

# New Zealand

## National progress report on the implementation of the Hyogo Framework for Action

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# Strategic goals 1

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## 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 National Civil Defence Emergency Management Strategy outlines national goals and objectives for hazards & risks and emergency management. The Strategy's vision is Resilient New Zealand - communities understanding and managing their hazards, and supports the Government's broader policy directions for sustainable growth and the safety of citizens and communities. The Strategy is available at

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[http://www.civildefence.govt.nz/memwebsite.NSF/wpg\\_URL/For-the-CDEM-Sector-National-CDEM-Strategy-Index?OpenDocument](http://www.civildefence.govt.nz/memwebsite.NSF/wpg_URL/For-the-CDEM-Sector-National-CDEM-Strategy-Index?OpenDocument).

## 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:**

Four goals of the National Strategy cover increasing community awareness and understanding of, preparedness for, and participation in hazards and emergency management; reducing the risks from hazards; and enhancing capability to manage civil defence emergencies; and enhancing capability to recover from civil defence emergencies.

Objectives under each goal include strengthening institutions, mechanisms and capacities across each area.

## 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 risk management approach is aimed at integrating and coordinating risk treatment policy and activities across reduction and emergency preparedness, response and recovery programmes. This approach underpins all of the National Civil Defence Emergency Management Strategy's goals and objectives.

## Priority for action 1

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

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## 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

**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). There is no hierarchy between these Acts..

Other legislation addresses specific aspects of hazard and risk management, such as the the Soil Conservation and Rivers Control Act 1941, Earthquake Commission Act 1993, Local Government Act 2002, the 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, International Terrorism Act 1987, Hazardous Substances and New Organisms Act 1996, and the Biosecurity Act 1993. This legislation underpins a framework of strategies, plans, policies, codes, and practices supporting risk reduction outcomes.

New Zealand's legislation is publicly accessible - <http://www.legislation.govt.nz/>

Key principles underlying the legislative framework are:

- Responsibility for managing risks resides as close to the community/individual at risk as practicable
- Integration between national and local level management
- Coordination of planning and activities across agencies and functional responsibilities

**Context & Constraints:**

The principle statutes together advance risk management, from reduction (or mitigation), through readiness (or preparedness) for the response to emergencies, and the subsequent recovery. The period of recovery (measured in years) is a key time for improving risk reduction. Risk reduction is the main challenge.

Further advances in risk reduction are encouraged and are being implemented. They range from public education programmes at national and local levels (under the auspices of the Earthquake Commission Act and the Civil Defence Emergency Management Act) through to the assessment of Earthquake Prone Buildings (under the requirements of the Building Act).

With increasing understanding of risk management dimensions, improved reduction tools are to be expected from reviews over the next five years, for example of regional and national Civil Defence Emergency Management plans, the Building Code, and the New Zealand Coastal Policy Statement (which includes policies for, among other things, avoiding and mitigating the effects of natural hazards in the coastal environment). ). The Climate Change Plan of Action is also a significant programme that includes helping the land-based sector adapt to climate change and build resilience to the increased likelihood of more adverse events.

**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

**Description:**

Following from defined functions and responsibilities in legislation, each agency is to manage its

resource requirements. Local government has independent powers to fund its activities (see Indicator 3 below).

Central government agencies roles' are included in their annual baseline funding with additional budget bids for specific projects. Lifeline (critical infrastructure) owners are encouraged to adopt sound hazard risk management practices to underpin both new investment and existing asset management planning.

**Context & Constraints:**

Open government processes and competing priorities can create challenges in how to demonstrate to the public and stakeholders the return on investment from risk reduction. This situation is made worse by many communities having no recent experience of emergencies.

One strategy is to take advantage of heightened awareness of local risks following like events overseas, for example tsunami risk management in New Zealand has greatly increased since 2006.

**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

**Description:**

Local Authorities are enabled to manage local risks through local policy, regulatory planning, code compliance certification and monitoring, and community asset planning. Local authorities are able to set general and targeted rates on property (on a capital, annual or land value basis), raise loans, make uniform charges and, in some circumstances, set fees for services to cover their costs of developing policy, and providing community and individual services.

Core local government legislation, and hazard management legislation, require open government processes covering consultation, requests for information and review of decisions. Local body elections are every three years, and all adults over 18 years may vote.

The Civil Defence Emergency Management Act 2002 requires local authorities (regional, city and district councils) to establish Civil Defence Emergency Management Groups across 16 regions of the country. Each Group has a senior political representative from the constituent local authorities, and is supported by a Coordinating Executive Group of their senior managers and local emergency services. The Group is supported by a secretariat with links to other stakeholders, such as their local lifeline infrastructure organisations and Rural Support Trusts in rural areas.

**Context & Constraints:**

Recent changes to local government legislation require local councils to have Long Term Council Community Plans (ten year) based on the social, economic, environmental, and cultural well-being outcomes sought by their communities. These plans enable consistent strategic goals and priorities to be established for policy and funding arrangements across the council's regulatory and service delivery programmes. These plans are updated on a three yearly cycle. This planning process, as well as land-use and environmental planning under the Resource Management Act and hazard and emergency planning under the Civil Defence Emergency Management Act, are highly participatory processes with the local community.

New Zealand authorities are now also reviewing their first generation of plans under the Civil Defence Emergency Management Act 2002. Additionally national frameworks and processes are being set in place to enable monitoring and evaluation, and establishing benchmarks and best practice. Continuing improvements are expected as a result of these activities.

## 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

### Description:

No national committee or forum for disaster risk reduction exists in New Zealand. However, committees or fora exist for managing particular hazards and risks. For example, biosecurity, civil defence emergency management, pandemic, transport security.

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 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 kind.

### Context & Constraints:

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

## Priority for action 2

*Identify, assess and monitor disaster risks and enhance early warning*

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## 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

### Description:

The Officials' Committee for Domestic & External Security Coordination has published the National Hazardscape Report (2007), based on contributions from agencies addressing hazard risk. The report 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. It also provides general information on the current management of hazards, though focusing on reduction and readiness initiatives. The report is to be updated every three years.

[http://www.civildefence.govt.nz/memwebsite07.nsf/wpg\\_URL/For-the-CDEM-Sector-Publications-National-Hazardscape-Report?OpenDocument](http://www.civildefence.govt.nz/memwebsite07.nsf/wpg_URL/For-the-CDEM-Sector-Publications-National-Hazardscape-Report?OpenDocument)

The National Hazardscape Report assists with identifying and assessing hazards and risks to be addressed through national policies and plans, and the relevant legislative frameworks. More precise risk assessments are carried out as part of these processes.

Local authorities undertake hazard and risk assessment as part of their risk management processes in environmental planning and developing Civil Defence Emergency Management Group plans. The Climate Change Plan of Action programme provides for significant investment in research and development into helping land-based sectors adapt to climate change. This includes research into modelling and methodologies to enhance the land-based sectors evidential basis for risk management with regard to climate change.

**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.

**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

**Description:**

There is no centralized system for all hazards and risks 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 Indicator 2 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, for example the Ministry of Agriculture and Forestry collects data on the agricultural, horticultural and forestry industries.

Limited loss modelling capabilities exist nationally, notably in terms of earthquake impacts.

**Context & Constraints:**

Work is continuing on developing data sharing protocols and mechanisms, to be underpinned by a common national geospatial infrastructure.

Current research projects are extending loss modelling by both hazard type and elements at risk.

**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

**Description:**

Regional councils and the National Institute of Water & Atmospherics (NIWA) monitor, model and advise

on river flows (flooding), climatic events (droughts), storm surge, sea level rise, and coastal geomorphologic processes.

GeoNet is a project to build and operate a modern geological hazard monitoring system in New Zealand.

GeoNet comprises a 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 by Government to monitor and provide warnings about severe weather events.

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.

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 as necessary to the public via the media. Response agencies, and notably local agencies, develop their local systems as an extension of the national network.

Memoranda of Understandings, supported by procedures and exercises, are in place with major radio and TV broadcast companies to provide public warnings.

#### **Context & Constraints:**

The efficacy of early warning systems for meteorological events is generally well established. However outreach of warnings for tsunamis are only now being implemented. Establishing appropriate warning systems and response arrangements for near source tsunami events is an ongoing challenge.

For some events, for example earthquake and local tsunami, the issues are less about early warnings, and more about being prepared for any event, necessitating ongoing public education programmes at both the national and local level.

#### **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

#### **Description:**

Because New Zealand shares no land boundaries with other countries, its hazards and risks assessments are in the main national or local exercises only. Within New Zealand regional and local agencies are expected to consider cross-jurisdictional boundary issues in their risk reduction and emergency planning.

New Zealand cooperates inter-regionally and globally within international science and research fora, such as in climate change modelling. New Zealand also participates in international fora that undertake risk assessments and set policy and best practice standards, to manage regional and global hazards and risks. For example, working with the WHO on public health monitoring and pandemic risks and with the PTWC on pan-Pacific tsunami hazards.

New Zealand also supports South Pacific countries in undertaking risk assessments, and advises on and supports risk reduction through its NZAID programmes.



**Context & Constraints:**

No significant contextual challenges are identified.

**Priority for action 3**

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

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**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

**Description:**

Civil defence emergency management legislation has as part of its purpose encouraging and enabling 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 reviewing 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 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. Hazard and risk information from research institutions and government agencies is widely available, often used in targeted outreach programmes, and otherwise is generally available from websites with access aided by common search engines.

Information on hazards associated with a particular parcel of land or property may be attached to its legal title of ownership, and this information is available on request from any party.

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 Indicator Three 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. In particular getting community involvement in, and hence support for, land-use policy development and planning aimed at hazard reduction is an ongoing challenge.

Hazard and risk information is widely available, principally as a result of ongoing central and local government research programmes. However, a key constraint on the use of the information has been a 'user-pays' funding model for the research organisations that collect and maintain the information. The

constraint has been recognised and is being addressed by the principal government funder, the Foundation of Research, Science, and Technology.

## **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

### **Description:**

Learning about hazard and risks, and their management, is also included within different parts of the national school education curricula.

A comprehensive schools resource for teachers and schoolchildren enables civil defence emergency contexts and activity-based learning across all areas of the New Zealand curriculum for students aged 8-12 years

Called What's the Plan Stan , and produced in collaboration with emergency management personnel and teachers, the resource covers what to do before, during and after six types of emergency events: earthquakes, tsunamis, volcanoes, storms, floods and non-natural disasters. A version is to be launched in 2008 in the language of New Zealand's indigenous Māori people.

### **Context & Constraints:**

Ongoing challenges include linking general messages in national curricula to local awareness of, and involvement in, local hazard and risks reduction processes and emergency planning.

A proactive approach to reconciling indigenous and scientific sources of knowledge on hazards and risks, in ways that make sense to local communities, has enabled some to take action.

## **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

### **Description:**

New Zealand's National CDEM Strategy emphasizes the importance of well promoted, coordinated and accessible hazards and disaster research in underpinning national aspirations towards resilience. A wide range of basic and applied research is undertaken in New Zealand for the purposes of improving our quantitative understanding of our complex hazardscape, assessing community and infrastructural vulnerabilities, understanding community preparedness and response behaviours, and developing models and tools that can be applied to inform hazard, risk and emergency management.

Priorities for central government funding of public good hazards and disaster research emphasises an all-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.

### **Context & Constraints:**

Key challenges are:

- New Zealand's relatively small economy which limits the total available investment in hazard and disaster research;
- a highly competitive science funding system with very short funding cycles, which has a heavy administrative burden and tends to limit collaboration between organizations. This issue has been acknowledged by government in a review of the research funding prioritization process and options are being considered for changes to the timeframe and process for funding decisions;
- constraints on effective application of science to practice and policy development;
- lack of reward incentives for researchers to engage in technology transfer.

### **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

### **Description:**

A long-term national public education programme and social marketing campaign, "Get Ready Get Thru", was launched in 2006 aimed at increasing individual and community preparedness for disasters.

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.

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

Research into the effectiveness of the programme, and changes in the level of readiness of individuals, is ongoing.

Specific examples of national public education activities include:

- Get ready, get thru (all hazards, all risks and a focus on everyone; [www.getthru.govt.nz](http://www.getthru.govt.nz) );
- The On-farm Adverse Events Recovery Framework promotes a shared understanding of roles and responsibilities of central government, local government and the primary production sector in preparing for, and recovering from, adverse events at the on-farm level; Adverse Events are natural disasters that are beyond the ability of the community to cope with; On-farm means commercial agriculture, horticulture, viticulture and forestry properties (<http://www.maf.govt.nz/mafnet/rural-nz/assistance/>);
- Earthquake preparedness, EQ-IQ ([www.eq-iq.govt.nz](http://www.eq-iq.govt.nz) );
- Fire-safety: "C'mon guys, get fire-wise" ([www.fire.org.nz](http://www.fire.org.nz) );
- Pandemic health messages are broadcast at times of heightened risk (<http://www.moh.govt.nz/pandemicinfluenza/>);
- Biosecurity risks are heavily promoted to travellers and workers at border entry points (<http://www.biosecurity.govt.nz/>).

### **Context & Constraints:**

Awareness of hazards is increasing with inter-agency engagement at all levels, from local to national, public and private, on risk reduction and civil defence emergency management matters. In part, this increase is attributed to increasing knowledge from ongoing research, public education, and to news media portrayal of emergencies and disasters in New Zealand and in other countries.

The major challenge is changing behaviour of individuals and organisations, and progressing intentions into actions.

Behaviour changes do result from sustained long-term education campaigns, for which the maintenance and refreshing of programmes are an ongoing requirement.

## **Priority for action 4**

*Reduce the underlying risk factors*

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### **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

#### **Description:**

The Resource Management Act has a sustainable management purpose with explicit requirements to address the effects of natural hazards, and requiring particular regard to the effects of climate change. Local authorities undertake hazard assessments and mapping, set overarching policy in Regional Policy Statements, and apply specific policies and methods (rules, advocacy and services) through Regional Plans, and District Plans. Quality Planning Best Practice Guides are available nationally, and include guides on addressing the effects of climate change. A guide on natural hazards in general is in preparation. (<http://www.qualityplanning.org.nz/>).

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 (budgetary) plans of local authorities, produced in accordance with the Local Government Act 2002.

#### **Context & Constraints:**

A major challenge is translating hazard information, into integrated policies across planning documents, and undertaking coordinated and concerted action.

Of particular concern are the existing use rights attached to developments in areas with long-term high hazard exposure. An example is the high demand for coastal properties that are at increasing risk from storm surge, coastal erosion, tsunami and the effects of climate change.

The essence of these challenges are changing perceptions and behaviours of individuals and communities.

### **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

**Description:**

A wide range of policies and programmes of central and local government address different concerns of at risk or vulnerable groups within society. These policies are often integrated within broader strategies aimed at addressing the needs of socially disadvantaged persons and communities in general. They are therefore not always viewed as an emergency management measure. However improving overall the life opportunities of people increases their ability to help themselves in further reducing their vulnerability to hazards and risks.

The National Welfare Recovery Coordination Group, made up of government and non-government agencies, plans for and delivers coordinated services during major emergency events.

The nationwide network of Rural Support Trusts recognises that rural areas have particular types of vulnerability to different hazard events, and that the base of their economy is reliant on maintaining the production value of their land.

See other core indicators in this section for further context.

**Context & Constraints:**

Improving the socio-economic conditions of vulnerable groups and communities within society is an ongoing consideration for all areas of government and partner agencies.

**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

**Description:**

Recent national pandemic planning, in response to avian flu risks, has led to better collaboration and improvements in business continuity planning within the fast moving consumable goods (FMCG) sector.

Stringent border protection, and rapid response to suspected disease outbreaks, are in place for bio-security threats to the agricultural and horticultural industries, and also the natural environment upon which tourism is based.

Lifeline utility infrastructure (water, wastewater, energy, communications, and transport) risk reduction and recovery is a core component of emergency management 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 actual 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 at the on-farm level. The Ministry for Agriculture & Forestry and local emergency agencies are working with regional Rural Trusts.

After an event the Agricultural Recovery Programme provides a means for additional Government financial assistance. Rural Support Trusts may provide services such as: coordinating the response to

an event, helping farmers decide on business options, acting as advocates for financial assistance, and providing stress management services (or making referrals if appropriate).

**Context & Constraints:**

New Zealand moved towards a more market driven economy during the late 1980s and 1990s with increasing private ownership of key lifeline infrastructure. Capital investment over this period varied, with possible low investment in some sectors increasing vulnerability. More recently, greater awareness of risks, including business risk, is leading to higher levels of business continuity planning, intra-sector collaboration, and resilience. However, progress is dependent on economic drivers within the economy as a whole.

**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

**Description:**

The Resource Management Act 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 adverse effects resulting from climate change).

A proposed National Coastal Policy Statement under the Resource Management Act, to replace the current New Zealand Coastal Policy Statement, provides additional guidance to local authorities in managing land use and development within coastal areas to mitigate the risks of hazards.

The Building Act 2004 establishes a national Building Code and regulations, with compliance managed by registered persons (usually local authorities). All new buildings and renovations are required to meet the current Building Code. Commercial and multi-unit residential buildings that have specified systems (such as sprinkler systems) are also required to have compliance schedules and undergo an annual 'building warrant of fitness'.

**Context & Constraints:**

Following concerns about the quality of construction and compliance, the Building Act 2004 was introduced after a comprehensive review. One of the initiatives introduced in the Act is a requirement for the Building Code to be reviewed to determine whether it meets the requirements of the new Act and to determine the extent to which it is stated in sufficient detail to provide clear guidance on performance requirements that buildings must meet <http://www.dbh.govt.nz/bcl-building-code-review>. The Building Code review process has included consideration of hazard risk reduction and the life cycle cost of building.

**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



**Description:**

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

**Context & Constraints:**

New Zealand has limited recent experience of a major emergency event, such as major earthquake impacts. However New Zealand does seek to learn from overseas experiences, and adapt its planning accordingly. As such, exactly how to manage recovery and potential options for risk reduction has been the subject for recent inter-sectorial planning and symposia.

**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

**Description:**

New Zealand has, over the last twelve years, developed significant lifeline engineering projects that address risk reduction for critical infrastructure. Following developments in the U.S.A., the New Zealand Centre for Advanced Engineering initiated a lifeline engineering project in the Wellington area.

Wellington, the capital, is particularly exposed to earthquake, slope stability, and coastal hazards and risks. The Wellington project piloted, for New Zealand, the establishment of hazard reviews across all lifeline sectors, the formation of sectorial work groups, the establishment of an Engineering Lifeline Group, and the expenditure of significant funds to improve lifeline resilience. Following the Wellington successes, additional lifeline engineering groups have been initiated across most of New Zealand. All involve public and private lifeline utility operators.

The Lifeline Engineering Projects have resulted in a number of improvements to infrastructure, including:

- strengthening transport infrastructure, such as motorway bridges;
- increasing resilience of energy infrastructure, including electricity, gas and fuel oils;
- improving the resilience of bulk water supplies, including reducing risks by decommissioning reservoir dams now known to be built across active faults
- improving the resilience across sectors by strengthening road bridges that carry services additional to road traffic, such as water, power, gas, and telecommunications.

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 -

[http://www.civildefence.govt.nz/memwebsite.NSF/wpg\\_URL/For-the-CDEM-Sector-Lifelines-Index?OpenDocument](http://www.civildefence.govt.nz/memwebsite.NSF/wpg_URL/For-the-CDEM-Sector-Lifelines-Index?OpenDocument).

**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 lifeline coordinators is underway.

**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

### **Description:**

A National Crisis Management model based on executive Government, departmental heads, and a fully serviced operations centre oversees national preparedness arrangements. A National Civil Defence Emergency Management Plan, national pandemic plan, and other hazard specific plans (such as biosecurity threat responses) 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.

Other hazard specific regional and local plans also exist, for example covering marine oil spill response and wildfire.

All plans are exercised and reviewed.

### **Context & Constraints:**

A challenge is having consistent means for assessing CDEM 'operational readiness' in New Zealand that is generic enough to apply to any agency or organisation, large or small, irrespective of sector or area of work, and that therefore allows for benchmarking against anticipated industry standards.

A national project is underway to develop a New Zealand standard assessment tool for assessing emergency management capability or readiness. It would provide for audit and accountability to stakeholders and government, provide a strategic planning function, an assessment of strengths, weaknesses and gaps, and encourage organisational learning, development and growth. It is to support requirements of agencies under the CDEM Act to monitor and evaluate performance and outcomes

## **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

### **Description:**

National and local plans are required under the Civil Defence Emergency Management Act 2002 that set, among other matters, readiness, response and recovery arrangements. These plans are supported by operating procedures and protocols to support inter-agency and inter-sector collaboration.

A National Exercise Charter provides means to test response arrangements nationally. The Charter supports a ten year programme of national level and regional level exercises in alternate years covering



different hazards and scenarios. Local exercises are also held within each region.

Lessons from exercises are used to improve policies and systems across the 4Rs.

**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 ongoing promotion so that appropriate levels of commitment are planned for by all participants.

**Core indicator 3**

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

**Level of Progress achieved:**

3: Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Description:**

Arrangements are in place for providing emergency relief assistance (for welfare of individuals, assisting with local authorities' costs and losses, and supporting clean-up efforts of communities and the farming sector).

Lifeline infrastructure companies are expected to have prudent risk management strategies, and that includes both business continuity and recovery planning.

Individuals and businesses are encouraged to manage their risks, including having trade/income interruption insurance and contingency plans.

A levy to cover 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 fire insurance policies (see Earthquake Commission Act 1993).

**Context & Constraints:**

Many New Zealanders, households and businesses are under-insured. Many people have had no experience of emergency impacts in their lifetime. There also exists an expectation that the state may do more to assist with financial losses/hardship than is the case under national policy. Public education to raise awareness of the risks and individuals' responsibilities is an ongoing activity.

Arrangements for rapid assessments of building and infrastructure are being further developed. It is likely that a major event will test the nation's resources of building material suppliers and construction expertise.

**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

**Description:**

Various statistics are gathered, and reports produced during and following from each emergency. Reports prepared by public agencies are generally available to the public.

Lessons learned are documented in public reports and can lead to policy or procedural changes as appropriate.

The experiences of past events are also used in formulating exercises.

**Context & Constraints:**

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

## Drivers of Progress

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### **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 hazards and emergency arrangements are premised on integrated multi-hazard approaches to management. Establishing and comparing all risks, and the setting of priorities accordingly, are important to this approach.

An increasing emphasis is being placed on information management platforms enabling data on hazard attributes, at risk elements and vulnerability factors to support loss assessment modelling. This modelling capability is currently variable across hazards and elements. Progress requires establishing common geospatial standards, extending data collection on types and aspects of elements at risk, and introducing standards (monetary and non-monetary) for the quantifying of losses and impacts.

### **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.

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

New Zealand has well established human rights and equal opportunities law. While gender issues remain a consideration in hazard risk management, socio-economic factors irrespective of gender (or ethnicity) are more likely to be a greater determinant of vulnerability in New Zealand (see driver d).

### **c) Capacities for risk reduction and recovery identified and strengthened**

#### **Levels of Reliance:**

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

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

New Zealand hazard and risks and emergency management framework has the goal of building resilience from that of individuals to the national as a whole. 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 ongoing challenge is the continual reviewing and refining of risk reduction, readiness, response and recovery arrangements, and embedding them within an 'everyday' thinking and actions and not as a separate exercise.

### **d) Human security and social equity approaches integrated into disaster risk reduction and recovery activities**

#### **Levels of Reliance:**

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

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

Socio-economic factors, coupled with an aging population, are important considerations for developing effective risk reduction strategies in New Zealand. Lack of economy of scale is often a factor for small communities where the costs per capita of risk mitigation strategies are often judged too high.

Hazard risk management planning needs to consider cultural differences. New Zealand is becoming increasingly multi-cultural through new migrants and higher population growth within existing minority groups. As new migrants generally settle within urban areas, issues of social difference are more important for them than geographic isolation.

The efficacy of policies and communications for building 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.

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

A robust legislative and planning framework exists promoting and enabling participatory approaches. Focus is on continuing reviews and improvements in its implementation to meet both public and private needs (see driver C also).

### **f) 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):**

The risks inherent in New Zealand's relative geographic isolation and the natural hazards associated with its location on the Pacific/Australian tectonic plate boundary were evident to its early settlers (Māori and European). Developments in transport and telecommunications have latterly reduced isolation to such a point that New Zealanders are now less resilient than they were in terms of not adequately appreciating the risks of geographical isolation. The associated and developing risks are evident and are being responded to because of this additional driver for risk reduction.

## Future outlook

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### 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 continuing, sustainable, risk management processes to avoid new and mitigate existing risks (reduction), and that effective arrangements are in place (readiness) for when emergency events do happen (response, recovery).

**Future Outlook Statement:**

An immediate focus for the future is developing second-generation civil defence emergency management plans under the Civil Defence Emergency Management 2002. These plans are to build upon and extend progress thus far for integrating and improving hazards and emergency management in New Zealand.

Additionally, actions arising from the reviews of recent major exercises and responses to real emergencies are to be implemented.

### 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:**

Advances in risk reduction are evident across all of the natural, built, social, and economic environments, assisted by convergence of approach through common tools such as the Australian and New Zealand Standard for Risk Management "AS/NZS 4360: 2004" and related standards and guidelines. Making and maintaining links within and across sectors and organisations is the challenge.

**Future Outlook Statement:**

Applying the risk management standard requires ongoing monitoring and review of risk reduction practices and including, where necessary, reviewing the institutional frameworks underpinning hazards and risk management. New and revised policy, for example updating of the building code, are an ongoing matter in order to account for new knowledge about our hazards and risks and/or changes in our vulnerability to them.

the Australian and New Zealand Standard for Risk Management "AS/NZS 4360: 2004" is expected to be soon superseded by the ISO 31000 Risk standard. Amongst other things, this international standard will

improve generic risk management vocabulary.

### **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 incorporated within emergency management by adopting a risk management approach whereby reduction (avoidance and mitigation), readiness (preparedness), response and recovery are all risk treatment options.

#### **Future Outlook Statement:**

Ongoing challenges are in managing already existing risks for which risk reduction is costly, for example earthquake prone buildings. Increased adverse weather events resulting from climate change may also require reassessing existing reduction strategies, for example the adequacy of river and sea wall protection works, and the costs of alternatives.