

# Connectedness & Canterbury

How did government agencies connect in response  
to the Canterbury Earthquakes of 2010 and 2011?

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## EXECUTIVE SUMMARY

The Canterbury earthquake sequence of 2010 and 2011 presented the Government with unprecedented challenges, not least of which was to ensure consistency and connectedness across each of its agencies who had a role in the response.

This paper examines particular instances where government agencies connected in responding to the earthquake's impact on the built environment, and identifies elements of the experience that should be incorporated in planning for future natural disasters.

The key observations are:

- Examples of connectedness often came about due to existing relationships and networks that were *not* born out of disaster planning but were fortuitous in enabling aspects of the Government's response.
- Individual agencies gathered large amounts of information in their response roles, but this could often only be utilised between agencies in an ad hoc way in the absence of existing frameworks for information sharing.
- There are opportunities for broader government policies to be implemented as part of the rebuild, but these may be overlooked or under utilised due to competing priorities or lack of advance planning and role awareness.
- A whole-of-government review of the experience in Canterbury is required and a strategic approach is necessary to implement change. As part of this, the importance of connectedness should be acknowledged and built into frameworks.

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## INTRODUCTION

Natural disasters have the capacity to force lands and lives apart, while at the same time drawing people and communities together. What then of the government and of the myriad of agencies that underpin it? How do they respond to a natural disaster and do they do so in a coordinated and connected manner? The Canterbury earthquake sequence of 2010 and 2011 presented the government with unpredictable challenges on an unprecedented scale. What have government agencies learnt over the last four years about the opportunities for, benefits of, and impediments to connectedness? This paper endeavours to draw on the experiences of those government agencies managing the impact on Canterbury's built environment, and identify lessons to enable better connectedness for next time.

This research largely focuses on examples from the residential rebuild, and on aspects of government interactions that were centred in Wellington, rather than service delivery aspects occurring on the ground in Canterbury. The word 'connectedness' is used here as an umbrella term to cover the various levels of agency interaction, which could range from conversations and consultation between agencies right through to collaboration in providing services. The types of connectedness involved will be distilled in this paper. The research was conducted through a series of interviews with individuals who either had operational involvement or who had broad oversight of their agency's experience in connecting with others.

The start of government activity in response to the disaster came on the morning of 4 September 2010 when the *National Crisis Management Centre* was activated shortly after the first earthquake, which struck at 4:35am. The earthquake had caused widespread damage to land and buildings across the region, and presented an enormous task to rebuild. The following days and months involved a lot of work and planning from across local and central government, the private sector, and NGOs, but much progress was undone when on 22 February 2011, a 6.1 magnitude quake struck just 10 kilometres from the city. At only 5 kilometres deep and with ground accelerations of more than twice the acceleration due to gravity, it killed 185 people and completely changed the landscape of the city forever.

It is difficult to articulate the impact of the earthquakes and the scale of the damage. In terms of buildings alone, more than 100,000 homes were damaged, many beyond repair, and more than half the buildings in the Central Business District have been severely damaged. It is estimated that there will be eight million tonnes of rubble and waste from earthquake-damaged buildings, along with the many thousands of tonnes of liquefaction silt that had to be removed from around the region. The *Stronger Christchurch Infrastructure Rebuild Team* estimates that 46 per cent of Christchurch's urban sealed roads will be affected – just part of the 895 kilometres that need rebuilding; the same distance as driving State Highway 1 from Picton to Invercargill<sup>12</sup>.

In terms of economic impact, the Treasury now estimates the capital cost of the earthquakes to be around forty billion dollars<sup>3</sup>, the equivalent of almost twenty percent of New Zealand's annual gross domestic product<sup>4</sup>. In terms of cost to insurers, the earthquakes were the third most

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<sup>1</sup> Canterbury Earthquake Recovery Authority, *Questions and Answers*, Posted at <http://cera.govt.nz/recovery-strategy/overview/questions-and-answers#1>, Retrieved 9 September 2014

<sup>2</sup> According to Google Directions – see <https://maps.google.co.nz/maps>

<sup>3</sup> The Treasury, (2014), 'Rebuilding Christchurch – Our Second-Biggest City', in *Budget Policy Statement 2014*, Posted at <http://www.treasury.govt.nz/budget/2014/bps/06.htm>, Retrieved 19 September 2014

<sup>4</sup> English, Hon. B., (2013), *Budget Statement – Budget Debates*, 690 NZPD 10017

expensive event in history<sup>5</sup>, trailing the 2011 earthquake and tsunami in Japan, where although the devastation was on a different scale, the cost only constituted an estimated 3 to 4 per cent of Japan's gross domestic product<sup>6</sup>. The impact of the Canterbury earthquakes on both the built environment and on the economy gave this the potential to be not only a natural disaster but an economic disaster too.

Perhaps unsurprisingly then, Christchurch faces an enormous task to rebuild, and the central government role in this has extended far beyond that immediate response through the National Crisis Management Centre. The government's role has included the management of a large portion of the residential rebuild, the purchasing of over 7000 properties through its "red-zoning"<sup>7</sup>, the provision of temporary accommodation, and the establishment of a public service department to lead, facilitate and coordinate the recovery of the region<sup>8</sup>. Four years on from the first earthquake, some of the government's tasks in the city are starting to wrap up while others are only now beginning to take flight. While 60,000<sup>9</sup> properties have been repaired through the Canterbury Home Repair Programme as at 4 September 2014, high-rise buildings in the central city are still being demolished and the hammers are yet to start fully swinging on its reconstruction.

There is a small window of opportunity that exists somewhere between the point at which a glimmer of a recovery can be seen and the point at which there is a sense that the job is nearly done. Before that window emerges, clarity and space to identify learnings is unavailable; beyond that point the people who have the experience will likely have moved on, and details of all that happened risk being forgotten. The Recovery Strategy Vision<sup>10</sup> produced by the Canterbury Earthquake Recovery Authority (CERA) promotes the concept of *mō tātou, ā, mō kā uri ā muri ake nei* – "for us and our children after us". The sentiment is equally applicable to the responsibility of today's government to prepare for tomorrow's disaster.

## The Focus of this Research

The "4 Rs" terminology is used in the government's Civil Defence Emergency Management framework for risk management. It consists of four phases: "Reduction" and "Readiness", focus on pre-event management, "Response" and "Recovery" occur directly after an event. This research applies principally to the fourth R *Recovery* phase rather than the *Response* phase as this is where much of the rebuilding is carried out. The *Recovery* phase is defined in the National Civil Defence Emergency Management Plan as "the co-ordinated efforts and processes used to bring about the immediate, medium-term, and long-term holistic regeneration of a community following an emergency". This comes after the *Response* phase, which is defined as "actions taken immediately before, during, or directly after an emergency to save lives and property, and to help communities recover".

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<sup>5</sup> Swiss Re, (2012), *Record-Breaking Earthquake Insured Claims*, Posted at [http://www.swissre.com/media/news\\_releases/nr\\_20120328\\_sigma\\_disasters\\_2011.html](http://www.swissre.com/media/news_releases/nr_20120328_sigma_disasters_2011.html), Retrieved 19 September 2014

<sup>6</sup> Doherty, E., (2011), *Economic Effects of the Canterbury Earthquakes*, Parliamentary Support Research Paper, posted at <http://www.parliament.nz/en-nz/parl-support/research-papers/00PlibCIP051/economic-effects-of-the-canterbury-earthquakes>, Retrieved 19 September 2014

<sup>7</sup> As at May 2014, the Authority reports that "7349 properties were zoned red on the flat land. Only 136 property owners chose not to accept an offer. In the Port Hills 715 properties were zoned red and their offer process remains underway". See Canterbury Earthquake Recovery Authority, (2014), *Briefing for the Incoming Associate Minister for Canterbury Earthquake Recovery*, Wellington, p10

<sup>8</sup> Ibid, p3

<sup>9</sup> Earthquake Commission, (2014), *Two Major EQC Repair Milestones Reached*, Posted at <http://www.eqc.govt.nz/news/two-major-eqc-repair-milestones-reached>, Retrieved 4 September 2014

<sup>10</sup> Canterbury Earthquake Recovery Authority, (2012), *Recovery Strategy: Mahere Haumanutanga*, Posted at <http://cera.govt.nz/recovery-strategy/overview>, Retrieved at 9 September 2014

While the “4 Rs” terminology is useful to broadly describe the focus of this research, when reviewing the whole-of-government role the divide between *Response* and *Recovery* can be somewhat artificial as an agency’s tasks tend to fall within both stages and “the establishment of recovery activity begins immediately after the impact of an event and works in parallel with response activities”<sup>11</sup>. For example, provision of temporary accommodation following a natural disaster on this scale can begin as an emergency arrangement but can flow through to the medium and longer term as has been the experience in Canterbury.

For that reason, this paper does not generally divide the government’s role between the two phases. The term *response* is used throughout at a general level rather than directly referring to the formal *Response* phase. There are worthwhile observations to be made of both the aspects of connectedness in the extremely fast-paced *Response* phase, and the on-going need for connectedness now, four years on.

### **New Zealand’s exposure to natural disasters**

New Zealand’s exposure to natural disasters is evident all around us. The features that give the country its striking scenery were created by the very forces that risk destroying it. New Zealand lies in a “geographically unstable zone, straddling two moving sections of the earth’s crust – the Pacific and Australian plates. Ninety-five per cent of New Zealanders live within 200 kilometres of the boundary where the plates meet”<sup>12</sup>.

In New Zealand, insured residential property<sup>13</sup> is covered against damage from earthquakes, volcanoes, tsunamis, landslips, and geothermal activity. Residential land is also covered for damage from floods and storms. It is not by chance that these disasters have been selected; all pose a considerable risk in New Zealand’s unique geographical setting. Historically, parts of New Zealand have suffered significant damage from several earthquakes<sup>14</sup>. Prior to the Canterbury sequence, there was Edgecumbe in 1987, Wairarapa in 1942, and Hawkes Bay in 1931 where 256 people were killed. In the last two decades we have seen volcanic eruptions from both Ruapehu and Tongariro, in largely unpopulated areas. It is well understood that Auckland, with a population of nearly 1.5million, sits across 50 separate volcanoes in a volcanic field that is still young. The most recent eruption being that of Rangitoto 600 years ago<sup>15</sup>.

What this means for the government is that New Zealand’s exposure to hazards is real and is not something that can be ignored. Risk management and preparation must be a component of every agency’s planning and is something the government cannot afford to lose sight of. The *Civil Defence Emergency Management Act 2002* requires all agencies to plan to enable the continuation of their standard functions when an emergency occurs<sup>16</sup>. This paper’s proposition is that in order to best understand each agency’s individual needs, connectedness should be worked into the planning framework.

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<sup>11</sup> Ministry of Civil Defence Emergency Management, (2005) *Focus on Recovery – A Holistic Framework For Recovery in New Zealand – Ministry of Civil Defence Emergency Management*, Wellington, Page 5

<sup>12</sup> McSaveney, E., and Nathan, S., (2012) *Natural hazards – overview - Living dangerously*, Posted at <http://www.TeAra.govt.nz/en/natural-hazards-overview/page-1>, Retrieved 9 September 2014

<sup>13</sup> See sections 2, 18, 19, and 20 of the Earthquake Commission Act 1993 for the types of property covered for natural disaster damage.

<sup>14</sup> Geonet, (2014), *Historical Earthquakes*, Posted at <http://info.geonet.org.nz/display/quake/Historical+Earthquakes>, Retrieved on 9 September 2014

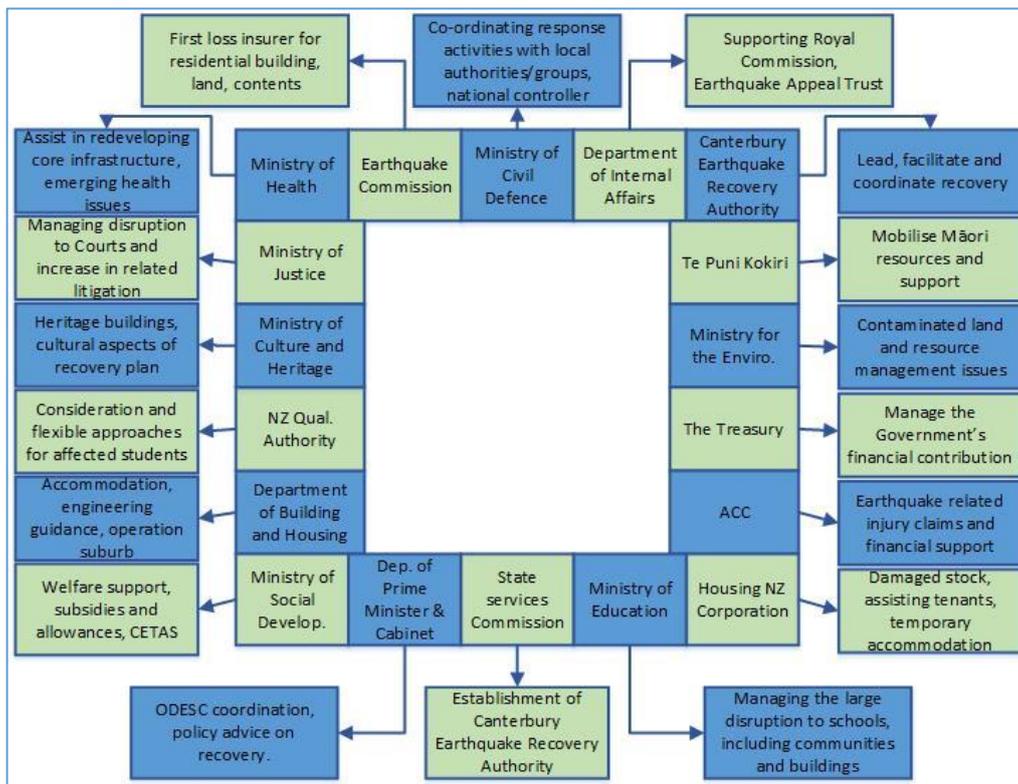
<sup>15</sup> Geonet, (2014), *Auckland Volcanic Field*, Posted at <http://info.geonet.org.nz/display/volc/Auckland+Volcanic+Field>, Retrieved on 9 September 2014

<sup>16</sup> Section 58 of the Civil Defence Emergency Management Act 2002

## Who is involved?

A large portion of government agencies had a role in the response; some of them minor, some facilitative and some all-encompassing. Many agencies had a natural involvement, to rescue, protect and ensure well-being such as the Ministry of Civil Defence and Emergency Management, Ministry of Health, Ministry of Social Development and the emergency services. Many other agencies have found themselves with a considerable workload both in assisting the community and in managing the impact on their own institutions. Some roles are simply an extension of business-as-usual; others are entirely new. The diagram below illustrates a selection of roles and responsibilities across government agencies, and is by no means exhaustive.

**Figure 1: A selection of agency roles involved in Canterbury**



CERA was established following the 22 February 2011 earthquake with the purpose of facilitating, co-ordinating, and directing the planning, rebuilding, and recovery of affected communities. The legislation establishing CERA expires after five years, guaranteeing central government's role in Canterbury until at least April 2016 unless amendments are made to decrease the department's lifespan<sup>17</sup>.

The role of providing technical guidance for both residential and commercial building repairs and rebuilds remains with the Ministry of Business, Innovation and Employment (MBIE). MBIE is also responsible for the provision of the government's three temporary accommodation villages

<sup>17</sup> On 2 September 2014 the government announced CERA will become a Departmental Agency within the Department of Prime Minister and Cabinet from the start of 2015, indicating that there is no intention to end the work of the Authority early, but that work will begin on a transition of responsibility to local authorities. See Brownlee, Hon G., (2014), *Government Focuses on Long Term Quake Recovery*, Media Release, Wellington

in Linwood, Rawhiti and Kaiapoi as well as the development of more long-term accommodation in the Rangers Park Housing development.<sup>18</sup>

In terms of hands-on work, the Earthquake Commission (EQC) has carried out large parts of the residential rebuild, aiming to complete its 70,000 repairs by the end of 2014<sup>19</sup>. EQC also forms part of the broader work between councils and central government on a range of issues, and continues its role from a research perspective to trial new strategies for fixing land that is vulnerable to liquefaction. Prior to this sequence of earthquakes, EQC had a staff of just 22 whose main role was to manage the natural disaster fund collected from levies, and to deal with insurance claims for the occasional land slip or small-scale earthquake. Since the earthquakes, EQC has experienced unparalleled growth and managed many unanticipated complexities born out of the scale of the damage and the number of significant earthquakes in the sequence.

Other agencies have a more peripheral role, but nonetheless feature earthquake related activities in their work-streams. The Department of Corrections for example reports that by 31 March 2014 offenders in prison and in the community had contributed over 192,000 hours to earthquake recovery work including houses transported from the Residential Red Zone to prison yards where they are refurbished for social housing<sup>20</sup>.

### **Existing review of service-delivery connectedness**

While it is not the focus of this paper, it is worth noting that there is on-going work in relation to how agencies have connected from a service delivery perspective in Canterbury. The Cabinet paper *Demonstrating Better Public Services: Christchurch Innovations* observes the innovative responses of the Public Service in Canterbury demonstrated the value of “co-location and collaboration between agencies as a foundation for joined up services, to reduce agency silos and to enable efficiencies through shared infrastructure”<sup>21</sup>. The paper identifies four examples of innovative public service delivery:

- Canterbury District Health Board’s shared care record view (eSCRV), an on-line cloud-based system for sharing patient information between health professionals;
- Recovery Canterbury, a joint private/public hub supporting earthquake-affected businesses with advice, mentoring, referrals (to government as well as professional services) and grants;
- Justice Services Recovery, including centralised scheduling and the use of alternative facilities that enabled the maintenance of court proceedings despite significant damage to infrastructure;
- Earthquake Support Co-Ordination (ESCS), co-production between government agencies and NGOs to provide support for families and households following the earthquakes.

These initiatives demonstrate the value in public sector agencies identifying opportunities to do things differently and to work together in disaster response, in a way that can be emulated across

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<sup>18</sup> Ministry of Business, Innovation and Employment, (2013), *Rangers Park Development*, Posted at <http://www.mbie.govt.nz/what-we-do/canterbury-recovery/snapshots/rangers-park-development>, Retrieved 9 September 2014

<sup>19</sup> Earthquake Commission, (2014), *Canterbury Home Repair Target Date for 2014*, Posted at <http://www.eqc.govt.nz/news/canterbury-home-repair-target-date-for-2014>, Retrieved 9 September 2014

<sup>20</sup> Department of Corrections, (2014), ‘Helping Rebuild Canterbury’, *Correction Works*, June 2014, pp 8-9

<sup>21</sup> CAB, (*Demonstrating Better Public Services: Christchurch Innovations*, Paper to the Cabinet State Sector Reform and Expenditure Control Committee, p1

the sector during ordinary-times. In particular, the paper identifies lessons from Christchurch that “enable innovation to flourish”<sup>22</sup>.

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<sup>22</sup> Ibid, p2

## **PART ONE: CONNECTEDNESS – PRESCRIBED AND PREPARED?**

Connectedness is a major theme in the experience of individuals and agencies involved in the government response. At a basic level, the benefits of being connected are clear. Connectedness reduces the risk of duplication of efforts, best ensures consistency in decision-making, and provides for existing capabilities across agencies to be identified and utilised. Equally, the challenges of creating connectedness in response to a disaster are great. Decisions need to be made at lightning pace while decision-makers are still discovering the scale of the disaster and the particular features of the affected location. An individual agency cannot be expected to keep abreast of the activities of every other agency, with so many actions occurring concurrently.

Within government there are multiple ministerial portfolios, supported by a vast number of central government agencies, including 29 public service departments, and 62 statutory Crown entities<sup>23</sup>. The structure of division by portfolio can lend itself to agencies carrying out tasks in isolation and the system can contain silos both within and between agencies. As Morrison observed, the public sector reforms of the 1980s have resulted in agencies becoming “overly protective of their policy, information and operations. What gets lost in the fragmentation is the collective action required to deliver the common good”<sup>24</sup>. A disaster setting could either accentuate the challenges, or make them easier to overcome. The “common good” at least will be more visible to agencies, although the ideas for how to achieve it may be harder to agree.

There are mechanisms by which some level of connectedness is ensured, depending on the significance of the particular decision. To the extent that Cabinet approval is required before an action is taken, the Cabinet paper put before the relevant committee must confirm what other agencies the department has consulted with<sup>25</sup>, and Cabinet itself is a way of ensuring relevant Ministers are kept informed. There are also cross-agency groups set up to manage particular issues, but in other cases the structure relies on agencies using initiative, and common sense, to identify scenarios where others will need to be involved, and cooperating to achieve the common good.

### **Prescribed connectedness in disasters**

A further vehicle for prescribing greater connectedness is the Civil Defence Emergency Management framework, which sets out the principles and plans for emergency management in New Zealand, including the roles and responsibilities at a local level and national level. The detail is in a series of documents sitting underneath the *Civil Defence and Emergency Management Act 2002*. These include the *Strategy*<sup>26</sup> set by the Minister, the *Plan*<sup>27</sup> made by the Governor-General through Order in Council, and the *Guide*<sup>28</sup> as endorsed by the government. Underneath those documents there are also individual Civil Defence Emergency Management Group Plans, and a range of Director’s guidelines.

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<sup>23</sup> Excluding the twenty District Health Boards. See State Services Commission, *A Guide to New Zealand’s Central Government Agencies*, Posted at <http://www.ssc.govt.nz/sites/all/files/guide-to-central-govt-agencies-1jul14.pdf>, Retrieved 1 July 2014

<sup>24</sup> Morrison, A., (2014), “Picking Up the Pace in Public Services”, *Policy Quarterly*, May, p43

<sup>25</sup> Cabinet Office, *Cab Guide – Departmental Consultation*, Posted at <http://cabguide.cabinetoffice.govt.nz/procedures/consultation/departamental-consultation>, Retrieved on 9 September 2014

<sup>26</sup> Minister for Civil Defence, (2007), *Civil Defence Emergency Management Strategy 2007*, Department of Internal Affairs, Wellington

<sup>27</sup> National Civil Defence Emergency Management Plan Order 2005

<sup>28</sup> Director of Civil Defence Emergency Management, (2006), *The Guide to the National Civil Defence Emergency Management Plan 2006*, Ministry of Civil Defence Emergency Management, Wellington

Under the framework, ODESC (the Officials Committee for Domestic and External Security Coordination) is the strategic body responsible for co-ordinating a whole-of-government response to events<sup>29</sup>. ODESC is chaired by the Chief Executive of the Department of Prime Minister and Cabinet. In an emergency management context, ODESC brings together Chief Executives from across government to determine the extent to which government intervention and action is required, and to allocate work across agencies.

The *National Civil Defence Emergency Management Plan 2006* also provides that following notification or warning of a civil defence emergency, national agencies with lead roles are to act in support of government crisis management arrangements. Emergencies requiring a whole-of-government response may require activation of the National Crisis Management Centre (or the “Bunker”) by ODESC<sup>30</sup>. Agencies with supporting roles, as set out in the Plan, may be required to provide ad hoc or full-time representation and support at the Bunker. This physical locating of representatives from different agencies is an immediate way to achieve connectedness in relation to Response activities.

The framework also introduces a form of connectedness through the operation of “clusters” of agencies, which are set up with the aim of encouraging organisations with similar objectives to work together. Clusters were introduced in the 2002 Act to put some structure around existing relationships<sup>31</sup>. The cluster members are intended to work together to clarify goals, responsibilities and roles, identify gaps in capability and capacity, and address the gaps through action plans. They include clusters dedicated to the likes of Welfare, Emergency Services, Lifeline Utilities, Health, and Transport. For example, according to the *Guide*, the National Welfare Recovery Co-ordination Group, led by the Ministry of Social Development, is responsible for planning for the delivery of national welfare when assistance or support is required to be co-ordinated at a national level. For more information about how the Civil Defence Emergency Management framework played out in Canterbury, you can refer to the report *Review of Civil Defence Emergency Management Response to the 22 February Christchurch Earthquake*<sup>32</sup>.

## Identifying the Canterbury cases

Through a combination of existing consultation procedures across government, and through the operation of the Civil Defence Emergency Management framework, there are mechanisms in place to facilitate connectedness in a disaster response, but the remainder of this paper considers specific examples of connectedness that occurred, in part, outside of this framework. In particular, the research included individuals who were part of: the *Chimney Replacement Programme*, the *Engineering Advisory Group*, the provision of *Temporary Accommodation*, and the *Proposed Perimeter Treatment Works*. These particular actions or roles were of interest because they involved two or more government agencies. The facts and observations from these are set out in the following sections.

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<sup>29</sup> Clause 12(7)(d) of the National Civil Defence Emergency Management Plan 2006

<sup>30</sup> Clause 64 of the National Civil Defence Emergency Management Plan 2006

<sup>31</sup> Ministry of Civil Defence Emergency Management, *A Cluster Approach for Civil Defence Emergency Management: Enhancing Multi-Agency Relationships*, Posted at <http://www.civildefence.govt.nz/assets/Uploads/publications/Cluster-Approach-Fact-Sheet.pdf>, Retrieved on 9 September 2014

<sup>32</sup> Ellis, E., McLean, I., Oughton, D., Rubin, C. B., Wakelin, B., (2012), *Review of Civil Defence Emergency Management Response to the 22 February Christchurch Earthquake*, Wellington

## PART 2: OBSERVATIONS ON CONNECTEDNESS

### The role of existing relationships

Interviewees repeatedly stressed the importance of existing relationships between individuals across agencies and the value of being able to draw on those to activate work-streams. A key example was the creation of the Engineering Advisory Group, which utilised existing relationships between EQC, Department of Building and Housing, and specific members of the earthquake engineering community. Technical societies such as the New Zealand Society for Earthquake Engineering, the Structural Engineering Society of New Zealand and the New Zealand Geotechnical Society provided an important mechanism to forge and strengthen relationships.

#### Case 1: The Engineering Advisory Group

MBIE describes the Canterbury Earthquakes Engineering Advisory Group as having three main purposes<sup>33</sup>:

- To provide guidance on engineering requirements and regulatory processes for the assessment of damage and specification of repair and reconstruction;
- To facilitate interaction between engineers, EQC, commercial insurers, CERA, and Christchurch City, Selwyn District, and Waimakariri District councils on the engineering requirements and regulatory issues and processes;
- To convey the engineering requirements for various repair and reconstruction options and techniques to the insurance, design and construction sectors.

While the Engineering Advisory Group now sits within MBIE, the Group was originally sponsored by EQC to consider the technical issues and processes associated with the recovery for residential dwellings. At that time it comprised members from EQC, the Department of Building and Housing, BRANZ, the Structural Engineering Society, and engineering consultants Tonkin & Taylor Limited. It has since grown to incorporate a range of engineering expertise across both residential and commercial buildings.

The Group did not exist prior to the earthquakes but the Canterbury Earthquakes Royal Commission recommended that the EAG continue as an on-going function and this recommendation has been accepted by government. It is currently supporting MBIE in addressing lessons from Canterbury, both to support the rebuild and to implement changes throughout New Zealand.

The prompt creation of the Group was crucial in ensuring that the right expertise was brought together and, critically, that no time was lost in carrying out technical analysis of the complexities of the damage to the land and to buildings. This was vital in allowing the government to issue much needed guidance to councils, design and building professionals, and homeowners to facilitate the commencement of repairs in damaged areas. Had the government not had both the research understanding facilitated by EQC and the in-house engineering function through the Chief Engineer at the Department of Building and Housing, and had a working relationship not already existed between those parties, it is not clear what role the government could have had in facilitating

<sup>33</sup> Ministry of Business, Innovation and Employment, *Engineering Advisory Group*, Posted at <http://www.dbh.govt.nz/canterbury-earthquake-eag#objectives>, Retrieved on 9 September 2014

the residential (and eventually commercial) aspects of the rebuild. In any case, the existing networks and relationships both between these agencies and within the engineering profession proved invaluable in providing a connected response from government on this issue.

In acknowledging the value of this Group, it is worth considering previous engagements between the parties and the role they played in building the relationships. For example, prior to the earthquakes the then Department of Building and Housing and EQC, through its statutory research function, had engaged with territorial authorities regarding the operation of new provisions in the *Building Act 2004*, which require each territorial authority to adopt a policy on earthquake-prone buildings within its district and to provide a copy to the Chief Executive of the Department by mid-2006 to be reviewed within five years<sup>34</sup>. The Department of Building and Housing and EQC ran workshops with the various territorial authorities to help ensure the authorities' policies would be in line with best practice and the relevant research.

Through this work, there was an on-going relationship between EQC and the Department of Building and Housing, and through other aspects of EQC's research role, there were pre-existing relationships with the engineering profession both in relation to structural design and geotechnical knowledge. As such, when the Canterbury earthquake struck, EQC was immediately able to draw on those relationships, and on its proven capacity to facilitate, to gather the relevant expertise from across the public and private sector and form the Engineering Advisory Group.

For the Department of Building and Housing, the appreciation of existing relationships is not limited to the creation of the Engineering Advisory Group. Four years on from the event, MBIE (within which the roles of the Department now sit) maintains a Canterbury Recovery Programme covering the range of roles various parts of MBIE have played. It has responsibility for the Engineering Advisory Group (and the guidance issued as a result), and led "Operation Suburb", which involved recruiting a skilled workforce from around the country to assess building damage and ensure the safety and welfare of residents in Christchurch following the February 2011<sup>35</sup>. In addition the Department played a key role in supporting the Canterbury Earthquakes Royal Commission of Inquiry's investigation in to the causes of building failure as a result of the earthquakes<sup>36</sup>.

The Department's role in the government's response throughout both the Response and Recovery phases was large, and in many instances unanticipated. Some of the roles that were taken on by the Department could logically have fallen elsewhere, particularly in relation to the provision of temporary accommodation, where one might have expected Housing New Zealand Corporation to take the leading role<sup>37</sup>.

It is interesting that the Department, which was only established in 2004, did not have a significant relationship with the Ministry of Civil Defence and Emergency Management prior to the earthquakes. However, not much earlier, the Department had sponsored, in association with the Ministry of Civil Defence and Emergency Management, a Building Safety Evaluation initiative of the New Zealand Society for Earthquake Engineering. This initiative adopted a coloured placard system (red, yellow, and green) to use in assessing damaged buildings. The system was first used

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<sup>34</sup> See section 131 of the Building Act 2004

<sup>35</sup> Office of the Auditor-General, (2012), *Efficiency Stories – Department of Building and Housing: Massive Mobilisations for Operation Suburb*, Wellington

<sup>36</sup> The Royal Commission of Inquiry commenced in April 2011 and concluded in November 2012, see *The Canterbury Earthquakes Royal Commission* at <http://canterbury.royalcommission.govt.nz/>

<sup>37</sup> The decision to allocate this work to the Department of Building and Housing was likely due to the significant policy decisions that needed to be made at the outset, allowing Housing New Zealand Corporation to be utilised to provide operational advice to the Department.

for the Gisborne earthquake of 20 December 2007<sup>38</sup> and was sponsored by the Department of Building and Housing to be rolled out nationwide after the Gisborne event. As a part of this, the Department was invited to ODESC with the Ministry of Civil Defence and Emergency Management to present the coloured notice system, and to recommend its adoption nationwide. This contact with both ODESC and with the Ministry put the Department squarely in sight of these emergency management bodies, where it might otherwise have been overlooked. It also formed part of the Department's role on the ground in Canterbury in the immediate response to the 4 September event.

### **The importance of agency credibility**

For existing relationships to be effectively utilised a further element is required. Whether in response to a natural disaster or simply in the everyday activities of government, people or agencies with a proven track record of achieving will naturally be the first to be allocated a new task or project. The importance of credibility in the Canterbury context has been demonstrated in both the allocation of tasks from the government to a particular agency, and also in the willingness of agencies to work together. An example is the Department of Building and Housing's involvement in the investigations around the collapse of buildings, and in the Department's related contribution to the Royal Commission of Inquiry.

On 18 September 2010, a fortnight after the first earthquake, the roof of the Southland Stadium collapsed following a heavy snowfall in the area. Naturally, there was serious concern around how the design and construction of the stadium might have contributed to the collapse, particularly as it was only eleven years old. The Department of Building and Housing decided to commission a technical investigation into the collapse of the roof to determine the cause of the failure and to take any recommendations on necessary modifications to the Building Code or design and construction practices. The investigation by the Department was not a requirement at law. While the Department had statutory functions under the *Building Act 2004* in relation to issuing technical guidance on the Building Code<sup>39</sup>, there is no automatic assumption that the government should have a role in investigating a particular building's performance. However, in this case, it was determined that an investigation should be done, and the Department volunteered itself.

The performance of particular buildings was again brought to the fore following the catastrophic collapse of several buildings in the Christchurch Central Business District from the earthquake on 22 February 2011. As a result of its experience with the Southland Stadium, the Department understood the role it could play again in investigating building collapse, albeit in entirely different and far more sensitive circumstances. This time, the decision to be part of the investigation into what caused the collapse of the buildings had to be made swiftly due to the scale of the damage and the fact that the clues to the investigation would be amongst the rubble, which would likely soon be moved.

The Department's existing credibility came into play in two ways as it picked up the role of carrying out the technical investigation into the collapse of four multi-storey buildings in the Central Business District: The Pyne Gould Corporation, Forsyth Barr, Hotel Grand Chancellor, and Canterbury Television (CTV). Firstly, because of the Department's role in commissioning the

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<sup>38</sup> The magnitude 6.7 earthquake struck off the coast from Gisborne and caused damage to chimneys and buildings at several places along the East Coast, particularly in the Gisborne Central Business District. See Geonet, M 6.7, *Gisborne, 20 December 2007*, Posted at <http://info.geonet.org.nz/display/quake/M+6.7%2C+Gisborne%2C+20+December+2007>, Retrieved on 9 September 2014

<sup>39</sup> Section 11(e) of the Building Act 2004

Southland Stadium investigation, Ministers could have confidence that the Department could repeat its work and apply its experience to the buildings in Christchurch. Secondly because of the Department's work with the Ministry of Civil Defence and Emergency Management in sponsoring the placarding system (see above) and its leadership role in the engineering advice in Canterbury the Department had the necessary relationships and credibility with the National Controller John Hamilton to immediately commence collection of vital information from the sites while the state of emergency was still very much in place.

While it may seem that it goes without saying that those who have already proven themselves capable will be the ones looked to in an emergency, the experience of the Department of Building and Housing in Canterbury raises two questions:

- Had that credibility not existed from the Southland Stadium, would there have been a role for government at all in the investigation of the collapses in Christchurch?
- And, how can the lessons from this be drawn through to planning for the next time. Should this be left to chance as it was in Canterbury, or should there be analysis of how roles emerged in that response such that planning processes for future events recognise existing credibility as a factor in determining roles?

### **Implementing broader government policies in recovery work**

In some instances the work required (or opportunities identified) relied on connecting two or more agencies who had no prior relationship.

#### **Case 2: The Chimney Replacement Programme**

The Chimney Replacement programme involved two main agencies: the Energy Efficiency and Conservation Authority, and EQC. A key feature of the damage to residential buildings in Canterbury from the 4 September 2010 event was the large number of chimneys that were damaged or brought down by the earthquake. Initial reports were that EQC had received 15,000 claims for chimney damage from the first earthquake<sup>40</sup>.

On 15 September 2010, just 11 days after the first earthquake, the Minister for Energy and Resources Gerry Brownlee announced "Cantabrians whose chimneys have been significantly damaged by the recent earthquake will be able to replace their old log burners or open fires with a new, efficient heater and the cost will be covered under their claim to EQC"<sup>41</sup>. It was described by Minister Brownlee as being more cost effective in most cases to decommission or remove a damaged chimney and install an efficient heater than it is to repair or rebuild it, and was presented as an opportunity to fix old, inefficient heaters that contributed to Christchurch's air quality issues. Accordingly, the Energy Efficiency Conservation Authority (a Crown Entity within Minister Brownlee's portfolio) took up the task of managing the scheme in line with its statutory role to promote energy efficiency across the country. The process that eventuated was for the Authority to take claims from EQC where the only repairs required to the property were for the damaged chimney. The Authority would take over the obligations of principal in arranging the work to replace the damaged chimney for individual properties, and would invoice EQC in bulk for the work done.

<sup>40</sup> Smith, Hon Dr N., (2010), 666 NZDP 14064

<sup>41</sup> Brownlee, Hon G., (2010), *Quake Claims to Cover New, Efficient Heating*, Media Release, Wellington

In principle, the initiative was an excellent way of achieving an increase in the energy efficiency of Canterbury homes, and demonstrating the “building back better” ethos. In practice, as with many aspects of the Canterbury recovery, the complexities involved in every step of the process were massively challenging. Even the first step of identifying properties where the building had only suffered damage to the chimney and was therefore capable of being managed in isolation was problematic. This coupled with issues with adequate invoicing of work by contractors, and in facilitating the relationships between the two agencies made the work an extraordinary challenge.

Nevertheless, around 800 chimneys were dealt with through the Programme by the Energy Efficiency and Conservation Authority before the earthquake on 22 February 2011<sup>42</sup>. That earthquake caused such extensive damage that it simply became unfeasible for the initiative to remain with the Authority. By that time EQC had appointed Fletcher Construction Corporation as Project Management Office for the Canterbury Home Repair Programme, and so the initiative was rolled into that broader programme. In all, as at 14 February 2014 18,867<sup>43</sup> repairs or replacements of heating appliances have been completed, which can be seen as making an enormous contribution to the health and wellbeing of the community. The Chimney Replacement Programme is remarkable as an example of connectedness in that it came about so quickly after the first earthquake and because it involved two agencies with no prior working relationship.

Directly after the September 2010 event, EQC was entirely occupied both in assessing damaged properties and in up-scaling from the 22 staff it had to the 1000 staff it would have by Christmas<sup>44</sup>. Meanwhile, the Energy Efficiency and Conservation Authority was already involved in Canterbury through the Warm Up New Zealand: Heat Smart initiative, which provided subsidies for insulation and clean heating in homes. Through this, the Authority had experience in running a service model contracting parties to deliver services. It also had existing relationships with the Christchurch City Council and Environment Canterbury through this work.

When the call was made by the government for agencies to identify opportunities to contribute in Canterbury, the Authority considered its existing capabilities and existing relationships with local government and contractors could be translated into the earthquake repair process. The connection was made that there was an opportunity to link this with EQC’s obligation to settle insurance claims for damaged chimneys and so the two agencies were thrown together in facilitating the initiative.

This task required two agencies to build an instantaneous working relationship, without which the programme could not have started and may well have been overlooked as being non-essential when there were a myriad of other mandatory tasks. Interviewees observed that following through with the initiative required agencies to accept levels of risk that would not normally be appetising, and to create a relationship of trust where no prior relationship existed at all. At a decision-making level, this had to happen chief executive to chief executive and there had to be a clear mandate from the Minister for the programme to progress. At an operational level, part of the connectedness came through the agencies choosing to co-locate, with the relevant members of the Authority’s staff occupying desks in the warehouse building used by EQC.

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<sup>42</sup> Earthquake Commission, (2011), *Briefing to the Incoming Minister*, Wellington, p15

<sup>43</sup> Canterbury Earthquake Recovery Authority, (2014), *Canterbury WellbeingIndex Risk Factors*, Posted at <http://cera.govt.nz/sites/default/files/common/canterbury-wellbeing-index-june-2014-sec08-risk-factors.pdf>, Retrieved 1 September 2014

<sup>44</sup> Chief Ombudsman, and Privacy Commissioner, p10

It is commendable that the agencies involved were willing to take the opportunity, to accept the level of risk, and to make all efforts to ensure the initiative worked. Despite the extraordinary difficulties, and the eventual appreciation that the task was too big to manage in isolation from the rest of the repair programme, the Programme has been a success in terms of results. The experience brings to light two important aspects of the government's role in Canterbury:

- What other opportunities may exist to align mandatory work in disaster response with other unrelated government policies – and when these do exist, how do agencies balance the benefit of taking them on with the risk of delay, cost increase, and failure? and
- How much easier could this engagement and others have been if there had been a pre-existing relationship between the agencies, or if there had been a whole-of-government plan in place prior to any disaster that required agencies to identify where opportunities could lie, and to build relationships in support of that?

These concepts are discussed further in this paper, but it is worth noting that subsequent to this engagement, the Energy Efficiency and Conservation Authority has been successful in working with EQC (as well as private insurers) to ensure that homeowners who are having their properties repaired are given the opportunity to install insulation while the wall-linings are down as part of the repair. Generally, if these walls were not insulated prior to the earthquakes, the homeowner is not entitled to have insulation installed. In Canterbury, while the insulation is not being carried out by the insurer, giving the homeowner the opportunity to install it while the wall-linings are removed is another way the Authority has achieved some of its broader policy objectives in the rebuild. This may have been overlooked had this new relationship not been fostered by the work on the Chimney Replacement Programme.

### **The value of information**

The diagram in the introduction to this paper starts to paint a picture of the number of agencies who had a role in the Canterbury response. One aspect of this that should not be overlooked is the amount of information being collated and created by individual agencies in carrying out their activities. The success of a whole-of-government response can hinge on the ability of that information to cross between agencies or to be overlaid in some kind of central facility.

The value of being able to access and share information in responding to a natural disaster is demonstrated by the types of information held by different agencies. For example, following the 22 February 2011 earthquake EQC was tasked with carrying out *emergency* repairs to all residential properties, even those properties for which there was no insurance and who fall outside of EQC's cover<sup>45</sup>. The driver for this was that there was significant risk to health and wellbeing across Christchurch, and with the end of summer approaching the imperatives for carrying out emergency repairs to weather-proof homes was clear. EQC had established its repair Project Management Office and was best placed to carry out these emergency works.

The need for information gathering for this role was two-fold. Firstly, EQC needed to determine what properties needed repairs, which would be difficult in relation to uninsured properties as only those with insurance should have made claims to EQC. Uninsured properties would not generally be on EQC's radar. Secondly, if EQC was to prioritise repairs for people and families most at risk, in terms of health and needs, it needed to determine who those people were. Broadly speaking,

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<sup>45</sup> Brownlee, Hon G., (2011), 'Direction to Earthquake Commission Pursuant to section 12 of the Earthquake Commission Act 1993', *New Zealand Gazette, Issue 51, 14 April 2011, go2390*, p1208

prior to the earthquakes EQC did not hold information about anyone in Christchurch. Following the earthquakes there was an enormous influx of information, but it related to the property and the type of damage that had been sustained. Generally, EQC would not be receiving information about the health and wellbeing of the occupants, although in an ad-hoc way this would have come up in some conversations with customers.

As it turned out EQC carried out a rapid assessment programme of door-to-door assessments with the aim of triaging properties with minor, moderate, and severe damage so that full assessments of severely damaged properties could be prioritised. This allowed EQC to build a picture of damage across the city, and gave the government the opportunity to use the information to inform the broader response. In the first instance emergency repairs could be carried out on properties identified through this process as housing vulnerable people or where the main source of heating had been lost<sup>46</sup>.

From this experience, and the ongoing challenges EQC faces in terms of addressing the needs of its vulnerable customers, clearly there is substantial benefit in understanding where relevant information is, and how it could be utilised in such a response as part of whole-of-government planning. For example, EQC was not the only agency visiting properties, and there was potential for information about individuals' needs to be shared by those participating in Operation Suburb as described earlier in this paper.

Of course, any sharing of personal information like this needs to be balanced with the risks to the privacy of individuals. This balance is acknowledged in information privacy principle 11 of the *Privacy Act 1993* which provides for personal information to be disclosed whether necessary to prevent or lessen a serious threat to the life or health of an individual. In the Canterbury context, to expand on this and to avoid any confusion, the Office of the Privacy Commissioner issued a formal *Code of Practice*<sup>47</sup> following the 22 February 2011 earthquake to facilitate agencies sharing personal information for the purpose of identifying and assisting people who may be in need in relation to the emergency.

At a broader level the value of information is not limited to information about individuals, and how those individuals' needs are best met. Information at a higher, more general level is hugely valuable to agencies working in the response. For example, the Department of Building and Housing was tasked with providing temporary accommodation villages, but had no sense of the number of people that would need the accommodation, where those people would generally be living in Canterbury, and when the need would likely be at its highest.

### **Case 3: The provision of temporary accommodation**

The 22 February 2011 earthquake resulted in the declaration of a state of national emergency and escalated the government's role in responding to the situation<sup>48</sup>. The government determined that it was to have a role in providing emergency and temporary accommodation to persons displaced by the earthquake.

The responsibility for establishing the temporary housing, both emergency and longer term, was allocated to the then Department of Building and Housing. The need for housing appeared immediate and decisions on the government's contribution to this had to be made swiftly – with no pre-existing plans or experience in New Zealand for how this would look,

<sup>46</sup> Earthquake Commission, (2011), *Briefing to the Incoming Minister*, Wellington, p13

<sup>47</sup> Christchurch Earthquake (Information Sharing) Code 2011 (Temporary)

<sup>48</sup> Carter

policy options had to be devised, considered, and put to Ministers within extremely short timeframes. The decision was reached that there would be a phased approach to accommodation<sup>49</sup>:

- Stage 1 – Immediate Temporary Accommodation: The first tranche of accommodation was provided by the government securing 350<sup>50</sup> campervans from private companies and locating them on Canterbury Agricultural Park. The demand for the campervans was far less than expected and the uptake was very low. Stage 1 was also to include transportable accommodation units described as container-type dwellings, which were intended to be placed on individual properties for residents to live in while their repairs were in progress. Logistically, this became impracticable and “for a range of reasons”<sup>51</sup> was not progressed.
- Stage 2 – Imminent Temporary Accommodation: The second phase was to introduce temporary accommodation villages. There are currently three villages at Kaiapoi Domain, Linwood Park, and Rawhiti Domain. The village units are let through CETAS (Canterbury Earthquake Temporary Accommodation Service), which is a joint venture between MBIE and the Ministry of Social Development. The Ministry of Social Development is accountable for providing the overall management of the service as well as providing assessment functions, service coordination and financial assistance. MBIE is accountable for coordinating procurement and delivery of temporary villages, including working with local councils to establish appropriate land and negotiate arrangements for use.
- Stage 3 – Temporary Housing: The third stage is the proposed Rangers Park development, a permanent housing subdivision. Minister of Housing Dr Nick Smith announced in April 2013 that the development of 40 new homes will be used to “increase the supply of temporary accommodation for families as the rebuild gains momentum.”<sup>52</sup> The houses will be sold once demand for temporary accommodation has lessened.

Each of the stages was led by the Department of Building and Housing, but in part required input from a variety of agencies including the Ministry for the Environment, Department of Conservation, the New Zealand Police and Fire Service, the Treasury, and Ministry of Social Development. For example, the development of the temporary villages required land to be located and secured (both Crown and Council land were considered), and legislative change (through Orders in Council under the Canterbury Earthquake Recovery Act 2011 amending the Resource Management Act 1991 and the Reserves Act 1977).

The Department worked with insurers and with EQC to try to determine the likely level of need and timing of accommodation, in terms of when repairs would likely commence. The initiative to use insurance claim information was only ever going to be a best guess at what the volumes and timing would be and was an ad hoc approach to achieving some snapshot of the reality.

In hindsight this approach has a lot of merit, and there is certainly an opportunity on this aspect alone to consider how agencies tasked with taking on responsibility for temporary accommodation in ordinary-time planning, could build relationships and understanding with agencies like EQC and the private insurance industry so that those agencies can prepare to collect information as part of their claims process in a manner that will be useful to the housing provider next time around.

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<sup>49</sup> Ministry of Business, Innovation and Employment, (2013), *Evaluation of the Canterbury Temporary Villages*, Wellington, p6

<sup>50</sup> Williams, D., (2011), ‘\$2.84m Spent on Scrapped Housing Scheme’, *The Press*, 14 October 2011

<sup>51</sup> Ministry of Business, Innovation and Employment, (2013), *Evaluation of the Canterbury Temporary Villages*, Wellington, p6

<sup>52</sup> Smith, Hon Dr N., (2013), *Government Steps Up Christchurch Housing Response*, Media Release, Wellington

Frameworks could then be built in advance for how that information will be shared and analysed with systems ready to go should a disaster strike.

Of course, the biggest challenge to optimising the use of information in this environment is understanding what information exists, who holds it, and how can agencies share it with each other or bring it together in a way that allows them to carry out their activities better. The difficulties with this are not unique to an emergency scenario, but are certainly enhanced when the need for the information is immediate and when data is rapidly changing. If there was a framework that provided for these information sets to be laid across each-other, it would provide the ability to identify need in an ordered and considered way, rather than on an ad hoc basis.

### **Connecting through a central team**

While in many instances connectedness appears to have been achieved through enhancement of existing relationships, there are examples where a more formalised point of connectedness was established. In particular, after the first earthquake, policy support was required for the new Canterbury Earthquake Recovery Ministerial portfolio. The Policy Advisory Group within the Department of Prime Minister and Cabinet, which is often tasked with providing specialist policy advice on issues of particular importance, established the Canterbury Earthquake Recovery Policy Team (the “Recovery Team”) to facilitate the provision of advice to Ministers.

The Recovery Team consisted of secondments from across the public sector bringing together staff who had the necessary subject matter expertise and proficiency in taking matters to Cabinet. It provided a central point for policy development, with members able to connect back to their individual agencies where response work also continued. It was an effective way of linking agencies and enabling a single point of contact (or at least a starting point) for Ministers. The Recovery Team also carried out the secretariat role to the Canterbury Earthquake Recovery Commission for the approval of Orders in Council to be made under the *Canterbury Earthquake Response and Recovery Act 2010*.

The Recovery Team’s main focus was on thinking through the policy implications for the Recovery phase in both the medium and longer term. This is a crucial, yet demanding task to carry out in the midst of a disaster response, so having a team dedicated to turning its mind to these issues was a useful approach. In order for the Recovery Team’s vision to be achieved, it also needed to have sufficient mandate and credibility, without which individual agencies may either continue in their own pursuits, or act within their individual policy objectives alone. It is perhaps useful then that this team was established within the Department of Prime Minister and Cabinet, the agency that was already facilitating (at least) daily response meetings with Chief Executives, and which naturally carries a degree of weight in terms of Departmental status.

The success or otherwise of the government as a whole in keeping an eye on the later stages of Recovery is not analysed in this research, but the work done by the Recovery Team is acknowledged to the extent that it might be usefully formalised in planning frameworks for “next time”. Certainly, it is not sufficient to rely on individual agencies to keep an eye on the longer term in a way that is consistent with every other agency’s vision. There needs to be a central point of connectedness, which might usefully formalise this ad hoc approach adopted in Canterbury.

Any administrative difficulties and delays in the establishment of such a team could be minimised by establishing the structure of the team in advance. For example, relevant agencies could be required to have a senior policy advisor nominated at all times ready to join the team if an event occurs. In line with the emphasis above on existing relationships and credibility, the team could

meet regularly to hold “practice-runs” on thinking through the issues that come to play in the Recovery phase, and how a government’s role might differ depending on the type of disaster, and the location or economic impact. While you can certainly not prepare for every eventuality, the benefit of the existing relationships and structure is that it will be ready to activate when required rather than starting from scratch each time. Naturally, particular subject matter expertise will be needed on a case-by-case basis, and so secondments will vary and be added to, but the base structure and default agencies will be well established.

Further to this, secondments and resource sharing could be utilised in a wider sense across agencies. For example, EQC faced an enormous task in managing the processing of claims across Canterbury, and in carrying out the repairs on 70,000 homes through the Canterbury Home Repair Programme. In addition to the tasks that are specific to claims processing and project management, EQC also had to employ staff to manage significant increases in demand on (1) human resources, (2) finance, (3) information requests, (4) call centre operations (5) communications, (6) information technology, and (7) Board and Ministerial servicing.

Many of the above tasks are more than familiar to other government agencies and form part of their everyday business. All agencies deal with information requests and have corporate teams to manage human resources, finance, contracting. Given the extraordinary growth of EQC, and of other organisations like CERA, there may be opportunities to explore in terms of how these capabilities can be drawn on from across government as part of disaster planning.

#### **Case 4: Proposed perimeter treatment works**

The impact of the 4 September 2010 earthquake on the land around Canterbury was immediately apparent through the extensive liquefaction in Kaiapoi and some suburbs in East Christchurch. As explained by GNS, “Close to the coast there are many layers of finer-grained sediment, such as sand, silt and clay. During the earthquake, the shaking turned some of the layers of sand and silt to liquid mush. The ground above the liquidised layers spread laterally, cracking the ground, footpaths, roads and houses”<sup>53</sup>. Given the scale of the damage, and the desire to provide confidence to affected communities, banks, and insurers to rebuild in those damaged areas<sup>54</sup>, the government gave urgent priority to investigating work that could be done to repair and remediate land that had been severely damaged<sup>55</sup>. The proposal was for work to be done on a significant scale, that would involve complex, area wide, multi-scale and multi-party engineering solutions.

The government designated EQC to work with both the Christchurch City Council and Waimakariri District Council to develop those solutions and get the work underway. Using his powers of direction under the *Earthquake Commission Act 1993*, the Minister of Finance made an initial direction to EQC to investigate options for mitigating further earthquake damage to land damaged throughout the region. The EQC, along with its contracted engineers Tonkin & Taylor set to work with both the Treasury and the two Councils to establish a framework for how the remediation would be carried out, working through a myriad of complexities around funding and liability, and plans for how to

<sup>53</sup> Geonet, *2010 Darfiled (Canterbury) Earthquake*, Posted at <http://www.gns.cri.nz/Home/Our-Science/Natural-Hazards/Recent-Events/Canterbury-quake/Darfield-Earthquake>, Retrieved on 9 September 2014

<sup>54</sup> Earthquake Commission, (2011), *Briefing to the Incoming Minister*, Wellington, p17

<sup>55</sup> Ministry for the Environment, (2011), *Regulatory Impact Statement – Options for Expediting RMA Consent Application Processes for Land Remediation in Canterbury under the Canterbury Earthquake Response and Recovery Act 2010*, Posted at <http://www.treasury.govt.nz/publications/informationreleases/ris/pdfs/ris-mfe-ermalr-mar11.pdf>, Retrieved 9 September 2010

manage instances where some works had to be carried out on private land. The scale of the work was unprecedented and of itself negotiations between the Crown and the Councils were challenging.

In addition to these complexities, the parties identified a number of other hurdles that would need to be managed before the work could progress, including statutory limits on how the work could be carried out. There were concerns around the application of the *Building Act 2004* to the proposed underground structures, the *Resource Management Act 1991* in terms of the application of consultation requirements, and the *Reserves Act 1977* in terms of use of reserve land. As such there was a need for connectedness with both the Department of Building and Housing, the Ministry for the Environment, the Department for Internal Affairs, and the Department of Conservation. This resulted in the use of orders in council under the *Canterbury Earthquake Response and Recovery Act 2010*.

As it turned out, the proposed works in Waimakariri and Christchurch never eventuated. Aside from any of the difficulties that still had to be worked through, the scale of land damage caused by subsequent earthquakes in the sequence made the proposals untenable. The combined damage meant the government had to think through the wider interests of the occupiers of the land and alternative ways to provide the desired certainty to them, such that eventually land zoning was announced. Nevertheless, the proposed work involved a variety of central government departments, crown entities, and local councils, and presents a useful example of how agencies connected in the government's response.

It is also interesting that the task was allocated to EQC despite it being outside its normal statutory role and that the funding was coming directly from the Crown - there was no expectation that any of the remediation work would fall under EQC's statutory cover, particularly as much of it was to be carried out on council and Crown land. It is an interesting example of an agency having to take on an entirely unprecedented and unforeseen role in contributing to the Recovery and the extent of the government's involvement.

### **Keeping an eye on the long term**

Many people interviewed as part of this research observed that any preparedness needs to allow for flexibility and that planning cannot be too prescriptive. In the response itself things are constantly changing and developing. A one-size-fits-all approach will not work and there needs to be adaptability. One aspect of this is that decision-makers responding to the disaster need to keep one eye on the next stage, and the stage after that.

This also interfaces with the importance of relationships. Naturally, new working relationships are forged as part of the response. In Canterbury the establishment of the Recovery Policy Team at Department of Prime Minister and Cabinet, as discussed above, provided for some connectedness across the sector. However, once CERA was established, people who had been seconded to the Recovery Team from across the sector returned to their own jobs in their originating agencies. CERA took on the role of policy advice and strategy in relation to the Recovery. Agencies who, individually, had already begun carrying out their activities in Canterbury now had to connect with a new agency and forge relationships with the appropriate people within. CERA itself was starting from scratch and it too had to focus on connecting with other key agencies.

The transition between the policy function at the Department of Prime Minister and Cabinet and CERA may well have gone smoothly, but one can imagine the benefits that would have been achieved if provision of whole-of-government policy advice had been part of the natural disaster planning framework. Whether the plan were to provide for the advice to sit within a particular department or whether it would state that a new agency would always be formed, if this had been

part of the planning framework, the Policy Team could already be established, with no need for advisors to quickly form an understanding of the features of Recovery policy, and the transition phase from one agency to another would have been avoided.

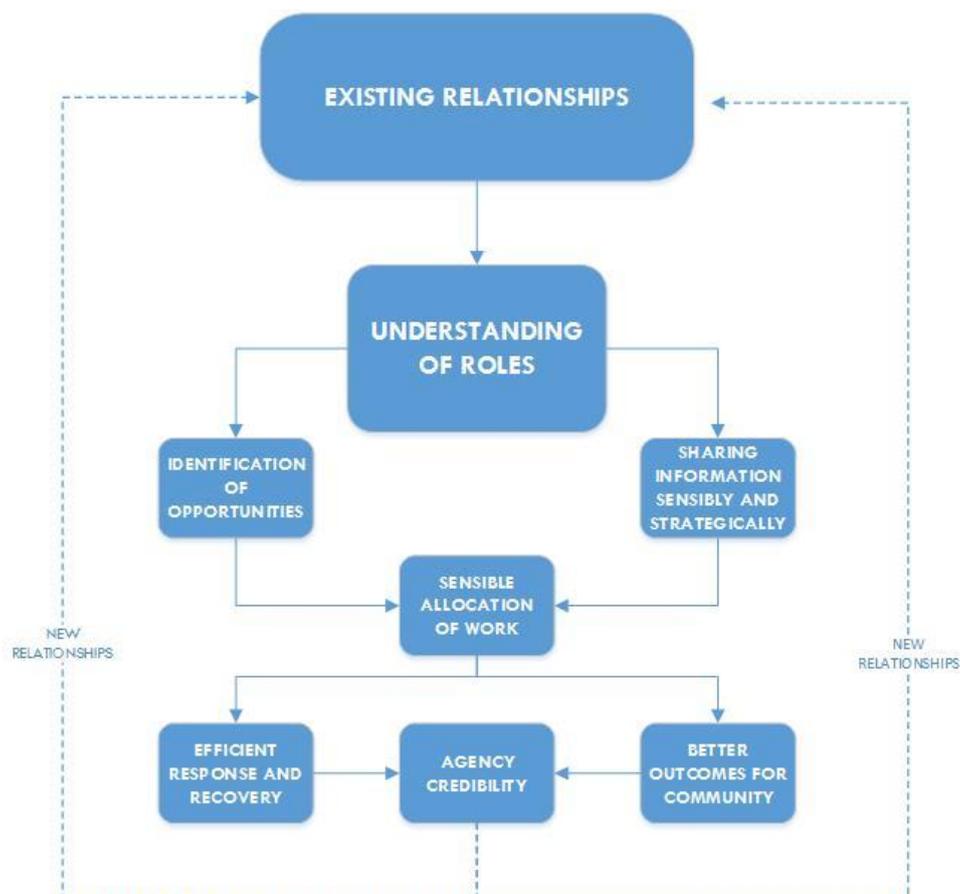
## CONCLUSION: TAKE ACTION NOW FOR NEXT TIME

### What have we learnt from Canterbury?

The above examples of interagency connectedness demonstrate the good outcomes that can arise from agencies working together in response to a disaster. Each of these happened under the systems and arrangements that existed prior to the Canterbury events, and in some cases in the absence of any relevant systems or arrangements at all. In that case, you might ask whether any work needs to be done by the government on reviewing the experience, and making improvements. However, as is stated in the *Guidance Note on Pre-Disaster Recovery Planning* issued by the International Recovery Platform in 2012, lessons from actual disasters form part of the cyclical nature of pre-disaster recovery planning. Pre-disaster planning “serves as a conduit to incorporate post disaster lessons learned into planning for future hazard events”<sup>56</sup>. In this case the experience from Canterbury should be used to strengthen New Zealand’s pre-disaster planning.

Taken together our cases highlight the components that make connectedness a success. These can be depicted in diagram 2 (below).

**Diagram 2: The constituents of connectedness**



<sup>56</sup> International Recovery Platform, (2012), *Guidance Note on Recovery: Pre-Disaster Recovery Planning*, International Strategy for Disaster Reduction, p2

Greater preparedness for connectedness could have made the engagements in Canterbury significantly easier, and certainly more efficient. The importance of the efficiency and effectiveness in this context is enormous. The impact of natural disaster on individuals and communities, both in the short and long term, correlates directly to how smoothly the actions of government run. Agencies need to take time now to identify aspects of their work that would have benefited from greater connectedness as part of their broader reviews.

### **A whole-of-government review**

In order to do better next time, the government must make an active decision to ensure the review of the Canterbury experience is carried out on an all-of-government level. If no active decision is made in this space it is highly likely that individual agencies will independently carry out their own analysis of their individual experiences, and make changes to their frameworks and systems in accordance with their findings. In instances where they consider legislative change to be required, agencies may well consult with each other, but for matters that fall short of needing legislative change there is considerable risk that decisions will be taken in isolation.

In fact, the assumption that agencies will carry out their own reviews is not necessarily a safe one. As stated in the introduction to paper, the window of opportunity for comprehensive review is extremely narrow. For starters, in terms of people alone, the institutional knowledge of what occurred and the specific details of an agency's experience has an incredibly short lifespan. Many individuals who played fundamental roles in the activities of key agencies will already have moved on. In addition, it is well documented that government agencies, with a range of competing priorities to manage, face on-going pressure to do more for less in tight economic constraints. Despite the best of intentions, even properly resourcing a team within an agency to carry out analysis could be a stretch for some. Just as in the response to the events in Canterbury the government gave agencies the mandate to prioritise response activities, the government needs to provide agencies with the same permission to consider their experience as part of the broader whole-of-government review that is called for.

An important step in initiating this process is for a part of the government to take the lead. While all key agencies need to demonstrate leadership in prioritising lessons learned from Canterbury, to properly achieve a cohesive review, an agency, whether existing or new, must be identified as the lead agency to facilitate this review and must be armed with the mandate to ensure the work commences swiftly and comprehensively. As part of this whole-of-government review, care must be taken to work with all relevant agencies, including departments and Crown Entities, as well as incorporating perspectives from the private sector, from communities, iwi, NGOs, and local government.

### **The high-level policy question**

On completion of the review, or in a parallel process, the government's first step will need to be to consider the high-level policy questions around its role in responding to disaster, and particularly recovery aspects. Ultimately, any planning and decisions around agencies' roles will hinge on fundamental questions as to whether and in what circumstances the government of the day considers it has a role in responding to disasters. This has to be considered for the range of disasters that can strike, as there may be few similarities between responding to earthquakes and volcanic eruption for example.

The response might differ depending on the location of the disaster, the size of the population affected, the economic impact on the country, or many other features. It is useful to have set out this policy basis in advance, in a manner that provides the boundaries while maintaining sufficient flexibility to respond to unforeseen scenarios. Understanding the drivers for government involvement is the primary step before specific planning can be commenced and frameworks put together.

In that sense, this is not a one-off decision; to be effective, it will require regular reassessment. Even if a future government has no appetite to make changes, there must still be a review and an active decision to determine that the status quo will remain. Any adjustment to the preferred policy stance will in turn require amendment to policies and processes that sit beneath it.

### **The principles to be applied in planning**

The lessons identified in this report, among many others that will be discovered in the whole-of-government review, can be extrapolated into principles to guide the planning for next time. Specifically in relation to connectedness the following principles are recommended:

1. **Networks and relationships**: As evidenced above, connectedness and good outcomes are much easier achieved when there are existing networks and relationships to be drawn upon. A principle of recovery planning should be to ensure that the agencies, and individuals within agencies, focus on continuing and strengthening relationships. This applies both in relation to those that were available and utilised in Canterbury, and those that could be sensibly developed to contribute next time.
2. **Existing capability and capacity**: The principle here is that planning should be carried out with a broad perspective on what capacity and capability already exists across agencies. Opportunities for agencies to collaborate may have been underutilised in the Canterbury response due to a lack of understanding between agencies of the work that different agencies do. The disaster response period is not the appropriate time to be discovering the role of other agencies, and identifying and balancing opportunities during that period is unrealistic.

In addition, there was a large reliance on the private sector to provide services where some may realistically have been able to be run out of other agencies. For example, corporate services from sizeable agencies could be utilised by agencies that are created or grown in the disaster response.

Also in relation to capacity and capability, the examples above have shown that significant work has been carried out by the government which may not have ended up a government activity had it not been for existing capability in particular agencies. Of note is the engineering resource in the Department of Building and Housing and the establishment of the Engineering Advisory Group. This has been acknowledged and cemented through Royal Commission recommendations, but the government's planning for next time should also consider other skill sets that might usefully be brought or kept in-house. This is particularly the case given the skill sets that would previously have been held in the Ministry of Works, which are now largely outside of the public sector.

3. **The value of information**: It is recommended that agencies develop processes and strategies to enable the prompt sharing of information, and that frameworks are developed

so that the information can be compiled to create information that will be useful in a response and recovery setting. The value of understanding the bigger picture, and in being able to overlay information sets as part of this, is one aspect that was in part missing from the Canterbury response, which is particularly evident in the challenges for insurers to identify vulnerable customers.

Many agencies need the same types of information, albeit for different purposes, and thought should be given to whether there can be one agency responsible for collecting information from persons affected by the disaster. For example, in assessing damage EQC could be given responsibility to collect other information from residents to pass on to other agencies around their health needs and so on. While this may have occurred as an ad hoc action in response to the 22 February 2011, had this been prepared in advance it would have ensured the right information was sought and subsequently received by the agencies who could make best use of it.

### **Final reflections**

The response to the Canterbury earthquakes has been an eye-opener for many agencies across government. There have been unanticipated complexities, swaths of new and demanding roles, and high levels of public scrutiny; each unprecedented. Many of the government's tasks in relation to the residential rebuild have involved more than one agency with more than one policy objective in mind. These agencies have been brought together through a mix of necessity and of existing relationships and networks. It should not be taken for granted that what has been achieved through those prized relationships and through chance encounters in Canterbury will happen as a matter of course next time around. The task is now for all of those government agencies who came together in their response to come together in learning and planning for next time.

Connectedness needs to be achieved in the coming months to ensure that those with the knowledge and understanding of the experience in Canterbury have all the key observations at the forefront of their minds. Some of the lessons to be applied are drawn out in this research, but there are many more to be extracted from agencies who had a role to play and from individuals within those agencies who championed the issues and led their agency's involvement. The government needs to make a deliberate decision to take a strategic approach across agencies in building a better framework for next time, and in doing so needs to appreciate the contribution that connectedness makes.

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