

Protecting New Zealand from Natural Hazards

An Insurance Council of New Zealand perspective on ensuring
New Zealand is better protected from natural hazards



All photos courtesy of the New Zealand Herald, NewsPixNZ

Main photo

Insurance assessors walk past a car trapped in the new mudflats in Matata May 2005, after heavy rainfall created a debris flood.

Bottom From left

A house on Avonside Drive, Christchurch, is on quite a lean with large cracks in the ground also visible following the magnitude 6.3 earthquake in February 2011.

Houses in Redcliffs were destroyed when the cliff face collapsed after the 6.3 earthquake struck Christchurch in February 2011.

Interest in the White Island volcano, off the coast of White Island, has grown since the volcanic activity on the island began to increase in 2012.

Storms battered most of the country in July 2008 with large waves pounding the sea wall at Plimmerton, north of Wellington.

Publisher

This publication produced by the Insurance Council of New Zealand
Level 2,
Asteron House,
139 The Terrace,
Wellington 6140,
New Zealand

Phone + 64 4 472 5230

Fax +64 4 473 3011

Email icnz@icnz.org.nz

Website www.icnz.org.nz

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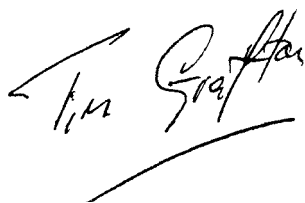
Introduction

This short position paper is for decision-makers and those who have an interest in ensuring New Zealand is better protected from natural hazards. New Zealand is one of the most vulnerable countries in the world to the impact of natural disasters for an economy of our size. The Canterbury earthquakes cost New Zealand about \$40 billion or 20 per cent of the country's GDP. We remain at risk from further earthquakes, volcanoes and tsunamis. 2013 and 2014 were also among the most expensive years for weather-related events. Climate change will increase the risk of flooding in parts of the country and drought in other areas. Coastal areas will be more vulnerable as sea levels rise and we can expect more severe windstorms in the west.

When natural catastrophe strikes it takes a heavy social toll. Lives can be lost, homes destroyed, sanitation and communications systems wrecked, businesses bankrupted and jobs lost quite apart from the trauma and stress families suffer as they try to put their lives back together.

We cannot control the forces of nature, but we can reduce their impact significantly by building our capacity to withstand and recover from natural disasters. This is achieved by identifying and planning ahead how to adapt or mitigate in order to reduce the risks we face. Numerous studies show that investment in those measures before disaster strikes saves much more than trying to pick up the cost afterwards. Reducing risks also keeps insurance available and affordable for everyone. High levels of insurance cover benefits society by sharing the risk and reducing the cost individuals, businesses, local and central government would otherwise have to meet.

Efforts are underway to build resilience, but they fall short of doing this comprehensively. The result is that New Zealanders will not be as well protected as they could be from natural disasters when this could be avoided. This paper explains what should be done to protect our country better¹ and calls for a step change in New Zealand's approach to resilience.



Tim Grafton
Chief Executive, Insurance Council of New Zealand

¹ The Insurance Council of New Zealand is a signatory to the United Nations' Principles for Sustainable Insurance. Principle 3 states that we will work together with governments, regulators and other key stakeholders to promote widespread action across society on environmental, social and governance issues. The UN identifies possible actions to pursue under this principle are to engage in dialogue to develop integrated risk management approaches and risk transfer solutions and to support prudential policy, regulatory and legal frameworks that enable risk reduction.

Recommendations

Strategy and legislation

A strategy and co-ordination – establish a dedicated agency within the Department of Prime Minister and Cabinet (DPMC) to oversee a co-ordinated strategy to reduce the impact of natural disasters before they strike.

Develop a national plan – draw on central, local and private sector interest to develop a national plan to make New Zealand better protected from natural hazards.

Legislative alignment – review legislation to ensure risk management of natural hazards is aligned and focused on reducing or avoiding natural hazard risks consistent with the strategy.

Take the long-view – require local authorities to deny consent applications where taking the long view shows risks from natural hazards will increase.

Plan to address local hazards – legislation should require local authorities to assess those natural hazard risks relevant to their locality and have infrastructure plans in place to address them.

Safer commercial buildings – make non-structural seismic restraints part of annual building inspections.

Information to make the right decisions

Science research – focus research spending to best inform risk reduction decisions.

High quality data – establish a high quality, national natural hazard database to inform decision-making such as the cost-benefit trade-offs around risk reduction.

A hazard risk on every property – ensure there is publicly accessible information on the natural hazard risks every property in New Zealand faces.

Be clear what are acceptable risks – provide local government decision-makers clear guidance about what can be considered acceptable risk from natural hazards.

Consistent approach across New Zealand – provide local government with a natural hazards identification template so there is a consistent approach applied across the country.

Educate people – a public education programme to inform people about the natural hazards they face and the actions they or their community can take to minimise them.

Funding

Fund resilience – a commitment to long-term annual funding of initiatives to build resilience where the risk and investment trade-off justifies it.

Funding now saves bigger cost after an event – the cost of implementing adaptation measures is significant. There needs to be long-term, bi-partisan commitment to fund measure that build pre-disaster resilience.

Insurance

Keep insurance affordable and available for all – introduce comprehensive measures to reduce the risk of natural disasters and remove levies from insurance premiums to help keep the transfer of risk to insurance affordable.

Acknowledgement

The Insurance Council of New Zealand acknowledges the contribution from the research articles and papers cited, as well as input and advice from individuals in the insurance sector, central and local government.

What is the problem?

New Zealand is highly vulnerable to natural hazard risks

New Zealand is highly vulnerable to natural hazard risks. It is one of the most vulnerable economies in the world to the impact of natural disaster as a percentage of GDP², ranked third most vulnerable of 42 countries after Bangladesh and Chile. Based on data going back to 1900, we can expect on average for natural disasters to cost this country just under 1% of its GDP in any year or about NZ\$1.6 billion.

Without risk reduction measures the cost from natural disasters will increase.

The Canterbury earthquakes speak to the scale of devastation that can occur but there are also volcanic and tsunami risks. For instance, over the next 50 years, there is a 30% chance of a magnitude 8 earthquake on the Alpine fault, a 50% chance of another earthquake sequence similar to that of 1929-42 which saw destructive events hit Napier (1931) and Wellington (1942), and almost a 100% chance of a central North Island volcanic eruption. There is also a 1-in-20 chance of a volcanic eruption in Auckland.³

Our risks will be increased by long-term, underlying trends. Climate change will raise the risks⁴ by increasing both the intensity and frequency of weather-related events. This will be made more acute because most of New Zealand's population is located in coastal areas and beside rivers. As more people live in our largest cities, more lives and assets concentrate in disaster prone areas. By 2050 about one million older New Zealanders will be living in areas vulnerable to severe flooding, coastal storm surges, land slips and wind storms.⁵ Often, developed cities suffer from under-investment and poor maintenance of infrastructure while the interdependence of digital infrastructure increases vulnerability. These conditions can put cities close to a tipping-point of disaster from hazard events.⁶

It cannot be assumed that natural hazards strike independently of each other. Unrelated events can also compound the challenges. The most destructive earthquakes in our history struck during a global financial crisis.

How should we respond?

As natural hazards are a major risk to New Zealand, we should expect to have a co-ordinated strategy to address them. The focus of this strategy should be primarily on reducing the potential impact of disasters before they strike.

Reducing impact will require a high degree of co-ordination across many sectors that will be responsible for executing the strategy. That is why we think the strategy should be led and co-ordinated at the highest level within government and be central to its planning.

The framework of this strategy would achieve strong alignment of legislation and policy that central government is responsible for with the actions and decisions by local government, business, communities and individuals. Strong leadership and governance at a national level is a necessity.

2 Lloyd's Global Underinsurance Report compiled by the Centre for Economics and Business Research Ltd, October 2012.

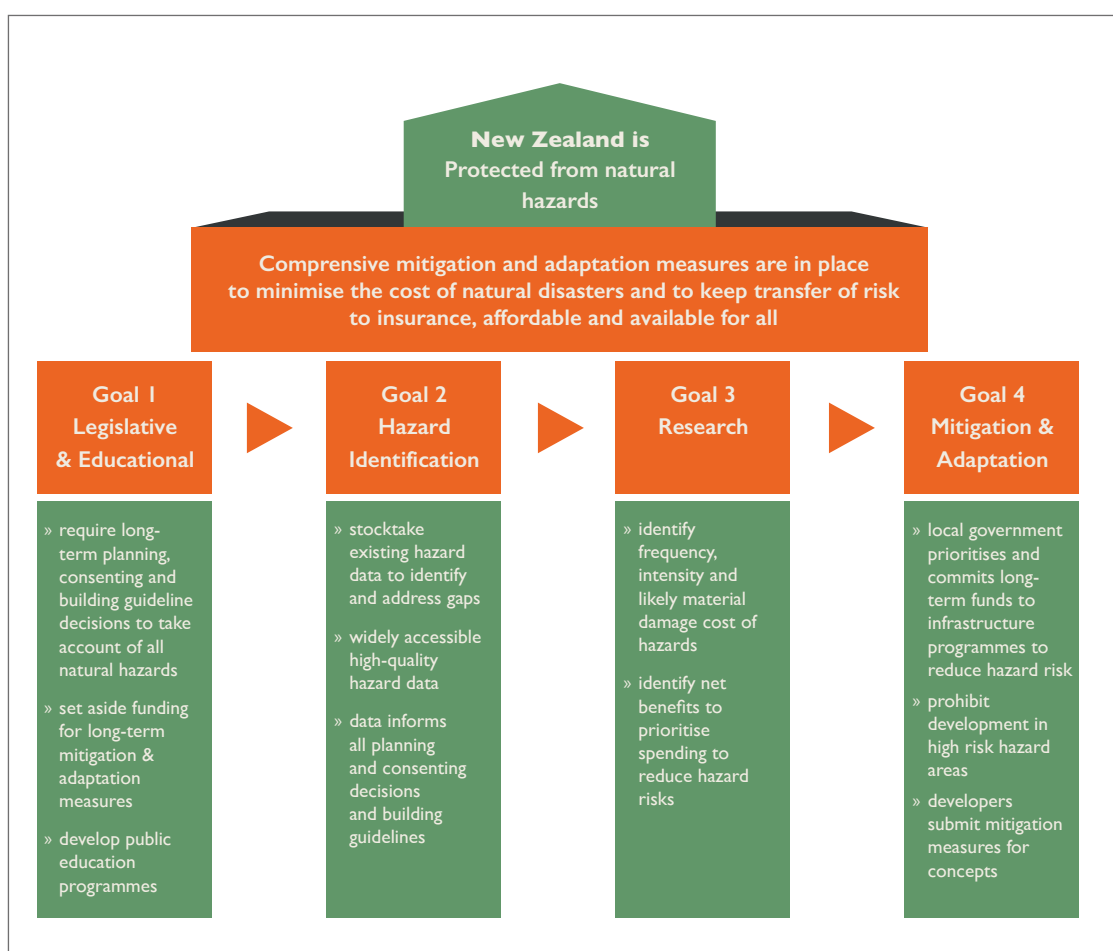
3 GNS cited in Managing Natural Hazards in New Zealand, a 2014 paper commissioned by Local Government New Zealand and Regional Councils.

4 Various reports, for example, the Intergovernmental Panel on Climate Change Reports 2 and 3 (2014), those produced by NIWA, the Prime Minister's Chief Science Advisor (2013) all point to the increased probability of increased risk. So, for instance, parts of New Zealand that are currently flood prone will be subject to more frequent and severe inundation and sea level rise will impact coastal areas and increase storm surge damage.

5 Resilient Communities, May 2014 Summit Report.

6 Toolkit for Resilient Cities 2013, a research project by Arup Group, Regional Plan Association and Siemens AG.

Figure one illustrates key elements of what a co-ordinated strategy would look like.



Reducing vulnerability to these risks is needed, but we have a long way to go to do this well. Failure to understand the hazards of our natural environment will decrease our quality of life.

Improving New Zealand's resilience involves much more than risk management. It includes adapting to shocks, gradual stresses and cumulative change. So, we must take a long view while acknowledging it is better to invest early than spend more after the event.

Need for co-ordinated focus on risk reduction

New Zealand's approach to reducing the risks from natural hazards falls short of what is needed.

No one agency is responsible for leading and co-ordinating New Zealand's response to natural hazards. As a result, gaps exist.

For example, the quality of information and accessibility to information about natural hazards varies considerably around the country as does the capability to respond. Also, inconsistencies exist in laws that should be protecting us from these risks. This means people and property are at greater risk than they need to be.

Risk reduction has never had the focus it deserves. Most New Zealanders will be familiar with efforts to communicate how to survive the first few days after a disaster. Relatively little emphasis has been placed on explaining the risks we face and how to minimise their impact. Co-ordinating efforts to encourage wider public understanding of this should be part of a national strategy.

At central government level, the Ministry of Civil Defence and Emergency Management (MCDEM) is the lead agency to manage an emergency arising from a natural hazard. Its 2014 national plan devotes less than three pages specifically to risk reduction.⁷

Its plan does list risk reduction responsibilities for other agencies and legislation that enables risk management to occur, but there is no definition of what risk levels are acceptable. Nor does the plan show how all this activity is co-ordinated in a systematic way. The impression left is a series of disconnected activities rather than an holistic and streamlined approach to pre-disaster risk reduction planning for national disasters.

Co-ordination and governance arrangements across central and local government need to deliver comprehensive adaptation and mitigation measures to reduce risk. For example, the National Civil Defence Emergency Plan does not say who should do what in terms of risk reduction though the scope of a national plan sets up that expectation.⁸ Much is left at the regional level to Civil Defence Emergency Management groups. This often assumes a low priority in local government, as hazard risk reduction activities are dispersed across organisations and there is a significant variability in capacity across local government.⁹ The result is incremental and a patchwork of uneven measures applied across the country to reduce risk. This is not acceptable when risks are significant nationally or locally. This could be partly addressed by changing the focus from *response to a disaster* to *reduction of risk and recovery plans*.



Image Houses in Redcliffs were destroyed when the cliff face collapsed after the 6.3 earthquake struck Christchurch in February 2011.
NZ Herald/NewsPixNZ



Image Storms battered most of the country in July 2008 with large waves pounding the sea wall at Plimmerton, north of Wellington.
NZ Herald/NewsPixNZ

7 MCDEM's draft revised National Civil Defence Emergency Plan 2014.

8 Managing Natural Hazards in New Zealand, Towards More Resilient Communities: a Think Piece 2014, commissioned by Local Government New Zealand and Regional Councils.

9 Ibid

Need to review legislation

Compounding this weak governance structure, there is limited integration across the key pieces of legislation to address natural hazards planning at central and local government. Legislation that addresses natural hazard risks should be reviewed to ensure that it aligns the actions of local government and its responsibilities with the task of better protecting New Zealand.

The Civil Defence and Emergency Management Act (CDEMA) assumes risk reduction requirements are managed under the Resource Management Act, but the term risk reduction is not mentioned in the RMA.¹⁰ CDEMA gives little guidance on what is acceptable risk which has obvious implications for planning and adverse consequences for us all if the tolerance of risk is set too high.

The Building Act sets a 50 year default timeframe for buildings, but once building development has been permitted that land use will extend well beyond 50 years over which time flood risk, for instance, in some areas of the country will get worse.

The Building Act also states a consent must be granted for building work on land subject to a natural hazard if the work will not worsen the situation and the land and building will be protected. That may sound good for today but it is not adequate if consents are granted in an area which, for instance, will become more vulnerable to flooding as a result of climate change.

We need local authorities to deny consent applications where taking the long view shows risk from hazards will increase. A few local authorities should be applauded for tackling the issue in another way by reviewing their district plans and signalling the need to retreat from vulnerable areas.¹¹ Ideally, the market should price the risk such properties face either through the value placed on them or the insurance premiums paid. If the market is not allowed to signal risk through price, then the higher the cost will be when disaster strikes. If these signals are not encouraged, then local authorities or their ratepayers will ultimately bear the future cost of putting infrastructure in place to protect vulnerable properties. Where local authorities cannot afford to do this and where insurance cover is not available or affordable because the risks have become too high, pressure falls on central government to do this. We need to avoid creating the moral hazard that those who ignore risk suffer no loss.

Private sector developers should also take the long view about where to locate development but with the demand for housing high, the shorter term view is likely to prevail if land is relatively cheap. It is often cheap for a good reason – it is of poor quality or prone to natural hazards like flooding.

Another shortcoming is that the Building Act defines natural hazard by excluding fault lines, tsunami or geothermal activity. The RMA does much the same but does not refer to 'risk' in relation to natural hazards while the CDEMA refers to something that may cause or contribute substantially to the cause of an emergency as a natural hazard.

Other legislation¹² requires local authorities to issue land information memorandua (LIM) to people on request, but the information that must be included only applies to some natural hazards and if hazard information is on the District Plan it does not have to be on the LIM. This means information people could use to inform themselves about the risks they may be prepared to take is deficient. This in turn masks market signals that would encourage retreat from risk-prone areas.

Ironically, there are examples where residents have successfully overturned attempts to put hazard information on LIMs because of the impact that would have on their property values. If the market is not allowed to signal risk through price, then the higher the cost will be when disaster does strike.

Overall for local government, at the coalface addressing these issues, there is little or no monitoring of hazard risk outcomes or the effectiveness of risk reduction measures and there is not a consistent basis on which to make risk management decisions.¹³

10 Putting R(isk) in the RMA, GNS Science Miscellaneous Series 48, W.S.A Saunders and J.S.Bevan

11 A summary paper by the New Zealand Climate Change Centre on the New Zealand findings from the Intergovernmental Panel for Climate Change Fifth Assessment Report promotes retreat from areas at greatest risk from natural hazards.

12 Local Government and Official Information and Meetings Act.

13 Managing Natural Hazards in New Zealand.



Need to tackle the funding problem

Even if local government had the information about natural hazards and the full range of legislative tools available, the challenge of how to fund adaptation measures remains.

Many provincial councils face declining populations or static funding bases or simply lack the resource and expertise to tackle some of the problems.

Left alone, many local authorities will not be able to respond. So, the strategy must address how to fund and also prioritise funding to reduce natural hazard risks. This will require risk and investment trade-offs to be made.

Role of business

Business has a role to play too in reducing the impact of natural hazards. Natural disasters not only cause significant damage to commercial property but also lead to major business interruption costs and associated economic loss.

There is evidence to suggest that few businesses have disaster recovery plans¹⁴ to cope with loss of suppliers or key customers or depopulation caused by disaster or the inability to access premises for months. Unaddressed vulnerabilities threaten business operations, employees' livelihoods and the economy.

It may be that the likelihood of a 1:100 year event happening makes business owners and chief executives downplay the threat. This thinking has to change because on that basis the 1:2,500 year event that struck Christchurch on 22 February 2011 would never have been expected to occur in our lifetimes. It also ignores the massive impact on business if an event occurs. As a matter of course, businesses must have a plan to identify the risk, understand what could happen and what the impact would be and how that could be mitigated, how recovery to business as usual would be achieved and to what extent insurance has a part to play.

The banking sector has a key role to play too. Banks lend about \$190 billion in home mortgages. Unlike insurance cover, which can be withdrawn if risks get too high, banks remain exposed to the impact of disasters. Banks have the ability to reduce that exposure by not supporting lending against assets that are or will become at high risk from natural hazards.

Importance of insurance and its limitations

Insurance is not a substitute for risk management nor does it reduce risk. It just transfers risk to the insurer for a price which increases as the risk gets higher or no longer becomes available because the risk gets too high.

While New Zealand enjoys high levels of insurance penetration not everyone takes out cover. Those that don't take out cover may expect government assistance after an event.

The importance of keeping insurance affordable and available for all by reducing risk is well demonstrated by Lloyd's, the London-based insurer. It has calculated that for every 1% increase in insurance penetration there is a 22% decrease in taxpayer's contribution required post-disaster.¹⁵ Well-insured countries can therefore spend less on emergencies, freeing up more money for investment and growth.

However, there are limitations on the ability of insurance to send strong enough signals about mounting risk. A large part of the premium charged for typical house insurance has nothing to do with the risk that property faces. Well over one-third of the cost is the Fire Service Levy and the Earthquake Commission Levy with GST on top of those levies.

Insurance on properties is bought annually. This means signalling through the premium price a risk that will grow over many years, can only be done slowly and incrementally. That's why the emphasis has to be on identifying and reducing or avoiding high risks in the first place.

¹⁴ Prepare for the Unexpected, Achieving Business Resilience in an Era of Severe Natural Disasters, FM Global.

¹⁵ Lloyd's Global Underinsurance Report, 2012, conducted by the Centre for Business and Economic Research. Insurance penetration is the percentage of non-life insurance written as a proportion of GDP. For each 1% increase in penetration there is a 13% decrease in uninsured losses and a 22% decrease in taxpayer's contribution to the recovery. This is based on case studies of major natural disasters in five countries. Figures could vary for smaller economies, but there is significant benefit of insurance penetration for a small economy like New Zealand which faces one of the highest levels of hazard risk for an economy of its size.

Individuals have a part to play

Many people don't understand the risks they face or do not have access to the information to understand and respond to the risk.

For many New Zealanders the dream is to live as close as possible to the water and pay a premium for that. This will only concentrate economic and potential life loss in locations vulnerable to storm and sea-level rise. It will also mean over time that if properties sustain more frequent damage that insurance premiums will rise or no longer be available, thereby making recovery efforts more difficult.

Individuals can do more to reduce the risks to themselves if they are aware what they are. So, not only is public education essential, but so is making the right choice not to live in high risk areas or when building seeking to future proof. If public attitudes change, then higher risk properties should be less desirable and will lose their market value.

Ironically, New Zealanders have little confidence that the country is well prepared. Just 23% agree New Zealand businesses and organisations are well prepared to minimise the economic and social costs of natural disasters.¹⁶



Image Interest in the White Island volcano, off the coast of White Island, has grown since the volcanic activity on the island began to increase in 2012. *NZ Herald/NewsPixNZ*

¹⁶ Nationwide telephone poll of n=750 aged 18 years and over by UMR Research for the Insurance Council of New Zealand, May 2014.

Positive steps are being taken

There are many good initiatives that either have the potential to reduce our risks or are in fact doing so. These need to be acknowledged.

The potential exists to achieve an overarching framework to align efforts to reduce risks from natural hazards. We believe this should be co-ordinated at the highest level of government.

The relocation of MCDEM to the Department of Prime Minister and Cabinet (DPMC) in April 2014 appeared to be a strategically smart decision. It seemed to signal that there was a plan to achieve just such a level of co-ordination. We have yet to see whether this is intended and if so how it might be done. One view is that this is simply an administrative change because MCDEM is no longer a good fit within the Department of Internal Affairs.

The recommendations of the Royal Commission into the Canterbury earthquakes have largely been acted on to improve our resilience from that hazard.

The Building Act is being amended to require commercial property owners to assess their earthquake proneness and ensure these are lifted to at least 34% of the new building standard (NBS) over the next couple of decades with some discretion, for example, for buildings that are seldom occupied. This standard is one that addresses life risk but it is not necessarily a measure of how well a building will respond in an earthquake. So, there may still be significant economic loss from material damage to buildings.

For instance, one problem the Building Act changes ignores is the likely systemic problem of inadequate, non-structural seismic restraints in ceiling cavities that pose risk to life and property. Up to 70% of a building's value can be at risk if non-structural features fail. These features are not subject to engineering sign-off when buildings are completed. The CDEM national plan also ignores this issue. We advocate that these restraints be part of annual building inspections to ensure compliance with well-established standards.

Amendments to the Local Government Act will require councils to develop 30-year infrastructure plans for water, sewage, drainage, roads and flood protection control works. While taking a long view is good, is a 30-year horizon good enough given climate change scenarios? Why restrict the focus to flood and not all infrastructure assets related to the protection and control of natural hazards? Legislation should require local authorities to assess those natural hazard risks relevant to their locality and have infrastructure plans in place to address them.

Universities and research organisations are co-ordinating work through the likes of the Joint Centre for Disaster Research and the Natural Hazards Research Platform.

Additional funding over 10 years has been provided for scientific research into enhancing our resistance to natural disasters through the National Science Challenge. Decisions on what research will be funded are pending but the primary focus needs to be on building resilience through pre-disaster planning. There are suggestions that enhanced natural peril impact modelling may not be supported. If this proves to be the case, then that would degrade risk-informed information to improve policy and decision-making.¹⁷

There is a National Infrastructure Unit within the Treasury which has a vision that by 2030 New Zealand's infrastructure is resilient and recognises a key challenge is the vulnerability infrastructure faces from natural hazards together with a lack of knowledge of resilience at a national level. Clearly, there is much work to be done there.

One critical outcome of an overarching strategy would be an accessible, high quality, shared national database to inform decision-making. Another would ensure that research informs the cost-benefit trade-offs of taking measures to reduce risks. Also, research should not be confined to hard-wired analysis of risks but should include dimensions such as how best to communicate and socialise the management of risk at individual, community and business levels.

¹⁷ Concerns were expressed by the Director of the National Hazards Research Platform, Dr Kelvin Berryman, in an open-letter to stakeholders in April 2014 that the NSC's direction could jeopardise the nation's ability to have the best evidence to support resilience policy development.

What needs to be done

Top level, single agency responsibility

No one agency is responsible for co-ordinating the national response to natural hazard management. That needs to change and responsibility for it located in DPMC. The rationale for this is that DPMC sits at the highest level of government with an overview across government and already has a clear role around national security and resilience planning.

The transfer of MCDEM and the Canterbury Earthquake Recovery Authority (CERA) to DPMC should be seen as first steps in integrating its functions as a part of the overarching coordination role. DPMC is ideally placed to co-ordinate other government agencies, provide policy advice around funding initiatives and to ensure legislation consistently and comprehensively addresses risk reduction. One of its key roles now is to play a role in co-ordinating and leading government departments and agencies and other entities as appropriate to ensure advice is as coherent and complete as possible. A key outcome for it is to ensure national security priorities and civil defence emergency management is well led and co-ordinated.

Identify gaps

There is a need to identify the gaps in capacity and capability at the local government level as well as recognition of the fact that natural hazards do not respect territorial authority boundaries.

Initiatives on the ground are most effective when they are driven by motivated and engaged communities, individuals, businesses and local councils supported by the information and tools government can provide. There is therefore a fundamental alignment role to be undertaken too.

Coupled with this local decision-makers need clear guidance about what can be considered as acceptable risk.

There needs to be a natural hazards identification template for all councils to use. Currently, each council has its own idea of natural hazard identification and much of this is unfortunately skewed to the avoidance of property devaluations and promoting development without due regard to future risks and costs.

Greater risk reduction emphasis

There should be a much higher priority placed on risk reduction and advice is needed on how to improve alignment of central and local government processes to improve resilience.

That advice should take the long-view of natural hazard risks, the changing nature of those risks and their impact. A national plan to protect New Zealand from natural hazards should be developed that incorporates community education activities around risk reduction as well as building alliances across public and private sector organisations and businesses. Ideally, this plan would be developed on a cross-sectoral basis involving central and local government as well as the private sector. DPMC would be ideally positioned with the authority and gravitas needed to facilitate bringing these elements together.

Key outcomes of such a plan could be to make recommendations on the need to ensure relevant legislation is aligned, what research should be undertaken and how best to fund measures to make us more resilient.

Review and align key legislation

We believe there should be a review of the key Acts that encourage or enable risk management to occur with the goal of ensuring there is consistency of definition and focus, so they work together to reduce or avoid risks.

A good first step would involve inserting the management of natural hazards to an amended RMA and to align the Building Act with the RMA's intent and require consenting authorities to have particular regard to the full range of natural hazards over the long-term life of developments.



Focus research spending to best inform risk reduction decisions

Research funding to inform decision-making around natural hazard management should prioritise research that:

- » provides high quality and consistent hazard identification information across the country;
- » provides likely return periods for each hazard but importantly includes the impact of such events since the frequency of an event and its consequences can be quite different. This should result in high quality hazard mapping across the country to best inform local decisions on risk management;
- » informs best practise adaptation, mitigation or avoidance measures that could reduce the economic and social impact of these natural hazards;
- » provides cost-benefit analysis to inform decision-makers of the trade-offs that need to be made when undertaking risk reduction measures;
- » informs how best to align central and local government policy settings.

Funding

There is plenty of evidence to show that steps taken now to adapt or mitigate risks will save substantial economic and social costs following a natural disaster.¹⁸ Simply put, it is better to spend in advance because it saves money later.

The cost of implementing adaptation measures is significant. So, there needs to be long-term, bi-partisan commitment to fund measures that build pre-disaster resilience. Equally, spending must be prioritised, so a net benefit analysis has to be undertaken to inform those decisions.

Coupled with this, there needs to be a commitment to long term annual funding of pre-disaster resilience at local government as well. Consideration should be given to incentives to encourage this because investments with a long-term return are not well prioritised.

People need to be informed

Responsibility for risk reduction measures needs to occur at the individual level too. For that to happen, people must be able to access information about the risks they face, particularly where they decide to invest and live.

All natural hazards should be listed on LIM and there should be an ability for anyone to easily access data about the natural hazards that attach to any property in the country. Some regional councils are leading the way providing granular information online for anyone to see for free.

Making information accessible to people only goes part of the way. A broader public education programme is needed to inform people about the risks they face and the actions they or their community can take to minimise them.

Unless people have the information to inform them of the risks they face, necessary changes in behaviour and to the property market will not occur.

¹⁸ See as an example Building Our Nation's Resilience to Natural Disasters, Deloitte Access Economics' study for the Australian Business Roundtable for Disaster Resilience and Safer Communities.

Signalling risk and keeping insurance affordable and available

Insurance needs to be able to provide stronger signals to inform people about risk while remaining available and affordable to all. Failure to do this will mean that those on low incomes in high risk areas will be least able to afford insurance and would be likely to suffer most in a disaster.

Removing flat levies like the Fire Service Levy from insurance premiums and minimising regulatory costs would help keep insurance affordable. It would also remove costs that currently mask the extent to which the premium reflects risk.

Regulatory costs need to be assessed to ensure they appropriately balance the need to protect policyholders with the need to avoid pushing up insurance costs that make those policyholders even more vulnerable if they cannot afford insurance.

The message that over time those in high risk areas will face higher premiums or withdrawal of cover needs to be maintained to overcome the limits of incremental change from annual renewals. Areas of Christchurch that flooded frequently after the earthquake had flood excesses of up to \$10,000 which provides a strong signal about what may happen in future elsewhere unless adaptation measures are undertaken to reduce such risks.



Image Insurance assessors walk past a car trapped in the new mudflats in Matata May 2005, after heavy rainfall created a debris flood.
NZ Herald/NewsPixNZ

An action list to better protect New Zealand from natural hazards:

Strategy and legislation

A strategy and co-ordination – establish a dedicated agency within the Department of Prime Minister and Cabinet (DPMC) to oversee a co-ordinated strategy to reduce the impact of natural disasters before they strike.

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