

New Zealand: Country Case Study Report

How Law and Regulation Support Disaster Risk Reduction

International Federation of Red Cross and Red Crescent Societies

June 2014



Case Study:

IFRC-UNDP Series on Legal Frameworks
to support Disaster Risk Reduction

About this report

This report was commissioned by the International Federation of Red Cross and Red Crescent Societies (IFRC) and prepared by Elizabeth McNaughton, IFRC Consultant, and Marin Van Hove, New Zealand Red Cross Society International Humanitarian Law Intern. It is one of a series of case studies the IFRC has undertaken with UNDP as part of a global research project to learn about how law and regulation supports disaster risk reduction, particularly at the community level. For more information about the project and various case studies as they become available, please visit www.drr-law.org.

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The IFRC's Disaster Law Programme seeks to reduce human vulnerability by promoting effective legal frameworks for disaster risk reduction and legal preparedness for disasters. It works in three main areas: collaboration with National Red Cross and Red Crescent Societies and other partners to offer technical assistance to governments on disaster law issues; building the capacity of National Societies and other stakeholders on disaster law; and dissemination, advocacy and research.

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Cover photograph: Search and rescue efforts remains a priority for the Red Cross response team in Christchurch, two days after a 6.3 magnitude earthquake hit the Canterbury area, New Zealand. New Zealand Red Cross Society, 2011.

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Executive Summary

Located in the south-western Pacific Ocean, New Zealand sits on two tectonic plates within the Pacific ring of fire, resulting in the country's dramatic natural landscapes. New Zealand is prone to a range of natural hazards, such as floods, storms, cyclones, snow-storms, earthquakes, volcanic eruptions, geothermal incidents, tsunamis, landslides, and lahar.¹ Climate-related risks are expected to be exacerbated by climate change.²

The Canterbury earthquakes of 2010/11 were New Zealand's most costly disasters. They brought a sharp focus on all aspects of disaster management in New Zealand and triggered reviews of major legislation relating to risk management. The lessons learnt from the event and the heightened awareness of risk provides a window to strengthen New Zealand's disaster risk reduction (DRR) legislation.

New Zealand has high levels of transparency and accountability, and strong access to information systems and rules governing DRR. The country's small size and population also affords it a relatively agile process for legislative/regulatory change. Furthermore, as a developed country, it ranks 6th out of 186 countries on the United Nations Development Programme's (UNDP) Human Development Index (2012).

Modern New Zealand legislation is based on high-level objectives and principles referred to as 'enabling legislation' rather than on detailed prescription. A key positive factor for risk management is that this type of legislation is adaptable and remains relevant and effective in a rapidly changing global environment. Unique aspects of New Zealand legislation include: one comprehensive statute for the sustainable management of natural resources, the Resource Management Act 1991; publicly funded quasi-compulsory insurance against natural disaster damage, under the Earthquake Commission Act 1993; a compulsory accident compensation scheme, under the Accident Compensation Act 2001; a system where every citizen has the right to access information held by public bodies, pursuant to the Official Information Act 1982; and a number of statutory provisions that require government agencies to consult with Māori³ when making national and local decisions. New Zealand legislation offers many avenues through which members of the public can make submissions and provide input on matters concerning DRR.

New Zealand has demonstrated over a long period of time that normative frameworks relating to prevention and preparedness are a necessary part of systematic efforts to increase resilience to disasters.

New Zealand legislation provides a sound national legislative framework for addressing DRR. Responsibility for DRR is main streamed throughout a number of legal instruments and sector ministries with devolved responsibility to local government to implement and regulate development. Local governments and communities are at the frontline of managing disaster risk. Broadly speaking, the

1 Highly destructive volcanic mud or debris flows that often follow river valleys and become very rapid and deep.

2 Peter Gluckman, New Zealand's changing climate and oceans: The impact of human activity and implications for the future (Auckland:Office of the Prime Minister's Science Advisory Committee, 2013).

3 The indigenous people of New Zealand.

different legislative statutes are well-integrated, but the challenge lies in reflecting this integration in implementation. Continued work and investment is required for implementation to fully succeed, notably in hazard-prone areas with a small population base, where resources for DRR are based on local taxes (rates) rather than local risk levels. To fully realise the potential that New Zealand DRR legislation affords, there is also a need to increase capability and the sharing of information along with collaborative strategies, behaviour and approaches between central and local government, the private sector and communities.

Seismic hazards were clearly identified long before the Canterbury earthquakes and yet significant areas had received consent for new subdivisions in high-risk areas. There is a lack of clarity about the level of risk that should be planned for and a wide variation in local government in terms of funding, capability and practice to determine appropriate risk thresholds, especially regarding flooding and climate change. There is a call from local government for greater central government direction in clarifying risk management approaches.

A key challenge for New Zealand going forward, is the development of a 'hazard retreat policy' to assist people in relocating from unsafe areas. This will require some difficult negotiations, starting with the acknowledgement that development has occurred in unsafe areas, and potentially followed by some kind of cost sharing agreement. Such a policy is becoming increasingly important as the effects of climate change are being felt in already vulnerable areas. While managed retreat brings to the fore the tension between existing property rights and safe land development, the Canterbury earthquakes demonstrated that it is a necessary measure in some situations.

In New Zealand, DRR and climate change issues and trends are largely known and the legislative goals are clear. The challenge now is to ensure broader public awareness of the hazards and risks to gain wider support for the successful implementation of legislative frameworks on risk reduction.

Acknowledgements

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- Australian Government Aid Program (Department of Foreign Affairs and Trade)
- Australian Red Cross

Partners

This case study was undertaken in partnership with the New Zealand Red Cross Society (NZRC).

The study is part of a global project on the legal frameworks to support disaster risk reduction at country level, which is being undertaken by the IFRC in partnership with the United Nations Development Programme (UNDP).

Contributors

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We would like to thank the many accomplished people who agreed to be interviewed as part of this study and who generously gave their time, knowledge and wisdom in interviews. A full list of those consulted is provided in "Annex A".

This report draws extensively on the 'Background Report: DRR National Law Desk Survey', prepared in 2012 by Alice McSherry and Mischa Hill on behalf of the IFRC, which was based on internet and library sources. The background report will be published separately.

This report benefited significantly from the work of highly committed practitioners, academics and government officials who wrote the numerous reviews, academic papers and monitoring reports that have been cited in this case study.

List of Abbreviations

ACC	Accident Compensation Corporation
AEP	Annual Exceedance Probability
CBD	Convention on Biological Diversity
CDEM Act	Civil Defence and Emergency Management Act 2002
CDEM	Civil Defence and Emergency Management
CDHB	Canterbury District Health Board
CER Act	Canterbury Earthquake Recovery Act 2011
CERA	Canterbury Earthquake Recovery Authority
CTV	Canterbury Television
DES	Cabinet Committee for Domestic and External Security Coordination
DHBS	District Health Boards
DIA	Department of Internal Affairs
DRR	Disaster risk reduction
ECAN	Environment Canterbury Regional Council
EMO	Emergency Management Office
EOC	Emergency Operations Centre
EPA	Environmental Protection Authority
EQC	Earthquake Commission
EWS	Early Warning Systems
GNS	Institute of Geological and Nuclear Sciences
GST	Goods and Services Tax
IFRC	International Federation of Red Cross and Red Crescent Societies
IHR	International Health Regulations
LGA	Local Government Act 2002
LIM	Land Information Memorandum
LINZ	Land Information New Zealand
LTCCP	Long-Term Council Community Plan
LWF	Land and Water Forum
MCDEM	Ministry of Civil Defence and Emergency Management
MFE	Ministry for the Environment
MPI	Ministry for Primary Industries
NGO	Non-governmental organisation
NHEP	National Health Emergency Plan
NIWA	National Institute of Water and Atmosphere
NPS	National Policy Statement
NPSFM	National Policy Statement for Freshwater Management 2011
NZCPS	New Zealand Coastal Policy Statement 2010

NZRC	New Zealand Red Cross Society
ODESC	Officials' Committee for Domestic and External Security Coordination
PHOs	Primary Health Organisations
RHEP	Regional Health Emergency Plan
RMA	Resource Management Act 1991
s	Section (of an Act)
SARS	Severe acute respiratory syndrome
SCRCA or SC&RCA	Soil Conservation and Rivers Control Act 1941
ss	Sections (of an Act)
TAG	Technical Advisory Group
UN	United Nations
UNDP	United Nations Development Programme
UNISDR	United Nations Office for Disaster Risk Reduction
WHO	World Health Organisation
\$	New Zealand dollars (NB all monetary figures are in New Zealand dollars)



1. Introduction, Background and Project Objectives

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1. Introduction, Background and Project Objectives

1.1. Law and DRR Project Background

In January 2005, a United Nations (UN) conference of over 4,000 representatives of governments, non-governmental organisations (NGOs), the Red Cross and Red Crescent (RCRC) Movement, UN agencies, academic institutes and the private sector adopted the Hyogo Framework for Action⁴ (HFA), which contained a set of commitments and priorities to take action to reduce disaster risks. The first of these was to “ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation”, notably through “policy, legislative and institutional frameworks for disaster risk reduction”.⁵

Since 2005, a significant amount of legislation has been adopted in various parts of the world aimed at strengthening the focus on disaster risk reduction (DRR), yet important gaps still remain, particularly with regard to follow-through at community level. This was confirmed in a number of reports prepared around the time of the mid-term review of the HFA⁶ and subsequently, including country case studies conducted by the IFRC.⁷ Communities were found not to be well enough informed, engaged and resourced to take an active part in reducing risks, and it was noted that rules to deter risky behaviours (particularly in construction and land use) often go unenforced. While legislation is certainly not the only way to address some of the issues, it can be an important part of the puzzle.

In 2011, the state parties to the Geneva Conventions took up this issue at the International Conference of the Red Cross and Red Crescent. Their resolution encouraged states, with support from their National Red Cross and Red Crescent Societies, IFRC, UNDP, and other relevant partners to review the existing legislative frameworks in light of the key gap areas identified in the IFRC report to the Conference, and to assess whether they adequately:

- a. make DRR a priority for community-level action;
- b. promote disaster risk mapping at the community level;
- c. promote communities’ access to information about DRR;
- d. promote the involvement of communities, National RCRC Societies, civil society and the private sector in DRR activities at the community level;
- e. allocate adequate funding for DRR activities at the community level;
- f. ensure that development planning adequately takes into account local variability in hazard pro-

4 UNISDR, Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters (HFA), World Conference on Disaster Risk Reduction (Hyogo, Japan, 2005), Treaty number, UN Doc A/CONF.206/6 (extract).

5 HFA Art. 16, Priority 1, at 6.

6 UNDP, A Global Review: UNDP Support to Institutional and Legislative Systems for Disaster Risk Management (2007); Global Network of Civil Society Networks for Disaster Reduction, “Clouds But Little Rain” Views from the Frontline: A Local Perspective of Progress Towards Implementation of the Hyogo Framework for Action (2009); IFRC, Hyogo Framework for Action: Red Cross Red Crescent Mid-Term Review, October 2010 (unpublished, 2010); Global Network of Civil Society Networks for Disaster Reduction, If we do not join hands... Views from the Frontline: Local reports of progress on implementing the Hyogo Framework for Action, with strategic recommendations for more effective implementation (2011).

7 IFRC, Analysis of legislation related to disaster risk reduction in Brazil (Geneva, 2012); IFRC, Analysis of legislation related to disaster risk reduction in the Dominican Republic (Geneva, 2012); IFRC, Analysis of legislation related to disaster risk reduction in Nepal (Geneva: IFRC, 2011); IFRC, Analysis of legislation related to disaster risk reduction in South Africa (Geneva, 2012) - all available at <http://www.ifrc.org/en/what-we-do/idrl/research-tools-and-publications/disaster-law-publications/>.

- files, exposure, and vulnerability and cost-benefit analysis;
- g. ensure full implementation of building codes, land use regulations and other legal incentives, and;
 - h. promote strong accountability for results in reducing disaster risks at the community level.

The purpose of the country case studies as a whole is to assist IFRC and UNDP in compiling a Global Synthesis Report on DRR and legislation. The synthesis study will be available as a tool for states and international actors, including UNDP and the RCRC Movement, by providing comparative data and examples of good legislative practices and their implementation. It will also be used to develop other tools as the basis for advocacy and capacity building in DRR. The purpose of the present country case study is to provide country level information and analysis for this global project, and also to provide insights into law and DRR in New Zealand.

In this context, DRR is defined according to the United Nations Office for Disaster Risk Reduction (UNISDR) terminology: “The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposures to hazards, lessened vulnerability of people and property, wise management of land and environment, and improved preparedness for adverse events.”⁸

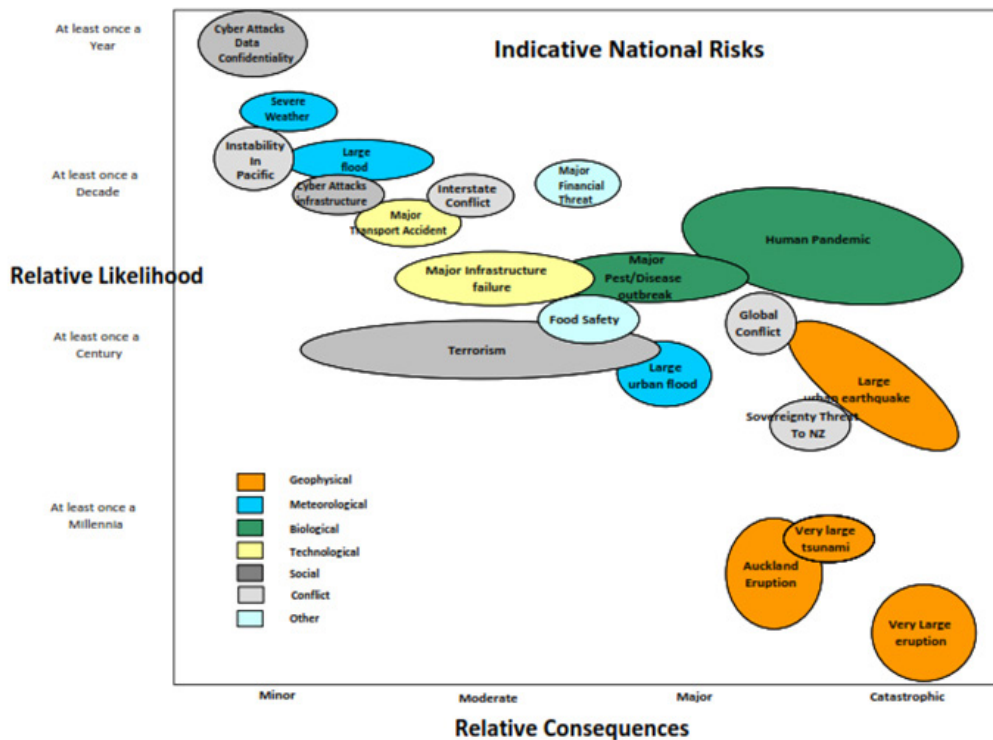
1.2. New Zealand’s Prevalent Hazards

New Zealand has always been vulnerable to devastation by natural hazards. Given the diversity of New Zealand’s natural landscape (both geologically and meteorologically), New Zealanders are, and will continue to be, at risk of a large range of hazards such as floods, storms, cyclones, snow-storms, earthquakes, volcanic eruptions, geothermal incidents, tsunamis, landslides, and lahar; and non-natural events such as lifeline utility failures.⁹ Climate-related hazards are expected to be exacerbated by climate change.¹⁰

8 UNISDR, Terminology on Disaster Risk Reduction (Geneva, 2009)

9 More detailed information on each hazard and its implications for particular areas of New Zealand can be found in the National Hazardscape Report (Wellington: Officials’ Committee for Domestic and External Security Coordination, Department of the Prime Minister and Cabinet, 2007).

10 Peter Gluckman, New Zealand’s changing climate and oceans: The impact of human activity and implications for the future (Auckland: Office of the Prime Minister’s Science Advisory Committee, 2013).



The above figure depicts the types of contingencies that feature in New Zealand’s national planning.¹¹ It includes examples of risks from various sectors that could result in significant casualties, damage, costs or disruptions.¹²

National legislation provides an overview of the aforementioned hazards that New Zealand faces on a national regional and local scale. Each region in New Zealand outlines and ranks the hazards from which they are most at risk.

In 2010 and 2011, Christchurch, New Zealand’s second largest city was severely damaged by a series of earthquakes, killing 185 people. The previous natural disaster causing a large number of casualties was the Hawkes Bay earthquake of 1931 when 258 people died. In the intervening years, declared emergencies tended to be small in scale, with the exception of flooding, which accounts for 70% of natural disaster events in New Zealand.

1.3 Governmental and Law-Making Structure

New Zealand does not have an entrenched constitution but an “unwritten” one made up of a number of legal instruments with constitutional significance. These include the Treaty of Waitangi, the Constitution Act 1986 and the Bill of Rights Act 1990. The Treaty of Waitangi is New Zealand’s founding

11 Note: this figure represents averages across all of New Zealand it should not be used for regional planning and in some cases portrayal of risk may not be accurate due to inadequate data in some cases. This figure is also based on historic risks and will not be an accurate reflection of how the climate related risks will change over time.

12 Department of Prime Minister and Cabinet, New Zealand’s National Security System (May 2011).

document, and is an agreement between the British Crown and Māori.¹³ Generally, legislation refers to principles of the Treaty rather than the Treaty itself. Treaty principles have developed because of the difference between the English and Māori texts, and the need to apply the Treaty to circumstances as they arise. The list of Treaty principles is not definitive and continues to evolve as the understanding of what it means to be a Treaty partner evolves. Partnership is the most commonly referred to principle.¹⁴ This partnership is reflected in the way that Māori have legislated authority as guardians of the land and natural resources.

New Zealand's political system is based on the Westminster system, and it is a unitary state with a centralised law-making parliamentary body, the House of Representatives. The governmental system has two tiers – central government and local government. Central government laws are set and applied based on a collection of acts of parliament (statutes), treaties, orders in council, letters patent, previous court decisions, and unwritten constitutional conventions.

“Over the last twenty five years, New Zealand's governmental system has undergone systematic decentralisation and devolution, as a result of nationwide reforms in economic policy and public sector management systems”.¹⁵ The aim was to have legal frameworks with regulatory goals rather than prescribed mandates with a greater role for regional and local government in decision-making. The system was based on the importance of devolution, flexibility, cooperation, partnership, participation and capability-building. All laws are made at the national level, and then translated and implemented via a hierarchy of legal decision-making structures. New Zealand's size and institutional structures enable a relatively agile process for DRR legislative/regulatory reform. Laws such as the Local Government Act 2002 allow for the devolution of governing mandates to the 16 regional authorities and to territorial local authorities.¹⁶

13 New Zealand History Online, The Treaty in brief, available at <http://www.nzhistory.net.nz/politics/treaty/the-treaty-in-brief>.

14 Constitutional Advisory Panel, TeTiriti o Waitangi, the Treaty of Waitangi, available at <http://www.ourconstitution.org.nz/Te-Tiriti-o-Waitangi-the-Treaty-of-Waitangi>.

15 Bo-Yao Lee, Working Together, Building Capacity – A Case Study of Civil Defence Emergency Management in New Zealand, *Journal of Disaster Research*, Vol. 5, No. 5 (2010), p. 565.

16 Northland, Auckland, Waikato, Bay of Plenty, Gisborne, Hawke's Bay, Taranaki, Manawatu-Wanganui, Wellington, Tasman, Nelson, Marlborough, West Coast, Canterbury, Otago, and Southland.



2. Methodology



2. Methodology

Preparation for this country case study project began in March 2013, and included a visit to the greater Christchurch area. The report was prepared during April and May 2013. Given the relatively short time-frame for this study, it does not attempt to be comprehensive. Instead, it aims to provide an overview and analysis of the legal framework for DRR in New Zealand, drawing out specific examples of good practice as well as the major gaps and challenges for both legislation and implementation.

The detailed legal research for this study was undertaken by Alice McSherry and Mischa Hill in advance, and is summarised in a separate DRR National Law Desk Survey completed in 2012.¹⁷ This report has also drawn on a number of secondary sources, including reviews undertaken by a range of government agencies and academic institutions, as well as stakeholder interviews at national, local and community levels.

The objectives of the in-country mission were as follows:

1. To identify and obtain copies of relevant laws and regulations relevant to DRR, including key national laws that were not found during the research for the Desk Survey, as well as sub-national laws and regulations in the sample areas visited.
2. To assess the extent to which the existing legal framework for DRR is both adequate for the needs of New Zealand and whether there is sufficient institutional support and other resources for effective implementation.
3. To identify good practices and gaps in the law and its implementation.

The project consultant met with government officials at the national, regional and community levels, as well as NZRC representatives and community representatives (a full list is available at Annex A). These interviews were vital in obtaining first-hand information regarding the institutional arrangements and implementation of DRR in New Zealand. Given the time-frame, it was not possible for the consultant to meet with all major actors and in some cases secondary research was followed up with phone calls and emails to clarify key points.

The interviews were held as structured discussions, based on the information and guideline questions provided to the project consultant in the project Terms of Reference (TORs). They focused on legal issues surrounding DRR in New Zealand, the legal framework and its implementation, and current disaster risks and DRR practices, with special consideration of any good practices and gaps in the legal framework or its implementation.

Regional and community visits

The essential purpose in reviewing legal frameworks for DRR is to help reduce communities' risks from disasters. Therefore, an important part of the study was to gain the views of communities on gaps or good practices in legal frameworks and their implementation, and to consider how the concerns of communities and civil society are incorporated into each sector of legal regulation relevant to DRR.

17 IFRC, Law and regulation for the reduction of risk from natural disasters in New Zealand: A desk survey (Geneva, 2012).

In accordance with the TORs, which required analysis of law, regulation and implementation within one regional area outside the capital, the project consultant visited the greater Christchurch area.

Two community focus groups were held:

- NZRC recovery outreach volunteer group
- Country Women's Institute

The greater Christchurch area was chosen for a number of reasons. The consultant had spent a significant amount of time working in this area over the last two years and brought this experience to the project. A number of reviews and amendments to legislation have been conducted as a result of lessons learned from the Christchurch experience; the people interviewed for the focus groups had experience of disaster and risk reduction legislation.

Meaning of 'law' and 'regulation'

For the purposes of this study, the terms 'legislation', 'law', 'legal framework' and 'regulation' refer to acts of parliament, legislation, laws, regulations, decrees or similar, as well as their implementing policies and guidelines, at all levels of government. It also includes binding customary law at community and local level that may not be formally documented.

3. Findings on Regulatory Frameworks for DRR and their Implementation

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3. Findings on Regulatory Frameworks for DRR and their Implementation

3.1. DRR in Disaster Risk Management Law and Institutions

As current New Zealand DRR legislation is based on high-level objectives and principles, commonly called ‘principles-based law’ or ‘enabling legislation,’ the carefully crafted ‘purpose’ sections of the laws provide a guide to interpretation for users and for courts. Regulations and other delegated legislation which sit below the primary act of parliament are then used, as necessary, to set out more prescriptive and detailed rules.¹⁸

Many of the gaps and positive aspects of DRR laws reflect the features of the principle-based approach to drafting legislation, versus a detailed approach. A key positive for risk management is that enabling legislation remains relevant in the face of changing hazards and risks, but a negative aspect is that it can leave unanswered questions and challenges for regional and local governments in its application.

New Zealand has demonstrated over a long period of time that making investments in prevention and preparedness is a necessary part of systematic efforts to increase resilience to disasters. As part of this, it maintains a strong national legislative framework for addressing DRR. The four core acts promoting risk reduction are:

- Resource Management Act (RMA) 1991
- Civil Defence Emergency Management (CDEM) Act 2002
- Building Act 2004
- Local Government Act 2002 (LGA)

At the national level, the Ministry for the Environment (MFE), the Ministry of Civil Defence and Emergency Management (MCDEM), The Department of Internal Affairs (DIA) and the Ministry of Business, Innovation and Employment are responsible for providing direction, support and guidance on the implementation of these acts. Apart from the LGA 2002, the purpose of these statutes is consistent as they have a focus on sustainable management/development, and refer to the social, economic, cultural well-being, and health and safety.¹⁹

18 Ministry of Consumer Affairs, Consumer Law Reform, A Discussion Paper (Wellington: Ministry of Consumer Affairs, 2010), <http://www.consumeraffairs.govt.nz/pdf-library/legislation-policy-pdfs/consumer-law-review-a-discussion-paper.pdf>.

19 W.S.A. Saunders and J.S.Beban, Putting R(isk) in the RMA: Technical Advisory Group recommendations on the Resource Management Act 1991 and implications for natural hazards planning, GNS Science Miscellaneous, Series 48 (August 2012).

Table 1: Purposes of key legislation for the management of natural hazards (emphasis added).²⁰

Statute	Purpose
RMA 1991 (Part 2, Section 5)	To promote the sustainable management of natural and physical resources. <u>Sustainable management</u> means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their <u>social, economic, and cultural well-being</u> and for their <u>health and safety</u> .
Building Act 2004 (Part 1, Section 3)	To provide for the regulation of building work, the establishment of a licensing regime for building practitioners, and the setting of performance standards for buildings, to ensure that: (a) <u>people who use buildings can do so safely and without endangering their health</u> ; (b) buildings have attributes that contribute appropriately to the health, physical independence, and <u>well-being</u> of the people who use them; (c) people who use a building can escape from the building if it is on fire, and; (d) buildings are designed, constructed, and able to be used in ways that promote <u>sustainable development</u> .
CDEM Act 2002 (Part 1, Section 3)	To improve and promote the <u>sustainable management</u> of hazards in a way that contributes to the <u>social, economic, cultural, and environmental well-being and safety</u> of the public and also to the protection of property.
LGA 2002 (Part 1, Section 3)	To provide for democratic and effective local government that recognises the diversity of New Zealand communities.

Implementation of these laws is devolved to local authorities who link local hazard risk assessments with long-term community goal setting and planning under the LGA 2002; natural resource policy and land use under the RMA; and emergency management under the CDEM legislation. The LGA 2002 provides the general framework, obligations, restrictions and powers under which local authorities operate. The purpose of local government, as defined in the act, is to “enable democratic local decision-making and action by, and on behalf of, communities”.

The 16 regional councils are responsible for managing broad-spectrum issues for their regions, such as water resource management, regional transport planning, river management and flood control. Local territorial authorities (councils) deal with day-to-day issues for their local community, such as building control, resource management, and community services.

Local government must recognise and provide for the relationship with Māori and the environment under the RMA. This includes having particular regard to Kaitiakitanga (guardianship)²¹ and taking into account the principles of the Treaty of Waitangi.

²⁰ The following table is an updated version of that provided in Saunders and Beban, 2012.

²¹ The traditional Māori system of environmental guardianship is Kaitiakitanga. Kaitiakitanga reflects the notion that people are the ‘offspring’ of nature and we are responsible to our ancestors and descendants to protect the natural environment which is our ‘kin’.

The overarching DRR legislative framework is illustrated in the diagram below.

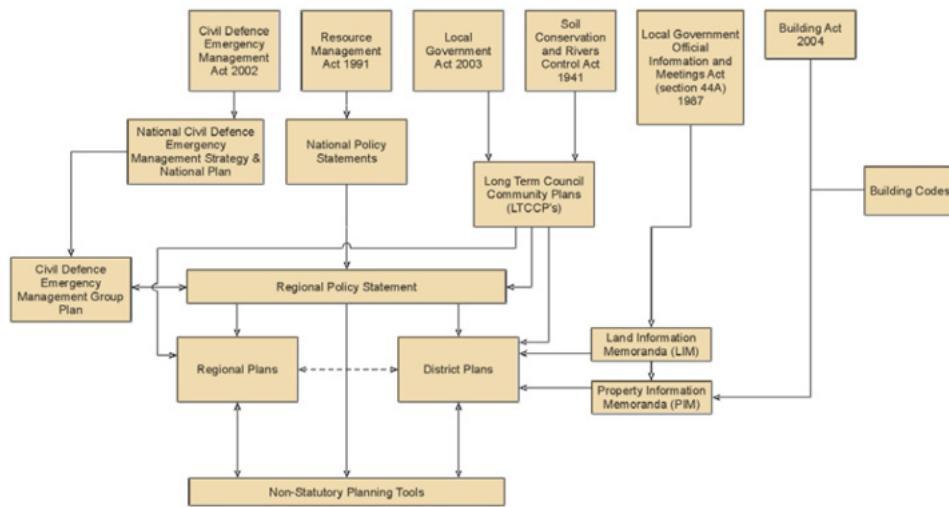


Figure 1: Relationship between key legislation for integrated management of natural hazards (Saunders et al, 2007)

The CDEM Act 2002 is broadly consistent with the 2005 HFA. Central to emergency management in New Zealand, it is an all-hazards, all-risks, comprehensive, multi-agency, integrated and community-focused approach. The CDEM Act sets out the duties, functions and powers of central government, local government, emergency services, lifeline utilities and the general public, and outlines significant powers and authorities for some individuals. A planning framework to achieve this purpose is set out in the National CDEM Plan 2005.

The vision for CDEM in New Zealand is “Resilient New Zealand: communities understanding and managing their hazards”. This is set out in the New Zealand National CDEM Strategy derived from the 2002 CDEM Act. The strategy is based on four the 4 R’s - reduction, readiness, response and recovery activities.

The CDEM Act sets out clearly-defined responsibilities for local authorities, including the requirement to coordinate CDEM at the local level and to organise themselves in a regional format, as CDEM Groups. Underlying the legislative framework is the concept that responsibility for managing risks resides as close to the community/individual at risk as practicable and that planning and actions are integrated across national and local levels. The act represented a significant reorganisation and paradigm shift in how New Zealand undertakes civil defence and emergency management. The key principles underpinning the act are:

- Risk management – embracing the idea that we cannot eliminate risk but must learn to manage and live with risk.
- Integration– addressing both horizontal and vertical command and control situations.
- Comprehensiveness – capturing the idea of risk management across all phases (before, during and after an event) and adopting an all-hazards and all-risks approach.
- Subsidiarity – ensuring that risks are managed by those closest to the hazard.

This shift from a centralised to devolved system has taken some time to embed and for individuals and organisations to understand their new roles and responsibilities, including philosophies to become ingrained, and for partnerships to develop.²²

Emergency management has changed from a response-focused, often part-time interest to a comprehensive and integrated emergency management sector with many agencies working in partnership. Interviewees agreed that the sector has greatly professionalised over the last ten years but as one interviewee noted, it still has a way to go in order to fully shake the ‘siren chasing’ first responder image and that ‘adjustments in thinking don’t happen overnight’.

Interviewees were in general agreement that the central tenets of the CDEM Act were sound and that the key challenges arose through implementation of the act rather than the act itself. A review of the Canterbury earthquake response in 2012 concluded that in general terms the legislation and subsidiary documents provide an adequate basis for emergency management.²³ A key observation by interviewees was the need for continuing culture/behaviour change, that the challenges are in implementation and that the panacea is not statutory.

An important feature of the CDEM Act is the requirement for government departments, emergency services, and lifeline utilities to participate in CDEM. These agencies had participated in civil defence to varying degrees previously, but the CDEM Act formally brought them under the organisational umbrella of CDEM in 2002, in a bid to encourage closer multi-agency cooperation and coordination on matters of emergency management.²⁴

Many agencies and utilities performed very well in the response to the Canterbury earthquakes. The review of the Canterbury earthquakes response noted that organisations that were well prepared in advance responded much better than those who were not. The review recommended that the MCDEM continue to promote a culture of preparedness for major disasters amongst all sectors and is resourced appropriately to do so.²⁵ As the CDEM Capability Assessment wisely noted, “While legislation may have brought these agencies together, it is when relationships are forged, and the mutual benefits realised, that the value is evident”, and this is a process that takes time.

22 Ministry of Civil Defence and Emergency Management, CDEM Capability Assessment Report: Part 1 (April 2012).

23 Ian McLean et al., Review of the Civil Defence Emergency Management Response to the 22 February Christchurch Earthquake (29 June 2012).

24 Ministry of Civil Defence and Emergency Management, CDEM Capability Assessment Report: Part 1 (April 2012).

25 Ian McLean et al., Review of the Civil Defence Emergency Management Response to the 22 February Christchurch Earthquake (29 June 2012).

An overview of the CDEM framework is outlined below:

THE NEW ZEALAND CDEM FRAMEWORK



Figure 2: The New Zealand CDEM framework

National Level

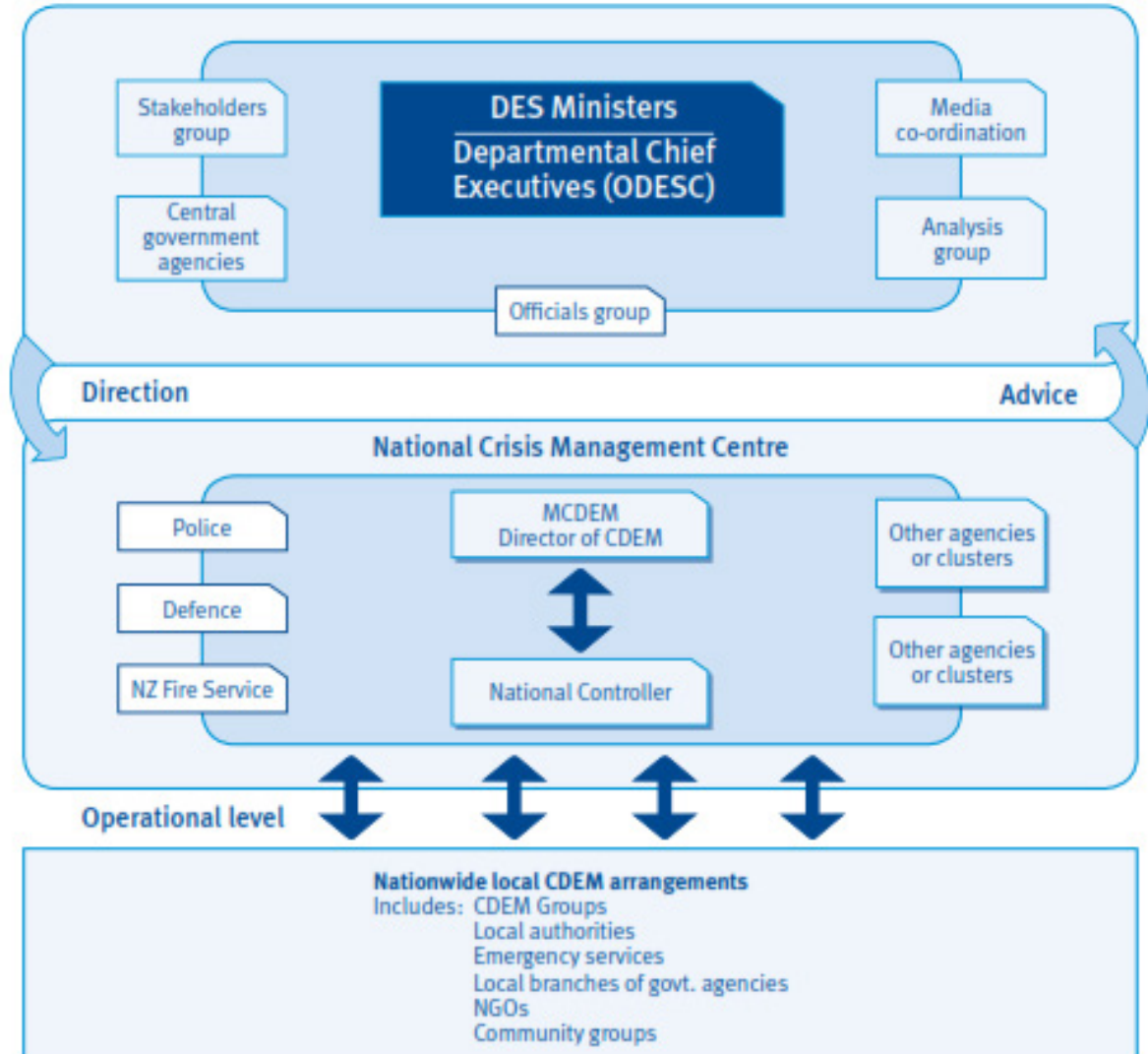
The MCDEM provides guidance and support to regional CDEM Groups and local authorities, assisting them to fulfil their statutory responsibilities for emergency management. These initiatives include publishing plans and guidelines, and using regionally-based advisors to provide the linkage between central and local governments.²⁶ Central government also establishes priorities for and funds research into hazards and risks to guide decisions.

The central decision-making body of executive government that addresses emergency management is the Cabinet Committee for Domestic and External Security Coordination (DES), which 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.²⁷

26 Bo-Yao Lee, Working Together, Building Capacity – A Case Study of Civil Defence Emergency Management in New Zealand, Journal of Disaster Research, Vol. 5 No. 5, (2010) p. 565.

27 Ministry of Civil Defence and Emergency Management, New Zealand National progress report on the implementation of the Hyogo Framework for Action, 2009-2011 (2012), available at <http://www.preventionweb.net/english/hyogo/progress/reports/v.php?id=16374&pid:223>.

Figure 4: National crisis management arrangements when MCDEM is the national lead agency at the operational level



Source: MCDEM. *Guide to the National Civil Defence Emergency Management Plan, 2007 Revision.*

A feature of the CDEM Act is that it sets out monitoring and evaluation requirements to monitor the National CDEM strategy and the performance of the CDEM Groups and other agencies with responsibilities.²⁸

28 Civil Defence Emergency Management Act 2002, Public Act 2002 No. 33 (17 October 2002), section 2(c)(d)(f) (CDEM Act 2002).

Regional Level

The CDEM Act requires local authorities to establish CDEM groups across New Zealand's 16 regions and also requires each group to develop and implement a CDEM plan.²⁹ The system places importance on devolution, flexibility, cooperation, partnership, participation and capability-building. Although there are benefits in having such flexibility in the arrangements, research indicated that there is a need for long-term council plans and other documents to incorporate CDEM principles in practical terms.

In Wellington, there is a new CDEM structure which, according to interviewees, works very well. This structure brings together all relevant personnel from nine councils into one organisation to deliver CDEM services. There is a focus on community resilience and a number of efficiencies created through sharing information and resources. It is a positive feature of the legislation that it allows regional arrangements to be based on local needs.

At the regional level, it was noted that there are some areas where the CDEM Act is open to interpretation and councils have to work to come to a common interpretation. An example is section 20, which relates to establishing a Coordinating Executive Group. Section 20(1) (a) refers to "the chief executive officer of each member local authority or a person acting on the chief executive officer's behalf". Some interviewees believe that the chief executive's ability to delegate should be the exception rather than the rule, while others automatically delegate this responsibility permanently. This links directly to one of CDEM's greatest challenges, getting political buy-in and priority within local council programmes. This point was raised in the CDEM Capability Assessment 2012, stating that "during interviews it was not uncommon to hear CDEM described by mayors, chief executives, or senior council management as the '23rd or 24th of 25 things we have to do'".

Funding for local risk reduction, readiness, response and recovery activities comes from a local property-based rating system. This can lead to budget constraints, especially in areas that are hazard-prone but have a low revenue base due to a small population. This can result in a council having only one half-time position to implement the CDEM Act at the local level. One study has identified insufficient investment in the system, which has flow-on effect in terms of how it works in practice.³⁰ An interviewee commented: "what can one guy employed for one day a week actually do to implement CDEM in his area?" It is widely recognised that the resourcing of CDEM, which is population-based rather than risk-based, can be problematic.

As councils face increased financial pressures and debt, there is a push for increased rationalisation of services for all council functions. There are concerns about the ramifications this will have on implementing the CDEM Act. A complicating factor is that councils need rates to raise revenues to meet the recurrent costs of their administration as well as to implement risk reduction measures, such as safe land development. This can lead to a tension between revenue generation and safe development.

29 Ministry of Civil Defence and Emergency Management, New Zealand National progress report on the implementation of the Hyogo Framework for Action, 2009-2011 (2012), available at <http://www.preventionweb.net/english/hyogo/progress/reports/v.php?id=16374&pid:223>.

30 Ministry of Civil Defence and Emergency Management, CDEM Capability Assessment Report: Part 1 (April 2012).

Community Level

The CDEM Act has a clear community focus in its purpose to “encourage and enable communities to achieve acceptable levels of risk”.³¹

There is an increased understanding of the importance of engaging communities in CDEM. It is recognised that practitioners need to move past communication or public awareness to building resilience and increasing levels of meaningful engagement with communities.

John Hamilton, the Director of CDEM, described it this way:

“I feel there is a real need to continue to remind ourselves that it’s the community and people that are the focus of our work and not the systems or even the procedures we use. I am striving to put that emphasis back into everything we do and to encourage Groups and CDEM staff to involve the community in most aspects of CDEM.”³²

Interviewees described the need for more to be done to build on the strengths of Māori and represent them in CDEM strategic documents. A recent paper summarised that “to date Māori resources and cultural strengths have not been integrated into pre-disaster planning and emergency response strategies at the national level in any meaningful way.”³³

Summary

The CDEM Act 2002 provides a comprehensive statutory base for emergency management in New Zealand. This encompasses a comprehensive all-hazard, all risks approach and is community focused. It also requires the Director of CDEM to monitor the implementation of the act, as it is a useful tool for measuring the strengths and weakness of emergency management in New Zealand.³⁴ The flexibility provided in the legislation enables emergency management in New Zealand to adapt to new risks and global changes.

However, there is also an inherent risk that enabling legislation can lead to challenges in interpretation and implementation at the local level. Current local government planning documents generally do not adequately consider CDEM principles.

Funding at the local level for CDEM is allocated on a property-based rating system. This can result in a lack of investment in emergency management in rural areas and lead to a tension between revenue generation and safe development. A strengthened approach to funding rural high-risk areas needs to be considered.

31 CDEM Act 2002, section 3(b).

32 John Hamilton, Community and people are the focus of our work (2013), 47 Impact 1, p. 2.

33 Kenney, C.M., Paton, D., Johnston, D., Reid, J. and Phibbs, S., Addressing Risk and Resilience – An Analysis of Maori Communities and Cultural Technologies in Response to the Christchurch Earthquakes, Conference Papers Compendium, UNESCO Global Risk Forum, IDRC Davos 2012, 373-376.

34 CDEM Act 2002, section 2(c)(d)(f).

3.2. Responsibility, Accountability and Liability for Natural Disaster Risk Reduction

New Zealand has a strong focus on government transparency, which supports government accountability. Good examples of legislation which promotes transparency and accountability are the Official Information Act 1982, which creates a system where every citizen has the right to access information held by public bodies, and the Local Government Official Information and Meetings Act 1987. By law, the public bodies have to respond to requests for information.

Many disputes related to DRR can be heard and determined by courts of relevant jurisdiction, and such cases may involve governmental or private actors. Such liability is mostly based on common law standards rather than legislative provisions. DRR-related legislation tends to set standards, for example, building standards under the Building Act 2004, or land use planning principles under the RMA 1991. They tend not to include specific sanctions for failure to meet these standards. Liability for failure to meet established standards arises independently, in the worst and least frequent cases in criminal law³⁵ and otherwise more frequently in tort law.³⁶ For example, injured parties may have recourse to extra-legislative tortious avenues such as negligence. Very generally, a negligence claim will be available where a party breaches a duty of care owed to the claimant and where the said breach causes damage to that claimant. There is a bar on legal actions for personal injury, as this is covered exclusively by New Zealand's Accident Compensation Corporation (ACC) scheme (see below). Civil litigation is possible for damage of such things as property and there are limitation periods for application of civil claims.

The following is a brief outline of some areas in which the DRR legislative framework, often almost tangentially, touches on responsibility, accountability and liability. If there has been physical and direct loss caused by CDEM activity related to a state of emergency, the injured party may seek limited compensation under the CDEM Act.³⁷ These actions can be made individually against the Crown or the relevant CDEM group. Generally, compensation can only be sought for the amount of losses remaining after insurance or other payments. Section 110 provides protection from liability for controllers and others in a state of emergency. Individuals are protected from liability for losses or damages caused by their actions or omissions due to a state of emergency. However, no individual is exempt from liability for an act or omission that constitutes bad faith or gross negligence.

The Building Act 2004 regulates building works. It establishes a licensing regime for building practitioners and sets performance standards for buildings, in order to promote the safety and health of people who use buildings. It also seeks to "promote the accountability of owners, designers, builders and building consent authorities who have responsibilities for ensuring that building work complies with the building code" (section 3(b)). To this end, the Building Act includes a series of important provisions:

35 Crimes Act 1961, Public Act 1961 No. 43 (1 November 1961).

36 Sourced in precedent/case law.

37 Namely in CDEM Act 2002, sections 107, 108, and 110.

- It provides for the cancellation or suspension of licensing of building practitioners, for example where the practitioner is convicted for an offence that reflects adversely on the practitioner's ability to carry out building work.
- It allows for the prescription of a code of ethics for licensed building practitioners, and provides that licensed building practitioners must not misrepresent their competence nor work outside the scope of their competence.
- It also establishes a series of offences. For example, under section 363, the owners or occupiers of buildings that are open to the public or intended for public use, commit an offence (and are liable to a fine of up to \$200,000.00) if they allow the building to be used, where that building is affected by building works and as a result does not meet certain building code criteria. Other offences include the wilful removal or defacement of notices published under the Building Act, or the making of statements, required by the act, which are false or misleading.

The RMA 1991 also contains several criminal offences; persons who commit offences under the RMA are liable, on conviction, to fines, imprisonment or community service.³⁸ A district court may also grant injunctions for certain continuing offences. The RMA additionally provides for civil liability for failures to comply.

Current Challenges with Liability

A number of disaster events illustrate the challenges involved in ascribing liability in disasters:

- In the Cave Creek disaster of 1995, a viewing platform collapsed, killing 14 people. The Department of Conservation accepted responsibility for the accident, but was not made liable for negligence, because legislation at the time prevented the imposition of such liability on government departments. As a result of the event, the legislation was repealed.
- In the Rena Marine disaster of 2011, there was an oil spill off the coast of Tauranga. New Zealand's liability provisions under the Maritime Transport Act 1994 were described as "woefully inadequate" – the provisions limit liability at \$12.1 million. Again, it would be relatively simple to amend the Maritime Transport Act 1994 to set a higher liability limit.
- The collapse of the Canterbury Television (CTV) building during the 2011 earthquake fuelled debate about the possible inception of a corporate manslaughter crime into New Zealand law, although this would be complex. The Canterbury Earthquakes Royal Commission of Inquiry found design and construction deficiencies in the CTV Building. The Institute of Professional Engineers New Zealand and the Chartered Professional Engineers Council both claimed, however, that they had insufficient power to take action against members who were involved in the building's construction. At the time of writing no charges were proceeding.

38 Resource Management Act 1991, Public Act 1991 No. 69 (22 July 1991), sections 338 and 339 (RMA 1991).

In conclusion, DRR-related legislation sets standards, to be respected by both governmental and private actors, and failure to meet those standards can create liability in tort or even criminal law, independent of the legislation containing the standards. However, there have also been several high-profile examples where existing tools have proven inadequate. This is an issue with which politicians, the courts and the New Zealand public will still need to grapple.

Compulsory Insurance Schemes

Earthquake Commission (EQC)

The Earthquake Commission Act 1993 sets the legal framework for the Earthquake Commission (EQC) and the provision of publicly-funded insurance against natural disaster damage. EQC is a government-owned Crown entity that provides cover for residential homes, land and contents. This cover is automatically provided if the owner has a current private insurance policy that includes fire insurance. EQC cover insures against loss or damage to dwellings, contents and land from earthquakes, natural landslips, volcanic eruptions, hydrothermal activity, and tsunamis, and for land damage caused by storms and floods.

Cover entitles the holder to up to \$100,000 for each dwelling, with any amount above that being paid by the policy holder's insurance company. This cover is government guaranteed which provides assurance to consumers that if EQC cannot cover its obligations from the Natural Disaster Fund and its reinsurance, then the government will pay the shortfall. EQC also funds research relevant to natural disaster damage, educates and informs people about what can be done to prevent and mitigate damage caused by natural disasters.

In light of experiences from the Canterbury earthquakes, the government has announced a review of the EQC legislation and there is strong agreement that this is needed. The review has the following objectives:

- Support the contribution of a well-functioning insurance industry to economic growth opportunities in New Zealand.
- Minimise the fiscal risk to the Crown associated with private property damage in natural disasters.
- Support an efficient approach to the overall management of natural disaster risk and recovery.
- Minimise the potential for property owners to experience socially-unacceptable distress and loss in the event of a natural disaster.³⁹

The Canterbury earthquakes were the greatest test of the EQC model. There were complexities arising from the event that were unforeseen; EQC has received claims arising from 15 separate aftershocks (unique in world insurance history) and because the New Zealand High Court determined that EQC cover is reinstated after each event, this required apportionment to determine how much damage was caused by each individual quake.

Significant damage to residential land in some suburbs has added significant complexity to the recovery process with hazard zoning of land and Crown buyouts. It has been difficult to apply the legislation to these events given that the provisions are based on responding to a single event. There

³⁹ The Treasury, Terms of Reference for the Review of the Earthquake Commission Act 1993 (September 2012), available at <http://www.treasury.govt.nz/publications/reviews-consultation/eqc/pdfs/eqc-rev-tor-sep12.pdf>.

is recognition that parts of the EQC Act are ambiguous and that this allows opportunities and incentives for cost shifting from private insurers to the Crown.

A number of additional responsibilities were assigned by the government to EQC after the Canterbury earthquakes, for example the repair of damaged houses (instead of the normal operating model of cash settlements), provision of emergency heating (due to the loss of chimneys) and emergency repairs, and geo-technical assessment of ground conditions. These tasks placed additional pressure on the organisational capacity of EQC (which until 2010 operated its disaster functions on an 'outsourced' model), which had to immediately scale up from 22 staff pre-quake to over 1,000 staff post-quake. A number of interviewees felt EQC was unprepared for a large event, while others acknowledged the unique elements of the Canterbury events and the difficulty in maintaining adequate organisational capacity in case of a large event that may or may not happen.

The system was overwhelmed by more than 423,000 building claims, 185,000 contents claims, and more than 133,000 land claims, and EQC have understandably been playing catch-up ever since. There has been widespread public frustration and distress resulting from a lack of service, perceptions of quality and timeliness around EQC decisions. There have also been significant privacy breaches by EQC, one resulting in court action by EQC to prevent further disclosure by third parties.

EQC is a positive DRR measure in that it creates a market that brings down the cost of natural disaster insurance for New Zealanders. This reduces their financial exposure, an important element of vulnerability. Having a system that makes insurance affordable is a key factor in New Zealand's high rate of insured (95%). Risk transfer through this scheme is an important dimension of resilience for a small economy like New Zealand's. EQC's science and education role is of significant benefit to the building of an evidence base and research capabilities for DRR, and a culture of resilient development in New Zealand.

Accident Compensation Corporation

The ACC is the sole and compulsory provider of accident insurance for all work and non-work injuries in New Zealand. The scheme arose from a 1967 Royal Commission on workers' compensation (the "Woodhouse Report") that represented an important shift away from a fault-based adversarial system. The ACC scheme first came into operation on 1 April 1974 and is based on an insurance model that provides cover for all personal injuries, regardless of fault or cause of injury.⁴⁰

The ACC is a New Zealand Crown entity responsible for administering the Accident Compensation Act 2001. The 2001 Act incorporated changes that included:

- Greater focus on injury prevention as a primary function of ACC
- Greater focus on rehabilitation
- New management of injury-related information across the different agencies within the injury prevention sector. The act provides for an information manager to be appointed to oversee the collection of, and access to, data across the different government agencies
- Lump sum entitlements to be reintroduced for permanent impairment

A review published in 2008 found that it provided considerable economic and social benefits to New

40 Accident Compensation Corporation, A brief history of ACC, available at <http://www.acc.co.nz/about-acc/overview-of-acc/introduction-to-acc/ABA00003>.

Zealand and that, due to its coverage of all injuries and no-fault nature, it offers broader coverage than any other accident compensation scheme globally.⁴¹

Like EQC, ACC is a positive measure for risk reduction in New Zealand as it ensures that all people injured in a disaster will receive support, reducing their vulnerability. However, for DRR its most important feature may be the focus on accident prevention, which assists in building a culture of safety and demonstrates an understanding of the economic benefits of prevention rather than cure. A specific cross-government “Injury Prevention Work Plan” led by ACC was adopted by the Cabinet in 2013.⁴²

3.3. DRR and Law on Specific Hazards (Sectoral laws)

The CDEM Act takes a comprehensive all-risks and all-hazard approach to emergency management. It does not provide a specific legal regime to manage each and every individual risk. However, there are pieces of legislation that support certain areas of risk reduction in New Zealand. These include:

- The Biosecurity Act 1993 and The Biosecurity Law Reform Act 2012 which covers the effective management, or eradication, of pests and unwanted organisms
- The Ministry of Health Act 1956
- The Forest and Rural Fires Act 1977 endeavours to achieve “the safeguarding of life and property by the prevention, detection, control, restriction, suppression and extinction of fire in forest and rural areas and other areas of vegetation”

3.3.1 Agricultural hazards

Biosecurity Act

The New Zealand economy is based on primary industries. Biosecurity is strategically important as it protects New Zealand’s key economic and environmental assets. Biosecurity is a key risk mitigation measure at the forefront of protecting livelihoods.

The Biosecurity Act 1993, administered by the Ministry for Primary Industries (MPI), is the primary legislation providing a range of powers, duties and obligations. The ministry also enforces the Hazardous Substances and New Organisms Act 1996 in respect of ‘new organisms’ not yet present in New Zealand. MPI has a key role in the development of policy and provides secretariat services for the Biosecurity Council. It also undertakes biosecurity risk analysis, the development of import health standards, border control and emergency response.

The Biosecurity Act 1993 was amended in 2012.⁴³ The key purpose of the amended legislation includes improving the effectiveness and efficiency of the biosecurity system, making sure that resources are allocated according to the level of risk, clarification of roles and responsibilities, and the promotion of multi-stakeholder partnerships and collaboration. The amendments aim to “future-proof” the legislation to ensure adaptability over time. Drafting legislation in preparation for risks that are not yet known or evident is good DRR practice, however, given that the legislative amendments are so recent, there has not yet been an evaluation of its effectiveness.

41 Price water house Coopers, Accident Compensation Corporation in New Zealand: Scheme review, March 2008.

42 Accident Compensation Corporation, Injury prevention strategies, available at <http://www.acc.co.nz/preventing-injuries/injury-prevention-strategies/index.htm>

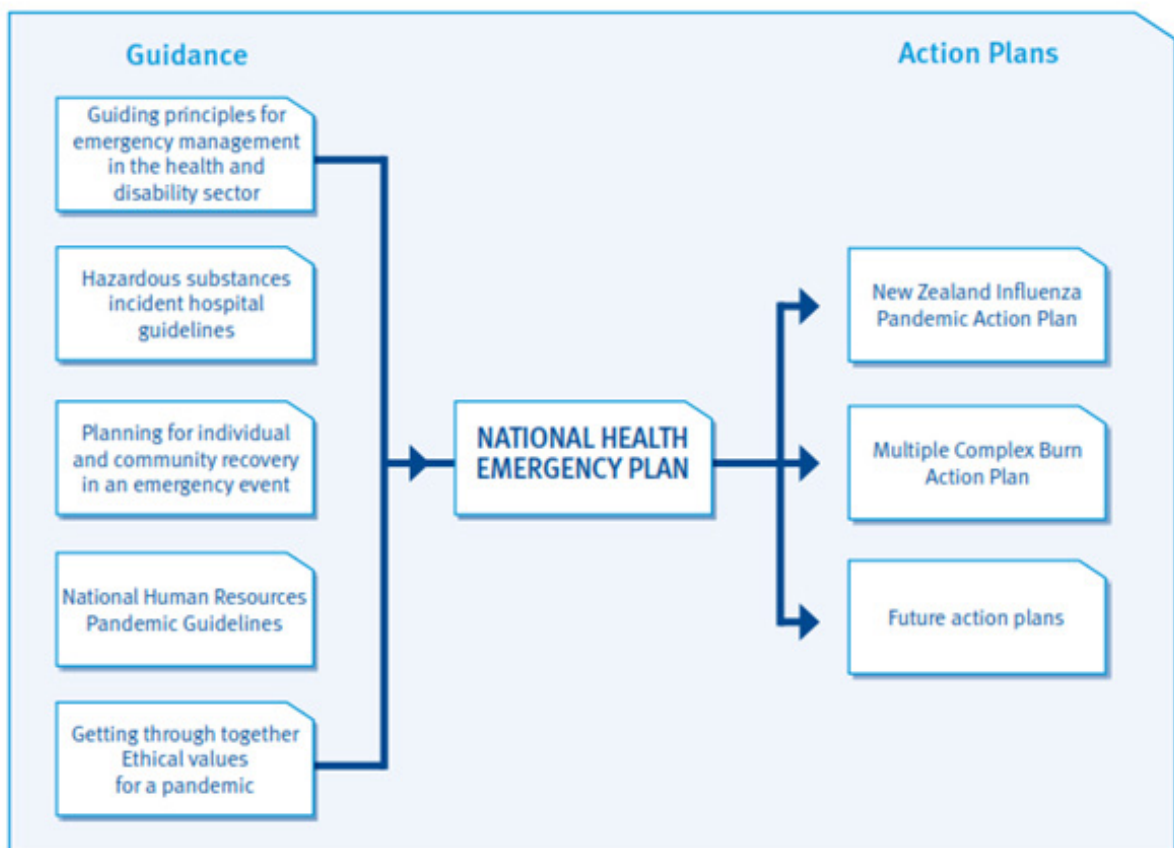
43 By the Biosecurity Law Reform Act 2012, Public Act 2012 No. 73 (17 September 2012) (Biosecurity Law Reform Act 2012).

3.3.2 Health

Emergency health preparedness is critical to the DRR framework given that pandemic outbreaks represent New Zealand's number one risk in terms of both likelihood and consequences. The primary acts that, along with their associated regulations, allocate legislative responsibility to health sector organisations are the:

- CDEM Act 2002;
- Epidemic Preparedness Act 2006;
- Health Act 1956;
- National CDEM Plan Order 2005;
- New Zealand Public Health and Disability Act 2000.

Figure 1: The relationships between guidance documents, the NHEP and national action plans



The latest electronic versions of all NHEP documents are available at <http://www.moh.govt.nz/emergencymanagement>

When developing an emergency management response, planners take an all-hazards, all-risks, multi-agency, integrated and community-focused approach, in accordance with the National CDEM Strategy. Health services are required to participate in the preparation of the National CDEM Plan under section 63 of the CDEM Act.

The Ministry of Health works closely with Civil Defence. Under the CDEM Plan Order 2005, District Health Boards (DHBs) are “required to develop and maintain a plan for significant incidents and emergencies”.⁴⁴ Please see figure below for national health emergency arrangements.

The National Health Emergency Plan (NHEP) directs Primary Health Organisations (PHOs) to develop and maintain emergency response plans, which are to encompass all hazards that may occur in their respective area. DHBs and other health and disability agencies liaise with each other to ensure they can provide an integrated emergency response at a local level.⁴⁵

The Christchurch earthquake review team⁴⁶ reported that the health response to the Christchurch earthquake of February 2011 was very good, and that this was largely due to the investment in a high level of emergency preparedness at both legislative and operational levels over a number of years. Adherence by the Canterbury DHB to legislative requirements and clinical networks developed through the fear of a SARS epidemic resulted in a strong health response to the Christchurch earthquake.⁴⁷ This illustrates the effectiveness of New Zealand’s legislative framework with regard to the reduction of risks associated with health emergencies.

3.3.3 Health and Safety in Employment

The objective of the Health and Safety in Employment Act 1992 is to promote the prevention of harm to all people at work, and others in, or in the vicinity of, places of work. Recent events have shown that this legislation has failed to achieve this purpose.

Health and safety failures caused the deaths of 29 men in the Pike River mine explosion of 2009. This disaster was a catalyst for a review of health and safety in New Zealand. The government established an independent taskforce on workplace health and safety which found that the system was not ‘fit for purpose’ and found numerous weaknesses that need to be addressed ‘to facilitate a major step-change’ in workplace health and safety in New Zealand.⁴⁸ In particular, it found that the Health and Safety Act and other related pieces of legislation had created a confusing regulatory environment, blending hazard and risk-management specifications, creating uncertainties across different jurisdictions, and missing important issues, such as the coverage of contractors and supply chains and the regulation of major hazard facilities.⁴⁹ The report contains a variety of recommendations including a new Workplace Health and Safety Act based on Australian legislation, a new workplace health and safety agency with a “clear identity”, and a strong framework for work participation.

44 Schedule to CDEM Act 2002, National civil defence emergency management plan, Order 2005 (SR 2005/295), clause 30 (CDEM Plan).

45 Ministry of Health, National Health Emergency Plan (Wellington, 2008).

46 Civil Defence, Review of the Civil Defence Emergency Management Response to the 22 February Christchurch Earthquake, available at http://www.civildefence.govt.nz/memwebsite.nsf/wpg_URL/For-the-CDEM-Sector-Publications-Review-of-the-Civil-Defence-Emergency-Management-Response-to-the-22-February-Christchurch-Earthquake.

47 Ian McLean et al., Review of the Civil Defence Emergency Management Response to the 22 February Christchurch Earthquake (29 June 2012).

48 Independent Taskforce on Workplace Health and Safety, Report of the Independent Taskforce on Workplace Health and Safety (April 2013), available at <http://hstaskforce.govt.nz/documents/report-of-the-independent-taskforce-on-workplace-health-safety.pdf>.

49 Ibid.

The recommendations are now with the government for consideration. As the Pike River mine explosion illustrated, New Zealand's health and safety framework leaves the country prone to industrial disasters. Concerning legislation, it has been recommended that a new 'fit for purpose' piece of legislation be developed.

3.4. Early Warning Systems (EWS) and Risk Mapping

3.4.1 Early Warning

New Zealand has early warning systems (EWS) at the national, regional and community levels.

National Level

A national warning system operates constantly as per the CDEM Plan Order 2005; warning messages are communicated to relevant response agencies and, when necessary, directly to the public via the media – memoranda of understanding, supported by procedures and exercises, are in place with major radio and TV broadcast companies to provide public warnings. Response agencies develop their own internal and local area systems as an extension of the national network. Under clause 62 of the CDEM Plan, national warnings must be provided by MCDEM to CDEM groups, local authorities, the police, certain government departments, lifeline utilities, and certain broadcasters. Section 66 requires that information and early warnings be timely, relevant, consistent and reliable.

Regional Level

Also under clause 62 of the Plan, "civil defence and emergency management groups are responsible for (a) disseminating national warnings to local communities; and (b) maintaining local warning systems". Moreover, "the responsibility for issuing warnings rests with the agency that, through its normal function, is involved with the identification and analysis of the particular hazard or threat".⁵⁰ Agencies responsible for early warnings, other than MCDEM, include Regional Councils, MetService and GNS science.⁵¹

Community Level

There are no legal requirements for community consultation and participation in the development of EWS. However, community participation is a goal: "Community participation is an integral part of Civil Defence Emergency Management ..., particularly at the local and regional level".⁵²

Interviews noted that the roles, responsibilities and goals of early warning mechanisms in New Zealand work well. There is strong cooperation between the different agencies and interviewees expressed confidence in system. There is a need to support communities (especially particularly

50 CDEM Plan, clause 60.

51 CDEM Plan, Appendix 1.

52 Civil Defence, National Civil Defence and Emergency Management Strategy, Department of Internal Affairs (Wellington, 2008), p. 10.

vulnerable members such as those who are disconnected, unaware or have disabilities) to prepare. This is not seen as a legislative issue, but rather as an advocacy and public education function, as the CDEM Act aims to encourage and enable communities to achieve acceptable levels of risk.⁵³

3.4.2 Risk Mapping

There is no centralised system for collecting and collating all hazard information and risk data. Regulations for the collection and publication of seismological, meteorological and climatic data could be not found under national law. The RMA, however, does place responsibilities for hazard mapping and monitoring on local government at regional and territorial levels, as well as the responsibility to make these hazards known publicly. Crown Research institutes are in place for the monitoring of such data: the National Institute of Water and Atmosphere (NIWA) monitors, models and advises on river flows (flooding), climatic events (droughts), storm surges, sea level rises, and coastal geomorphologic processes.

GeoNet is a modern nation-wide geological hazard monitoring system. It comprises a network of geophysical instruments, automated software applications and skilled staff. It detects, analyses and informs about earthquakes, volcanic activity, large landslides and tsunamis.

MetService is contracted by the government to monitor and disseminate free severe weather warnings, outlooks and watch forecasts, via the MetService website and other media systems, including social media. Select organisations, and others using a paid service, also receive direct notices. Climate and weather-related event forecasting is increasingly becoming more accurate, with services tailoring information to enable people and businesses to undertake preparedness steps such as moving farm stock.

The National Hazardscape Report (2007) – published by the ODESC based on contributions from agencies responsible for addressing hazard risk – provides a contemporary summary of the physical nature, impact, distribution and frequency of occurrence of the 17 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, although it focuses on reduction and readiness initiatives.⁵⁴

The National Hazardscape Report identifies hazards and risks to be addressed through standard national policies and plans, and the relevant legislative frameworks. More precise risk assessments are carried out as part of these processes. Additionally, specific hazards (such as seismic and wind loadings) are modelled at a national scale to support national standards for construction. Local authorities undertake hazard and risk assessments as part of their risk management processes in natural resource management through land and water planning, and in developing CDEM Group plans. It is at this level that research on specific hazards and risks, and management options, generally takes place. Interviewees expressed concern for the variability of council capacity and capability to conduct this, noting that “it generally works well for the metros but the smaller councils often don’t have the resources”.

53 CDEM Act 2002, section 3(b).

54 Ministry of Civil Defence and Emergency Management, New Zealand National progress report on the implementation of the Hyogo Framework for Action, 2009-2011 (2012), available at <http://www.preventionweb.net/english/hyogo/progress/reports/v.php?id=16374&pid:223>.

There appears to be a gap in relation to the implementation of section 35(5)(j) of the RMA 1991, which requires local authorities to keep “records of natural hazards to the extent that the local authority considers appropriate for the effective discharge of its functions” – in some cases DRR has been hindered by inaccessible or poorly distributed information. For example, the Canterbury Fact Finding Project⁵⁵ suggested that although generic information on liquefaction and lateral spreading was widely known during the study period, for most of that period, more specific information on liquefaction and lateral spreading was not shared and was not specifically factored into zoning and consenting decisions.⁵⁶

Legislation may need to be strengthened, and guidance provided to local authorities, to ensure that information is effectively shared. Local authorities should make information about natural hazards available to all other local authorities within their region. It might be necessary to expressly override, by amendment or through new legislation, any constraints, on information sharing arising from existing legislation, such as the Privacy Act 1993 and the Local Government Official Information and Meetings Act 1987.⁵⁷

There is also limited guidance for councils on how to translate natural hazard risk information into land use plans and in determining acceptable levels of risk. A number of non-statutory tools are being developed to address this gap, but there is a widespread view amongst those interviewed that greater direction is needed from the national laws, especially concerning climate change adaptation.

3.5. Regulation of the Built Environment

3.5.1 Building Codes

National Level

The existence and implementation of robust building codes in New Zealand is a clear example of good practice. Widespread damage during the 1931 Hawke’s Bay earthquakes had a profound effect on public perceptions of the hazard posed by earthquakes. Attention was focused on weaknesses in building construction, especially poor building standards and the lack of any provision for earthquake-resistant design. This led to a draft by-law in 1931, which was incorporated into a building code in 1935.⁵⁸

The Building Act 2004 provides for the regulation of building work, the licensing regime for building practitioners, and the setting of performance standards for buildings. It covers natural hazards in relation to the construction and modification of buildings. The Building Act 2004 sets the requirements for life safety which flows to the Building Code.

55 Hill Young Cooper and Resource Management Group Ltd, Canterbury Fact Finding Project (August 2011), pp. 5-8.

56 Minister for the Environment, Report of the Minister for the Environment’s Resource Management Act 1991 Principles Technical Advisory Group (February 2012).

57 Minister for the Environment, Report of the Minister for the Environment’s Resource Management Act 1991 Principles Technical Advisory Group (February 2012).

58 TeAra – The Encyclopaedia of New Zealand, Story: Earthquakes, available at <http://www.teara.govt.nz/en/earthquakes/page-4>.

All new building work in New Zealand must comply with the Building Code. It is a performance-based code, which means that it states how a building and its components must perform as opposed to describing how the building must be designed and constructed. Local government is responsible for implementing the Building Act and its regulations, issuing of building consents and code of compliance certification.

Amendments to the Building Act are limited to new buildings and those that are earthquake-prone. Amendments are not typically applied retrospectively as it is seen as interfering with people's property rights. If a building owner wants to upgrade/extend a building, then current building code requirements for fire and provisions for access for people with disabilities must be met. If a building owner changes the use of a building, the structure must be upgraded as near as reasonably practicable to the current code (for example, warehouse conversion to apartments). Critical structures, such as hospitals and schools, must be built to a high threshold of compliance with the Building Code, as it is important that they are operational post-event.

The Building Code also includes provisions to reduce the risk and impact of fire. These regulations cover the structural stability of buildings during fires, building height and design to mitigate external vertical fire spread, building materials, warnings against fire, escape routes, means for people with disabilities to escape, evacuation procedures, signs, places of safety, access and safety for fire-fighting operations, and the placement of fire-fighting equipment in buildings.⁵⁹ Individual owners of buildings must comply with the Building Code.

An example of good practice within the Building Act 2004 and the Building Code is the provisions for accessibility for people with disabilities. The legislation requires all buildings to which the public are admitted, to have reasonable and adequate facilities for disabled people to visit, work, and carry out normal activities. The Building Act and Building Code do not require access or facilities for disabled people in residential housing.⁶⁰ Accessibility of the built environment for disabled people is a key outcome sought by the UN Convention on the Rights of Persons with Disabilities, which New Zealand ratified in September 2008. The accessibility of buildings is a key DRR measure in that it enables emergency personnel to enter buildings with ease; for example, a ramp for wheelchair access can also be used by paramedics wheeling a stretcher. Further, buildings with good access can more readily be used for shelter post-disaster.

The Building Act as it applied in the Canterbury Earthquake

Following the February 22nd earthquake in 2011, there were a number of building failures within the central business district. A Royal Commission of Inquiry into building failure (the Canterbury Earthquakes Royal Commission) was established to look into these failures and make recommendations. The Commission concluded that fundamentally, the regulatory framework is sound, but there are opportunities for the enhancement of some aspects of current design practice. They found that with the exception of two large buildings (Pyne Gould Corporation Building and the Canterbury Television (CTV) buildings) modern commercial buildings generally performed in accordance with the key

59 See Building Regulations 1992 (SR 1992/150), Schedule 1, The building code, clauses C1-C6.

60 Office for Disability Issues, Built Environment, available at <http://www.odi.govt.nz/what-we-do/built-environment/index.html>.

objective of life safety set by the Building Code. The Commission made recommendations for legislative change to the Building Act 2004, the Historic Places Act 1993, the RMA 1991, and the Earthquake Commission Act 1993.⁶¹

- A number of proposed changes to the legislation governing how territorial authorities address earthquake-prone buildings in their districts, including that the maximum time permitted to complete the evaluation and strengthening of existing buildings be set nationally [Building Act 2004].
- The immediate securing of dangerous buildings should not be impeded by the consent process and that life safety should be a paramount consideration for all buildings, regardless of heritage status. Where a building is in a state that makes demolition or carrying out other works desirable to protect persons from injury or death, it is proposed that no consent for those works should be required, regardless of whether the building is protected by a district plan or registered under the Historic Places [Historic Places Act 1993, RMA 1991].
- The imposition of a duty to disclose information that a building is in a dangerous or potentially dangerous condition to the relevant territorial authority and any affected neighbouring occupier [Earthquake Commission Act 1993].
- A change to the Chartered Professional Engineers Rules of New Zealand (No. 2) 2002 is also recommended to make it an obligation for engineers to report to the authorities when a structural weakness, which could endanger health and safety, has been identified.

The Building Act 2004 requires local government to develop policies on earthquake-prone buildings within their districts. The Christchurch earthquakes have subsequently stimulated significant debate on the way New Zealand manages earthquake prone buildings, this is evident in the Canterbury Earthquakes Royal Commission recommendations. According to the Commission, policy changes were needed in order to provide a nationally consistent, timely and cost-effective approach to managing earthquake-prone buildings.⁶² The conclusion of a national consultation is that the current system is not achieving an acceptable level of risk in terms of protecting people from serious harm in moderate earthquakes. The government has decided to introduce legislation to change the system for managing earthquake-prone buildings.⁶³

The legislative changes will require all non-residential and multi-unit, multi-storey residential buildings to have a seismic capacity assessment done within five years. Owners of buildings identified as earthquake-prone would then have up to 15 years to strengthen or demolish these buildings. The details of the changes are:

- To identify those that are earthquake-prone, territorial authorities will have to complete a seismic assessment of all non-residential buildings and all multi-unit, multi-storey residential buildings in their areas within five years of changes to the new legislation taking effect.

61 Cabinet Economic Growth and Infrastructure Committee, Summary of Paper, Royal Commission of Inquiry into Building Failure Caused by the Canterbury Earthquakes: Final Report Recommendations (March 2013), available at <http://dbh.govt.nz/UserFiles/File/Publications/Sector/cabinet-papers/cerc-cabinet-paper.pdf>.

62 Ibid.

63 Building (Earthquake-prone Buildings) Amendment Bill (as of June 2014 this Bill has passed through Select Committee stage and is awaiting Second Reading in the House), available at <http://www.legislation.govt.nz/bill/government/2013/0182/latest/versions.aspx>.

64 Ministry of Business, Innovation and Employment, Managing earthquake-prone buildings, available at <http://www.dbh.govt.nz/epb-policy-review>.

- All earthquake-prone buildings will have to be strengthened, or demolished, within 20 years of the new legislation taking effect (i.e. assessment by territorial authorities within five years and strengthening within 15 years of assessment).
- A publicly accessible register of earthquake-prone buildings will be established.
- Certain buildings will be prioritised for assessment and strengthening, such as buildings likely to have a significant impact on public safety, e.g. those with potential falling hazards.
- Strategically important buildings, e.g. those on transport routes identified as critical in an emergency.
- The current strengthening requirements for earthquake-prone buildings will not change. Owners will still have to strengthen to 34% of the new building standard.
- Owners of some buildings will be able to apply for exemptions from the national time frame for strengthening. These will be buildings where the effects of them failing are likely to be minimal and could include farm buildings with little passing traffic.
- Owners of earthquake-prone category 1 buildings (listed on the register of historic places under the Historic Places Act 1993) and those on the proposed National Historic Landmarks List will be able to apply for extensions of up to ten years to the national time frame for strengthening.

The CDEM Act 2002 enables building safety evaluations and management actions to be undertaken during a state of emergency. However, the Canterbury Earthquake sequence showed that building issues can arise outside of, and continue beyond, a state of emergency. There was a legislative gap in the transition from a state of emergency to recovery when dangerous building notices under the CDEM Act ceased to be valid when the state of emergency ended. The continuation of these notices was supported firstly by orders in council and then section 51 of the Canterbury Earthquake Recovery Act 2011. Interviewees noted that the legislative base for post-disaster building management needs to be more robust and this legislative gap closed.

The CDEM Act uses a holistic all-encompassing definition of “hazards”, however, the definition of ‘natural hazards’ in the Building Act is more limited and does not include active faults, liquefaction, lateral spreading, or tsunamis. A more comprehensive definition in the Building Act, that is consistent with other DRR legislation, would be advantageous.

An example of good practice is the provisions in the Building Act 2004 and the Building Code for accessibility for people with disabilities. It is positive that legislative changes to the Building Act 2004 are being introduced to strengthen New Zealand’s approach to managing earthquake-prone buildings.

3.5.2 Land Use Planning Laws

Good land use planning is at the forefront of DRR in New Zealand and an investment in building the capability of both planners and emergency managers is needed. Done well, it has the potential to save lives, assets and money over the long term. There is recognition that some houses are simply built in the wrong place (for example, prone to coastal erosion and storm damage or under cliffs at risk of rock fall), and legislation and the capability to implement it needs to be strengthened.

National Level

The regulation of land use planning at the national level falls under the control of the MFE, through one main piece of legislation; the RMA 1991. The RMA regulates land use, puts restrictions on certain types of land and activities, and sets out requirements for resource consents. The responsibility for land use planning is delegated to regional and local territorial authorities. The starting point of the RMA is that you can do anything on your land, so long as the effects are avoided, remedied or mitigated. Interviewees noted that this can lead on emphasis on mitigation when avoidance would be a more sensible option.

The New Zealand Coastal Policy Statement (NZCPS) is the only national policy statement (NPS) in place under the RMA. The statement sets out policies for managing the natural and physical resources in New Zealand's coastal environment. It provides direction for local authorities about how certain matters relating to coastal management should be dealt with in RMA planning documents. Decision-makers on resource consents (including commissioners and the Environment Court) must "have regard" to relevant provisions of the NZCPS, amongst other matters (e.g. environmental effects, the relevant plan). This statement gives communities and developers more certainty on where new subdivisions and development is appropriate and where it should not happen. This NZCPS is particularly important given that New Zealand is an island nation and in light of climate change, it requires risk assessment over the long term (100 years). There has been a move away from historical methods of managing coastal hazards through hard-engineering solutions to more soft-engineering (e.g. dune protection and consideration of managed retreat).

Regional/Local Levels

The RMA "control[s]... the use of land for the purpose of...the avoidance or mitigation of natural hazards"⁶⁵ These controls are then effected by district or regional plans; the RMA requires each local territorial authority to provide a regional policy statement.⁶⁶

In practice, the recent events in Canterbury have highlighted the lack of priority accorded to natural hazards relative to land development opportunities. The events highlighted that natural hazards need to be elevated in planning and resource consent decisions by territorial authorities. Liquefaction may not have been considered in the consenting process for subdivisions in Canterbury despite information being available. The threat of litigation by developers is seen as a real issue for councils in their ability to restrict further development in hazard-prone areas. A judicial review can reverse council decisions which leaves councils bearing the consequences in the event of a disaster. There

65 RMA 1991, section 30(c)(iv).

66 RMA 1991, section 60.

is widespread agreement that part 2 of the RMA needs to be strengthened to ensure that natural hazards are properly considered.

There was concern amongst interviewees about the lack of capability and quality decision making at regional and local levels. Interviewees noted that “while councillors have experience this does not necessarily equate to knowledge and understanding”. A positive aspect of the act is the provision for community involvement, but this can pose challenges to decision making when there is a wide array of views expressed.

There is wide variation in the quality of plans across the country, noting that if the plans are robust, the number of amendments and legal proceedings are reduced and the ability to deliver on the community’s agreed outcomes is increased. There are a number of possible factors including, ‘the pressure to develop plans under politically-motivated and unrealistic time-frames, the low level of financial and policy commitment from central government, and the planning profession’s ability to come to terms with the new and fundamentally different planning mandate’.⁶⁷ Further, developers are in a position to hire more and higher quality experts to support their case than local authorities.

The Canterbury earthquakes identified both gaps in legislation (particularly in the RMA) as well as in communities’ level of hazard awareness and risk perception. A discussion document concerning possible amendments to the RMA, recommend that the status of natural hazards is elevated in the act, to provide greater national consistency and guidance to improve the way that natural hazards are planned for and managed, and, provisions would be made to ensure the risks of all natural hazards can be appropriately considered in resource consent decisions. These proposals are designed to strengthen the resilience of communities and businesses to natural hazards and reduce the costs to communities of natural hazard events.⁶⁸

These proposals could go some way in supporting safer land use planning, however, the impact of high risk tolerance amongst some members of the community cannot be underestimated. The costs associated with risk assessments and the possibilities of litigation are two key factors that cause planners to shy away from sound hazard management. By the same token, if they know of hazards and fail to make the information available to prospective land owners they could also have legal action taken against them.

A gap in the legislative framework is that New Zealand does not have a ‘hazards retreat policy’ to assist people in moving from unsafe areas. This will require some difficult conversations to be had, starting with the acknowledgement that development has occurred in unsafe areas and potentially some kind of cost sharing agreements. It is expected that this policy will become increasingly important as the effects of climate change are realised. It is noted that managed retreat brings with it a ‘fire storm of problems’ with a strong tension between existing property rights and safe land development, however, as the Christchurch example demonstrated, at times it is a necessary measure. Some interviewees suggested a model by which the government could purchase homes in highly hazardous areas, and lease them back to the homeowners with the understanding that the homeowner must move when an agreed hazard ‘trigger point’ is reached. This model was considered in light of climate change and coastal erosion. Buy-back schemes are in existence in other jurisdictions like Brisbane (Queensland, Australia) for example, for flood-prone land but uptake has been limited.

67 Lee Beattie, *Plan Implementation: The Reality of Land Use Planning in Auckland, New Zealand*, Association of Collegiate Schools of Planning (Chicago, July 2008).

68 Ministry for the Environment, *Improving our resource management system. A discussion document* (Wellington, 2013), available at <http://www.mfe.govt.nz/publications/rma/improving-our-resource-management-system-discussion-document.pdf>.

3.5.3 Land Tenure

Land tenure systems in New Zealand are strong; both use rights and ownership rights are recognised by law, and there are comprehensive land governance arrangements. This makes disaster recovery and land use planning much more effective as the rules on access to land, land ownership, and land use, are clear and applied in a transparent manner.

Privately owned land in New Zealand is subject to the Land Transfer Act 1952. The act provides for the registration of interests in land (e.g. land title) and gives a guarantee of title by the state. Land Information New Zealand (LINZ) is a government department responsible for administering land title registration. The Registrar-General of Land, part of LINZ's Policy and Regulatory Group, develops standards and sets an assurance programme for the land rights registration system.

'Landonline' is New Zealand's database for land title and survey information. Online services enable surveyors, lawyers and other land professionals (including Territorial Authorities) to search and lodge survey plans and titles electronically. A licence must be purchased to use Landonline services. Landonline integrates New Zealand's geodetic, cadastral, and land titles data. The 100% electronic lodgement of all land title transactions is mandatory under the Cadastral Survey Order 2007. LINZ makes Landonline data available via e-search, Landonline Bulk Data Extract and the Landonline Standing Orders Report.

Under the Local Government Official Information and Meetings Act 1987, a territorial authority must issue a Land Information Memorandum (LIM) when requested. This includes information relating to natural hazards that a council holds on a piece of land. This is an example of good practice in that it enables the potential buyer of that land to decide if they accept or reject the level of risk associated with that land. In practice, however, the LIM might not include all hazard information that is on the district plan. Moreover, even where information is included, land buyers might not understand what it means. For example, in Christchurch before the earthquakes, most LIMs included liquefaction hazard information, but members of the public often did not understand liquefaction let alone its consequences. To enhance DRR, all hazard information should be available on LIM reports. This can be a very contentious issue. Additional hazard information on a LIM can affect house values and therefore create a lot of anger in communities. It can also result in councils being sued, councillors not being re-elected and cost a lot of money in risk assessments.

3.5.4 Water and Flood Management

Water Management

National Level

Freshwater is vital to New Zealand for social, cultural and economic reasons. Water is relatively abundant in New Zealand due to the temperate climate and maritime weather patterns. However, in recent years water pollution and increased demand for water have become political issues due to conflicting values over water causing friction and litigation with a number of high court cases.

Water management is largely governed by the RMA 1991. The RMA provides the over arching legal framework for water regulation in New Zealand:

- The RMA allows people to take and use water for their reasonable domestic needs and to provide drinking water for animals. The RMA prevents using water for any other purpose, unless permitted by a regional plan or a resource consent.
- The RMA prevents any person from discharging a contaminant into water, or onto land where it is likely to enter water, unless allowed by a regional plan or resource consent.
- The RMA provides both for emergency measures of control to meet a temporary serious shortage of water, and for the conservation of water. Saving or conservation of water may result from general provisions applicable to water permits where an operative regional plan under the act sets rules relating to (among other things) maximum or minimum levels, flows or rates of use of water, or minimum standards of water quality, and the regional council reviews the conditions of the permit to enable the levels, flows, rates, or standards set by the rule to be met (sections 128-133).

The RMA was set up at a time when New Zealand had a perceived abundance of water and it was distributed on a 'first come first serve' basis. Regional councils are also required to prepare a number of water plans which can be used to deal with allocation. However, problems arise if the plan takes too many years to complete by which time competing uses and values becoming a real issue.

Without clear regulation and national direction, it has proved very difficult to manage and New Zealand's freshwater management system has been found wanting in a number of areas:

- The belated introduction of a NPS and the inadequacy or absence of relevant regional plans left many decisions to the resource consenting process. Making decisions consent-by-consent results in a piecemeal approach rather than the necessary catchment wide approach needed to manage freshwater.
- A report from the Land and Water Forum (LWF) identified 'an absence of strategic process at a national level to make the link between water management and the variety of other questions which bear on it, including agriculture, tourism, energy, biodiversity, landscape and land use.
- Water has become litigious, and resource-intensive disputes often have limited success.⁶⁹
- The current freshwater management system makes it difficult to apply new knowledge or adapt to new risks. This is of particular concern in light of climate risks.

New Zealand has embarked on a collaborative approach to freshwater management with the establishment of a LWF in 2009, funded by the MFE. This was tasked with leading a collaborative stakeholder process to produce recommendations on water reform in New Zealand. It has led to a review of water management legislation. A step towards improved management of freshwater is the development of the NPS for Freshwater Management 2011.

Water management is perceived as the number one environmental issue in New Zealand⁷⁰, and is key to DRR especially with regard to drought and climate change. The current water reforms may go some way to achieving this; one proposed change includes introducing a collaborative planning (planning as a community) that would enable less litigious processes and greater consensus in decisions about water.

69 Land and Water Forum, Report of the Land and Water Forum: A Fresh Start for Fresh Water (2010).

70 Kenneth F. D. Hughey, Geoffrey N. Kerr and Ross Cullen, Public Perceptions of the New Zealand Environment: 2010 (Lincoln University, Christchurch, 2010).

Regional Level

The NPS on water requires regional plans to include freshwater objectives and set water quality limits and environmental flows in order to meet those aims. Water Conservation Orders (WCOs) are a means to protect outstanding water bodies within a region. But the real ‘horsepower’ of water governance in New Zealand are the regional councils as they set regional policies and plans, and all are required to have mechanisms for community input.

Using an example from Canterbury reflects how water is a complex and highly political issue. Over the last 15 years, the amount of water being used in Canterbury has increased significantly and water quality has been steadily declining in streams and lakes. Canterbury is strategically important with it holding over 50% of the country’s irrigation water and hydro storage. An investigation of the Performance of Environment Canterbury under the RMA and LGA noted that “despite the passage of more than 18 years since the enactment of the RMA, Canterbury does not have an operative region-wide planning framework. The absence of an over-arching planning and policy framework for the Region has resulted in a piecemeal, fragmented and inefficient approach to the management of freshwater”.

To address water management in Canterbury, the government appointed commissioners with additional powers through the Canterbury Temporary Commissioners and Improved Water Management Act.⁷¹ The act replaced elected councillors with seven government-appointed commissioners, deferred Environment Canterbury (regional council) council elections and gave commissioners extra powers over water, suspended the right for Canterbury communities to appeal to the Environment Court and allowed the government to temporarily suspend the RMA.

There is now a focus in Canterbury on collaborative approaches to water governance and working together to reach consensus in decisions on local water issues that are acceptable to a wide range of people. This collaborative governance approach came about through the recognition that opposing parties could spend years arguing in court with sub-optimal results.

Flood Management

Flooding is New Zealand’s most frequent hazard with over 100 New Zealand cities, and some of the country’s best farmland, situated on floodplains. On average, a flood occurs in New Zealand every 8 months with significant costs.⁷² These floods caused significant disruption and required intensive recovery operations.

National Level

“Flood risk management in New Zealand has evolved over time, from ad hoc to centralised approaches last century, to the current devolved approach of management by local government”.⁷³ This

71 Environment Canterbury (Temporary Commissioners and Improved Water Management) Act 2010, Public Act 2010 No. 12. (12 April 2010).

72 Ministry for the Environment, Meeting the challenges of future flooding in New Zealand (Wellington, 2008).

73 Ministry for the Environment, Flood Risk Management in New Zealand, available at <http://www.mfe.govt.nz/publications/land/meeting-challenges-of-future-flooding-in-nz/html/page3.html>.

devolved system is consistent with the government's policy in relation to CDEM policy; local risks are the responsibility of local authorities and communities. Managing flood risk takes place within the wider context of emergency management and sustainability for central government, local government and communities.

There are 12 statutes that address, to a greater or lesser extent, flood and storm water management, although most of the key functions and purposes have been incorporated into the RMA. The other relevant statutes are:

- Soil Conservation and Rivers Control Act 1941
- LGA 2002
- Building Act 2004 (and Building Code 1992)
- CDEM Act 2002
- Land Drainage Act 1908
- Rivers Board Act 1908
- Earthquake Commission Act 1993

Central government works to ensure that local government has the necessary power to manage flood risk. They provide technical guidance documents, and have the statutory ability to promulgate NPSs and set standards, although there are currently none pertaining to flood risk (which is widely viewed as a gap in the legal/policy framework). Funding research and forecasting warnings are also a central and local government role. When an event overwhelms a council/community, the government will provide both technical and financial support. The MFE is the central government agency responsible for providing guidance on flood risk reduction.

Interviewees felt that greater guidance and resources from central government would support local government to better manage flood risk and climate change adaptation. They suggested that a NPS on flood risk would provide a nationally consistent approach to flood management and would help address flooding and changing climate risk. This would also support councils in case of litigation.

Local Level

As part of a 2008 Flood Risk Management Review⁷⁴, a series of case studies were undertaken to understand how councils manage flood risk. The review found that the current flood risk framework is not fundamentally flawed but that important issues need to be addressed. In particular, implementation remains a challenge when funding and affordability are very real concerns for smaller, less wealthy communities. In that respect, the central government could be more active in reducing flood risk.

Regional councils and local territorial authorities carry out the daily operation and funding of flood risk management, in consultation with the local community. As with emergency management, local risks are a local responsibility. Local authorities under the RMA and the LGA set regional and local policy directions through their long-term plans, regional policy statements, regional plans and district plans. The policy direction is implemented through asset and flood management plans and the provision of flood and river management, and storm water and drainage infrastructure.

74 Ministry for the Environment, Meeting the challenges of future flooding in New Zealand (Wellington 2008).

Councils are enabled under the LGA, Soil Conservation and Rivers Control Act 1941 (SC&RCA) and RMA to undertake physical works such as the construction of stop banks, channel maintenance and clearance. Land use controls to reduce flood risk and the use of soil conservation practices such as afforestation in erosion-prone catchments fall within the scope of the RMA. Flood hazard preparedness, response and recovery measures are authorised principally under the CDEM Act.

The relevant statutes provide local government with a range of instruments through which to carry out their responsibilities, such as long-term plans (which can set out long-term investment targets based on detailed asset management plans for infrastructure and on flood management plans); regional and district plans (which can instigate rules for land use activities in areas subject to hazards, and make information about hazard exposure and sensitivity available to property owners); lifelines plans; and flood warning and evacuation plans. The extent to which these instruments are used across New Zealand varies from council to council.⁷⁵

The New Zealand Climate Research Institute identified inconsistency in the way councils manage hazard information, noting that in some cases, there is simply a lack of data. Some respondents suggested that councils pool funding to get better cost efficiencies in collecting information about flood risk.⁷⁶

3.6 Regulation of the Natural and Rural Environment

The enactment of the RMA 1991 combined numerous pieces of legislation into one central environmental planning statute. The integration of a number of fragmented regimes was a significant step forward for environmental management in New Zealand. The RMA's purpose of sustainable management and its hierarchical structure was a unique concept worldwide at the time of the legislation's inception.⁷⁷ However, the challenge lies in the practical implementation of the RMA, through regional plans and resource consents.

The RMA was designed on the premise that private interests know best what they want. Thus the responsibility for defining proposals for use of natural resources was left to applicants. The RMA was also designed on the basis of "effects management"; applicants' choices would be constrained by bottom lines set by government with legal oversight provided for by the Environment Court. Consents for water use are issued as a form of private property rights.⁷⁸

The RMA provides for a framework for natural hazard planning and sustainable resource management. The act defines sustainable management as "managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while sustaining the potential of natural and physical resources, excluding minerals, to meet the reasonably foreseeable needs of future generations".⁷⁹

75 Judy Lawrence and Dorothee Quade, Perspectives on flood-risk management and climate change-implications for local government decision making, The New Zealand Climate Change Research Institute, Victoria University of Wellington (Wellington, 2011).

76 Ministry for the Environment, Meeting the challenges of future flooding in New Zealand (Wellington, 2008).

77 D. E. Fisher, The resource management legislation of 1991: A judicial analysis of its objectives (Brooker & Friend Ltd., Wellington, 1991), p. 11, first paragraph.

78 Nicola de Wit, The evolution of freshwater management under the RMA (2013), available at <http://sciblogs.co.nz/waiology/tag/resource-management-act/>.

79 RMA 1991, section 5 (1)(2) (a)(b)(c).

(Regional Policy Statement for Taranaki 2010, Statutory and Planning Framework, Taranaki Regional Council, Part A, Section 3.)



National Level

The RMA provides for a hierarchy of policies, plans and other statutory instruments to enable central and local government to carry out their functions. NPSs enable central government to prescribe objectives and policies on resource management matters of national significance. Such statements guide subsequent decision-making under the RMA at the national and local levels. NPSs can therefore significantly affect resource management practices in New Zealand. The Minister of Conservation under section 57 of the RMA is required to prepare a NZCPS but other NPSs prepared by the MFE are optional.

In recent years central government has embarked on reforms to the RMA. The main driver of these reforms was economic, with concerns that the costs (both in terms of time and money) on council, business and the wider community were adversely affecting productivity. The reforms are broad in both depth and their implications across all levels of government, society, the environment and the economy; therefore this report will focus only on aspects that relate to the management of hazards.

In October 2011, the government established an independent technical advisory group (TAG) to review part 2 of the RMA, which is referred to as the ‘engine room’ of the act. It sets out the purpose of the RMA and general principles that local territorial authorities exercise in their land use planning responsibilities and in giving effect to the purpose of the act. It embodies the key matters which must be considered and has a substantial role in shaping and directing how the RMA’s purpose is given effect in planning and decision-making. Included in the TAG’s TORs was to investigate giving “greater attention to managing issues of natural hazards noting the RMA issues resulting from the Canterbury earthquake”.⁸⁰

The TAG recommends in section 6 of the RMA, requiring land use planning decision-makers to recognise and provide for issues around natural hazard risks. This would elevate the consideration of natural hazards as one of the primary principles to drive decision-making. A number of recommendations relating to other aspects of the RMA were made to promote greater integration and consideration of hazards. For example, noting in regional policy statements, that CDEM Group plans must be considered and that there should be one combined regional and district natural hazard plan. Interviewees were in agreement that making these changes to the act relating to natural hazards would be a positive move.

The TAG notes that “integrated management is particularly critical to successful planning for natural hazards and the evidence establishes that local authorities have not adequately coordinated their efforts and the planning framework is fragmented and incomplete. Uncertainty as to roles and responsibilities, and barriers to information sharing, has contributed to this failure”.⁸¹ It suggests that a combined regional and district natural hazards plan should be prepared under section 80 to address natural hazards on a region-wide basis.

80 Ministry for the Environment, Review of sections 6 and 7 of the Resource Management Act 1991 – Technical Advisory Group, available at <http://www.mfe.govt.nz/rma/central/amendments/background-info-phase-ii-reforms/technical-advisory-group-terms-of-reference.pdf>.

81 Minister for the Environment, Report of the Minister for the Environment’s Resource Management Act 1991 Principles Technical Advisory Group (February 2012).

Regional/Local Level

It is a legislative requirement for councils to prepare district and regional plans to instruct people on what they can or cannot do in terms of development. Regional policy statements set the basic direction for environmental management in the region. Regional plans concentrate on particular parts of the environment, like the coast, soil, rivers or air quality. They set out how discharges or activities involving these resources will be managed to stop the resources being degraded or polluted. District plans concern the use and development of land and contaminated land, and set out the policies and rules for councils to manage the use of land in its area. If central government wants to direct councils it can issue NPSs or set national environmental standards.

There is a high level of variation in planning quality across regions, this is due to organisational capability and resourcing within a council, along with; (a) the skills and knowledge required to produce high quality plans; (b) the size of rate base from which to generate funds; and (c) the resources to engage critical reviews of draft plans by peer groups and lawyers. The legislation is designed to promote a cooperative and integrated approach. A key concern both in the literature and in interviews was a lack of this integration in practice and in some cases, a lack of interest in collaborative planning/governance within and between councils and the development of fiefdoms.

A number of gaps in implementing the natural hazard aspects of the RMA include limited local planning capability, shortcomings in governance and inter-governmental cooperation. In particular, a lack of effective coordination between district and regional councils, and the activities of planners and emergency management staff. Examples of this include the lack of sharing of hazard information between councils and emergency management officers working in silos within councils.

Community Level

The RMA provides for community consultation and a submission process. Any member of the public can make a submission on a district or regional plan, a regional policy statement, or a long-term council plan. Technically, the participatory nature of the RMA and LGA gives all New Zealanders an opportunity to help shape local policies for managing environmental impacts. It can be difficult, however, to engage the public on the complex issues that arise through the RMA. Councils are working pro-actively to encourage community feedback/engagement. For example, the Hastings District Council website 'my voice my choice' encourages people to have their say on planning issues whether they are a "texter, talker or typer".⁸²

RMA also recognises the role of Māori in natural resources management. Kaitiaki (guardian) groups have an important role in environmental management. Kaitiaki are closely involved in monitoring their local environments, which may include streams, lakes, estuaries, coastal areas, and wāhi tapu (sacred sites). The current reform process aims to clarify the role of Māori in resource management processes and to provide for more meaningful and effective participation early in the plan-making process, therefore potentially strengthening the role of Māori in DRR decision-making.

82 Hastings District Council, My Voice, My Choice, <http://www.myvoicemychoice.co.nz/>.

3.6.1 Human Risks in Climate and Environmental Change

A recent report by the Office of the Prime Minister's Chief Science Advisor highlights the need for continuous and on-going work to monitor climate and environmental change across New Zealand, and to test and improve estimates for future changes specific to New Zealand. The report identifies a number of challenges that have both a scientific and value component.

These include:

- What is an acceptable level of climate-related risk to society?
- What are the costs and benefits of adaptation or mitigation compared with other priorities?
- How are different stakeholders affected, (either now or in the future)?

Across these considerations, there are also questions relating to inter-generational equity and international responsibility. These are among the policy-relevant questions that are, and will need to be, addressed.⁸³

These are the types of questions that will inform how New Zealand legislation evolves to address climate change, and many decisions will be required at both national and local levels, and within both the public and private sectors.

National Level

New Zealand has made provisions for consideration of the effects of climate change in a number of statutes and is recognised in a number of major national governance documents.

- The RMA, amended in 2004, directs councils to “have particular regard to the effects of climate change”.
- The National Policy Statement for Freshwater Management 2011 (NPSFM) requires councils to have regard to “the reasonably foreseeable impacts of climate change”.
- The non-governmental LWF acknowledged the significance of “changing weather patterns” in its first report, which could be interpreted as climate change or as climate variability. In its third report, the LWF recommended that water quality management take climate change into account.
- The government's freshwater management proposals, ‘Freshwater reform 2013 and beyond’, do not mention climate change explicitly; they do acknowledge that “future freshwater supplies may not be reliable, especially in the context of climate uncertainties”.⁸⁴
- The Building Act makes provisions for the transparent noting of hazard risks on property titles under certain circumstances.
- The NZCPS 2010 requires a precautionary approach to “uncertain, unknown or little understood but potentially adverse effects of climate change”, consideration of sea level rise within “at least 100 years”, the avoidance and reduction of risk discourages “hard” protection structures and encourages transition mechanisms and time-frames to be considered.⁸⁵

83 Peter Gluckman, *New Zealand's changing climate and oceans: The impact of human activity and implications for the future* (Auckland: Office of the Prime Minister's Science Advisory Committee, 2013).

84 Daniel Collins, *Managing our Freshwater Resources in a Changing Climate* (22 March 2013), available at <http://sciblogs.co.nz/waiology/2013/03/22/managing-our-freshwater-resources-in-a-changing-climate/>.

85 Judy Lawrence and Martin Manning, *Developing adaptive risk management for our changing climate*, New Zealand Climate Change Research Institute, Victoria University of Wellington (Wellington, 2012).

The MFE coordinates central government work in relation to climate change adaptation except in the sectors of agriculture and forestry, which are coordinated by the MPI. There is recognition that it will take time for these policies to become embedded in local authority plans. A number of implementation challenges and adaptation issues have been identified:

- Research by the New Zealand Climate Change Research Institute identified the role that central government direction through a NPS could play, as a basis for planning decisions by local government addressing climate change effects individually in a contested environment. They found that councils seek a statutory basis rather than guidance and a strong evidence base to support their decisions if challenged by developers in the Environment Court. Generally there tends to be reluctance by councils to apply and use information that is uncertain. Problems occur when the uncertain nature of climate change projections leads to litigation in the Environment Court, for example when councils take adaptive actions affecting property ownership or interests.
- In terms of flooding, the RMA requires a 100-year time frame for planning. The Building Code, however, provides for a structural design life of 50 years or protection from a 2% Annual Exceedance Probability (AEP) flood (being a 1:50-year return period flood). Often, less than 50-year timeframes are found acceptable provided the title is flagged to that effect.⁸⁶ This is clearly at odds with the requirements set out in the RMA. Interviewees suggested that a 1:100 return period flood is a more prudent design basis.
- New Zealand decision-makers typically use risk assessments based on historic records and use single number averages as best estimates. This underplays the effect of extreme events which is when most damages occur. As the frequency of flood events change with changing climate, this approach could lead to “maladaptive” decisions based on assumptions about the future that are unlikely to be like the past.
- Developing a NPS on Climate Change Adaptation to ensure national consistency in how local authorities and communities consider changing climate could build greater resilience and adaptive capacity. This has been identified as key in land use planning for natural hazards which could contribute to a more integrated approach across hazard risk management nationally, and this could achieve more consistent outcomes over time.⁸⁷

Regional/Local Level

Under the RMA and LGA 2002, local government is responsible for much of the decision making that relates to climate change impacts. This involves management of infrastructure such as water supply, sewage treatment, roads and coastlines, which can all be significantly affected by weather-related risks such as droughts, floods and storms. Local government is also responsible for flood management, land use controls, mitigation of natural hazards and water security.

The statutory framework encourages developers to “mitigate risks to hazards, rather than avoid developing on it altogether”. However, there is no guarantee that mitigated land will be ‘safe’ from extreme weather-related hazards which will likely become more frequent and more extreme with climate change. It was suggested by those interviewed as part of this study that, the fundamental perception that land can always be engineered to decrease risk is misplaced and there needs to be a greater understanding that some land development is simply best avoided.

86 Ibid.

87 B.C. Glavovic, W.S.A. Saunders, and J.S. Becker, Land-use planning for natural hazards in New Zealand: the setting, barriers, ‘burning issues’ and priority actions (2010), 54 Natural hazards 679.

3.6.2 Forest Management and Exploitation

Forests are a vital natural resource and an ally for reducing disaster risks. Positive aspects of New Zealand legislation with regard to forests, are the ability to earn revenue from carbon sequestered by forests, and the provisions for grants for forest establishment. A lot of New Zealand's housing stock is constructed from locally grown wood which performs well in seismic events. Sustainably managing New Zealand indigenous forest is both culturally and economically important, and is well managed under current legislation.

Many legal avenues exist to protect New Zealand native forests. The RMA 1991 affords any natural environment a level of legal protection through the resource consent process. The Forests Act 1949 was amended in 1993 to bring an end to unsustainable harvesting and clear-felling of indigenous forest. The logging of native trees is governed by a permit system administered by the MPI and must be shown to be sustainable.

Sustainable forest management is defined in the Forests Act as the “management of an area of indigenous forest land in a way that maintains the ability of the forest growing on that land to continue to provide a full range of products and amenities in perpetuity while retaining the forest's natural values”.⁸⁸

As part of a suite of government initiatives to deal with climate change, there are three carbon forestry schemes designed to encourage the establishment of new forests, both indigenous and exotic. To qualify under the schemes, forests must have been established after 1 January 1990, and must be directly human induced through planting, seeding and/or human promotion of natural seed sources. Two of the carbon forestry schemes provide the opportunity for landowners to earn revenue from the carbon sequestered by their forests (the New Zealand Emissions Trading Scheme and the Permanent Forest Sink Initiative). The third scheme provides a grant for forest establishment.

3.6.3 Drought and Food Security

Droughts are a feature of farming in New Zealand. Predictions are that droughts will occur more frequently in the future due to climate change effects. The MPI released a report in November 2012 that reviews the impacts of climate change on primary industries. Evidence shows that New Zealand's temperatures are warming, weather patterns are changing and New Zealanders can expect stronger weather patterns and more frequent droughts and floods. In some seasons and years, yields will increase, but in others production downturns will be more pronounced.⁸⁹

National Level

There is no national legislation that specifically and exclusively addresses drought risk management. Similarly, there is no legislation on food security, and no national risk management strategy that specifically addresses food security or desertification. The CDEM Act is an all-hazards, all-risks, integrated approach to emergency management and drought is one hazard that falls under the

⁸⁸ Forests Act 1949, Public Act 1949 No. 19 (11 October 1949), section 2.

⁸⁹ Intergovernmental Panel on Climate Change, Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (2007).

CDEM Act framework. The general CDEM Act principles also apply to droughts, meaning that individuals and communities have primary responsibility for drought risk mitigation and preparedness.

The central government is advised by the MPI on the impact of adverse climatic events or natural disasters under the auspices of the Primary Sector Recovery Policy. This policy was developed by MPI, and involves collaboration with several other government agencies.

There is recognition that New Zealand's primary industry sector needs to prepare for greater and on-going climate variability. MPI has developed a toolbox of web-based resources to help sectors adapt to climate change. The focus is on more flexibility, building more buffers into farm systems, setting fall-back positions, having a plan before a drought hits, and continually learning from drought. It is expected that the proposed changes to water management under the RMA will have an impact on drought management.

Interviewees felt that consistency was the biggest strength of the drought management system outlined above. The CDEM Act achieves consistency across a wide range of disasters, both in terms of identification such as declaring a state of emergency and response. Having said this, interviewees expressed some degree of concern that, under the CDEM Act and the Primary Sector Recovery Policy, it can be difficult to determine at which point drought events which usually develop slowly, reach a scale sufficient to warrant support and funding.

The three core issues of drought, water management and food security will continue to be challenging as climate variability increases. Effective management of resources, in particular water, is the key to reducing future drought risk.

3.7 DRR Education and Awareness

National Level

Institutional responsibility for DRR awareness and education lies with MCDEM, CDEM Groups, the Fire Service, ACC and EQC. The National Public Education Strategy 'Strategic Framework for the National CDEM Public Education Programme 2006 – 2015', sets out the direction and objectives to build public awareness and understanding by individuals and communities of hazards in New Zealand and CDEM, that will ultimately lead to action towards preparedness.

The National CDEM Strategy that gives effect to the CDEM Act 2002 outlines goals for achieving the purpose of the act and sets as goal one; "Increasing community awareness, understanding and preparedness and participation in emergency management".

A positive feature of the CDEM Act is the function of the Director of CDEM to monitor and evaluate national strategy and planning, and the performance of organisations and persons with responsibilities under the act. MCDEM annually measures New Zealand households' disaster preparedness and the effectiveness of its national public education programme over time. Five high quality annual tracking surveys were conducted from 2007 to 2011. Monitoring activities in this way provides

evidence on the effectiveness of the implementation of the CDEM Act.

'What's the Plan Stan' (WTPS) is an educational campaign and programme for school students on disaster preparedness. A recent study of the programme found that there is a very positive impression of WTPS among the participants who have used the resource. A challenge is that there is no requirement for disaster preparedness education or disaster exercises in schools, other than fire evacuation drills. Fire evacuation drills arise because owners of relevant buildings are required to provide and maintain evacuation schemes.⁹⁰ It can be difficult for schools to make disaster preparedness a priority in the classroom. Interviewees recommended greater integration of various preparedness programmes in schools rather than legislative change.

The role of the New Zealand Fire Service has expanded to include a focus on fire prevention, fire safety and fire outcomes. The Fire Service Act 1975 is under review to look at developing new legislation which better supports their work. The New Zealand Fire Service offers a range of fire-safety education resources for children and young people, from pre-schoolers to senior secondary students. A strength of New Zealand's legislation that is flexible enough to enable programmes to be developed based on local needs and hazards. An example is the Waimakariri district (Canterbury region) safety programme 'Down the Back Paddock' which teaches primary school children about keeping safe in a rural environment and includes CDEM as one component.

Community awareness and levels of risk tolerance came to the fore when discussing all aspects of legislation, noting that culture is a very powerful determinant in how risk is managed and legislation interpreted and applied. There is a view that the public education aspects of MCDEM, the Fire Service, NZRC, ACC, EQC and others could be better harmonised and greater synergies achieved.

3.8 Effectiveness of Implementation at Community Level

The current legal framework in New Zealand contains many examples of good practice regarding the promotion of community involvement in areas related to DRR. Public consultation is undertaken to ensure the range of views held within the community is taken into account. All codes are advertised in major newspapers and are shown on the website when they are open for public consultation. A key feature of the RMA is the focus on community input and consultation. CDEM Groups around New Zealand are looking at ways to increase levels of community engagement in emergency management.

There are numerous provisions in New Zealand legislation that provide the opportunity for community participation. Active community participation in local democracy is a key concept in the LGA 2002 and both central and local government have a range of mechanisms that encourage the public to express their views. Mechanisms include:

- The right to make a submission on a bill through the Select Committee process.⁹¹
- The right to make a request for information through the Official Information Act.
- The ability to make a complaint to the Regulations Review Committee if someone feels wronged by how a regulation operates.
- Communication with local councils by preparing a submission on local issues or long-term plan-

90 Fire Service Act 1975, Public Act 1975 No. 42 (19 September 1975), section 21B(1).

91 See New Zealand Parliament website, available at <http://www.parliament.nz/en-nz/pb/sc/make-submission>.

ning for the community.

- Submitting a petition to ask for a nationwide referendum, known as a ‘citizens initiated referendum’. For a referendum to be held, you must get signatures in support of holding a referendum on your question from over 10% of eligible voters nationwide.
- The Directory of Official Information as a key source for material produced by government departments and ministries. The directory provides information about each department, how it is structured, what it administers, and any key changes planned and who to send requests to. The directory also has the process for requesting official information.
- Language line is a free telephone interpreting service provided by the New Zealand government, covering 42 languages. A number of government, health, advice and information organisations and local councils use Language Line to assist clients’ needs to speak in a language other than English.
- Some agencies have legislative requirements to actively engage with Māori on specified matters. Others have signed relationship protocols, accords or similar agreements that specify the nature, scope and parameters of engagement with specific Iwi.⁹²
- Central and local government have websites that encourage feedback on legislation and plans.⁹³

The area of concern voiced by interviewees was a perceived ‘loss of community voice’ in Canterbury. The Canterbury Temporary Commissioners and Improved Water Management Act, which removed democratically elected regional councillors and replaced them with government appointed commissioners is a factor. The focus groups were asked “Do you feel that you have a voice in how resources are managed?” The general consensus was that they felt very small in their ability to influence natural resource policy and cited the changes at Environment Canterbury saying, “We might do, but it’s certainly not listened to – everything is decided before we even hear about it”.

To conclude, New Zealand legislation offers many avenues through which members of the public can make submissions and input on matters concerning DRR. The extent to which this information is sought, encouraged and valued varies depending on the understanding and approach of different councillors, officials and ministers. The current academic thinking on community engagement and social capital demonstrates that significant social and economic benefit comes through strong community involvement in development and post-disaster recovery programmes.⁹⁴ There is the opportunity to strengthen this approach in the Christchurch recovery.

92 In New Zealand society, Iwi form the largest social units in Māori culture. The word Iwi means ‘peoples’ or ‘nations’, and is often translated as “tribe”.

93 See New Zealand Government, Participate and be involved, <http://newzealand.govt.nz/participate>; Hastings District Council, My Voice My Choice, <http://www.myvoicemychoice.co.nz/>.

94 Daniel P. Aldrich, *Building Resilience: Social Capital in Disaster Recovery* (University of Chicago Press, Chicago, 2012).



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4. Conclusions and Observations

The central tenets of New Zealand's DRR legislative framework are sound and their implementation can be considered good practice. The Canterbury earthquakes were a catalyst for reviewing aspects of New Zealand's DRR legislation and there are some areas in which legislation could be improved, such as; (a) a greater emphasis on hazards in the RMA; (b) water management reform under the RMA; (c) amendments to the Building Act; and (d) amendments to the EQC Act. These changes and reforms are currently being considered and/or addressed.

Legislation relevant to DRR in New Zealand is designed to promote a cooperative and integrated approach. The literature and interviews identified a need to foster greater integration in the practice of the legislation. Emergency management practitioners need a greater understanding of the importance of reduction measures such as land use planning and the planning professions need greater focus on the relationship between planning and emergency management.

There will never be sufficient resources to progress every aspect of risk reduction in a small hazard-prone country like New Zealand. Despite strong legislative arrangements, so much lies in the hands of individuals and organisations to make decisions about which aspects of risk reduction to invest in, when and in what sequence.

4.1 Good practices and gaps in the legal framework for DRR

Civil Defence and Emergency Management

Good Practice: The CDEM Act 2002 involves an all-hazards, all-risks, comprehensive, integrated, multi-agency and community-focused approach to emergency management. These fundamentals of the act are considered relevant and appropriate today and for the future. A positive feature of the act is the function of the Director of CDEM to monitor and evaluate national strategy and planning, and the performance of organisations and persons with responsibilities under the act.

Challenges: Key challenges remain however, in the implementation of the act rather than the act itself. New Zealand is ten years into the implementation journey of this comprehensive approach, which takes time to embed and will require a continuing culture change. There is also a need for Long-Term Council Community plans under the LGA 2004, and other planning documents, to give greater regard to CDEM principles in practical terms and strengthen integration between sectors.

Compulsory Insurance

Good Practice: The Earthquake Commission, guided by the Earthquake Commission Act 1993, is a positive DRR measure in that it creates a market that brings down the cost of insurance for New Zealanders; having a system that makes insurance affordable is a key factor in New Zealand's high rate of insured (around 95%). EQC's statutory science and education role is also of significant national benefit in building an evidence base and a culture of safe development in New Zealand.

The ACC and the Accident Compensation Act 2001 is a positive measure for risk reduction in New Zealand as it ensures that all people injured by any event, including disasters, will receive support. A

key feature of ACC is the focus on accident prevention; this assists in building a culture of safety and demonstrates an understanding of the economic benefits of prevention rather than cure.

Challenges: For both schemes the challenges again lie in the implementation of the provisions, in a changing operating environment. For both schemes, improved alignment with customer expectations is needed when working with distressed people (those affected by injury/disasters).

Health

Good Practice: Health services are required to participate in preparing a national CDEM plan under section 63 of the CDEM Act. The health sector has invested in a high level of emergency preparedness over a number of years. Plans and clinical networks were tested and exercised thoroughly during pandemic planning and this proved highly valuable and resulted in a strong and effective health response to the Canterbury earthquakes. This can be attributed to both sound legislation and implementation.

Early Warning

Good Practice: Early warning mechanisms in New Zealand work well. The CDEM Act fosters strong cooperation between the different agencies and interviewees expressed confidence in the system.

Challenges: There is a need to support communities, particularly vulnerable members such as those who are disconnected, unaware or have disabilities, to prepare using community-based early warning mechanisms, especially in response to localised tsunamis.

Risk Information and its use

Challenges: There is limited guidance provided for local government on how to translate natural hazard risk information into land use planning measures and in determining acceptable levels of risk. A number of non-statutory tools are being developed to address this gap but there is a view that greater national statutory direction is needed, especially with regard to climate change adaptation. Legislation may need to be strengthened and guidance provided to local authorities, to ensure that risk information is consistently prepared and effectively shared with the public. Local authorities should make information about natural hazards available to all other local authorities within their region.

Building Codes

Good Practice: New Zealand has a strong regulatory framework that translates seismic risk into earthquake design. There are also examples of good practice in Building Act provisions, relating to accessibility for people with disabilities in order to ease evacuation and access to welfare centres in case of disasters.

Challenges: Many earthquake-prone buildings in New Zealand are not being managed in a consistent, timely and cost-effective way. A clear view has emerged that the current system is not achieving an acceptable level of risk in terms of protecting people from serious harm in moderate earthquakes. The government is addressing this by introducing a number of amendments to the Building Act 2004. This will give central government a greater role in providing direction and leadership in

relation to earthquake-prone buildings. The 50-year time-frame in the Building Act 2004 is not adequate for planning for future generations in light of climate change.

Resource Management

Good Practice: The integration of a number of fragmented regimes in the RMA 1991 was a significant step forward for environmental management in New Zealand, as it combines many diverse pieces of legislation into one central environmental planning statute. The RMA's purpose of sustainable management and its hierarchical structure was a unique concept worldwide at the time of the legislation's inception.⁹⁵ It is also positive that there are proposed changes to strengthen the act with regard to hazards, as a result of lessons learnt from the Canterbury earthquakes.

Challenges: The challenge lies in implementation, through the regional plans and resource consents which implement it and the capability of people to translate legislative goals into action on the ground.

Water Management

Challenges: Water management is very relevant to DRR in New Zealand especially with regard to drought, climate change and livelihoods. The economy and society moved ahead much faster than the plans governing water management, pursuant to the RMA, resulting in an inadequate system for managing this key resource. New Zealand has a lot of work to do legislatively, in its communities and the way in which business is done, to improve both water quality and allocation. It is hoped that the current water reforms will go some way to achieving this; one proposed change includes introducing a collaborative planning option as an alternative to the current system under the RMA 1991.

Community Engagement

Good Practice: There is a growing recognition of the importance of engaging communities in DRR. The RMA and the LGA 2002 are examples of legislation that encourage community input and feedback. There is also an increased understanding amongst practitioners of the need to move past communication or public awareness, to building resilience and increasing levels of meaningful engagement with communities to give greater effect to the CDEM Act.

Challenges: It was felt that aspects of social and cultural assessment were 'undercooked' and more could be done to harness the cultural and linguistic diversity of New Zealand communities, so that they can fully engage in, and add value to, the CDEM process.

Recovery

Challenges: In response to the Canterbury earthquakes, a strengthened recovery legislative framework was developed. General improvements in recovery capability and recovery arrangements nationally are proposed. Although recovery planning is required under the CDEM Act, interviewees not-

⁹⁵ D. E. Fisher, *The resource management legislation of 1991: A judicial analysis of its objectives*, (Brooker and Friend Ltd., Wellington, 1991), p. 11, first paragraph.

ed the difficulty in getting recovery ‘on the agenda’ as local governments are pressed to meet many everyday issues and may not have the resources to invest in something that ‘may never happen’.

Financing

Challenges: Financing local risk reduction, readiness, response and recovery activities comes from a local property-based rating system which can lead to budget constraints, especially in areas that are hazard-prone but have a low rates base (small population). This can result in a lack of investment in emergency management in rural areas. Local government requires rates revenues to function and are also responsible for risk reduction measures, such as safe land development. This can lead to tension between revenue generation and safe development.

Land Use Planning

Challenges: The Canterbury earthquakes identified not only a gap in legislation in the RMA, but also communities’ level of hazard awareness and risk perception. Good land use planning is at the forefront of DRR in New Zealand and investment is needed in building the capability of practitioners, both planners and emergency managers. Done well, it has the potential to save lives, assets and money over the long-term. It is hoped that the proposed amendments to the RMA in relation to hazards, will go some way in supporting safer land use planning. However, the impact of high risk tolerance amongst some members of the community cannot be underestimated.

Retreat from Hazard Policy

Challenges: A gap in the New Zealand legislative framework is the lack of a ‘retreat from hazards policy’ to assist people in moving from unsafe areas. This will require some difficult conversations to be had, starting with the acknowledgement that development has occurred in unsafe areas and potentially some kind of cost sharing agreement. It is expected that such a policy will become increasingly important as the effects of climate change are realised. It is noted that managed retreat brings with it a ‘fire storm of problems’ with a strong tension between existing property rights and safe land development. However, as the Christchurch earthquakes demonstrated, at times it is a necessary measure.

Land Tenure and Information

Good Practice: Land tenure systems in New Zealand are strong with both use rights and ownership rights recognised by law and there are comprehensive land governance arrangements. This makes disaster recovery much more effective as the rules on access to land, who owns the land and land use are clear and applied. Furthermore, under the Local Government Official Information and Meetings Act 1987, local government must issue a LIM (land information memorandum) when requested. This includes information that a council holds on a piece of land, including natural hazards. This is an example of good practice in that it enables the potential buyer of that land to decide if they wish to accept or reject the level of risk associated with that land.

Challenges: In practice however, the LIM might not include all hazard information available. To enhance DRR, all hazard information should feature on LIM reports, which may require amendments to legislation.

Liability and Accountability

Good Practice: The Official Information Act 1982 and the Local Government Official Information and Meetings Act 1987 promote the transparency, and by extension accountability, of government entities. Government agencies are not automatically liable for failing to warn about impending natural disasters, or for inadequately dealing with disasters. However, DRR-related legislation sets standards to be upheld by both governmental and private actors, and failure to meet those standards can create liability in tort or even criminal law, independent of the legislation containing the standards.

Challenges: In most cases it is quite difficult to ascribe liability to parties fully or partially responsible, for damage and loss suffered during a disaster. Sometimes the difficulties stem from legislation, and can be relatively easily remedied after the event (e.g. the Cave Creek incident). Other times, ascribing liability is inherently problematic (e.g. the CTV building incident), or even outright undesirable. This is an issue that politicians, the courts and the New Zealand public continue to grapple with.

Flood Risk

Challenges: There is a lack of clarity about the level of risk that should be planned for and a wide variation in local government in terms of funding, capability and practice to determine appropriate risk thresholds, especially regarding flooding and climate change. People need to be able to make informed decisions about when to mitigate and when to avoid hazard-prone development altogether, noting that engineering solutions are not always an appropriate risk management strategy. A greater level of hazard information on LIM reports would be a helpful measure. A revision of the Building Code flood standard could provide greater consistency across local government legislation to reduce risk. Greater central government direction in clarifying risk through a legally binding NPS would assist in clarifying flood risk thresholds.

Climate Change Adaptation

Good Practice: A positive feature is the express provision in the RMA regarding “the effects of climate change”. This responsibility is devolved to local government and applies when exercising all functions and powers under the RMA.

Challenges: There is however, a need for strong central government statutory direction on the basis for planning decisions through a NPS on Climate Change. Problems occur when the uncertain nature of climate change projections leads to challenges in the Environment Court, for example when councils take adaptive actions affecting property ownership or interests. This results in are reluctance by councils to apply and use information that is uncertain. Climate change adaptation needs to be framed as a priority action as there is still a sense that it is something ‘far away’ both in time and effects. Lead time will be important for some land use activities that have long lifetimes or are critical facilities.

Public Education and Community Participation

Good Practice: There are many examples of good practice in the way New Zealand legislation supports public engagement in DRR. The extent to which this information is sought, encouraged and valued varies depending on the understanding and approach of different councillors, officials and ministers. Significant social and economic benefit comes through strong community involvement in safe development and post-disaster recovery programmes.

The MCDEM has actively monitored their public education programme to gauge New Zealand households' disaster preparedness, and to assess the effectiveness of the programme over time. This has been supported by an educational programme to strengthen preparedness measures amongst New Zealand primary school students and the wider public.

Challenges: Community awareness and levels of risk tolerance came to the fore when discussing all aspects of legislation, noting that culture is a very powerful determinant in how risk is managed and legislation interpreted and applied. There is a view that the public education aspects of MCDEM, the Fire Service, NZRC, ACC, EQC and others could be better harmonised and greater synergies achieved. Thinking around community engagement and resilience has evolved and there is a need to strengthen community-based partnerships to give greater effect to the CDEM Act.

Forest Management and Exploitation

Good Practice: Forests are a vital natural resource and an ally for reducing disaster risks. Positive aspects of New Zealand legislation with regard to forests are the ability to earn revenue from carbon sequestered by forests and the provisions for grants for forest establishment. Much of New Zealand's housing stock is constructed from locally grown wood which performs well in seismic events. Sustainably managing New Zealand indigenous forests is both culturally and economically important and is well managed under current legislation.

Biosecurity

Good Practice: Biosecurity is important to national security as it protects New Zealand's key economic and environmental assets; it is a risk mitigation measure at the forefront of protecting economic stability and protecting livelihoods. The Biosecurity Act 1993 was amended in 2012.⁹⁶ The amendments aim to "future-proof" the legislation so that the system can evolve over time to meet changing needs. Drafting legislation in preparation for risks that are not yet known or evident is an example of good practice.

Health and Safety in Employment

Challenges: As the Pike River mine explosion illustrated, New Zealand's health and safety framework (the Health and Safety in Employment Act 1992) leaves the country prone to industrial disasters. A government-commissioned independent report recommends that a new 'fit for purpose' piece of legislation be developed.

96 By the Biosecurity Law Reform Act (2012).



Annex A: List of persons and groups consulted



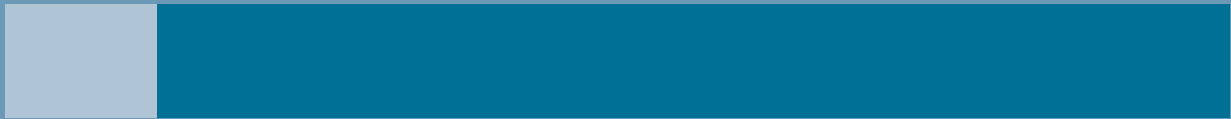
Annex A: List of persons and groups consulted

Benesia Smith,	Deputy CEO, Canterbury Earthquake Recovery Authority
Chris Mitchell,	Lecturer, Law Faculty, Victoria University of Wellington
Dan Neely,	Manager, Community Resilience, Wellington Region Emergency Management Office
Dr Christine M. Kenney,	Principal Investigator, New Zealand Natural Hazards Platform/ Ministry of Science and Innovation, Maori Community Resilience and Disasters Projects
Dr Sarah Beaven,	Social Science Liaison, Natural Hazards Research Platform, University of Canterbury
Gabrielle Emery,	Advocacy and Policy Manager, New Zealand Red Cross
Hamish Rennie,	Senior Lecturer Environmental Management and Planning, Lincoln University
Hayden Taylor,	Senior Analyst, Department of Building and Housing
Jessica Petersen,	Community Resilience Coordinator, Canterbury Civil Defence Emergency Management Group
John Hamilton,	Director, Ministry of Civil Defence and Emergency Management
Judy Lawrence,	Adjunct Research Associate, New Zealand Climate Change Research Institute, Victoria University of Wellington
Leanne Curtis,	Relationship Management Concern
Lianne Dalziel,	Member of Parliament, Shadow Minister for Civil Defence and Emergency Management
Ljubica Mamula Seddon,	Disaster Resilience Expert in Residence, University of Auckland
Patrick Helm,	Senior Advisor, Department of the Prime Minister and Cabinet
Peter Cameron,	Regional Emergency Management Advisor, Ministry of Civil Defence and Emergency Management
Peter Kreft,	Manager, National Forecaster, Meteorological Service New Zealand
Phil Gurnsey,	Associate Planning, BECA consulting
Richard Smith,	Manager, Science and Education, EQC (Earthquake Commission)
Rob Saunders,	National Reduction Manager, New Zealand Fire Service
Sarah Myhill,	Principal Advisor, Integrated Planning, New Zealand Transport Agency
Simon Lambert,	Lecturer, Faculty of Environment, Society and Design, Lincoln University
Simon Markam,	Earthquake Recovery Manager, Waimakariri District Council
Stephen Manson,	Emergency Management Officer, New Zealand Red Cross
Steve Glassey,	Associate Director, Centre for Risk, Resilience & Renewal (UCR3) at University of Canterbury
Stuart Anderson,	North Island Regions Manager, Resource Policy Group, Ministry of Primary Industries
Tony Fenwick,	New Zealand Lifelines Committee
Wendy Saunders,	Natural Hazards Planner and Policy Researcher, GNS Science



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Annex B: Bibliography

A. List of Laws

Laws and Policies

i. Legislation

Accident Compensation Act(2001)

Biosecurity Act (1993)

Biosecurity Law Reform Act (2012)

Building Act (2004)

Canterbury Earthquake Recovery Act (2011)

Canterbury Earthquake Response and Recovery Act (2010)

Canterbury Temporary Commissioners and Improved Water Management Act (2010)

Civil Defence and Emergency Management Act (2002)

Climate Change Response Act (2002)

Conservation Act (1987)

Constitution Act (1986)

Crimes Act (1961)

Crown Pastoral Land (Rent for Pastoral Leases) Amendment Act (2010)

Earthquake Commission Act (1993)

Environment Canterbury (Temporary Commissioners and Improved Water Management) Act (2010)

Epidemic Preparedness Act (2006)

Fire Service Act (1975)

Foreshore and Seabed Act (2004)

Forest and Rural Fires Act (1977)

Forests Act (1949)

Hazardous Substances and New Organisms Act (1996)

Health Act (1956)

Historic Places Act (1993)

Judicature Act (1908)

Land Drainage Act (1908)

Land Transfer Act (1952)

Local Government Act (2002)

Local Government Official Information and Meetings Act (1987)

Marine and Coastal Area (TakutaiMoana) Act (2011)

New Zealand Bill of Rights Act (1990)

New Zealand Public Health and Disability Act (2000)

Official Information Act (1982)

Privacy Act (1993)

Resource Management Act (1991)
Rivers Board Act (1908)
Soil Conservation and Rivers Control Act (1941)
TeTureWhenua Maori Act (1993)
The Crown Pastoral Lands Act (1998)

ii. Regulations, Policies, Strategies and other Government-issued Documents

Biosecurity (National (South Island) Varroa Pest Management Strategy) Order (2005)
Biosecurity (National American Foulbrood Pest Management Strategy) Order (1998)
Biosecurity (National Bovine Tuberculosis Pest Management Strategy) Order (1998)
Cadastral Survey Order (2007)
Forest and Rural Fires Act (1977)
Local Government New Zealand's Regional Affairs Committee Flood Management Sub-Committee, National Policy Statement – Flood and Storm water Risk Management – A Position Statement from Local Government (May 2007)
Ministry of Health, National Health Emergency Plan (Wellington, 2008)
National Civil Defence Emergency Management Plan Order (2005)
National Hazardscape Report (2007)
National Health Emergency Plan (2008)
National Policy Statement for Freshwater Management (2011)
New Zealand Coastal Policy Statement (2010)
New Zealand Emissions Trading Scheme
Permanent Forest Sink Initiative
Report of the Minister for the Environment's Resource Management Act 1991 Principles Technical Advisory Group (February 2012)
Water Conservation Orders
Wellington Regional Policy Statement
Woodhouse Report

iii. Miscellaneous

International Health Regulations (2005)
The Treaty of Waitangi (1840)

Secondary Sources

Accident Compensation Corporation, A Brief History of ACC (last updated 15 December 2008), available at <http://www.acc.co.nz/about-acc/overview-of-acc/introduction-to-acc/ABA00003>
Accident Compensation Corporation, Annual Report (2012)

- Anderson Lloyd Lawyers, Pike River: A Matter of Direction (February 2013), available at <http://www.andersonlloyd.co.nz/pike-river-a-matter-of-direction/>
- B.C. Glavovic, W.S.A. Saunders and J.S. Becker, Land-use planning for natural hazards in New Zealand: the setting, barriers, 'burning issues' and priority actions (2010)
- Bo-Yao Lee, Working Together, Building Capacity – A Case Study of Civil Defence Emergency Management in New Zealand, *Journal of Disaster Research*, Vol.5 No.5 (2010).
- Cabinet Economic Growth and Infrastructure Committee, Summary of Paper, Royal Commission of Inquiry into Building Failure Caused by the Canterbury Earthquakes: Final Report Recommendations (March 2013), available at <http://dbh.govt.nz/UserFiles/File/Publications/Sector/cabinet-papers/cerc-cabinet-paper.pdf>
- Daniel, P. Aldrich, *Building Resilience: Social Capital in Disaster Recovery* (University of Chicago Press, Chicago, USA, 2012)
- Daniel Collins, Managing our Freshwater Resources in a Changing Climate (22 March 2013), available at <http://sciblogs.co.nz/waiology/>
- David Eder and Ian Whitehouse, Collaborative water management delivers local solutions in north Canterbury (April 2013), available at <http://sciblogs.co.nz/waiology/tag/canterbury/>
- Department of Building and Housing, Annual Report (2012)
- Department of Prime Minister and Cabinet, New Zealand's National Security System (May 2011)
- Eileen McSaveney, Story: Earthquakes Building for earthquake resistance, TeAra – The Encyclopaedia of New Zealand (last updated 13 July 2012), available at <http://www.teara.govt.nz/en/earthquakes/page-4>
- Global Network of Civil Society Networks for Disaster Risk Reduction, "Clouds but Little Rain" Views from the Frontline: A Local Perspective of Progress Towards Implementation of the Hyogo Framework for Action (2009)
- Global Network of Civil Society Networks for Disaster Risk Reduction, If We Do Not Join Hands... Views from the Frontline: Local reports of progress on implementing the Hyogo Framework for Action, with strategic recommendations for more effective implementation (May 2011)
- Hastings District Council website, My Voice My Choice, available at <http://www.myvoicemychoice.co.nz/>
- Hill Young Cooper Ltd, Canterbury Fact Finding Project (2001, at pages 5-8)
- Ian McLean, David Oughton, Stuart Ellis, Basil Wakelin and Claire B Rubin, Review of the Civil Defence Emergency Management Response to the 22 February Christchurch Earthquake (29 June 2012)
- IFRC, Analysis of legislation related to disaster risk reduction in Brazil (1 January 2012); IFRC, Analysis of legislation related to disaster risk reduction in the Dominican Republic (1 January 2012); IFRC, Analysis of legislation related to disaster risk reduction in Nepal (1 March 2011); and IFRC, Analysis of legislation related to disaster risk reduction in South Africa (1 January 2012), all available at <http://www.ifrc.org/en/what-we-do/idrl/research-tools-and-publications/disaster-law-publications/>
- IFRC, DRR National Law Desk Survey (2012), available at <http://www.ifrc.org/en/what-we-do/idrl/>
- IFRC, Hyogo Framework for Action: Red Cross and Red Crescent Mid-Term Review (October 2010)
- Intergovernmental Panel on Climate Change, Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (2007)
-

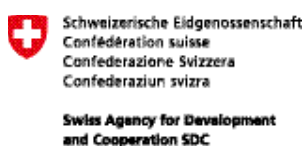
- Irene Clarke (Principal Planner, GHD Limited) and Richard Hills (Ministry for the Environment's Senior Analyst Resource Management Practice Team), What You Thought You Need, Planning Quarterly (2011)
- J. Lawrence and S. Allan, A strategic framework and practical options for integrating flood risk management – to reduce existing flood risk and the effects of climate change (2009)
- Judy Lawrence and Dorothee Quade, Perspectives on flood-risk management and climate change—implications for local government decision making, The New Zealand Climate Change Research Institute Victoria University of Wellington (2011)
- Judy Lawrence and Martin Manning, Developing adaptive risk management for our changing climate, New Zealand Climate Change Research Institute Victoria University of Wellington (2012)
- Kenney, C.M., Paton, D., Johnston, D., Reid, J. and Phibbs, S., Addressing Risk and Resilience – An Analysis of Maori Communities and Cultural Technologies in Response to the Christchurch Earthquakes, Conference Papers Compendium, UNESCO Global Risk Forum, IDRC Davos 2012 “Integrated Risk Management in a Changing World – Pathways to a Resilient Society” (2012), 373-376
- K.F.D. Hughey, G.N. Kerr and R. Cullen, Public Perceptions of New Zealand's Environment, EOS Ecology (Christchurch, New Zealand, 2010)
- L. Beattie (Association of Collegiate Schools of Planning, Chicago, USA), Plan Implementation: The Reality of Land Use Planning in Auckland, New Zealand (July 2008)
- Land and Water Forum, Report of the Land and Water Forum: A Fresh Start for Fresh Water (2010)
- Martin Manning and others, Synthesis: Community Vulnerability and Resilience to Climate Change in New Zealand, The New Zealand Climate Change Research Institute Victoria University of Wellington (2011)
- Minister for the Environment, Report of the Minister for the Environment's Resource Management Act 1991 Principles Technical Advisory Group (February 2012), available at <http://www.mfe.govt.nz/publications/rma/tag-rma-section6-7/tag-rma-section6-7.pdf>
- Ministry for the Environment and The Flood Risk Management and River Control Review Steering Group, Meeting the Challenges of Future Flooding in New Zealand (2008)
- Ministry for the Environment, Flood Risk Management in New Zealand, available at <http://www.mfe.govt.nz/publications/land/meeting-challenges-of-future-flooding-in-nz/html/page3.html>
- Ministry for the Environment, Freshwater Reform 2013 and Beyond (2013)
- Ministry for the Environment, Meeting the challenges of future flooding in New Zealand (2008b)
- Ministry of Civil Defence and Emergency Management, CDEM Capability Assessment Report: Part 1 (April 2012)
- Ministry of Civil Defence and Emergency Management, Get Ready Get Thru National Campaign (June 2006), available at http://www.civildefence.govt.nz/memwebsite.nsf/wpg_URL/For-the-CDEM-Sector-Public-Education-Get-Ready-Get-Thru-campaign?OpenDocument
- Ministry of Civil Defence and Emergency Management, Impact Magazine, Volume 37 (March 2013)
- Ministry of Civil Defence and Emergency Management, New Zealand National Progress Report on the Implementation of the Hyogo Framework for Action (2009-2011), available at <http://www.preventionweb.net/english/countries/oceania/nzl/>
- Ministry of Consumer Affairs, Consumer Law, a discussion paper (2010), available at <http://www.consumeraffairs.govt.nz/legislation-policy/policy-reports-and-papers/discussion-papers/consumer-law-reform-a-discussion-paper/5.-principles-based-law/>
- Ministry of Foreign Affairs and Trade, International Development Policy Statement for Supporting Sustainable Development (March 2011)
- New Zealand Fire Service, Get Firewise, available at <http://www.getfirewise.org.nz/>
-

- New Zealand Government website, Participate and be involved, available at <http://newzealand.govt.nz/participate>
- New Zealand History Online, The Treaty in Brief, available at <http://www.nzhistory.net.nz/politics/treaty/the-treaty-in-brief>
- New Zealand Parliament website, available at <http://www.parliament.nz/en-NewZealand/SC/SubmCalled/>
- Nicola de Wit, The Evolution of Freshwater Management under the RMA (2013), available at <http://sciblogs.co.nz/waiology/tag/resource-management-act/>
- Office for Disability Issues, What We Do – Built Environment, available at <http://www.odi.govt.nz/what-we-do/built-environment/index.html>
- Officials' Committee for Domestic and External Security Coordination, Department of the Prime Minister and Cabinet, National Hazardscape Report (September 2007)
- Patrick Helm, Tephra, Building Community Resilience, published by the Ministry of Civil Defence (July 2009)
- Peter Gluckman, New Zealand's changing climate and oceans: The impact of human activity and implications for the future, Office of the Prime Minister's Science Advisory Committee (July 2013)
- Pricewaterhouse Coopers, Accident Compensation Corporation in New Zealand: Scheme review (March 2008)
- Public Service Association, ACC – A Briefing (2008)
- Stevenson H., Food security in New Zealand: The relationship between food security, ethnicity and body weight status, Thesis, Master of Science, University of Otago (2012)
- UNDP, A Global Review: UNDP Support to Institutional and Legislative Systems for Disaster Risk Management (2007)
- UNISDR, Hyogo Framework for Action: Mid-Term Review (2010-2011)
- UNISDR, Terminology on Disaster Risk Reduction (Geneva, Switzerland, 2009)
- Victoria, A. Johnson, Disaster Preparedness Education in Schools: Recommendations for New Zealand and the United States, Ian Axford (New Zealand) Fellowships in Public Policy (August 2011)
- World Conference on Disaster Reduction, Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (Extract from the Final Report of the World Conference on Disaster Reduction), 18-22 January 2005, Kobe, Hyogo, Japan (Kobe, Hyogo, Japan: International Strategy for Disaster Reduction, United Nations, 2005)
- W.S.A. Saunders and J.S. Beban, Putting R(isk) in the RMA: Technical Advisory Group recommendations on the Resource Management Act 1991 and implications for natural hazards planning, GNS Science Miscellaneous, Series 48 (August 2012)

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