raised concern that residential housing development had been able to occur over time on land known to have a liquefaction risk. This led to the Minister for the Environment seeking an independent review of hazard management statutory provisions and practices. Its findings, and public submissions on them, are now being considered as part of a broader reform of the Resource Management Act.

Related links:

- [Building design & construction regulatory framework](#)

Priority for action 4: 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

Unquantified

DRR capacities of local authorities for

Yes

response and recovery strengthened

Risk assessment undertaken in pre- and post-disaster recovery and reconstruction planning

Yes

Measures taken to address gender based issues in recovery

Yes

Description:

New Zealand has developed post-event recovery structures and policies as part of its comprehensive 4Rs (reduction, readiness, response, recovery) approach to disaster risk management. Consideration is given to social, economic, natural and built environments, including reducing on-going risk exposure during recovery whenever it is practicable to do so.

Key recovery principles in the New Zealand framework include:

- Using community-led approaches: Successful recovery is most effective when conducted at the local level with an understanding of the community context;
- Ensuring coordination of all activities: Successful recovery requires mechanisms that support integrated planning, reporting and effective communications at all levels;
- Recognising complexity: Recovery management arrangements are successful when they recognise the dynamic nature of emergencies and communities and how their needs change over time;
- Acknowledging and building capacity: Successful recovery supports and recognises the diverse needs and capacity of groups within a community including local Iwi.
- Sharing, analysing and applying quality information: Successful recovery is based on a common and comprehensive recovery picture underpinned by robust analysis, monitoring and reporting.

Local authorities are expected to factor future risk reduction into their recovery efforts. Some funding is available post-event to assist local authorities with the recovery costs for core infrastructure assets and river management systems. The level of funding received is contingent on local authorities meeting their share of recovery costs first (based on an individualized threshold, above which the central government pays 60%).

Context & Constraints:

The Canterbury earthquakes are testing local and national disaster recovery arrangements and may lead to some reforms.

A new government agency, the Canterbury Earthquake Recovery Authority (CERA), has been established with an extraordinary legislative mandate and powers to coordinate recovery programmes across central and local government agencies.

The Canterbury Recovery Strategy, and Christchurch Central Recovery Plan for the rebuilding of the central business and cultural district, has risk reduction as significant components. A unit within CERA, the SCIRT (Stronger Christchurch Infrastructure Rebuild Team) is overseeing rebuilding the city's earthquake damaged roads, fresh water, wastewater and storm water networks. These networks, along with electricity and

telecommunications, are using opportunities to improve resilience in their rebuild programmes.

A Crown purchase offer scheme has been put in place by CERA for residential property in areas where land damage makes repairs to housing and neighbourhood uneconomic. The scheme enables these residents to relocate to areas at lesser risk of further land damage.

The needs of longer-term recovery of Greater Christchurch will involve interplay between various state and private sector institutions, the availability of human and financial resources, and confidence in the future. The Government aims to ensure that economic recovery can occur in a timely manner and that markets - notably insurance, financial, property and labour markets - can resume operating normally. Meeting this aim requires that the rebuild strategy is based on robust assessments of benefits and costs.

Central government may also contribute by leveraging off its presence as a significant employer and tenant to act as a catalyst for commercial revival. As the recovery will be a process that runs over several years, the Government, along with the private sector and the city councils, are working to maintain and build confidence in the region’s future.

Related links:

- [Recovery Management Guideline](#)
- [Canterbury Earthquake Recovery Authority](#)

Priority for action 4: 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

Description:

New Zealand adopted the Lifeline Engineering Projects model in the 1980's following its developments in the U.S.A. Lifeline Groups now operate across New Zealand. All involve public and private lifeline utility operators, and have resulted in significant improvements to the resilience of infrastructure. The New Zealand Lifelines Committee fosters the exchange of new ideas and key developments between the regional groups and provides a link to government and international expertise.

The significance of lifeline utilities is recognised in the Civil Defence Emergency Management Act 2002. All Lifeline Engineering Projects are recognised by, and are integrated with, their respective local Civil Defence Emergency Management Groups' structures and planning (see link below).

The National Infrastructure Unit (NIU), established within Treasury in 2009, focuses on the performance of the stock of physical assets that underpin the functioning of the economy, specifically network utilities such as transport, water, communications and energy, and public infrastructure such as schools, hospitals and prisons. It has prepared the National Infrastructure Plan 2011 (see link below) with a vision that includes resilience and a guiding principle that national infrastructure networks are able to deal with significant disruption and changing circumstances.

The Government has also recently established a national Environmental Protection Authority (see link below) able to consider environmental approvals for proposals that are of national significance. The criteria include proposals that will assist the Crown in fulfilling its public health, welfare, security, or public safety obligations and functions.

Context & Constraints:

A major challenge is to progress lifeline engineering actions beyond the current reduction (prevention) and readiness (preparedness) focus. A need for lifeline engineering coordination during the response and recovery phases is recognised, and the establishment of a pool of regional lifeline coordinators is underway.

Related links:

- [Lifeline Utilities](#)
- [The National Infrastructure Plan 2011](#)
- [Environmental Protection Agency](#)
- [Auckland Engineering Lifelines Group](#)

Section 7: Priority for action 5

Strengthen disaster preparedness for effective response at all levels

Priority for action 5: 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
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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
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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
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Training and mock drills in school and hospitals for emergency preparedness	Yes
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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
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Preparedness plans are regularly updated based on future risk scenarios	Yes
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Description:

A National Crisis Management model is based on executive Government, departmental heads, and a fully serviced operations centre to oversee national preparedness arrangements. A National Civil Defence Emergency Management Plan is in place, and supported by agency-specific plans. Other hazard specific plans (such as a national pandemic plan, biosecurity threat responses, marine oil spill and tsunami warning responses) also exist at the national level.

Sixteen civil defence emergency management groups (regional groupings of local authorities supported by emergency services, lifeline utilities and welfare support agencies) prepare plans for the hazards and risks in their area that, in turn, are supported by local plans covering individual districts and communities.

National and local plans are exercised and regularly reviewed.

Recovery guidelines have been developed, and further work is scheduled in this area in the immediate future.

Context & Constraints:

A challenge is ensuring an on-going CDEM 'operational readiness' that is consistent across agencies and sectors.

A standardised capability assessment tool for assessing emergency management capability and readiness has been developed to support requirements of agencies under the CDEM Act to monitor and evaluate performance and outcomes. The aim is to have consistent means to assess readiness regardless of the organisation, its size, and the sector or area of work. Benchmarking against anticipated industry standards is the ultimate goal.

A review of each regional CDEM Group's progress was undertaken during the 2009 -2010 period, and an assessment of national agencies is planned for the mid-term.

Various reviews and inquiries have taken place covering different aspects of the response to the Christchurch earthquake in 2011, and the Government and agencies have agreed to undertake many corrective actions.

Related links:

- [National Crisis Management Arrangements](#)
- [CDEM Monitoring & Evaluation Programme](#)
- [National CDEM Plan & Guide](#)
- [New Zealand National Security System](#)

Priority for action 5: 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	No
Shelters	No
Secure medical facilities	Yes
Dedicated provision for disabled and elderly in relief, shelter and emergency medical facilities	Yes
Businesses are a proactive partner in planning and delivery of response	Yes

Description:

National and local plans are required under the Civil Defence Emergency Management Act 2002 that set in place, among other matters, readiness, response and recovery arrangements. These plans are supported by standard operating procedures and protocols enabling inter-agency and inter-sectoral collaboration and coordination.

A National Exercise Programme provides means to test response arrangements nationally. The Programme supports a ten year plan for national level and regional level exercises in alternate years covering different hazards and scenarios. Local exercises are also held within each region. In September 2012 the first national community earthquake drill was held, with

an associated preparedness campaign, called New Zealand ShakeOut and based on the Californian program.

Lessons from exercises and events (including precautionary warnings) are used to improve policies and response arrangements. Recent experiences of tsunami within the Pacific have led to improved warning and public messaging for these events down to the community level.

Context & Constraints:

Preparing, undertaking and evaluating national exercises are major activities that require significant planning, budgets and staff time, with lead times of more than a year. Getting all agencies to participate to a level whereby their continuity arrangements are properly tested can be difficult. The exercise programme requires on-going promotion so that appropriate levels of commitment are planned for by all participants.

The Canterbury earthquake events have greatly increased awareness of the expectations and difficulties that public agencies and lifelines services' organisations must plan for. A review of the National CDEM Plan Order 2006 was near completion at the time of the 22 February earthquake. Having been put on hold to enable focusing on the response and recovery efforts in Canterbury, the Plan review is now carrying on. It is to consider recommendations from various post-event reviews of the Canterbury events.

Related links:

- [National Exercise Programme](#)
- [National CDEM Plan & Guide](#)
- [Wellington Earthquake National Initial Response Plan](#)

Priority for action 5: 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	No
The reduction of future risk is considered in the use of calamity funds	No
Insurance and reinsurance facilities	Yes

Catastrophe bonds and other capital market mechanisms No

Description:

National arrangements are in place for providing emergency relief assistance (welfare of individuals, local authorities' costs for response and repair of infrastructure assets, and supporting clean-up efforts of communities and the farming sector).

Lifeline infrastructure companies are expected to have prudent risk management strategies, including recovery planning and insurance.

A levy for loss or damage to residential property, land and personal possessions from earthquake, natural landslip, volcanic eruption, hydrothermal/geothermal activity, tsunami, or fires resulting from any of these events, is a compulsory component of all home and/or contents insurance policies (see Earthquake Commission Act 1993).

The Local Authority Protection Programme Disaster Fund (LAPP) is a cash accumulation mutual pool to help local authority members pay their share of infrastructure replacement costs for water, sewage and other generally uninsurable essential services if damaged by natural disaster. The LAPP is to cover a local authority's 40% share above the threshold set by central government for recovery assistance. Of the 85 local authorities in New Zealand, 59 are currently LAPP members. They pay an annual levy differentiated by asset value and risk profile for their area. The Fund equity is supplemented with reinsurance to enhance this balance.

The Accident Compensation Corporation (ACC) provides comprehensive, no-fault personal injury cover that includes disaster related injuries.

Businesses are encouraged to manage their risks through business continuity planning, and having trade and income interruption insurance. As part of responses to the Canterbury earthquakes the Government provided staff income support to local businesses that were unable to trade. Hardship assistance to uninsured individuals may also be available on a case by case basis.

Context & Constraints:

Household insurance is high (approximately 95% nationwide). The Canterbury earthquakes have resulted in considerable losses for insurers in the New Zealand market, and have led to re-rating of risks and rises in premiums. In particular, buildings recognised as earthquake prone have had significant rises in insurance premiums. There is also a shift in the form of insurance offered from 'full replacement' to that of 'sum insured'. The Earthquake Commission's reserves and re-insurance has been heavily relied upon. While further re-insurance has been attained initially it has been at a higher cost and the Commission's reserves also require re-building.

Arrangements for rapid assessments of building and infrastructure are being further developed. Also, as major events, the Canterbury earthquakes are now testing the nation's resources and capacity for insurance claim settlement and rapid re-building of housing and infrastructure.

Related links:

- [Earthquake Commission - provider of natural disaster insurance for residential property](#)

Priority for action 5: 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	No
Identified and trained human resources	Yes

Description:

Standard procedures exist in national, regional and local emergency operations centres, and other agencies for the collation of a range of disaster impact data from across sectors. Within the CDEM sector there is general agreement on a consistent approach to reporting such information through impact assessment reports, situation reports and action plans. However, in detail, differences exist in approaches to collation and assessment of impact information between agencies and at different levels of response.

A National Emergency Management Information System (EMIS) has been commissioned and links all levels (national, regional, local) of the nationwide CDEM response in New Zealand. It provides a more robust and consistent approach to the collection, collation and sharing of information within and across tiered levels of response. The system is centrally hosted from within the National Crisis Management Centre (NCMC) in Wellington and replicated at a secondary site in Auckland using a dedicated WAN connection.

All event activations and exercises involve debriefs. Larger events such as the Canterbury earthquake series may result in various independent reviews where considered necessary.

Context & Constraints:

Further economic analyses of events would be beneficial to better inform hazard and risk impact modelling, emergency response and recovery planning, and cost-benefit analysis for risk reduction purposes.

The Canterbury earthquake events are also raising awareness nationally about the broader, secondary and longer term impacts of such events. These are becoming evident within regular and on-going data collection and monitoring processes and research being undertaken at both the national and local levels.

Related links:

- [Multi-hazard risk modelling](#)

Section 8: 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):

New Zealand's hazard and emergency management arrangements are based upon a comprehensive 'all hazards - all risks' approach. Assessing the risks to be managed, regardless of hazard source, and the setting of priorities accordingly, is important to this approach. The National Security System and Hazardscape Report list the key classes of hazards, and the core agencies and statutory means for managing each of them.

All 16 CDEM Groups are required to undertake detailed multi-hazard risk assessments as the foundation for planning that addresses the management of those identified hazard risks, in accordance with the 4Rs (reduction, readiness, response and recovery).

An increasing emphasis is developing information management platforms that will enable data-sets on hazard attributes, at-risk elements and vulnerability factors, to allow for loss assessment modelling.

This modelling will better able comparative risk analyses across hazards. Development of this modelling capability is currently variable across hazards and elements. Further progress requires:

- extending data collection on the types and characteristics of elements at risk;
- accessing, and building compatibility between, databases; and
- standardising measures and indicators for quantifying losses and impacts.

Related links:

- [National Hazardscape Report](#)
- [CDEM Group Planning](#)

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

Levels of Reliance:

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

New Zealand has well-established human rights and equal opportunities legislation. While some gender-based institutional and cultural issues are present within New Zealand society they are not considered to present significant issues in the delivery of hazard risk management. Gender is a factor likely to be considered in developing and delivering policies and processes in an emergency management context. For example welfare and psycho-social support services may adopt strategies recognising gender-based needs. Some research incorporating gender perspectives is being carried out in the context of the Canterbury earthquakes

Likely is that socio-economic factors, cultural and linguistic diversity (CALD) and disabilities are more relevant determinants of vulnerability in New Zealand than is gender alone (see driver d).

Also research and social indicator monitoring programmes are exploring how the on-going stresses of the Canterbury earthquake series may have altered patterns as to the level and types of vulnerabilities experienced within communities.

Related links:

- [Ministry of Womens Affairs](#)
- [Bill of Rights Act 1990](#)

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?: No

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

New Zealand's hazard risk reduction and emergency management framework has the goal of building resilience from that of individuals to families, communities, organisations and institutions. It underscores the importance of collaborative effort, information sharing and local action. As such, analysis and decision-making at all levels in society is encouraged to identify capacity needs and make the most of available resources from all sources.

The NZ National CDEM Strategy places an emphasis on building capability across all levels. A key focus of New Zealand disaster risk management agencies is to support this capability development. This is achieved through a wide variety of programmes, policies and activities with an emphasis on delivery at the local level, coordinated regionally, and supported nationally.

A review of recovery arrangements at the national level has just begun.

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):

There are a range of socio-economic factors that, coupled with an aging population, are important considerations for developing effective risk reduction strategies in New Zealand.

As New Zealand's population is thinly based in many areas, the costs per capita of community-based risk mitigation schemes can be relatively high. Establishing the spread of costs and benefits to elicit wider regional and national support for such schemes is an on-going consideration.

Due to the importance of agriculture to the economy, New Zealand has a range of organisations and networks representing and supporting the rural sector. A strong emphasis on local civil defence emergency management planning is also aimed at understanding and accommodating the needs of different geographic areas, and how this may translate into the specific vulnerabilities for different communities and services.

Hazard risk management planning must account for cultural differences. New Zealand is becoming increasingly multi-cultural through new migrants and higher population growth within existing minority groups. New migrants generally settle within urban areas. Concerns can arise about their level of awareness of local risks, and how to address their cultural preferences and to best utilise their social networks and support systems within the New Zealand emergency management context.

The New Zealand Government, as representative of the Crown, has responsibilities to iwi Maori (the indigenous tribes) under the Treaty of Waitangi 1841. Principles and requirements flowing from the Treaty are incorporated within various legislation and policy, and also include Crown redress for past injustices. Initiatives aimed at supporting Maori socially and economically should, in turn, improve their resilience to emergencies.

The efficacy of policies and communications for building disaster resilience must therefore address both socio-economic factors, and different cultural perspectives.

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):

A robust legislative and planning framework promotes and enables participatory and collaborative approaches. Through the local government arrangements, public participation is encouraged in planning and decision making. The focus is on continuing reviews and incremental improvements in its implementation to meet both public and private needs (see driver C also).

Partnerships have been forged with non-governmental organisations such as the New Zealand Red Cross and Salvation Army for delivery of some welfare functions in an emergency. Memoranda of understanding have also been formalised with other industry groups. One example is the media due to the critical role they have in disseminating emergency information to the public. Another example is the science agencies involved in providing and interpreting hazard warning information.

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):

There is ever increasing understanding of the physical science underpinning New Zealand's primary hazard risks. Understanding is also growing of the social science drivers that underpin hazard risk creation, and in particular those factors that make individuals and communities either more or less vulnerable (or resilient) to them.

While this understanding grows changes within society, such lifestyles, scale of growth, the complexity and interdependencies within infrastructure and the economy, means that risk exposure can continue to grow. This situation makes achieving and maintaining disaster resilience an on-going challenge.

Engaging with the fast moving consumer goods sector and lifeline (network infrastructure) utilities to ensure robust strategies are in place to address interruptions in supply to disaster affected communities are important factors. Working to support community capability and build social capital, for example volunteerism and neighbour support and information networks, is another key factor for risk reduction and building community-level disaster resilience.

Working with the public and communities that are increasingly well informed and networked through broadcast and social media is creating additional demands on emergency managers

in getting across key messages and official information in a timely and authoritative manner.

Additional context specific drivers of Progress # 1

Levels of Reliance:

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

Drivers of Progress:

The recovery programme for Christchurch City and the Canterbury region results in more resilient communities, and that experience of these earthquake events translates to improved risk reduction readiness, response and recovery arrangements nationally

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

The Canterbury earthquake recovery programme has a strong emphasis on increasing resilience against future hazard events, and creating a more sustainable urban living environment generally.

Various reviews and lessons from managing the series of damaging earthquake events are now driving changes in many areas of government and society to improve outcomes from any such future events. This driver is likely to remain important for the foreseeable future.

Section 9: 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 Government's 10 year National Civil Defence Emergency Management Strategy has the vision of Resilient New Zealand – Communities understanding and managing their hazards. Achieving this vision is not a static endpoint. As such, the challenge is to ensure on-going improvement of risk management processes to avoid new, and mitigate existing risks (reduction), and that effective arrangements are developed and maintained (readiness) for when emergency events do happen (response, recovery).

Future Outlook Statement:

Most second-generation CDEM Group plans under the Civil Defence Emergency Management Act 2002 are now completed and being implemented. Local planning arrangements are to build upon and extend progress thus far for integrating and improving hazards and emergency management at the local level in New Zealand. Within each CDEM Group this work includes making improvements based on its results from a nationwide monitoring and evaluation programme to determine their level of progress when measured against the goals and objectives of the National CDEM Strategy. A similar evaluation process is proposed to begin in the near future for national agencies and lifelines organisations.

The Canterbury earthquake series has provided wider political and societal interest in the many social, economic, cultural, built and natural environmental risks from hazards, and particularly earthquakes. This interest has led to greater impetus to effect changes across a wide range of policy, procedures and services to improve outcomes in reducing risk, and for emergency readiness, response and recovery, as described in this report. Deciding upon the exact form of these changes and implementing them will occur over the immediate to mid-term future. However, many of the benefits are only likely to become evident over a much longer time frame (such as changes in land-use planning to better account for natural hazard risk).

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:

Making and maintaining links within and across sectors and organisations is an on-going challenge.

The Canterbury earthquake series has been a major wake up call for New Zealand about the risks to life, and the social and economic costs, arising from low probability-high impact events. While advances have been made in some aspects, for example earthquake engineering, much wider thought is now being given to the multi-dimensional impacts arising from these events. This thinking includes secondary impacts, and how cumulative increases in risk exposure can occur overtime. At the same time effective strategies to counter them must be developed in light of society's broader needs and capacities. The current economic slowdown may have provided both opportunities and constraints in this regard. The opportunities lie in less heated development and communities' reassessing their core values about what is important to them. The constraints centre on budgetary and fiscal constraints in many areas of the economy that may impact on risk reduction and resilience programmes.

Future Outlook Statement:

Applying the risk management standard requires on-going monitoring and review of risk reduction practices and including, where necessary, reviewing the institutional frameworks underpinning hazard risk management. New and revised policies and programmes, for example, regular updating of building codes, are continuous systematic activities to account for new knowledge about, or changes in, our hazard risks and options for addressing them.

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:

Risk reduction is an important consideration in the Canterbury earthquake recovery programme. The testing on institutional arrangements in this context is flowing through to policy and programme reform at the national level, and within other regions of the country.

Some of this change is market driven responses, for example the re-pricing of insurance risk. Greater public awareness about earthquake risk, and expectations about safety, may also

lead to changes in the commercial property leasing market. The challenge is to use these opportunities to bring about effective change in attitudes and behaviour, whilst not creating undue financial hardship as markets adjust.

Future Outlook Statement:

On-going challenges are in managing existing risks for which risk reduction is costly, for example retrofitting earthquake-prone buildings, or highly constraining re-development in historical hazard zones. Increased adverse weather events resulting from climate change may also require reassessing current risk reduction strategies, for example the adequacy of river and sea wall protection works, and the costs of alternatives. It is anticipated that with the on-going recovery from the Canterbury earthquake series the economic and social costs and benefits of risk reduction in land-use planning and urban design will have prominence in the national dialogue for some time to come.

Future Outlook Area 4

The United Nations General Assembly Resolution 66/199, requested the development of a post-2015 framework for disaster risk reduction. A first outline will be developed for the next Global Platform in 2013, and a draft should be finalized towards the end of 2014 to be ready for consideration and adoption at the World Conference on Disaster Reduction in 2015.

Overall Challenges:

No current position on this.

Section 10: Stakeholders

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

Organization	Type	Focal Point
Canterbury Earthquake Recovery Authority	Gov	
Department of Internal Affairs	Gov	
Department of Prime Minister and Cabinet	Gov	
Ministry for Business, Innovation and Employment	Gov	
Ministry for the Environment	Gov	
Ministry of Civil Defence and Emergency Management	Gov	
Ministry of Foreign Affairs and Trade	Gov	Building & Housing Group & Economic Development Group
Ministry of Health	Gov	
Ministry of Primary Industries	Gov	
Ministry of Social Development	Gov	
Treasury	Gov	