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ABSTRACT

A study has been undertaken to attempt to understand if, and how, people make meaning of hazard and preparedness information, and how this relates to preparing for disasters. To explore this topic, 18 interviews were conducted with residents from Timaru in the Canterbury Region, New Zealand. The interviews took place between April and June, 2008, and analysis of those interviews was undertaken shortly after. This report outlines the preliminary findings of the interviews, including a discussion of key themes that arose during the analysis.

To supplement the information gleaned from the interviews a series of focus groups was also conducted with three nearby townships in the Canterbury Region: Fairlie, Woodend and Methven. Additionally a questionnaire survey was also undertaken in Christchurch and wider Canterbury to collect data about disaster perceptions, preparedness and community resilience.

This report will first outline the hazards facing Canterbury Region. It will then go on to discuss the methodology and results of the research work, starting with the interviews in Timaru, followed by the focus groups held in wider Canterbury, and finishing with the Canterbury preparedness survey. A discussion chapter at the end of the report will summarise the key findings encountered during this research.

KEYWORDS

Hazards, earthquakes, preparedness, disaster, resilience, information, interviews, focus groups, questionnaire, survey, Timaru, Methven, Fairlie, Woodend, Christchurch, Canterbury, New Zealand.

1.0 INTRODUCTION

A study has been undertaken to investigate if, and how, individuals make meaning of information about hazards and preparing, and how this relates to actual preparedness activities. To explore this topic, 18 interviews were conducted with residents from Timaru in the Canterbury Region, New Zealand¹. The interviews took place between April and June, 2008, and analysis of those interviews was undertaken shortly after. This report outlines the preliminary findings of the interviews, including a discussion of key themes that arose during the analysis.

To supplement the information gleaned from the interviews a series of focus groups was also conducted with three nearby townships in the Canterbury Region: Fairlie, Woodend and Methven. Additionally a questionnaire survey was also undertaken in Christchurch and wider Canterbury to collect data about disaster perceptions, preparedness and community resilience. Figure 1 depicts the Canterbury Region and provides the location of individual urban areas where the research was undertaken.

This report will first outline the hazards facing Canterbury Region. It will then go on to outline the methodology and results of the research work, starting with the interviews in Timaru, followed by the focus groups held in Canterbury, and finishing with the Canterbury preparedness survey. A discussion chapter at the end will summarise the key findings encountered during this research.

1.1 Hazards in Canterbury

Canterbury has a varied hazardscape and the main hazards facing the region are outlined in the Canterbury Civil Defence Emergency Management (CDEM) Group Plan (Canterbury Civil Defence Emergency Management Group, 2005). The Canterbury Region is at risk from flooding, earthquakes, land instability, extreme meteorological events (wind, snow, rain, drought), rural fires and tsunamis. These types of events have all occurred in the past and will continue to occur in future. Earthquakes are considered to be one of the most serious hazards that Canterbury faces and are prioritised in the CDEM Group plan. One of the main risks of a devastating earthquake comes from activation of the Alpine Fault, but there are also a number of other faults located in Canterbury that could cause serious damage. Figure 2 shows a distribution of earthquake Modified Mercalli intensities based on the National Probabilistic Seismic Hazard model (pers. comm. Warwick Smith, 2001). Canterbury Region is located in an area where predominantly moderate to serious earthquake damage could occur (i.e. MM6 to MM9).

¹ Interviews were also undertaken in Napier and Wanganui for the project, but are not discussed in this report. Numbering of the interviews ranged from 1 to 48, with the Timaru interviews interspersed between the interviews from the other two locations.



Figure 1 Canterbury Region and urban areas where research was undertaken.

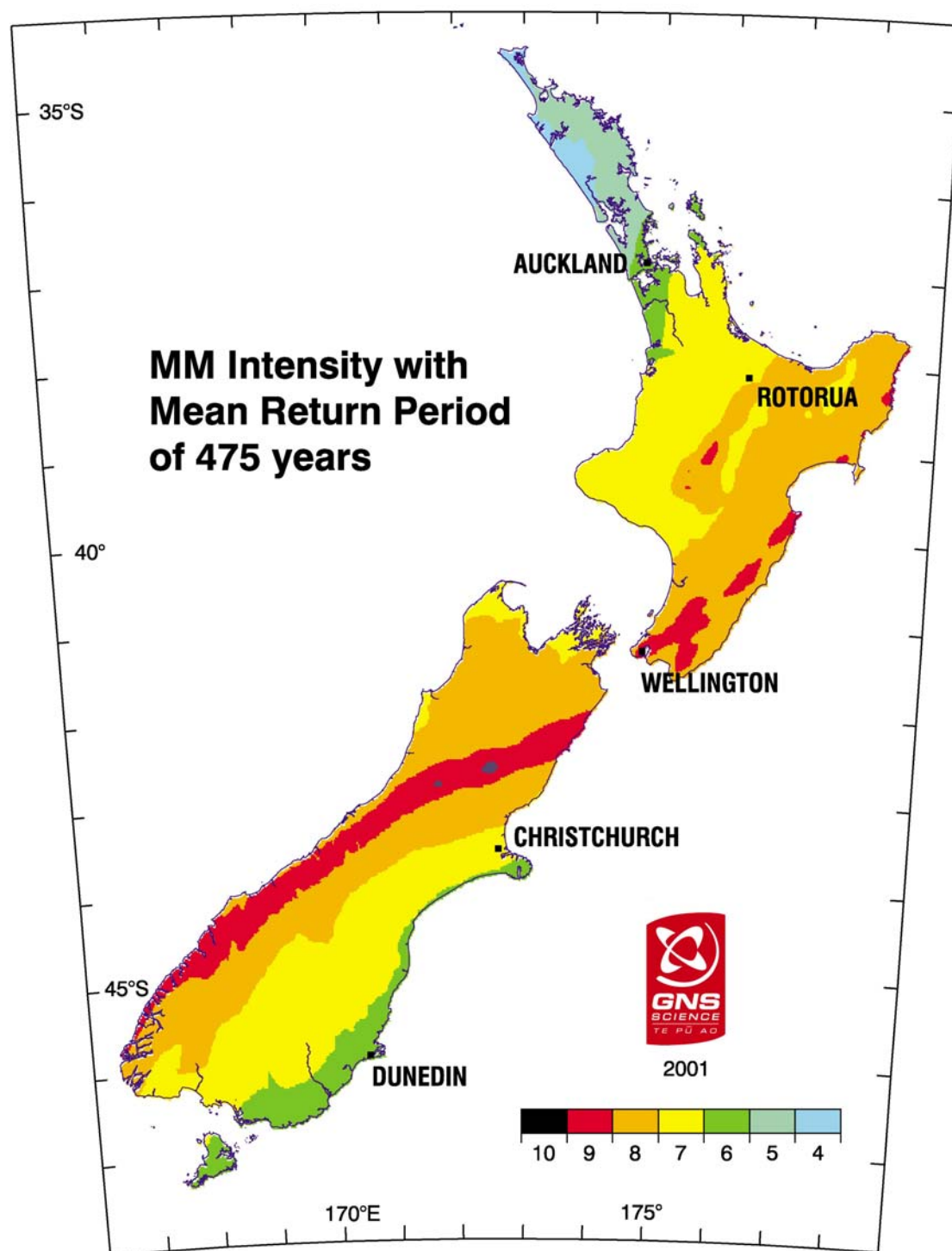


Figure 2 Map showing the distribution of MM intensity with a current Annual Exceedance Probability of 1/475 derived from the National Probabilistic Seismic Hazard Model (2001). Canterbury Region includes predominantly MM6 (i.e. falling items, slight damage, e.g. cracked plaster), MM7 (i.e. buildings cracked, bricks and chimneys falling), MM8 (i.e. damaged and partially or fully collapsed buildings) and MM9 (i.e. heavy damage and collapsing/destroyed buildings) (pers. comm. Warwick Smith, GNS Science, 2001).

2.0 TIMARU INTERVIEWS

2.1 Introduction

In order to explore if, and how, people make meaning of hazard and preparedness information, and how this relates to preparing for disasters, interviews were conducted with residents from Timaru. This report outlines the preliminary results of those interviews. Key questions explored as part of the research include:

1. What types of information do people get about hazards and preparedness?
2. Where do they get their information from?
3. How do they respond to that information? What do they do / not do with it? Do they attempt to make meaning of it, and if so how?
4. What beliefs, attitudes, feelings and social processes interact with this information, and how?
5. How do the processes people go through contribute to the overall process of getting prepared, or not prepared?

2.1.1 Previous hazards-related social science research in Timaru

To date only limited work has been undertaken in the town of Timaru with respect to understanding preparedness. In 2004 a small number of Timaru residents were involved with answering a wider survey about emergency management awareness and preparedness for the Canterbury region (Leonard and Johnston, 2004; Leonard et al., 2004). In this survey Leonard (and Johnston 2004; et al., 2004) found that there was generally a high level of awareness of the types of hazard that present a risk to the Canterbury region and that earthquake was clearly the most commonly perceived hazard. There was reported high outcome expectancy about hazards, but only low intentions to convert to action and low levels of actual preparedness. There were also low levels of engagement with emergency management organisations and community groups. Additional work in Timaru includes research by Houghton (2010; et al., 2010) on domestic violence following the 12 June 2006 South Island/Canterbury snowstorm. Wilson et al (2009) also conducted a survey on impacts and emergency response to the 2006 snowstorm. Given the lack of detailed data available on people's understanding of hazards, use of hazard/preparedness information and actual preparedness for disasters in Timaru, it was decided to undertake interviews with householders to gain a better understanding of perception and practice.

2.1.2 Interview methodology

A total of 18 interviews were undertaken with Timaru residents during April to June of 2008 using a grounded theory approach (Strauss and Corbin, 1990). Participants were asked to freely discuss their thoughts on natural hazards and preparedness with specific reference to earthquake hazards. A list of questions was held by the researcher and only used as a prompt if required, ensuring that a range of topics on hazards, preparedness and information was covered. Interviews were transcribed and coded using the computer programme Atlas Ti. From the coding an initial analysis was undertaken to identify key themes for further exploration. This report (Section 2.2) outlines some of the preliminary themes that have emerged from the Timaru data. Within the report the term 'references' refers to the number

of times a concept was referred to, rather than the number of individuals who brought the concept up (thus an individual may have made reference to a concept several times).

2.2 Results

2.2.1 Natural hazards and preparedness information

Participants reported that they had received information on natural hazards and preparedness from a variety of sources including civil defence (emergency management), local or regional council, central government, building assessors, District Health Board (DHB)/hospital, Earthquake Commission (EQC), other insurance companies, Fire Brigade, Occupational Health and Safety (OSH), the port authority, scientists, St John, museums, workplaces and the media. When asked about the format of information they had seen, participants mentioned two main types – passive and interactive. Passive information, included information such as:

- advertisements/notices
- books
- films
- fridge magnets
- internet/websites
- displays (e.g. at a museum)
- news media (newspaper, TV, radio)
- pamphlets and brochures
- yellow pages in the telephone book
- photographs
- emergency sirens
- geographic/environmental cues
- email.

Interactive types of information included:

- talking with children (young/adult)
- talking with friends
- discussion groups
- community meetings
- speakers invited to meetings
- school education
- stories/narratives
- drawing upon personal experiences.

The content of information received varied as well. A number of people had seen information on natural hazards (e.g. earthquakes) and hazards related to living (e.g. recreation, workplace). Also frequently mentioned was information about disasters, in particular disasters in the news media. Such disasters included current or past disasters in New Zealand, or overseas disasters. Other types of information included films and documentaries, emergency planning information, insurance information, weather reports and scientific studies.

In terms of people's response to information, there were more references to getting prepared after being exposed to interactive types of information (5) than after seeing passive information (2).

There were a total of ten references to people seeking information for themselves. This information seeking was mostly related to finding out information about the impacts of a potential event, or information about an event that had just occurred. No one explicitly sought information about preparedness. People were prompted to seek information after talking about hazards or preparedness with someone. They were also prompted to seek information for verification purposes (e.g. to see if they'd done the right thing during a recent event; or check the facts for a piece of information they'd seen elsewhere).

2.2.2 Talking about hazards/preparedness

The Timaru interviews revealed that hazards and preparedness is usually talked about infrequently or never by most people. Participants gave a number of reasons why they don't talk about hazards or preparedness including the fact that disasters are not regular events; that it doesn't form part of regular social conversation; that it isn't considered a priority; and that people don't feel able to talk about it with others of 'higher standing'.

Of those that do talk about hazards/preparedness, the topic usually comes up informally as part of general conversation, rather than an 'organised' discussion. Some participants mentioned that it often requires a 'trigger' such as a disaster event in the news media for discussions about hazards and preparedness to begin. Timaru interviewees mentioned a number of 'triggers' or prompts that get people talking about hazards or preparedness. These include:

- Current local issues (e.g. environmental issues; fires, clean air and safety; new civil defence centre)
- An event/disaster experienced by themselves or in their locality (e.g. minor earthquake event, snowstorm, traffic accident, power blackout)
- An event/disaster experienced by a family member, friend, colleague
- An event/disaster experienced elsewhere
- Workplace safety/OSH
- Evacuation planning/exercising
- Community activities (e.g. speaker at a meeting)
- School education/activities
- An event (or something to do with hazards/preparedness) in the news media (paper, TV, radio)
- Recognition that they are located in an area of high risk / at risk of a threat
- Someone else is helping them prepare or discussing preparedness with them.

Participants reported that a variety of topics are covered during conversations. First people will often talk about current local issues that relate to aspects of hazards and or safety (e.g. environmental issues; fires, clean air and safety, traffic accidents, workplace safety). Second people will discuss the impacts and response to events that have occurred both in New Zealand and overseas. Leading on from discussions around a particular disaster people may ask questions such as, "What might happen in a future event, if it happens here?" or, "What might we need to do for a future event, if it happens here?". Finally people also discuss aspects of preparedness and planning (e.g. preparedness undertaken or that needs to be undertaken). Discussions with others tended to get respondents thinking and talking further about hazards and preparedness, and in some cases actually motivated to getting prepared. People's views on a topic could sometimes evolve and change as they spoke with others.

People tended to discuss issues related to hazards and preparedness with those they are familiar, such as family (including adults and children), friends, neighbours, and workmates. Respondents also reported that discussions can also occur with representatives from specific organisations (e.g. civil defence, health providers, scientists/researchers, community leaders).

2.2.3 Thinking about hazards/preparedness

The interviews revealed that people don't think about hazards/preparedness a lot or at all. People suggested a few reasons as to why they don't think about hazards including that they, "Can't imagine something [they] haven't experienced", or that they feel that their local area is not at risk. Some people also suggested that they don't *like or want* to think about it, so they try not to.

Of those that do think about hazards/preparedness, most only think about it occasionally, with a few respondents thinking more frequently. Participants often thought about the impact of events that had occurred both in New Zealand and overseas. They also reported thinking about the consequences of a disaster happening where they live, what they would do if a disaster were to occur and whether (and how) they should prepare for a disaster.

As with talking about hazards, Timaru interviewees mentioned a number of 'triggers' or prompts that get people thinking about hazards or preparedness. These include:

- Events experienced by family or friends
- Events that have occurred in New Zealand
- Events that have occurred overseas
- Talking to other people about hazards/preparedness
- Community group activities/discussions
- Workplace activities/discussions
- Talking to organisations about hazards/preparedness
- Hearing information about hazards/preparedness in the media (e.g. TV or radio)
- Hearing a siren
- Requirements from organisations to consider hazards/preparedness (e.g. insurance companies).

2.2.4 Community

The interviews indicated a high level of community participation amongst participants (in a variety of service, sports, and recreational/hobby groups). Several interviewees also said that they were also involved in some kind of leadership role in their community.

Most Timaru participants thought their community and/or neighbourhood was good, was well connected and that support was available during times of need or disaster. There were instances during the 2006 Canterbury snowstorm where there was evidence of the community helping each other out during the disaster.

There were 23 references to the idea of being pro-active in the community with respect to mitigating hazards (whether it be encouraging people to get prepared, or contacting authorities to try and get better hazard mitigation put in place). Several of the interview participants acknowledged that they themselves were pro-active in their communities with respect to hazard preparedness and mitigation. For example, some interviewees were

involved in disseminating hazards and preparedness information (e.g. doing local letterbox drops about preparedness, disseminating information at meetings, feeding out information during an event, undertaking school education about preparedness).

Community 'activities' where hazard/preparedness information was either received, or thought about in some way by participants included:

- Discussion at meetings (e.g. civil defence meetings, neighbourhood watch)
- Speakers at meetings (e.g. a speaker at a service group meeting)
- School education/activities
- Workplace training/activities
- Assisting with response after an event has occurred (e.g. directly helping after the snowstorm or flooding)
- Assisting with relief after an event has occurred (e.g. raising money, etc).

Several of the participants expressed:

- The potential for community groups and/or community members to play a role in preparing for and responding to disasters (e.g. providing a linking between emergency services and preparedness in the community).
- That community groups and/or community members have skills they can offer in responding to a disaster.

2.2.5 School activities

School activities with respect to hazards and preparedness appear to have a significant influence on community members thinking about, talking and getting prepared for disasters. School activities include school education about hazards/preparedness (including information provision; undertaking projects on hazards and preparedness; teaching of basic survival skills (e.g. camping, lighting fires) and getting students to participate in emergency drills or exercises. After experiencing a school activity, interview participants reported that students would often be prompted to talk about earthquakes particularly within the household setting, or go home from school and check/organise preparedness with parents.

2.2.6 Workplace influence

As with schools, interviewees also reported that workplace information and activities had an influence on thinking about, talking about, and getting prepared for disasters. Thinking and talking about hazards/preparedness was often prompted by information or discussions related to workplace safety/OSH, or a particular workplace project or activity. Conversations occurred within the workplace itself (e.g. with workmates), but also outside of work (e.g. family or friends).

There were no direct references to interviewees seeing or hearing workplace information and as a consequence getting prepared at home. However, at least two Timaru participants suggested they prepare because of 'their background', which included roles they had in the workplace that required a focus on 'being prepared' for workplace eventualities. This suggests that people's experience with hazards/preparedness in the workplace is likely to have some influence on household preparedness.

2.2.7 Training

During the interviews there were a number of references to the fact that people had either:

- Received training for emergencies/disasters, or
- Trained others for emergencies/disasters.

A number of types of training were specifically referred to including: fire safety, first aid/medical training, survival skills (e.g. camping, lighting fires) and traffic accident response.

In Timaru much of the 'emergency specific' training reported by interviewees appeared to have occurred outside of the workplace, although there was at least one interviewee who undertook and provided emergency/preparedness training specifically as part of her workplace role. There was no reference in Timaru to having received or given emergency training as part of workplace induction training. Other training, such as first aid training, was undertaken in a mix of places including within and outside of the workplace.

2.2.8 Using own experience for information

People reported having had past experience of a variety of different hazardous events including accidents, bad weather, storms, cyclones, flooding, windstorms, earthquakes, pandemic, health issues, power cuts, snowstorms, rural living, war and the depression. These experiences were both direct (e.g. personally directly impacted by suffering damage to property) and indirect (e.g. observed a disaster, helped with the response).

People's experience of earthquakes was generally only minor, with only a couple of interviewees from Timaru who grew up on the East Coast experiencing slightly larger earthquakes. A few reported having had some experience in responding to flood issues, but not being directly flooded themselves. Most Timaru participants had experienced the 2006 snowstorm.

In more focussed discussions about the snowstorm, participants outlined a range of impacts that were known to them. The snowstorm created impacts related to a loss of power, damage and disruption to other services, restricted travel and communication problems. Interviewees generally felt that there was only a little disruption by the snowstorm and that they coped well and were 'comfortable'. A few stated that they felt 'other people' were worse off than themselves. Timaru residents seemed to be generally community spirited and where they could, most interviewees assisted others during the snowstorm.

The snowstorm prompted the following actions by interviewees regarding hazards and preparedness, including:

- Got people talking about the event
- Got people talking about hazards/preparedness
- Raised awareness
- Got people paying more attention to information
- Made people realise they need certain preparedness items (e.g. log burners)
- Made people want to be more prepared for next time
- Helped hone preparedness (e.g. some people went out afterwards and bought preparedness items, checked insurance levels, etc)
- Made an event seem 'real'.

Despite the direct experience of the snowstorm promoting many positive behaviours, the snowstorm also contributed to a reverse effect, with some people doing ‘nothing differently’ post-event. People gave reasons for making no changes as being:

- The snowstorm didn’t affect me/my property
- Impacts were from the natural environment (and therefore uncontrollable)
- It won’t strike the same way again
- Don’t know if we can do anything more for the next event
- Only poorly built structures failed.

The only other big event that had stuck in many people’s minds was a big windstorm in the 1970s, which had caused property damage, power outages and felled trees. There were references by interviewees to it being ‘a big disaster’ and ‘a frightening event’.

2.2.9 Awareness

In Timaru there were 45 references to the concept of ‘awareness’. A number of people thought that the concept of ‘awareness’ related to people being aware of hazardous events occurring, or the possibility that they can happen. Some people specifically made reference to being aware of the potential impacts or consequences of disasters (e.g. considering what it might be like to be without the civilised comforts of modern society). There was reference to an awareness of being prepared, or the tasks that you might need to undertake to prepare. Awareness was mentioned in relation to ‘other people’ both in terms of what other people might have done (e.g. awareness of other people who have prepared; of what is going on in other sectors) or consideration for other community members in general (e.g. awareness of other people/the community). Finally, people also mentioned awareness in relation to being aware of what might happen in a disaster, and what you might need to do during a disaster to mitigate any effects.

2.2.10 Natural hazards known in Timaru

When asked specifically what natural hazards people thought Timaru could be affected by, people mentioned coastal erosion, earthquake, flooding, snowstorms, windstorms, tornadoes, storms, and tsunamis. Earthquake (27 references) was most often referred to, followed by flooding (16 references). Surprisingly, despite the recent snow event in 2006, snowstorm was not referred to as often as a specific response to this question (6 references). It is possible that responses to this question reflect the different ways people think about hazards. For example, a snowstorm may not be perceived as hazardous or disastrous because it relates to a more common weather process, or because people experienced the 2006 snowstorm with little impact. Also some bias may be present as some of the questions in the interviews directly focussed on earthquakes, possibly bringing this hazard more to the attention of interviewees.

People’s conceptualisations of hazards were wide ranging. Some other life-related hazards appeared to be more salient to people than natural hazards. For example, car accidents, aircraft accidents and workplace hazards were specifically referred to more often than coastal erosion. The range of hazards mentioned during the interviews included:

- Bad weather
- Vehicle accidents (e.g. car, aircraft)
- Smog or air pollutants

- Climate change/global warming
- Coastal erosion
- Cyclone/hurricane
- Earthquakes
- Fire
- Flooding
- Hazards around the home
- Industrial hazards
- Infrastructural hazards (e.g. roads, port, electricity)
- Pandemic
- Recreational pursuits (tramping, mountaineering, diving, boating)
- Snowstorm
- Tsunami
- Volcanoes
- War
- Windstorms
- Work place hazards.

There were four references made to the fact that there is some distinction between natural hazards and those of your own making (human-made). Some also referred to hazards as being of 'mother nature' or an 'Act of God'.

2.2.10.1 *Most likely event*

Participants were more likely to think disasters 'can happen', rather than they definitely 'will happen'. None of the Timaru interviewees thought that disasters 'wouldn't happen' at all.

When asked what they thought the next most likely event might be, people were fairly divided and mentioned bad weather, cyclone, earthquake, flooding, human-made disasters, power failure, snowstorm, tsunami and windstorm. Snowstorm was mentioned slightly more often than the other hazards by interviewees.

2.2.10.2 *Time to next event*

Most interviewees thought the time between the present and the next event could be very short, with references to that fact that it might happen: out of blue; unexpectedly; right now; any time; must be getting closer; overdue; sooner rather than later; this year; within our lifetime. Four people said that they either 'don't know', or it would happen 'hopefully not in our lifetime'.

2.2.10.3 *Earthquakes*

Timaru interview participants were more likely to think that earthquakes were of low risk to them, or unlikely to affect them.

Some did express other varying opinions on earthquakes:-

- Could or will have a strong earthquake
- An earthquake will occur sooner rather than later
- We/our town will be okay
- We are on/near faults

- If it happens, it happens
- There is always a risk.

A number of references were made to the fact that earthquakes do not have a warning time, while other hazards (e.g. floods, tsunami) often do.

2.2.10.4 Beliefs about what a large earthquake might be like for Timaru

People's descriptions of the perceived impacts of a future earthquake varied. Some gave long descriptions or finer details of issues that might arise, while others only referred to a few impacts, or weren't quite sure what might happen. Some of the key impacts that people discussed are listed as following:

- The possibility of damaged or collapsing buildings was discussed by a number of people, with over 20 direct references to this phenomenon.
- A significant number of references was also made to having no water or facing some kind of disruption to water; infrastructure damage; potential injuries; having the power off; unliveable or inaccessible buildings; and items falling down (e.g. off the shelves or off the house).
- A smaller number of references were made to a variety of other impacts related to housing damage, disruption to other services (e.g. communication or phone services, sewage, gas, medical services, food sources), potential deaths, closure of work or school, disruption to travel/transport and potential isolation.
- There were three references to the fact that people thought they might not have enough preparedness items, and two to the idea that they might not be able to get to other people or places in an emergency.
- A number of people also said that the potential impacts would depend on the exact nature of the event, including the time of year or season (7 references). There was also reference made to the fact that with earthquakes you just don't know what is going to happen or that anything could happen (3). These concepts indicate that some participants have uncertainty over what a future earthquake event might be like, and as a consequence are also uncertain about what they might need to do to prepare.

Several people believed that they would cope okay or well if a large earthquake was to occur. They attributed this to being skilled (e.g. trained medical professionals), being located within the town, being prepared, or being able to do something about the problem. Some felt that how they fared would depend on factors such as the scale of the earthquake or how the infrastructure stood up to the earthquake. There were two references to that idea that people thought they would be unscathed or uninjured. There were two references to the concept that other people would be worse off or more bewildered than the interviewee themselves.

There were also a few comments from people who felt that they might not fare well or did not know how they would cope.

2.2.10.5 Perceived response to a large earthquake

When asked what participants would do in response to a large earthquake, by far the most references made were to the fact that after an earthquake, most people thought they would be checking on others and helping the community (18) or checking on their other family members (5).

During an earthquake people said they would get under a table or in a doorway. This is slightly different from the current message advocated currently by the Ministry of Civil Defence & Emergency Management (Ministry of Civil Defence & Emergency Management, 2010). The Ministry of Civil Defence & Emergency Management suggests that people primarily 'drop, cover and hold' in an earthquake, and uses a table as an example of a place to shelter. The message of getting under a table or doorway is a slightly dated version of what to do in an earthquake.

There were 5 references to the idea that how people would deal with the earthquake would depend on what the impacts were (e.g. injuries, house damage). Again it seems that people have uncertainty about what might happen, and this may influence preparedness (i.e. people may not make a plan or collect preparedness items, because they don't know what they are planning for).

Tying in with the previous point is the fact that a number of people said that after an earthquake they would 'react as needed at the time' (8 references) or they would 'rise to the occasion' (5 references). Implying people are relying on their own reactions (or resourcefulness), or will make a plan after the event, rather than planning ahead for an event.

Other activities people suggested they might do in the instance of an earthquake include:

- Check own safety
- Check or turn off services in home
- Check damage to home
- Do as Civil Defence instructed
- Undertake remedial repairs
- Keep away from power lines
- Seek information (e.g. turn on radio)
- Find or use preparedness items
- Look after self for a few days
- Leave or escape to a safe place
- Stay at home and get by
- Wait for services to be returned to normal
- Wait for help (e.g. Civil Defence)
- Seek alternative shelter
- Take items with them if leaving
- Seek medical help
- Might need to go to work
- Watch for other potential hazards
- Not seek help (think are prepared enough)
- 'Fall to pieces' later
- Don't know what to do.

2.2.11 Feelings about, and attitudes toward, earthquakes and/or disasters

People expressed a range of feelings about, and attitudes toward, earthquakes. Some considered earthquakes to be exciting or fascinating (2 references). A couple of participants felt uncomfortable or uneasy about earthquakes (2 references). There were a number of references (6 references) to earthquakes being dreadful, horrific, or frightening, and a few people said they were concerned or worried (5 references). However there were also a large

number of references from participants to being 'not worried' about earthquakes (8). In general the interviews seem to reflect a slight sway toward lower levels of concern, worry or anxiety in Timaru about earthquakes in general.

2.2.12 Hope and luck

There were a number of references to the idea of people 'hoping' that an event wouldn't happen (6), or they hoped they wouldn't be impacted at all, or too much (5). Additionally, the concept of luck was referred to many times by interviewees (20 references). Examples include:

- Being lucky to have escaped certain impacts in past events
- Being lucky not to have experienced an event before
- Being lucky in a future event (e.g. "...it would be unlucky not to have some sort of shelter in an event")
- Being lucky to have certain things the way they are (e.g. the way a house is built, location of the town in a non-hazardous area, to have partner that organises certain preparedness items)
- The luck of the draw (e.g. referring to the luck of the draw of getting impacted).

2.2.13 Preparedness

2.2.13.1 Importance of preparing

Most interviewees generally thought it was important to be prepared for disasters (37 references). People thought preparing was important because of several main reasons:

- They thought there was a risk of something happening in Timaru
- They had knowledge that past disasters had occurred
- They felt an imminence of something occurring
- They had considered the consequences of a disaster
- They felt a sense of responsibility for themselves
- They had a desire for personal safety or survival
- They had a desire to make life easier after a disaster
- They felt it reduced worry.

There were 3 references to preparing being 'over the top'. There were also references to the need for it being 'a balance' or it should be based on 'common sense'. There were 5 references to the code 'what I think, and what I do are different', indicating that while people may think preparing is important, they don't always end up doing anything about it.

2.2.13.2 Concepts of preparedness

To professionals working in the field of hazards education, the meaning of the term 'preparedness' is usually well defined. Preparedness generally means storing the necessary items required for at least three days of survival. The interviews revealed that participants' interpretations of preparedness include:

- Collecting items for a disaster (e.g. water, food, other essential items)
- Being prepared for life situations (e.g. accidents, personal health)
- Being wary of potential disasters
- Having an idea of what might happen
- Safety, survival, resourcefulness, self-reliance/self-sufficiency.

People also have different interpretations of their levels of preparedness. For example some people consider themselves prepared even though they haven't undertaken any specific measures. They may consider that the food they have in the pantry is enough to see them through. Other people have made preparations (e.g. collated some water food, torch, batteries, etc) but still consider themselves under or not appropriately prepared for a disaster.

2.2.13.3 Preparedness undertaken by interviewees

Estimation of own preparedness

People were divided on whether they were prepared or not, with around half of interviewees considering themselves fully or a bit prepared for a disaster, and the other half considering themselves not prepared.

Preparedness items

Actual preparedness items owned by the interviewees varied. In general people had undertaken less complex tasks such as gathering together essential items. Water and food were the two most mentioned preparedness items that people had got ready for an emergency. Other common items owned by participants included: alternative cooking devices; alternative heating devices; torches; radios; candles; batteries; smoke alarms; and a phone that doesn't run off power.

Preparedness items mentioned less frequently as having been organised by interviewees included: alternative temporary accommodation (e.g. tent, caravan); blankets/warm bedding; camping gear; mobile phone; cleaning equipment/items; extra fuel or keep car topped up with fuel; fire extinguisher; fireproof cupboard/area; first aid; gas bottle/canister; lighting; list of phone numbers/people who can help; matches; medication; newspaper; pet food; plastic bags; plastic gloves; purifying tablets or a way of purifying water; rain gear; furniture restraints; small power source (e.g. solar, crank); snow chains; spare clothing; toilet paper; tools; vegetable garden; wet wipes; firewood.

Interviewees considered the most important preparedness items to be water, food, heating, light and shelter. When asked who undertook preparedness in their household, most references were made to the fact that the interviewee did (11) or their spouse (5). There were also 3 references to the fire service installing fire alarms for people. People generally kept their preparedness items or kits in the house (e.g. in a spare room), or outside of the house (e.g. in a garage or outside flat).

Other types of preparedness

As well as making mention of collecting together preparedness items, people also referred to other types of preparedness. There were 21 references to the fact that people had specifically prepared items for an emergency. There were four references to 'keeps a preparedness kit'. There were 12 references to preparedness items being 'just what is in the house now, or things we normally have'. Also some people said they always keep extra supplies at home so as not to run out (10). There were 12 references to people knowing where the items are in their house or building, or where to find them (as opposed to keeping them in a specific emergency kit). Two people (3 references) said that they had put preparedness items away for future use, but did not consider that they had specifically 'planned' this. There were 4 references to the concept of 'the convenience of having things ready'.

Other types of preparedness people described included:

- Trying not to live in hazardous locations/buildings
- Planning for looking after yourself for the short term (e.g. 3 days)
- Planning for looking after yourself in the long term (e.g. longer than 3 days)
- Being prepared for electricity failure
- Preparedness for specific hazards (e.g. pandemic)
- Having basic skills to survive, or find resources in a disaster (e.g. camping, lighting fires, find food and water, etc)
- Being able to improvise in a disaster (e.g. for things you might not have done)
- Ensuring exits and escape routes are clear
- Keeping documents in safe or accessible places
- General safety (e.g. safe housing layout, remove dangerous trees, etc)
- Exercising caution and taking care
- Having emergency centres available for people to go to
- Getting to know your neighbours
- Learning lessons from past events
- Plans made by organisations for the operation of emergency services during a disaster
- Individuals making plans to be involved in an organisation during an emergency (e.g. civil defence)
- The building code and standards
- Good town planning to avoid hazards
- Reliance on own background and training.

Exercises and training

People described exercises (including drills and evacuations) as a type of preparedness (18 references). Training was also referred to in this context. People specifically mentioned training related to fire safety, first aid/medical, basic survival skills (e.g. camping, lighting fires, etc), crashes and emergencies or disasters. There were some interviewees who had trained others – in particular there were 8 references to interviewees training others for emergencies or disasters. Finally people also mentioned preparedness as part of hazards education for school children (23) and preparedness in the workplace (19).

Structural preparedness for the home

Interviewees in Timaru generally owned their own home (which was already built when they moved in), with only two interviewees renting. Most interviewees had not thought about hazards or preparedness before moving in (6 references) regardless of whether they owned their own home or were renting. Some had thought about their house's general layout and structural safety (8 references). Additionally many thought that their house was well made, built of solid building materials and would be safe/okay in an earthquake. There were a couple of references though where participants thought their houses were perhaps not well made for an earthquake. There was a reference to an expectation that all/most houses will have been built with hazards in mind (plus reference to the Building Standards/Act). Most alterations that had been made to houses were made for other reasons (e.g. aesthetics or for general safety) (8), but a few people had factored earthquake safety/strengthening into their alterations at the same time (3). People who rented felt less able to make alterations to assist with earthquake safety, than people who owned their own homes.

Emergency plans

It was common that people had not made a formal emergency plan for the home. Reasons were given as:

- Not knowing what scenario or event to make the plan for
- Not knowing what to put in the plan, or how to make a plan
- Having no or few other family members living in the house
- Reliance on family to get through
- Reliance on civil defence or emergency services to get through a disaster.

Some felt that the nature of a plan would be very dependant on a variety of factors (e.g. nature of event, type of impacts, whether day/night or winter/summer).

Of those interviewees that had made plans, the plans described were generally fairly informal or 'loose'.

- There were those who felt that they had an "understanding between family of what needs to happen".
- One participant suggested a plan was "having a basic idea in your head of what you need to do".
- Another spoke of needing to have different options (e.g. Plan A, Plan B)
- Others thought of planning more as collecting items of preparedness rather than making a household emergency/escape plan.

Resourcefulness

There was reference made to the fact that some interviewees considered themselves (9) or others (e.g. the elderly) resourceful, and therefore able to respond to a disaster. In some instances interviewees indicated that they hadn't prepared because they felt they were resourceful or flexible enough to respond as needed to an event at the time. If people are entirely relying on their resourcefulness to respond (rather than preparing) it is possible they could fall short in an event.

Sustained preparedness

The concept of 'sustained preparedness' relates to keeping preparedness levels high over time (e.g. replacing goods when they expire or need changing). There were 19 references to people undertaking sustained preparedness, and 5 references to people not undertaking it. People said that they may not undertake sustained preparedness because they are not constantly reminded to do it, or it gets in the way of other activities. One person said they do undertake it because they want to make sure the items don't go off. There were 3 references to 'if you can't keep sustained preparedness up, it's of no use', and 2 references to 'it must be a conscientious effort'. People had different cues for checking and/or replacing items, for example: daylight savings; when the smoke alarm beeps; when cleaning the garage out or after a certain number of months (e.g. six months).

2.2.13.4 Estimation of other people's preparedness

Interviewees were asked if they knew of anyone else who had prepared for disasters. In the analysis of the interviews there were 37 references to interviewees thinking they knew other people who were prepared. These people were more likely to include people they know well (including family, neighbours and workmates). Other people mentioned as being well prepared included farmers or rural folk, people from community groups and infrastructure providers. There were 10 references to the interviewee 'not knowing anyone who has

prepared'. Finally there were also 24 references to participants thinking that other people are under or not prepared. Interviewees specifically mentioned family (e.g. grown children) and friends, as well as a range of organisations they thought were under prepared (i.e. civil defence, other government agencies, hospitals, infrastructure providers, low socio-economic groups, tourists, lifestyle block owners).

2.2.13.5 *People's reasons for preparing*

Interviewees gave specific suggestions for what might prompt them to prepare for disasters. Key preparedness prompts suggested by participants include:

- Being aware that disasters can happen
- Understanding the consequences of a disaster or what might happen if not prepared
- A desire for safety or survival
- Feeling a responsibility for themselves
- Feeling a responsibility for others (e.g. children)
- Experiencing an event, or a 'scare' from a near-miss
- A desire to reduce worry
- The influence of others
- The influence of community activities (e.g. preparedness activities through neighbourhood watch, working with an organisation that deals with hazards/preparedness issues)
- The likelihood of the disaster occurring
- The imminence of a hazard event.

2.2.13.6 *People's reasons for why they don't prepare*

Interviewees also gave specific reasons for why they do not prepare for disasters. Key reasons include:

- They don't think about it
- They haven't looked into it
- Lack of experience of a previous disaster
- Don't understand the potential consequences of a disaster or what might happen if they don't prepare
- Think the hazard is low risk
- Think a disaster won't happen to them
- Think they will be okay in a future event
- Think that they will simply deal with a disaster as it comes (i.e. resourcefulness)
- Complacency or they 'just don't want to' prepare
- Preparing is seen as difficult to do or impractical
- Think that preparing won't work in a disaster.

2.2.13.7 *Other comments and beliefs about preparedness*

As with the impact of hazards, people often said that the effectiveness of any preparedness was dependent on a number of other factors. Suggestions on such dependent factors included the degree of the disaster; the amount of risk for a particular disaster; how long the disaster lasts; and whether you live in an urban or rural setting. The uncertainty over a potential event and the effectiveness of preparedness did lead some people to not undertaking preparedness actions.

Following on from the above idea, some perceived that preparedness planning could be limited (e.g. there are only some things you can plan for; you can only undertake certain/limited preparedness actions; preparedness items might not be available in a disaster; sometimes preparing might not be enough; you can't protect yourself against everything; town planning for hazards is a near impossible task). People's understanding of the limits seem to range widely, and possibly affect whether people think that they can do something about the problem despite the limitations, or whether they can't do anything at all.

There was a fair bit of emphasis by some interviewees on the need to keep preparedness in balance. It was felt by some interviewees that preparing should not be an 'extreme' or 'over-the-top' activity, but be maintained at moderate to lower levels. Preparing too much was considered "over the top" or an obsession, and this is reflected in the discussion by interviewees:

"Researcher: And have you ever had a conversation about preparedness with any other people that you can recall?"

Interviewee 22: Only with [my niece] about the pandemic and I thought she was a bit over the top there with her preparations".

People discussed varying viewpoints about how easy preparing was with some thinking it doesn't take a lot of effort to get together preparedness items, and others finding the task more difficult. Reasons for the difficulty included lack of knowledge about preparing and that some preparedness activities weren't considered practical.

Interviewees commented on the changing nature of vulnerabilities and preparedness over time. So for example, interviewees recognised the increasing reliance of society on electricity for heating rather than wood burners, and that future preparedness needed to factor in how to allow for heating if a disaster were to occur in winter.

There was recognition by some that preparedness requires planning and organisation for it to occur, and that it also needs to be ongoing (sustained preparedness). There was also mention that preparing should also be based on common sense.

2.2.14 Vulnerabilities

People made reference to the fact that others could be more vulnerable in an event. The more vulnerable included:

- disabled people
- drug users
- older or elderly people
- low socio-economic groups
- the sick
- young people / children
- people with dependants
- people who are not prepared.

There was also mention made that vulnerabilities can be geographically widespread. People thought that vulnerabilities also have increased over time (6). In particular people may be more vulnerable now because of our reliance on power and of the fact that people also lack the basic skills to survive in a disaster.

2.2.15 Control

During the interviews there were a variety of perspectives discussed on the concept of control. Sometimes interviewees felt control of a situation was out of their hands because they were reliant on other people for protection or mitigation. This was one of the reasons that Interviewee 20 didn't prepare, because he felt that mitigation for the infrastructural services he uses was out of his control.

Interviewee 20: "You are reliant on a whole lot of things that have happened that have been guided or been controlled by others with far more knowledge or involvement than the occupiers currently".

Other feelings of lack of control were related to not being able to control nature. In response to this perceived lack of control, some interviewees decided they could not do anything about controlling nature and therefore did not prepare. However while other interviewees felt a lack of control about an event itself, they still felt some control over the outcome of an event, and realised that if they prepare they might be okay:

Interviewee 22: "I don't really spend much time worrying about disasters. Ummm, there's not much you can do to stop them happening (pause). So you just prepare yourself as well as you can to cope with them when they do happen".

2.2.16 Trust

There were two references to trusting civil defence. Trust issues were evident however, with some interviewees making reference to reduced trust in civil defence, local government and other organisations such as telecommunications companies. Interviewees revealed that some trust issues arose when organisations did not perform as expected during an event (e.g. telecommunications problems during the snowstorm). One respondent mentioned that his trust in the council went down when money was spent retrofitting a building that looked fine and safe as it was.

Trust does not appear to be necessarily a 'black and white issue'. Interviewees did not always simply trust someone/something or not. For example, Interviewee 17 didn't trust the local civil defence officer to do a good job, but still trusts the local civil defence overall and think that it is the best in the country.

While people need to trust information and information sources before they get prepared, it also appears that trust is linked with people not getting prepared. For example, Interviewee 16 pointed out that if people trust civil defence they might not get prepared because they think civil defence will look after them.

Lack of trust might lead to a particularly pro-active person doing something about a problem to ensure that preparedness takes place. For example, Interviewee 17 doesn't trust that civil defence or the hospital board are dealing with hazard/preparedness problems adequately so he continues to push at higher levels (i.e. talk to the mayor) to try and get things done. Thus those that have distrust may decide to prepare (or be proactive toward preparedness) because they don't trust that anyone else can look after them.

2.2.17 Responsibility

2.2.17.1 Responsibility for hazards/preparing

People mentioned a wide range of individuals and organisations that have a responsibility for preparing for hazards. They include:

- Personal/individual
- Central government
- Local government
- Civil defence
- Community groups
- Neighbours/communities
- Emergency services (e.g. Police, fire, Search and Rescue)
- Welfare providers (e.g. Red Cross, Salvation Army)
- Hospital board
- Infrastructure providers (e.g. power companies, port authority, radio/communications companies; telecommunications)
- Leaders (e.g. Mayor)
- Army
- Workplace.

Some said responsibility for hazards and preparing depended on particular factors. For example, it might depend on the type of disaster; how severe the disaster is; whether an individual can cope with a disaster or not; the amount of warning time people are given to prepare/respond; the time frame (e.g. responsibility within the first few days, or the longer recovery period); or where people might be located.

There were a fair number of references (13) to the concept that responsibility should be shared, and that everyone has a role to play in a disaster. It is clear from feedback that people do not see responsibility as a black and white issue. People felt that in general there are different roles for different people/organisations (21) and that responsibility should reflect this. People's suggestions over how responsibilities lie include:

- Individual – look after themselves and their family for 3 days following an event.
- Central government – assist individuals; assist after 3 days; assist with mobilisation to deal with issues; get supplies out.
- Local authority – ensure people are trained to do required work; get lifelines working again after an event; assist individuals; assist after 3 days; look after regional or district mitigation measures (e.g. stop banks); mobilisation and coordination during an event.
- Civil defence – declaration of an emergency; have a plan (e.g. organised meeting places, etc); have a warning system.
- Community groups – hands-on support role.
- Infrastructure providers – getting supplies out; ensuring resources are available; getting services working again.

There were a number of references where transfer of responsibility was evident. Responsibility for preparing or dealing with hazards was often transferred to civil defence and the emergency services. People also transferred responsibility on to building standards, with the expectation that such standards would provide them with safe buildings, and transferred responsibility to insurance which was expected to provide relief after a disaster.

2.2.17.2 Responsibility for others

There were a number of people that stated they felt they had a responsibility for others. The significant 'others' included: family (general), children (both young and adults), parents, spouses, grandchildren, community members (neighbours, friends, community in general) and workmates or employees. There was a strong indication that participants who felt a responsibility for others' wellbeing, were more likely to prepare.

2.2.18 Social influences

There were indications within the interviews that social processes and norms have an influence on preparedness. People indicated in questions related to 'talking about hazards' that on occasions they would sometimes talk about preparedness and hazard issues with other people (such as friends, family, workmates), indicating that they use these sources to make meaning of hazards and preparedness information.

Some interviewees expressed the fact that other people were not always supportive of ideas around hazards and preparedness. Interviewee 17 refers to 'his disability' (or passion for preparing). He talks about it in a derogatory way, possibly because he has had such bad feedback from people in the past. Interviewee 17 knows that other people perceive him as a 'nutter' and has therefore has downscaled his activities related to trying to get people to prepare.

Interviewee 17: "People think I'm a nutter you see, so I don't talk about it very much now.

Researcher: It's all right; you're allowed to talk about it with me.

Interviewee 17: No, but I used to try and encourage everyone and I had lots of people, lots of friends who did start putting food in a locker, getting some water in, and feeling happier that they had done it".

However, this same person has also spoken to other friends about preparing, and received positive feedback. His friend (whom he regards as an 'intelligent man') was more amenable to his suggestions of getting prepared, and even thanked him for helping him out.

In the interviews people often refer to the fact that 'others are like me'. It seems to be important to people that they are working to the same rules as other people (e.g. family, friends, etc). For example:

- Interviewee 15 refers to her daughter, and says 'she's like me' and has prepared in a similar way.
- Interviewee 23 also says his children have the same preparedness items that he has.
- Interviewee 30 says other people don't prepare for the same reason as him.

It's possible that people will look to others like themselves to validate their own stance on either preparing or not preparing. This process may well be both active and non-interactive. For example Interviewee 20 seems to take a non-interactive approach, and merely assumes that other people in his community are not prepared (rather than discussing it with them). Others will discuss this in an interactive way with friends, family or workmates.

2.2.19 Resource issues

Interviewees made mention of resources issues during the interviews that may hinder their efforts to get prepared for a disaster. Most resource issues were related to money and time, whereby preparing was considered expensive and participants didn't have enough time to prepare.

2.2.20 Priorities

During the interviews, participants referred to having other priorities in times of quiescence including daily life and health and medical well-being. These priorities were considered more important than preparing for disasters.

2.2.21 Occupation

People had been involved with a variety of occupations in the past and present. Many credited what had happened in their occupation with influencing the way they thought in terms of hazards and preparedness. For example, a former pilot said he always thought about the worst case scenario and undertook some sort of 'forward planning' because this was how he was trained to think when flying a plane. He tried to apply this 'preparedness' to other aspects of daily life, including natural hazard events. People who had worked in professions that had an element of planning and preparedness, were also more likely to apply these practical aspects to their home lives, and get prepared at home.

2.2.22 Length of time in Timaru

Most participants had lived in their houses for a long time (16 references), with only two interviewees living there a short time (2 references). All interviewees had lived in Timaru itself for a long time. Most were aged 50 years or above and lived either with a spouse/partner or on their own.

3.0 FOCUS GROUPS

3.1 Introduction

As the interviews described in Section 2.0 only focussed on Timaru, it was decided to also undertake a series of focus groups in other towns to capture understanding of hazards and preparedness across the wider Canterbury Region.

3.2 Focus group methodology

During September and October 2009 focus groups were undertaken with residents from three towns in Canterbury: Fairlie in Mackenzie District; Woodend in Waimakiriri District; and Methven in Ashburton District. Requests for volunteer participants were advertised through local publications (e.g. newspapers or newsletters) and community networks. As with the interviews, the focus group sessions were mostly unstructured and consisted of an open discussion around hazards, preparedness and information. The primary researcher would ask specific questions from time to time to guide the discussion and ensure all of the required topics were covered. The focus group sessions were recorded with participants' permission, and notes were taken, from which themes were extracted. Section 3.3 summarises the main themes that arose from the focus groups.

3.3 Results

3.3.1 Fairlie, 21 September 2009

A focus group was held in Fairlie at the Fairlie Community Centre on 21 September 2009. In total four residents attended the focus group, as well as the local emergency management officer and two researchers. The focus group attendees were local residents, who were either currently or previously active in the community.

When asked about what hazards they felt their community was most at risk from, the community immediately came up with snow, as being an important hazard. Other hazards that were considered a major concern for Fairlie included flooding and gale-force winds. In terms of earthquakes, the participants in the focus group said that they didn't really think about earthquakes as they don't get a lot of earthquakes in Fairlie. However, one person did remember having experienced an earthquake on July 22nd of 2009.

People spoke about previous snow events, and made most reference to the 2006 snowstorm which had widely affected Canterbury. During that event residents had experienced problems after the snow was cleared from the roads. The snow had been moved from the roads on to footpaths and driveways, blocking access to driveways and making it difficult to walk alongside the roads. They felt that this lack of access to driveways and paths created problems, particularly for the elderly, who were frightened of slipping over in the snow and ice. People felt that the snow that was cleared away should go somewhere else, where people don't walk.

During the snowstorm event people also felt that welfare had been a big issue, with some people being isolated and unable to get help. It was suggested that a list of vulnerable people in the area should be compiled. Suggested vulnerable populations in and around

Fairlie included the rapidly aging population, people who had English as a second language, people living alone, isolated rural populations, people without radios, and people new to the area who don't understand the hazards they are at risk from. In particular the focus group participants mentioned the fact that in the past 5 years there had been a lot of new dairy farming in the area, bringing in populations from other areas (e.g. the North Island) who didn't understand the hazards in Fairlie. These people were also quite transient as after 2-3 years sharemilkers would often move on. Additionally there are growing numbers of holiday homes in the district, adding to the transient population.

After the 2006 snowstorm the focus group participants said that items had been donated to help with the response, however these items often became a burden to manage. They felt that donations of money to help the relief and recovery effort worked best.

When asked what kind of things people did to prepare, most people mentioned preparedness in the context of a snowstorm. For example, one woman said that if she heard there was bad weather coming, she would immediately make a pot of soup on the stove in case they needed it if the weather was severe and the power went out. Another person said that they would store water if a flood was threatening. Other preparedness 'items' mentioned included having candles, making use of a BBQ or coal range as an alternative cooking source and always having something in the freezer that can be relied on to eat. The focus group attendees felt that younger people did not have food reserves or cook in large quantities like older people did. They thought that the 'modern lifestyle' was such that people tended to only buy what they need at the shop, and no more than that. The participants thought that you could do without some items (e.g. milk) but that water was a necessary item. There was also a question raised over whether there were food supplies at schools in case of an earthquake.

There was some discussion over the issue of the 'clean air policy' in Canterbury. People thought they were going to have to get rid of their log burners in response to this policy, but felt it was important to keep them as they can be used in an event like a snowstorm.

There was also discussion of how to get information about disasters and preparedness to people in and around Fairlie. It was mentioned that a number of people had English as a second language, and that getting information to these people is tricky. It was hard to get resources in small numbers to give them, for examples, brochures in their own language. One person suggested that Neighbourhood Watch might be a good vehicle to get information out to members of the community.

Participants in the focus groups raised some other issues related to disasters. For example what if people who need to respond to an event are not around at the time (e.g. IT staff or wardens responsible for being involved in a response)? They also raised the issue of bus drivers living in Timaru, and if Fairlie is cut off from Timaru bus drivers might not be able to drive in to pick up school children or other members of the public.

The focus group members agreed that they were, "the disaster town of the South", but that they always "come through" in a disaster. They felt that they were a resilient community. They said that they knew what to do in a disaster. They felt that the community was caring, and that peoples' natural instinct was to go to their neighbour and check on them during an event.

The last part of the focus group discussion centred on the desire of the participants to put together a plan for when another snowfall happens. The emergency management officer explained there was already information available on how to prepare, and emergency planning was in place, but the participants wanted something more than that. They wanted to create a 'community action plan' that could be put into action by community members during an event. They were interested in finding out how to do this and asked the focus group convener to send through examples and information on how this could be done.

3.3.2 Woodend, 6 October 2009

A focus group was held in Woodend on 6 October 2009. In total there were 8 participants from Woodend at the focus group, plus the emergency management officer and two researchers. The focus group attendees comprised a mix of local community residents. Amongst the residents were some who had previously been involved in civil defence and welfare issues.

Residents from Woodend had lots of questions about hazards and how they might affect them, including:

- What types of hazards affect Woodend?
- What types of impacts would there be from an earthquake?
- What is current stopbank protection like?
- How would a tsunami affect the Waimakiriri River?
- Are tsunamis a worry for Woodend?
- Are there any emergency sirens for hazardous events?
- Do the New Zealand police have the power to order people out of their homes in an event?

The first two hazards that residents thought would affect them included flooding and earthquake. Snow was also mentioned during the discussions. Two other hazards people thought were also important, and were raised during later discussion were fire and drought (often a consequence of a strong dry nor-westerly wind). Tsunami hazards were also discussed, as there had been a recent tsunami warning for New Zealand (including the Canterbury Coast) on 30 September 2009. Human made hazards (e.g. traffic accidents) were not discussed in detail as potential hazards by participants, although the emergency management officer did raise the issue once during the discussion.

People's experience of hazards varied. Some had experienced very little in the way of hazards. Several participants had lived in the Pacific Island and experienced cyclone events and associated flooding. Within the confines of Woodend, there had been very few events to affect people. People mentioned experiencing the snowstorm of 2006, minor surface flooding issues, the flood of 2007 that had threatened Woodend but did not affect it, and a storm with high winds back in the 1970s. Participants also remembered a big fire in the 1990s where there hadn't been enough water available to fight the fire effectively. The emergency management officer mentioned that since that time water supply/availability had increased, but so had numbers in the population.

People had had some recent experience of the 30 September 2009 tsunami warning for New Zealand. One person said that on hearing a warning she had called her daughter who was in a coastal location and suggested that she pack what she needed, and get ready to leave when told to. When asked where most people got their information from during the tsunami event, most people said that they got information from the radio or television.

There was discussion about how the tsunami warning had worked at Waikuku Beach. Civil defence informed local community volunteers who were part of the Waikuku Beach Response Plan, and the volunteers warned the whitebaiters and people using the river and beach. People were told by the volunteers that they needed to leave the river and beach area by 11.00 am and they did so.

People mentioned the fact that there was very little understanding of what a tsunami of one metre might do, and what the impacts might be like. Participants of the focus group suggested that people equated a one metre high tsunami wave with a normal one metre high wave at the beach, or a one metre swell. They did not understand that a surge of water would continue to push the wave inland.

When asked how is it best to deal with hazards, several participants suggested that education was key to helping people understand what the problem was and what people need to do. Not much discussion was had about preparedness as a way of mitigating hazard impacts until specifically prompted by a question from a participant (i.e. "How many people have battery powered radios in case of loss of power in an event?"), and followed up by the focus group convener.

Preparedness levels amongst the group varied. There were some very prepared members of the focus group. These tended to be people who were involved with civil defence emergency management or who had experienced previous disasters. One civil defence volunteer had undertaken a range of measures to prepare including collecting together general preparedness items for a kit (e.g. had stored water via bottles of water in the freezer and a water tank, stored food, backpack full of essential items, candles and matches, etc) and securing her property for earthquakes (e.g. putty under ornaments, curtain wire holding books on a shelf). Some community members, who had not prepared, had thought about it but hadn't got around to undertaking preparedness measures. There was some discussion about being prepared for events such as power failure. There was also conversation about having a preparedness kit versus just having items in your house and making preparedness a part of everyday life so that it becomes easier to do.

One participant asked a question about raising items in a flood, and whether there was potential to do that (e.g. putting important items into a roof space; raising important items above floor level).

When asked about how people get their information before or during disasters, the telephone book was mentioned as a place to find both information about how to prepare items and what to do during a disaster. When asked where people might go for other sources of information they mentioned using the internet ("Google") and television advertisements. There was some discussion about how useful people found the television advertisements. The focus group participants generally agreed that the TV advertisements were good at "raising peoples' awareness", but not necessarily at getting people to do anything about preparing. One participant suggested that she didn't think the advertisements worked because people

were scathing of them, and people also thought that if any disaster were to happen, “We would all be doomed anyway”.

Some of the civil defence volunteers had tried to persuade other family members or residents in their community that it was important to prepare for disasters but had been met by reluctance of these people to do so. This was frustrating for the volunteers who were trying to do their best. The emergency management officer suggested that possibly people don’t like being told what to do, and therefore are less likely to prepare. He also suggested that in Waikuku Beach they had worked with the community to put together a community response plan, which focussed on helping the neighbourhood/community rather than being directly related to ‘civil defence’, and this had achieved greater buy-in as the idea of ‘assisting the community’ was more acceptable to people. Focus group participants at Woodend agreed that this might be a useful approach to take in helping other people plan and prepare in future.

There was discussion about schools and disasters. Questions were asked about whether schools would stay open or close in a hazard event, how communications works between schools and civil defence, and about whether teachers and children would stay at school until all children were picked up.

Pets were brought up as being an issue – specifically the need to plan for accommodating pets if people have to leave their houses. People may not want to evacuate in an emergency if they cannot take their pets with them.

Some participants involved in emergency management functions or groups mentioned they had had speakers come to their groups and talk about hazards. When asked whether residents who weren’t involved in such groups had speakers visit them or had conducted discussions about hazards and preparedness in the past, people said, “No”. One participant said she had helped out at her grandchildren’s school for a civil defence exercise.

There was some discussion of whether there were sirens available to warn of hazardous events. People were familiar with the fact that sirens were sounded for fire and road accidents, and knew what those sirens meant. They discussed the role that sirens could play to warn of other hazardous events, including using different signals for different events. It was brought up that church or school bells could be used to alert people of an impending event at a community level. The researcher convening the meeting discussed the importance of people understanding what such warnings meant and what actions people should undertake in response to a warning. Consequently some level of training or education is needed to support such systems.

One participant asked the question, “Who knows where the vulnerable people in the community are?”, and there was some discussion about who might know who these people were (e.g. doctor) and whether there was a need to find out more about the vulnerable population. The emergency management officer described how the Waikuku Beach community had gone about identifying its vulnerable population.

When asked about how the community could improve its understanding of hazards and preparedness, participants suggested that pre-existing group structures could be used to coordinate activities (e.g. Neighbourhood Watch, action group). There are two main community groups operating in Woodend, and it was suggested that these two groups meet

to discuss improving planning and preparedness in Woodend. One participant was going to organise such a meeting for a future date and liaise with the emergency management officer over this.

3.3.3 Methven, 7 October 2009

A focus group was held in Methven on 7 October 2009. Ten local people attended the focus group, plus the Ashburton District emergency management officer and two researchers who convened the group.

When asked what hazards people considered Methven to be most at risk from, people referred to snowstorms, windstorms and earthquakes as their biggest fears. Later during the focus group, fires were also brought up as a definite hazard to the Methven area. People saw fires as a big issue, but more of a short-lived problem. Participants felt that over the years that the fire-fighting problem had improved, in that there were more resources available for fire-fighting. However, they saw that the risk had also increased, as more people had moved into small land-holdings in the rural areas, increasing the chance of an accidental fire occurring.

It was mentioned that there had been some faults recently identified around Mt. Peel (in the last eight years or so) and there was uncertainty about what it might mean if an earthquake was to originate from these faults. There were especially concerns if an earthquake was to occur in summer as large numbers of people use the recreational areas around Mt. Peel. If an earthquake was to occur participants noted that there could be potential secondary hazards such as landslides which may block roads or cause temporary dams in river valleys which were prone to sudden breaching. Participants felt that knowledge of the Mt. Peel faults was not widespread amongst local people. There was some discussion of risk of an earthquake from the Alpine Fault. It was also mentioned by one person that the Alpine Fault might trigger activity on local faults. If a strong earthquake was to occur in the Methven area people felt that the most significant damage would be to roads, bridges, communications and other infrastructure.

The focus group discussion touched on issues around the 2006 snowstorm. Many roads were blocked by the snowstorm, and it took up to four days to clear transportation routes. There was, and is still, a local emergency plan that addresses this however, and sets prioritisation for roads to be cleared after a snowstorm in a certain sequence. Power lines were changed from overhead to underground in Methven in the 1970s, so local power lines within the town boundary can not be downed by heavy snowfalls. However, other power issues may arise if other connections are lost in future as they were in 2006. Communications were also an issue during the 2006 snowstorm, and were flagged as a potential issue for future disasters. There was a lot of discussion about how having good communications during an event was very important – more than having water or power. People's recollection of the snowstorm event seemed to vary, with some community members feeling that the impacts were more severe than the local authority was suggesting. For example people suggested that they felt the isolation and lack of contact from civil defence was extreme in many areas, and when coupled with loss of power and communications, led to quite severe problems in some households. Some single women farmers were trapped in their houses for days, unable to get out. The Red Cross welfare packages arrived three weeks after the snowfall, rendering them not particularly useful due to the lapse in time between the event and response.

There is a system for checking on vulnerable people in an event (as per the local emergency plan), and actions related to this were carried out in the 2006 snowstorm e.g. Search and Rescue volunteers working with other organisations (such as the Red Cross and doctors) to check on known vulnerable residents during and after the snowstorm.

When asked about how prepared people were for snowstorms, people were able to mention specific actions they had undertaken, or knew that they had to undertake if an event was imminent. For example if a snowfall was imminent, people mentioned the need to make sure that gas bottles were full, front end loaders were ready to be brought into use, and that farm gates were opened (unless they were essential to be closed) so that the gates didn't have to be dug out of the snow. Some people discussed the perceived Environment Canterbury 'ban on open fires' in homes and felt that this was bad because if the power went out in a snowstorm, people would have no way of cooking their food or heating their homes. It was pointed out by other participants that this restriction was in regard to ensuring people had 'clean woodburners' installed, rather than a total ban on fires in homes.

There was quite a bit of discussion about how locals feel they are quite well set up for hazards that they are familiar with, like snowstorms, but how people don't know much about what an earthquake might be like, or what you need to do before, during or after an earthquake. A number of focus group participants also felt that there was not enough information on what people should do during an earthquake (e.g. get under a table? Go outside?). There seemed to be a desire to know more about what people can do for an earthquake.

There was discussion on the best way of getting information to people about how to prepare for earthquakes. It was noted that information about earthquakes and preparedness is available (e.g. brochures and postcards have been mailed to people), but people don't often directly use that information to prepare. Participants don't usually remember receiving the information, or simply discard it when it comes in with the mail. As an example, the emergency management officer noted that a soft cover booklet of approximately 40 pages was sent out to all rural boxholders in the district with Canterbury-specific information about preparedness for snowstorms (and other events) in it. These were sent out through the normal mail rural delivery services. Very few focus group participants remembered receiving these booklets. In addition some people that did remember receiving the booklets felt they already knew how to prepare for and respond to a snowstorm, so didn't take any notice of it.

There was discussion that participation was good for building community support and for ensuring that people were able to look after each other in an event (and assist with looking after each other's stock, etc). The focus group attendees discussed the potential for making use of existing local groups and networks to talk about the problems earthquakes might pose and how earthquake preparedness could be improved. Neighbourhood Watch was suggested as an example of a group that enables such activities to occur. It was mentioned that some Neighbourhood Watch groups were already working as they had been set up in the 1990s. Another suggestion was that Federated Farmers and Fonterra could be talking with farmers about stock and hazard issues before, during and after events.

When asked whether people get information by 'word of mouth' about disasters or preparing for disasters, focus groups participants said, "Yes, but only for snowstorms". People did not seem to seek or distribute information by 'word of mouth' for earthquakes. People admitted that they don't generally think or talk about earthquake issues.

One participant noted that much knowledge about preparing for events such as snowstorms was passed down through families. Older generations often teach upcoming family members about what they needed to do to prepare their farms and properties for a snowfall, and how to respond.

People also thought that schools were important, and that school education about earthquakes and preparedness would assist in getting the message out to the wider community and motivating community members to become more prepared. A couple of participants had noted that fire safety campaigns through school had been successful in this way. People mentioned that it may be possible to include information about earthquakes, other hazards, emergency supplies and general preparedness in a weekly newsletter.

There was also a suggestion of improving television advertisements, for example by creating a cartoon which could be used to promote the message of preparing for disasters (similar to Firewise campaigns).

People discussed the need for information about hazards and preparedness to be meaningful to themselves: “It needs to mean something personal to me...”. For example, participants mentioned that if they knew that water and power would be a problem after an earthquake and that this could impact on their livestock (i.e. their stock might not be able to survive without these things) then they may be more likely to make some kind of preparation for an earthquake event. There was also a desire to make preparedness part of everyday living and not a separate issue that needs special consideration and activity surrounding it. Linking aspects of snowstorm preparedness to aspects of earthquake preparedness could also be useful (e.g. What am I doing already for a snowstorm that could be used in an earthquake? What extra things do I need to do to prepare for an earthquake?). People also felt an actual earthquake nearby might motivate them to prepare for a future earthquake in their location. One barrier to preparing was noted as being the cost of undertaking preparedness actions.

Few people had an actual ‘emergency kit’ prepared for a disaster, but many had emergency items already in their homes. There was discussion of the need for farmers to have back-up water supplies for their animals, as these may be needed in the case of an earthquake or any disaster. There was suggestion that while some water races are not currently being used (or are being discontinued in the near future), that the infrastructure be retained in case they need to be brought into use after a disaster (e.g. for water supplies in an earthquake, to assist with getting water to fight fires).

People discussed the question of whose role it was to deal with a disaster. The question was asked whether it is a council and Civil Defence responsibility or not? There was also a question raised about whether central government plays a role, or whether people will be left to deal with an event themselves. The emergency management representative discussed the limited assistance Civil Defence could give and that it was up to people to take on their own responsibility for planning and preparing for hazards. There was also a question about who pays for undeclared/declared civil defence events – central or local government?

4.0 PREPAREDNESS AND RESILIENCE SURVEY

4.1 Introduction

In September 2009 a questionnaire survey was undertaken to collect data about disaster perceptions, preparedness and community resilience in Canterbury, New Zealand. The survey forms part of an ongoing research programme which is concerned with investigating what makes communities resilient, and how individuals can be encouraged to prepare for disasters. The survey focussed on earthquake issues as a context around which people could frame their answers. The questionnaire included questions on risk perception, disaster experience, hazards and preparedness information received/sought, hazard beliefs, self efficacy, critical awareness, outcome expectancy, coping, articulation of problems, community participation, trust, empowerment, and the extent to which people engaged or plan to engage in preparedness activities. A number of questions were developed specifically for the survey (e.g. questions 1-10). A number of community resilience questions in the questionnaire were based on surveys undertaken by Paton (e.g. 2006, 2007). Earthquake preparedness questions were based on an earthquake readiness scale developed by Spittal et al., (2006).

4.2 Survey methodology

Questionnaires were mailed to a random sample of 1,500 householders across the Canterbury region. Christchurch City received 1,000 surveys and towns/rural areas in wider Canterbury received 500 surveys. Half of the questionnaires in Christchurch City were sent to addresses used in a 2003 Christchurch preparedness survey (Johnston et al., in prep), while the other half were new addresses randomly generated through a New Zealand Post Database. The wider Canterbury address sample was also a new randomly generated dataset. There were 229 survey returns representing a return rate of 15.3% with a margin of error +/- 5.96 at the 95% confidence level. Figure 3 shows the approximate location of survey responses from residents in Christchurch City, and Figure 4 shows the location of survey responses from wider/rural Canterbury.

Section 4.3 of this report presents a summary of the main findings of the survey. Appendix 1 includes a copy of the survey sent to participants, while Appendix 2 presents data tables generated from the survey.

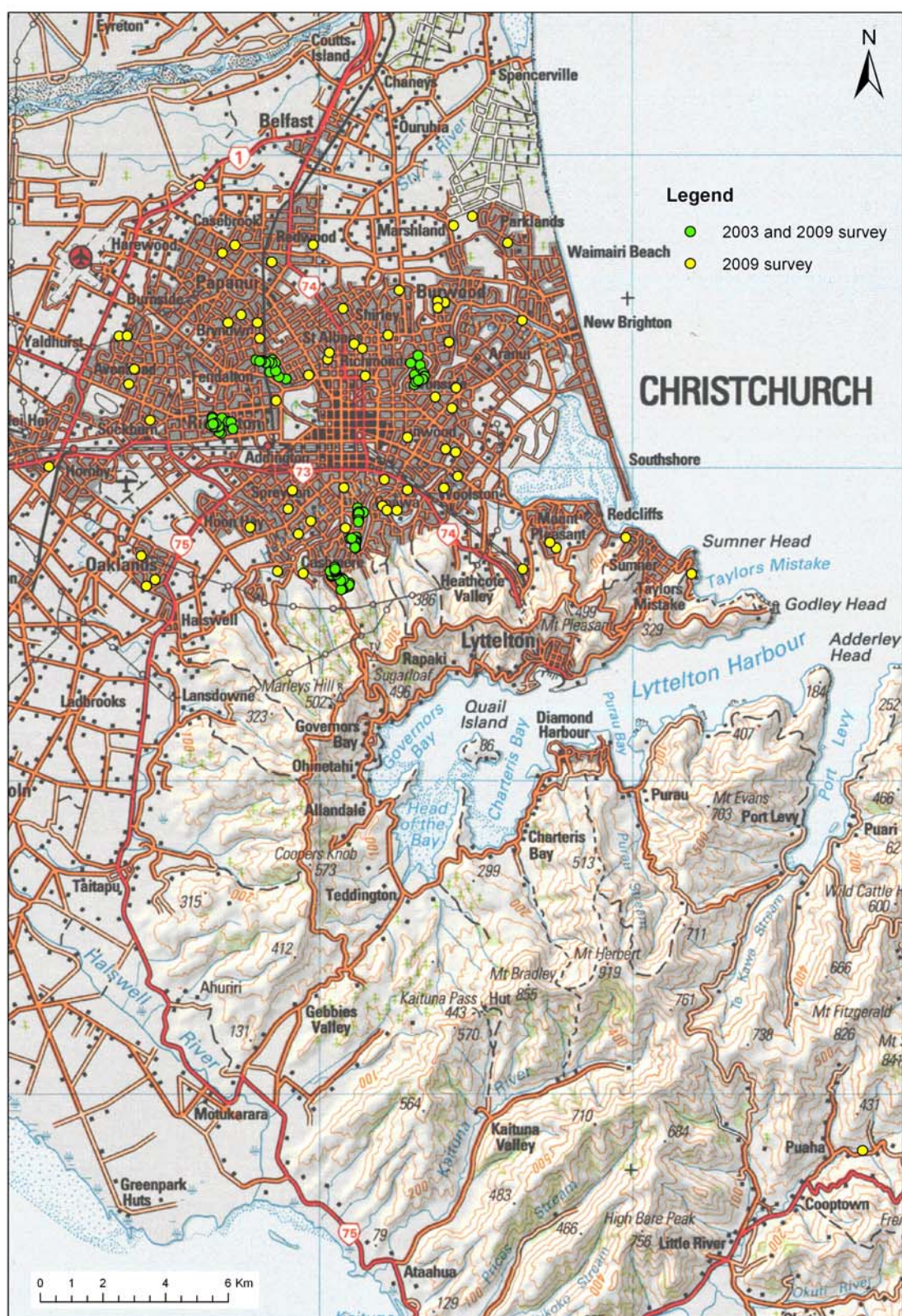


Figure 3 Survey responses from householders in Christchurch City.

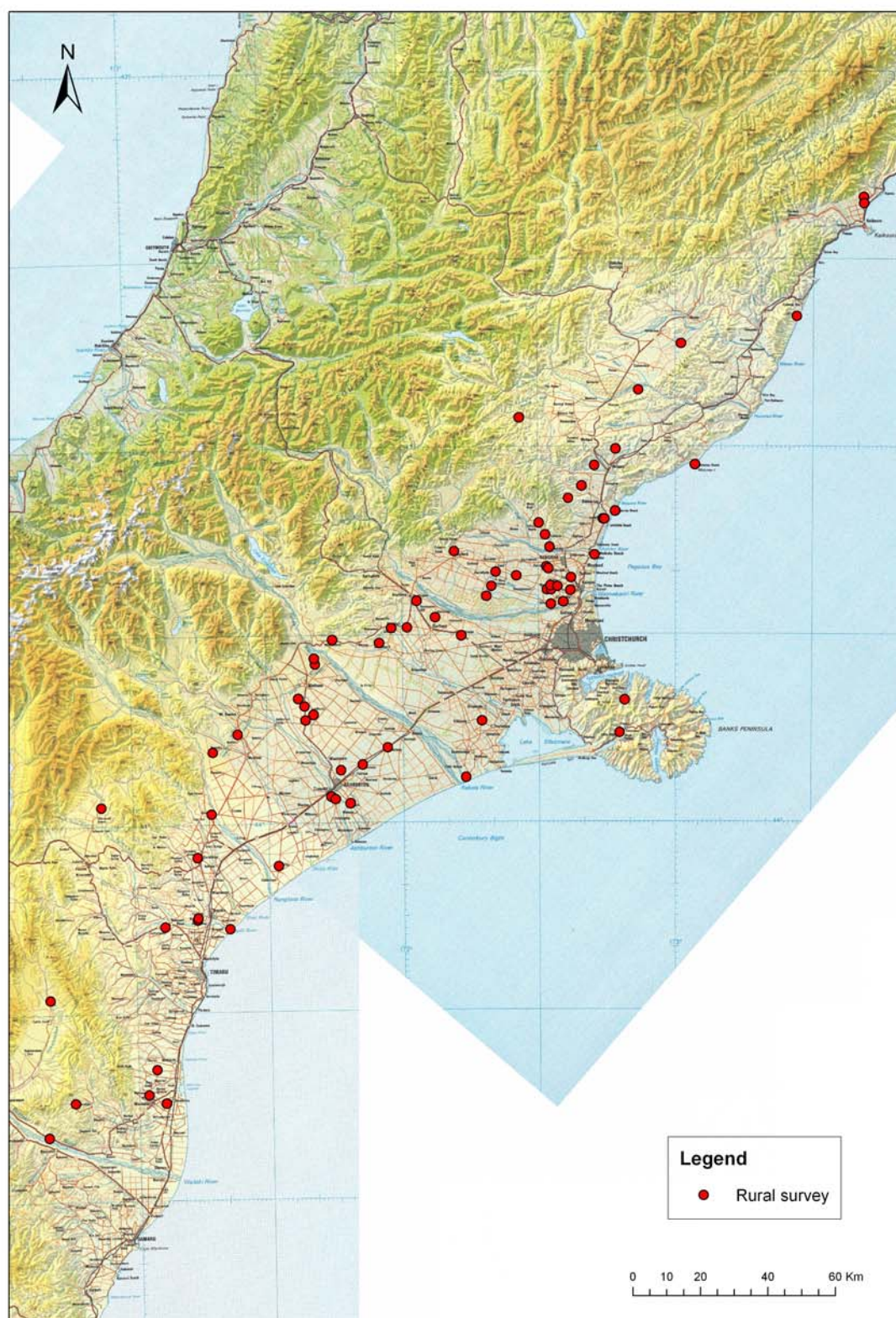


Figure 4 Survey responses from householders located in towns across wider/rural Canterbury.

4.3 Survey results

The following paragraphs summarise the main findings of the preparedness and resilience survey undertaken in 2009.

4.3.1 Understanding and experience of hazards

In Christchurch City earthquakes were perceived as the greatest hazard, with respondents considering an earthquake likely to affect them. Across wider Canterbury, bad weather, snowstorms and drought were seen as the greatest hazards. This is also reflected in the focus group data as participants from provincial areas reported snow and bad weather to be their most likely hazards. In general, bad weather and snowstorms, followed by human induced hazards (e.g. crime, traffic accidents, and personal health issues) were seen as the most imminent hazards, with high proportions of people believing they would be most likely to occur within the next year. Flooding, drought and earthquake were seen as most likely occurring sometime in the next five years. Respondents appeared to hold a high degree of personal concern for earthquakes, anticipating that earthquakes could pose a threat to personal safety, daily life and property.

People's experience of hazards was similar for both the Christchurch City and wider Canterbury area, with just over half of respondents reporting having direct experience of an event, and around one third reporting having had an indirect experience. Respondents' experience of hazards tended to be mainly focused on hazards related to living (e.g. crime, accidents, personal health) or weather related hazards (e.g. bad weather, snowstorms and flooding).

4.3.2 Preparedness information

Most participants (97%) had seen information about preparing for hazards or emergencies, with only 3% reporting that they had not seen any information at all. The highest cited source of hazards/preparedness information was the television (82%), followed by the yellow pages in the telephone book (78%), newspapers/magazines (72%) and other written information (e.g. brochures) (69%). Half of respondents also reported that they had received information via the radio. Approximately a third of respondents said they had received information from friends or relatives, central government, the Canterbury Civil Defence Emergency Management Group, the regional council or the emergency services. The district council was cited by nearly a quarter of people as a place that people received information from. Interestingly while the interviews reveal that information received via schools or the workplace has a strong influence on motivating preparedness, only 20% or less reported that they had received information through these sources.

People from Christchurch City were more likely to say they had received written material (e.g. brochures), or information through the workplace, than those from wider Canterbury. Respondents from Canterbury however, were more likely to say that they had received information from the radio, the district council, or the district based civil defence team, than those from Christchurch.

People were not particularly active in seeking information on earthquake risk, with only 40% saying they would possibly or definitely do this in the next month. They were also unlikely to become involved with a local group to discuss how to reduce earthquake damage/loss (only 21% stating they would possibly or definitely do this in the next month).

Approximately 70% of participants felt that they were informed enough to be able to adequately plan for emergencies, with the wider Canterbury sample slightly more confident about this than the Christchurch sample. Table 10 in Appendix 2 outlines in more detail how participants would like to be informed about how to plan for emergencies.

4.3.3 Roles and responsibilities

Respondents were asked to indicate what responsibilities different groups had with respect to hazards and emergency management. The following bullet-points outline what respondents thought were the main roles and responsibilities of different players:

- Very few respondents thought that nobody had a role to play with respect to hazards and emergency management.
- For individuals it was considered that preparedness (83%), planning (53%) and undertaking safety training (52%) were all important.
- It was felt that community groups also have a role to play in planning (59%), preparedness (54%), assisting with disaster relief (53%), responding to disasters (43%), undertaking general safety training (43%), and undertaking training for emergency response (42%).
- For most government agencies (including civil defence) respondents thought that key roles included planning for disasters (~60-70%), training for emergency response (~50-75%), education about hazards/preparedness (~60-70%), responding to disasters (~60-80%) and providing disaster relief (~60-70%).
- Key work place responsibilities were considered to be planning for disasters (63%) and training for emergency response (60%); while schools were considered to have a role in planning for disasters (66%), training for emergency response (66%) and providing education about hazards and preparedness (63%).
- Respondents felt that emergency services had a range of responsibilities, and that the armed forces would contribute primarily to response (77%) and disaster relief (82%).

Respondents were more likely to be happy to participate in specific events regarding preparedness (83%) than participate regularly on an on-going basis (53%). Participants were divided about whether they would be happy to pass on information to other community members or encourage other people to get prepared, with approximately 70% saying they would, or possibly would do this, and 30% stating they would not. A total of 60% of respondents said they either would be happy to or possibly happy to take a 20 hour training course to help the community prepare. Results were similar for the Christchurch and wider Canterbury samples. Table 7 in Appendix 2 provides more detail about how respondents think communities can be more involved in hazard and preparedness issues.

4.3.4 Community resilience indicators

For the survey a number of community resilience indicators were measured, based on work undertaken by Paton (2006, 2007). A summary of the results are as follows:

- In general, low levels of critical awareness (people believing hazards are important and thinking and talking about them) were evident in both the Christchurch and the wider Canterbury sample.
- Moderate to high levels of action coping were evident for both samples.
- Both samples also showed moderate to low levels of negative outcome expectancy (i.e. people think earthquakes are destructive or you can't prepare for them), and moderate levels of positive outcome expectancy (preparing will result in a good outcome).
- Both Christchurch and the Canterbury sample showed moderate levels of self-efficacy.
- Low levels of community participation are evident for the Christchurch sample (with most respondents 'rarely participating' in community activities), but moderate levels for the Canterbury sample (most 'sometimes participating').
- There was no strong theme of articulating problems in any of the communities. Most 'neither agreed nor disagreed' with the statements related to articulation of problems. The provincial areas had slightly stronger agreement on some of the statements indicating that they might articulate problems slightly better.
- Moderate levels of empowerment were evident, with provincial areas showing a slightly higher level of empowerment.
- In general there were moderate levels of trust for both samples.

4.3.5 Preparedness

Approximately 50% of respondents stated that they possibly intended to check or increase their level of preparedness for earthquakes in the next month or so, with less than 20% stating that they would definitely check or increase their level of preparedness. Approximately a third of respondents stated they would definitely not be checking or increasing their preparedness.

Preparedness actions that people were most likely to have already done included: not storing water over electrical equipment (77%); accumulating tools (76%); having tinned/dry food (72%); having a first aid kit (82%); keeping a supply of medicines (78%); having a battery-run torch (83%); and having an alternative cooking source (e.g. barbeque) (85%).

5.0 SUMMARY

A study has been undertaken to investigate if, and how, individuals make meaning of information about hazards and preparing, and how this relates to actual preparedness activities. Three pieces of work were undertaken in the Canterbury Region which contribute to this research. These include:

1. Interviews with 18 residents from Timaru
2. Focus groups with residents in Fairlie, Woodend and Methven
3. A survey of residents in Christchurch City and wider Canterbury.

The interviews revealed that participants were exposed to a wide range of information about hazards and preparedness. This information could broadly be broken into two types: passive information, which provides details about hazards and preparedness, and tends to predominantly raise awareness (e.g. brochures, radio advertisements, disaster pages in the telephone book); and interactive information (e.g. school activities, community activities discussions, workplace activities, training for emergencies). Interactive types of information appeared to be more likely to get people thinking, talking about, and undertaking, preparedness activities. A key question that arises from this finding is how can the civil defence emergency management sector use a mix of passive versus interactive information to achieve the best results?

The Timaru interviews also highlighted the fact that people tend not think or talk about hazards much. This was reflected in focus group feedback and the survey which measured low levels of critical awareness. When people do think and talk about hazards, it is often prompted by a trigger, for example:

- an event experienced;
- an event seen in the news media;
- a school or work project;
- a community group activity.

Discussions usually take place with people that are familiar such as family, friends, or workmates. Thinking about and discussing hazards and preparedness is important, because it is a predictor of preparedness (McIvor and Paton, 2007; Paton 2003, 2007). A key question that is raised based on the interviews is how can better use be made of 'triggers' to ensure members of the public think and talk more about hazards and preparedness?

Participants' experience of hazards tended to be mainly focused on hazards related to living (e.g. crime, accidents, personal health) or weather related hazards (e.g. bad weather, snowstorms and flooding). Previous studies show that people's experience of events can shape how they respond in future with respect to hazards and preparedness (e.g. Johnston et al. 1999). The Timaru interviews also reflect this finding. Having directly experienced a recent snowstorm in 2006, some participants felt they had survived the event with few problems and thus didn't need to increase their preparedness, while others reported that the event had raised their understanding of the effects of disasters and helped hone their preparedness. With respect to earthquakes very few participants had directly experienced a moderate or major earthquake and thus had little comprehension of what the impacts of a large earthquake might be like, and what they might need to do to prepare for one.

Earthquakes were seen by interviewees, focus group members and survey participants as a hazard that could affect them in future. However the interviews also revealed that Timaru residents perceived earthquakes to be of low risk. This finding indicates that while people may be aware of the potential for an earthquake, they still may believe it is not high risk and therefore may not do anything about it. Further analysis of the interviews will investigate this relationship at a qualitative level. Other hazards that participants considered likely to affect them in future were those related to weather, such as snowstorms, bad weather and flooding.

To professionals working in the field of hazards education, the meaning of the terms 'hazards' and 'preparedness' are usually well defined. Hazards may refer to natural hazards (e.g. geologic or weather related) or anthropological hazards. Preparedness usually means storing the necessary items required for at least three days of survival. The interviews revealed that participants' interpretations of hazards and preparedness vary considerably, and are often quite different to the professional viewpoint:

Interviewees relate the concept of hazards to:

- natural events (e.g. earthquakes, floods, landslides)
- daily life (e.g. workplace, recreational hazards, traffic accidents).

Interviewees relate the concept of preparedness to:

- collecting and storing items for a disaster (e.g. water, food, other essential items)
- being prepared for life situations (e.g. accidents, personal health)
- having an idea of what might happen in a disaster
- being wary or alert to disasters
- safety, survival, resourcefulness, personal health, self-sufficiency.

The difference in understanding about hazards and preparedness reiterates the need to be clear about such concepts. With respect to preparedness it is important to provide practical examples where appropriate, so that people know what they need to do to prepare and how to go about doing it. Finally, there is also potential to link with other aspects of preparedness people find meaningful. For examples, if safety training at work is one salient understanding of 'being prepared', can preparedness for disasters link with this in some way?

In terms of responsibilities over who should prepare, the interviews, focus groups and survey all revealed that residents feel preparedness is a 'shared responsibility', with individuals and agencies all having a number of different roles to play. For example individuals should be concerned with ensuring they have three days supply of food and water, while government agencies should ensure that planning is in place, education is undertaken and that they have an ability to coordinate a response to a disaster. Communities and community groups are also seen as having a role in terms of supporting preparedness during times of quiescence, and assisting with a response to a disaster. Results from the survey indicate that during times of quiescence Christchurch/Canterbury respondents are more likely to be happy to participate in specific events regarding preparedness (83%) than participate regularly on an on-going basis (53%). There was also some support for community members to pass on hazards and preparedness information within their community, or take a course related to emergency response.

In the Timaru interviews participants reported that in general they had undertaken less complex preparedness tasks such as gathering together essential items like food and water.

Other common items owned by participants included: alternative cooking devices; alternative heating devices; torches; radios; candles; batteries; smoke alarms and a phone that does not require electricity. People were less likely to undertake more complex task such as put together a formal emergency plan or restrain furniture.

In the survey, approximately 50% of respondents stated that they possibly intended to check or increase their level of preparedness for earthquakes in the next month or so, with less than 20% stating that they would definitely check or increase their level of preparedness. Preparedness actions that survey respondents were most likely to have already done included: not storing water over electrical equipment; accumulating tools; having tinned/dry food; having a first aid kit; keeping a supply of medicines; having a battery-run torch; and having an alternative cooking source (e.g. barbeque).

During the initial analysis of the Timaru interviews a variety of other concepts were highlighted as having a likely influence on preparedness. These include the imminence of an event; attitudes and beliefs about earthquakes; feelings about earthquakes (e.g. anxiety, concern); hope; luck; control; vulnerability; responsibility for others; trust; social influences; resource issues; and priorities. These concepts will be explored in a subsequent detailed analysis of the interview data, and developed into a theoretical model.

6.0 ACKNOWLEDGEMENTS

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APPENDIX 1 QUESTIONNAIRE

Canterbury Civil Defence and Emergency Management Survey: Hazards and Preparedness in Your Community



CANTERBURY HAZARDS AND PREPAREDNESS SURVEY:

INFORMATION FOR PARTICIPANTS

GNS Science in conjunction with Canterbury Civil Defence Emergency Management Group is interested in hearing people's views about hazards, disasters and preparedness. To canvass people's views on these topics we are conducting a questionnaire survey. Findings from the survey will be used to help the local community better prepare for future extreme events.

As this study is part of an on-going research programme, it is possible that you may have received and filled out a similar survey before. If you, or another member of your household, filled out the previous questionnaire, we once again invite the **same person** to fill out and return this questionnaire if possible.

If the person who filled out the previous questionnaire is not available or not known to you, we would still like to hear from you. In this case, the person who should complete the questionnaire is **the adult (age 18 or older) who most recently had a birthday**.

All replies will be confidential, and we will only report on general trends. You are not asked to record your name. Filling in the questionnaire implies that you are consenting to participate. Completing the questionnaire should take about 30 minutes of your time. When you have completed it, please put it in the enclosed postage paid envelope and post it.

For further information about this study, please contact any of the research team below:

Julia Becker, GNS Science (j.becker@gns.cri.nz; phone 04 570 1444)

David Johnston, GNS Science (david.johnston@gns.cri.nz; phone 04 570 1444)

CANTERBURY HAZARDS AND PREPAREDNESS SURVEY

Section 1: Your thoughts about hazards

- 1. On the scale of 1-5, how likely do you think each of these events would be to affect you? (Tick one for each hazard)**

	Not likely at all	←————→			Highly likely
Bad weather (e.g. cyclone, storm, heavy rainfall, wind)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Snowstorm	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Flooding	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Ash fall from a volcano	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Earthquake	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Bushfire / wildfire	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Landslide	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Tsunami	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Drought	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Climate change / global warming	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Workplace accidents	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Household accidents	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Crime	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
House fires	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Vehicle accidents	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Industrial accidents	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Infrastructural failure	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Pandemic	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Personal health issues	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
War / terrorism	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Recreational hazards (e.g. tramping, diving, boating)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Other (please specify):	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

2. Have you ever been affected by any of the previously mentioned hazards? (Tick all that apply)

- ☐₁ Yes, I have had direct experience (e.g. damage, injury, loss of utilities)
- ☐₂ Yes, I have had indirect experience (e.g. was inconvenienced, couldn't travel)
- ☐₃ No (**go to question 4**)

3. If you have been affected in the past, please write down the type of event(s) that have affected you:

4. When do you think that each of these hazard events could next affect your community on the following six-point time-scale? (Tick one for each hazard)

	Within the next year	Within the next 5 years	Within the next 10 years	Within the next 50 years	In over 50 years	Never
Bad weather (e.g. cyclone, storm, heavy rainfall, wind)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Snowstorm	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Flooding	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Ash fall from a volcano	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Earthquake	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Bushfire / wildfire	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Landslide	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Tsunami	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Drought	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Climate change / global warming	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Workplace accidents	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Household accidents	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Crime	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
House fires	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Vehicle accidents	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Industrial accidents	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Infrastructural failure	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Pandemic	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Personal health issues	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
War / terrorism	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Recreational hazards (e.g. tramping, diving, boating)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Other (please specify):	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆

Section 2: Information

5. Have you heard, seen or received any information about preparing for hazards or emergencies from any of the following places? (Tick all that apply)

- ☐₁ I haven't heard, seen or received any information about preparing for hazards or emergencies (**go to question 6**)
- ☐₂ Television
- ☐₃ Radio
- ☐₄ Newspapers/magazines
- ☐₅ The yellow pages in the telephone book
- ☐₆ Other written information e.g. brochures, posters, fridge magnets
- ☐₇ Internet
- ☐₈ Electronic networking (e.g. text, email, Facebook)
- ☐₉ Friends or relatives
- ☐₁₀ Marae
- ☐₁₁ Central Government (Ministry of Civil Defence & Emergency Management)
- ☐₁₂ Canterbury Civil Defence Emergency Management Group
- ☐₁₃ Your district-based Civil Defence Emergency Management Team
- ☐₁₄ Regional Council
- ☐₁₅ District Council
- ☐₁₆ Earthquake Commission
- ☐₁₇ Emergency services (e.g. police, fire service)
- ☐₁₈ Service organisations (e.g., Red Cross)
- ☐₁₉ School (e.g., brochures, homework)
- ☐₂₀ Community meetings, hui, seminars or workshops
- ☐₂₁ Businesses (e.g., pamphlets in power or phone accounts)
- ☐₂₂ My insurance company / agent
- ☐₂₃ Neighbourhood Watch groups
- ☐₂₄ Where you work
- ☐₂₅ Other (**Please specify**): _____

Section 3: Roles

6. What do you perceive the main roles of the following groups to be? (Tick all that apply for each row)

	Have no role	Get prepared for disasters	Undertake planning for disasters	Undertake training for emergency response	Undertake general safety training (e.g. first aid, survival skills)	Provide education about hazards & preparedness	Provide warnings about impending events	Respond to disasters	Assist with disaster relief
Individuals	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
Community groups	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
Civil Defence	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
District Council (excl. civil defence)	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
Regional Council (excl. civil defence)	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
Central government	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
Schools	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
Workplaces	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
Emergency services (e.g. police, fire)	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
Infrastructure/utility companies	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
Insurance companies	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
Armed forces	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
Other (specify)	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1

7. How do you think communities can be involved in hazard and preparedness issues?

8. Thinking about hazards and preparedness issues, would you be willing to?

	Yes	Possibly	No
Participate regularly, on an on-going basis (e.g. belong to a group; attend monthly meetings)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
Participate for specific reasons or events (e.g. attend a one-off community meeting; be involved in a preparedness fair)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
Pass on information about hazards and preparing to other community members?	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
Encourage other people in your community to get prepared for disasters?	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃
Take a 20 hour training course to be qualified to help your community recover from disasters?	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃

9. Do you feel that you are informed enough to be able to adequately plan for emergencies?

☐₁ Yes (go to question 11)

☐₂ No

10. If no, how would you like to be informed about how to plan for emergencies?

Section 4: Personal indicators

The next few sections will have a focus on earthquakes.

11. In regard to what happens in your *community*, please describe the extent to which you agree or disagree with each of the following statements:

	Once a week or more	A few times a month	Once a month	A few times a year	Rarely	Never
I think about earthquake issues and problems in my community	<input type="checkbox"/> ₆	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I talk about earthquake problems and issues with others in my community	<input type="checkbox"/> ₆	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁

- 12. In regard to how you normally deal with any problem in your *life*, please describe the extent to which you agree or disagree with each of the following statements:**

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I try to come up with a strategy about what to do	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
I make a plan of action	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
I think hard about what steps to take	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
I think about how I might best handle the problem	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

- 13. Please describe the extent to which you agree or disagree with each of the following statements:**

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Earthquakes are too destructive to bother preparing for	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
A serious earthquake is unlikely to occur during my lifetime	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Preparing for earthquakes is inconvenient	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
It is difficult to prepare for earthquakes	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

- 14. Please describe the extent to which you agree or disagree with each of the following statements:**

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Preparing for earthquakes will significantly reduce damage to my home should an earthquake occur	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Preparing for earthquakes will improve my everyday living conditions	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Preparing for earthquakes will improve the value of my house/property	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Preparing for earthquakes will improve my ability to deal with disruptions to family/community life following an earthquake	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

15. In regard to the issues and problems you deal with in your *everyday life*, please describe the extent to which you agree or disagree with each of the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I feel I have control over the things that happen in my life	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
There is no way I can solve some of the problems I have by myself	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
I can't do much to change what happens in my life	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
Somehow problems in my life usually solve themselves	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

16. In the next month or so, do you intend to (please circle as appropriate):

	No	Possibly	Definitely
Check your level of preparedness for earthquakes	1	2	3
Increase your level of preparedness for earthquakes	1	2	3
Become involved with a local group to discuss how to reduce earthquake damage or losses	1	2	3
Seek information on earthquake risk	1	2	3
Seek information on things to do to prepare	1	2	3

17. Please read each of the following statements and describe the extent to which you agree or disagree with each.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
There may be earthquakes, but they won't be that bad	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
The location of the earthquakes will be far away from here and have little impact on us	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
The likelihood that major earthquakes will occur here has been greatly exaggerated	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
I have been fine during the earthquakes we have had and I will be fine in the next one too	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
An earthquake could pose a threat to my personal safety	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
An earthquake could pose a threat to my daily life (e.g., work, leisure)	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
An earthquake could pose a threat to my property.	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

18. In regard to participating in life in this *community*, please describe how often you undertake each of the following.

	Often	Sometimes	Rarely	Never
I have worked with others on something to improve community life	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I participate in local activities or events (e.g., festivals, fetes, fairs)	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have contributed money, food or clothing to local causes, charities, or to others in my community	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have attended a public meeting on a community issue	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have been involved in volunteer activities intended to benefit my community (e.g., fundraising, clean-up days, local groups, Scouts/Brownies).	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁

19. In regard to your general feelings about living in this *community*, please describe the extent to which you agree or disagree with each statement. When responding to this question, community refers to a group of which you are a member and which is important to you. This could be your neighbourhood, church, neighbourhood watch, social or sporting group etc.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
People around here will express an opinion even though they know it will be unpopular	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
When it comes to saying something in front of a group, most people in this community will do it	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
When people are needed to stand before a group of outsiders to tell them what this community needs, most people here could do it	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
In community meetings, I am often a leader	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
In community meetings I prefer to be a leader rather than a follower	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
In community meetings, I prefer others to take over the leadership role	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
What a community talks about depends on what residents are interested in	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
Struggles always occur to determine what issues this community should focus on	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
Community perceptions of issues depend on the quality of the individuals in that community	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
How people think about community problems controls what is done about those problems	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁

Section 6: Institutional indicators

20. In regard to what happens in the wider community, in general, to what extent do you think that:

	Always	A great deal	Sometimes	Not very much	Not at all
Voting in local elections influences what happens in my community	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
Voting in local elections helps solve local problems	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
Community groups can get something done about local problems	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I feel that I can influence what happens in my community	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I feel that I see positive results from participating in community activities	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I feel that I have an active part in keeping this community going	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I care about my community's appearance	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I feel that what happens in this community can affect my life	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have strong opinions about the way things are done by elected representatives	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I think that elected representatives seriously consider my opinions	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I think that elected representatives try to influence what goes on in my community	<input type="checkbox"/> ₅	<input type="checkbox"/> ₄	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁

21. In regard to your general feelings about living in this *community*, please describe the extent to which you agree or disagree with each statement.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I trust my Local Council to respond to meet the needs of its residents	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
I trust the community leaders in my community	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
I trust the media (newspapers, TV, radio) to report fairly	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
I trust my Local Council to do what is right for the people they represent	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
I have confidence in the law to protect and maintain order in my community	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

22. In regard to responsibility for earthquake preparedness, please describe the extent to which you agree or disagree with each of the following statements.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I feel responsible for preparing for a major earthquake	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
The Council/Civil Defence is responsible for making sure that I am prepared for the occurrence of a major earthquake	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

Section 7: Preparedness measures

- 23. The following are things that can be done to minimise damage and disruption if an earthquake occurs. In regard to your household, please record whether you have done this, whether you may do this, or whether you will not do this.**

	Have done this	May do this	Will not do this
I have considered the risk of a major earthquake when deciding to live in the house that I do now	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have fastened tall furniture to the wall	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have fastened my hot water cylinder	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have either strengthened my chimney, or satisfied myself that it will not fall down in a major earthquake	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have either strengthened my house to increase its earthquake resistance, or satisfied myself that it will probably not fall down in a major earthquake	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have ensured that my roof will probably not collapse in a major earthquake	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have arranged the cupboards so that heavy objects are stored at ground level	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have securely fastened cupboards with latches	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have ensured that objects that contain water have not been stored on top of electrical equipment (e.g., a pot plant or fishbowl on top of the television)	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have ensured that heavy objects are stored on the floor	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have stored water for survival			
I have put aside spare plastic bags and toilet paper for use as an emergency toilet	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have accumulated enough tools to make minor repairs to the house following a major earthquake	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have obtained a supply of tinned or dehydrated food that could be used in an emergency	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have purchased or put together a first aid kit	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have a supply of essential medicines for illness or allergies	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have obtained a working battery radio (or solar/dynamo equivalent)	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have obtained a working battery torch (or solar/dynamo equivalent)	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have secured moveable objects in my home (e.g., TV, computer)	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have access to an alternative cooking source (e.g. gas barbeque)	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁

I have a household earthquake emergency plan	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
My plan covers where the family should meet if an earthquake occurs during the day	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have obtained a working fire extinguisher	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have taken some steps at work	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have obtained spare batteries for the appliances I might need to use	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have specifically put together an emergency kit	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I check the contents/operation of my emergency supplies at least every six months	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have at least 2 litres water (in plastic containers) per person, per day for three days	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁
I have 3 days supply of dehydrated or canned food	<input type="checkbox"/> ₃	<input type="checkbox"/> ₂	<input type="checkbox"/> ₁

- 24. Please rate (from 1 = not at all prepared to 5 = very prepared) the extent to which you perceive each of the following is prepared to deal with an earthquake (please circle as appropriate)**

	Very prepared					Not at all prepared				
	1	2	3	4	5	1	2	3	4	5
How prepared do you think you are for a major earthquake?										
How well prepared do you think other members of your community are for a major earthquake										
How well prepared do you think your local Council is for a major earthquake										

- 25. To what extent might each of the following prevent you preparing for earthquakes? Please rate the impact of each statement from 1 (not at all) to 5 (a great deal).**

	Not at all			A great deal	
	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The cost	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The skill or knowledge required	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
The time needed to prepare	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
There are others things to think about	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
Need for co-operation with others	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

Section 8: Demographic information

Please be aware that all the information you provide us with is anonymous and we will only use this information to improve emergency preparedness in your community. We ask about this information to determine how representative our sample is of the general population.

26. What is your gender? (Tick only one)

- ☐₁ Male ☐₂ Female

27. Into which age bracket do you fall? (Tick only one)

- | | | |
|--|--|--|
| <input type="checkbox"/> ₁ 18-19 yrs | <input type="checkbox"/> ₂ 20-24 yrs | <input type="checkbox"/> ₃ 25-29 yrs |
| <input type="checkbox"/> ₄ 30-34 yrs | <input type="checkbox"/> ₅ 35-39 yrs | <input type="checkbox"/> ₆ 40-44 yrs |
| <input type="checkbox"/> ₇ 45-49 yrs | <input type="checkbox"/> ₈ 50-54 yrs | <input type="checkbox"/> ₉ 55-59 yrs |
| <input type="checkbox"/> ₁₀ 60-64 yrs | <input type="checkbox"/> ₁₁ 65-69 yrs | <input type="checkbox"/> ₁₂ 70-74 yrs |
| <input type="checkbox"/> ₁₃ 75-79 yrs | <input type="checkbox"/> ₁₄ 80-84 yrs | <input type="checkbox"/> ₁₅ 85 years+ |

28. Which ethnic group do you belong to? (Tick the box or boxes that apply to you)

- | | |
|---|---|
| <input type="checkbox"/> ₁ New Zealand European | <input type="checkbox"/> ₂ Māori |
| <input type="checkbox"/> ₃ Samoan | <input type="checkbox"/> ₄ Cook Island Maori |
| <input type="checkbox"/> ₅ Tongan | <input type="checkbox"/> ₆ Niuean |
| <input type="checkbox"/> ₇ Chinese | <input type="checkbox"/> ₈ Indian |
| <input type="checkbox"/> ₉ Other (e.g., Dutch, Japanese) (Please specify): _____ | |

29. What is your main occupation? (Tick only one)

- ☐₁ Employed
- ☐₂ Unemployed
- ☐₃ Retired
- ☐₄ House person
- ☐₅ Student
- ☐₆ Other (Please specify): _____

30. What is your highest educational qualification? (Tick only one)

- ☐₁ No school qualifications
- ☐₂ Secondary school qualifications
- ☐₃ Trade certificate or professional certificate or diploma
- ☐₄ University undergraduate degree (e.g., diploma or bachelor's degree)
- ☐₅ University postgraduate degree (e.g., Master's, Ph.D.)
- ☐₆ Other (Please specify): _____

Section 9: Information about your household

31. How long have you lived in your current house? _____ year/s

32. Which of the following best describes your household now? (Tick only one)

- ☐₁ A couple without children
☐₂ One person household
☐₃ Two parent family with one child or more
☐₄ One parent family with one child or more
☐₅ Non family household (e.g. flatting)
☐₆ Other (Please specify): _____

33. Do you, or someone in your house, own or rent the home you live in?
 (Tick only one)

- ☐₁ Own or buying, to live in it
☐₂ Own or buying, but only for use as a holiday home
☐₃ Rent, to live in it
☐₄ Rent as a holiday home
☐₅ Other (Please specify): _____

34. What was your household's total income (before tax) for the 2008 financial year
 (1 April 2008- 31 March 2009)? (Tick only one)

- | | |
|--|--|
| <input type="checkbox"/> ₁ Loss | <input type="checkbox"/> ₂ Zero Income |
| <input type="checkbox"/> ₃ \$1 – \$5,000 | <input type="checkbox"/> ₄ \$5,001 – \$10,000 |
| <input type="checkbox"/> ₅ \$10,001 – \$15,000 | <input type="checkbox"/> ₆ \$15,001 – \$20,000 |
| <input type="checkbox"/> ₇ \$20,001 – \$25,000 | <input type="checkbox"/> ₈ \$25,001 – \$30,000 |
| <input type="checkbox"/> ₉ \$30,001 – \$35,000 | <input type="checkbox"/> ₁₀ \$35,001 – \$40,000 |
| <input type="checkbox"/> ₁₁ \$40,001 – \$50,000 | <input type="checkbox"/> ₁₂ \$50,001 – \$70,000 |
| <input type="checkbox"/> ₁₃ \$70,001 – \$100, 000 | <input type="checkbox"/> ₁₄ \$100,001 or more |

APPENDIX 2 DATA TABLES

Table 1 Likelihood of events to affect respondents

(1= not likely at all; 5=highly likely)	Christchurch versus wider Canterbury					
	Christchurch			Wider Canterbury		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
Bad weather (e.g. cyclone, storm, heavy rainfall, wind)	3	1	144	4	1	73
Snowstorm	3	1	146	4	1	75
Flooding	3	1	144	3	1	72
Ash fall from a volcano	2	1	146	1	1	73
Earthquake	4	1	146	3	1	75
Bushfire/wildfire	2	1	145	2	1	72
Landslide	2	1	146	1	1	74
Tsunami	2	1	145	2	1	74
Drought	3	1	145	4	1	74
Climate change/global warming	3	1	146	3	1	72
Workplace accidents	3	1	141	3	1	73
Household accidents	3	1	145	3	1	74
Crime	3	1	145	3	1	75
House fires	3	1	145	3	1	74
Vehicle accidents	3	1	144	3	1	73
Industrial accidents	2	1	142	2	1	73
Infrastructural failure	3	1	144	2	1	72
Pandemic	3	1	145	3	1	73
Personal health issues	3	1	145	3	1	74
War/terrorism	2	1	145	2	1	74
Recreational hazards (e.g. tramping, diving, boating)	2	1	144	3	1	73
Other	3	2	11	3	2	4

Table 2 Whether affected by hazards in the past

	Christchurch versus wider Canterbury					
	Christchurch		Wider Canterbury		Total	
	Count	Column Total N %	Count	Column Total N %	Count	Column Total N %
Yes, I have had direct experience (e.g. damage, injury, loss of utilities)	77	51.0%	45	57.7%	122	53.3%
Yes, I have had indirect experience (e.g. was inconvenienced, couldn't travel)	51	33.8%	22	28.2%	73	31.9%
No	44	29.1%	15	19.2%	59	25.8%

Table 3 Type of event(s) that have affected respondents

	Count
Christchurch	54
1960 Train crash in UK between Wigan & Blackpool	1
A fall. Recent fall broken bones healing	1
Back injury	1
Back injury has affected working/earning ability. Flooding - interior house leak/no assistance from household insurance	1
Bad weather, 1992 snowstorm (Christchurch), household accidents, crime, pandemic (may have had swine flu), personal health issues, recreational hazards, vehicle accidents (bicycle)	1
Bad weather, crime, personal health	1
Bad weather, recreational hazards, household accidents, crime, workplace accidents, vehicle accidents	1
Bad weather, snowstorm, flooding, volcano (Raoul Island), earthquake, workplace, household, crime, vehicle	1
Bad weather, vehicle accident, personal health, crimes	1
Broken leg	1
Broken water pipe	1
Burglary, personal illness, adverse weather	1
Burglary, car accident recreational injuries, snowstorm (Canada)	1
Car accident, inclement weather	1
Car accident/bike - husband was hit while biking home from work	1
Couldn't travel to work due to snow	1
Crime - 2 burglaries, recreational hazard - bike accidents, ski accident, snow storm - loss of power, stuck in house, flooding - garage flood	1
Crime - burglary of our home	1
Crime - burglary, house fire, vehicle accident	1
Crime - burglary, personal health - illness & operation	1
Crime - burglary, heavy rain, household accident	1
Crime, damage to property, theft	1
Crime, flooding, personal health issues, workplace accident	1
Crime, snowstorm	1
Crime, sports injury	1
Earthquake - 1968 (lived in Westport), snow, household/car accidents	1
Earthquake in Southland a few months ago. Had to evacuate the house. Hail storm a few years ago, some damage to house. Recent swine flu pandemic. Vehicle accidents - cars in the past. Tsunami - was in the Governors Bay area when tide was expected to rise, barely eventuated but the state of preparedness was there. Crime - partner recently broken into. Landslide - have experienced one while travelling abroad. Flooding - around out local river in ChCh. Snowstorm - a few times in my life. War/terrorism - affects on travel and privacy	1
Earthquake Wellington	1
Earthquake, flood, drought, snowstorm, household accident	1
Earthquake, storm, snowstorm, household accidents	1
Falling	1
Fell off bike and ended up in hospital for three days	1
Floods when tramping - have had stay put or move quickly, have almost been swept down rivers. Snowstorms/ice or snow on road - car has slid off road. Have had to alter travel plans - because of floods (use a helicopter) West Coast, take alternative travel route because of cholera outbreak (in Central Africa)	1

Flood, house fire	1
Flooding of Heathcote River couldn't get down Air Street	1
Flooding, household accidents, vehicle accidents, personal health	1
Flooding, motor accident, drought, snowstorm	1
Flooding, snowstorm	1
Floods in Invercargill 30-35 yrs approx, work place accident also Invercargill 30-40 yrs ago	1
Have been burgled, slipped & damaged knee at work	1
Have lived in a town that twice has been evacuated due to flooding	1
Having been a refugee during the 2nd world war and everything we ever owned except the clothing we were wearing is certainly an experience hard to forget! All preparation for eventualities came to absolutely nothing	1
Health issues - cancer and after effects of radiation damage to tissue	1
Heavy snow Otira, couldn't travel home	1
High wind 1 August 1975, slight earthquake damage	1
House fire	1
House flooding from river breaking its banks in previous property. Section flooding round house & mud build-up from a house above us building up their soil behind out property then torrential rain sledging it all into our place (another previous property)	1
House fire, snowstorm restricted movement, crime, workplace accidents	1
Household accident - fell over and tore tendon in arm	1
Household accidents resulting in injury, minor car accidents resulting in inconveniences etc	1
Household accidents, serious damage to left hand using battery drive	1
Household accidents, vehicle accidents, pandemic, personal health issues	1
I suffered from a fall, with a heavy object landing on me, off work for approx 10 years	1
In 1984 our family was effected by the floods in Invercargill	1
Landslip-cutting off access. Snowstorm-cutting off access	1
Lifting - back problems	1
Living in Beirut, Lebanon. Shelled overnight by Israel. Bombed power station & roads. Not as inconvenient as it could have been as many residences & businesses had own generators & gas ovens (they were used to disruption)	1
Loss of electricity	1
Minor car accident. Kept home by snow on steep drive	1
Minor flooding from council reserve being higher than our property and water pooling on the fence line & coming up to close to floor level of our house	1
Pandemic - had suspected swine flu	1
Personal health issues - minor	1
Personal health issues, bad weather, vehicle accidents	1
Personal Health Issues, crime	1
Power failure, earthquake (in NI). I think that a prolonged power outage with resulting loss of water, telephone, power, petrol is our most probable risk apart from a major earthquake	1
Road closure through snow/ice or natural event - river erosion. Loss of power and/or telephone	1
Slips, snowfalls, accidents blocking road to our hobby farm. Slips taking out fences, burglaries at Christchurch home & farm accommodation. Chronic health condition	1
Snow - road closure, bad weather - road closure	1
Snow storm - 92 power loss, various couldn't travel	1
Snow storm - lack of electricity, recreational hazard - fall off horse	1

	Snow storm in Canterbury. Strong winds storm Canterbury	1
	Snow, flooding	1
	Snow, loss of power, fire, crime	1
	Snow, personal health issues	1
	Snowfall	1
	Snowfalls - inability to access/egress residence. Fire/wind - evacuation of homes in Port Hills due to wind driven fires. House burgled twice	1
	Snowstorm - loss of access and loss of utilities	1
	Snowstorm - property damage, couldn't go out, trapped on mountains. Infrastructural damage (burst water main)	1
	Snowstorm	1
	Snowstorm (lost power) (couldn't travel), injury	1
	Snowstorm blocked access to home, cut power & phone (1995?)	1
	Each year snow on driveway prevents vehicle access	1
	Snowstorm, bad weather, flooding, vehicle accident, personal health	1
	Snowstorm, flooding (mild), earthquake	1
	Snowstorm, household accident, flooding, earthquake, bad weather, crime	1
	Sports injuries, home accidents, vehicle accident, snow storm, power failure, flu, etc	1
	Storm 2000: trees across driveway & powerlines down. Landslide: unable to get out of an area as only one road out & landslide blocked road	1
	Storms & flooding	1
	Swine flu, car accident, household accident, power cuts	1
	The "big snow" 1992	1
	The indirect experience category isn't wide enough. The previously mentioned hazards can affect all in a social way. For example, 911 may not have effect a New Zealander by your definition (was inconvenienced) but can be traumatized by the event for social reasons	1
	Tornado	1
	Unable to travel out of hill suburb in snow storm. Minor vehicle accidents - car off road needing repairs (x3)	1
	Vehicle accident	1
	Vehicle accident, factory accident (1940's)	1
	Volcanic eruption in North Island, flooded roads, snow on roads	1
	Wind - tree fell onto our house	1
	Wind, flooding, snow, crime, accidents, recreational hazards	1
Wider Canterbury		21
	1973 snow, 1975 wind, 1993 snow, ripped shoulder	1
	1975 gales. Loss of electricity for several days	1
	2000 storm. Garden furniture broke	1
	2006 snow - we were without power for a week, but we did manage on our own	1
	Bad weather - storms, flooding, wind, drought, workplace accidents, vehicle accident. Infrastructure failure e.g. power cuts	1
	Bad weather	1
	Broken knee	1
	Cyclone, flooding, wind, heavy rain, storms, bush fire	1
	Drought, flooding, snowstorm, heavy wind	1
	Drought, snow, flood, vehicle accidents	1
	Drought, snowstorm, flood	1
	Droughts, snow storm, winds, heavy rainfall	1

Electricity loss, work & recreation injuries, weather - wind, snow, drought	1
Fire, flood, vehicle accident, recreational hazards	1
Flood - last year, household accident, vehicle accident, personal health issues	1
Flood - loss of stock, drought - loss of production, weather	1
Flood	1
Flood, drought, snow have all had negative impact on care of farm animals	1
Flooding - loss of electrical	1
Flooding - minor damage - lost a few thing through water damage, snow - minor damage - guttering - no electricity for 10 days, high winds - minor damage - roof off barn	1
Flooding	1
Flooding with the sea coming over bank	1
Flooding, droughts, strong winds, snow	1
Floods, vehicle accidents, bad weather, boating	1
Had a fall on wet tiles, broke wrist	1
Hail - frost & snowfalls, sprained ankle - motorbike	1
Heavy rain surface flooding, snowstorm blocked roads, power failure, personal health issues, drought	1
House fire, snowstorm	1
I have suffered various workplace injuries, been burgled, assaulted, car accident, been effected by snowfall, drought, flood, tramping injury, sports injury	1
Major flooding during the winter of 2008 - bridge washed out & road blockage prevented travel for a number of days. Summer drought - not able to graze stock	1
Major power failure - 4 days, workplace injury - spine, bad weather - tree blown down	1
Not able to leave property for 4 days due to flooding	1
Out of power 14 days after storm - coped very well with no help from Civil Defence	1
Personal Health Issues (direct), Snowstorm/flooding (indirect)	1
Power outage from snow & wind	1
Severe snowstorm on farm with major income loss & stock loss	1
Snow - couldn't get out of property for 4 days - 3 years ago	1
Snow - wind - power failure	1
Snow - 9 days without power, telephone. 6 days unable to leave farm	1
Snow storm - cutting access on a number of occasions. Wind - cutting power supply for up to a week. Drought - several occasions. Fire - has threatened. Floods - have restricted access to parts of the farm and caused damage for road access	1
Snow storm look out our power and winds take out power when powerlines hit each other	1
Snow storm unable to travel by car	1
Snow storm, wind storm	1
Snow storms (power out 3 days), flooding of farmland, roads unpassable	1
Snow, accidents vehicle, crime	1
Snow, fire, drought, wind	1
Snow, flood, accidents	1
snow, floods, drought, crime, heavy rain, fire, vehicle accident	1
Snow, wind, heavy rainfall	1
Snowstorm - loss of power & water for 10 days. Drought - loss of feed for stock	1
Snowstorm of '06 struck at work 3 days. No power, phone at home	1

Snowstorm, flooding, strong winds	1
Snowstorm, floods, minor accidents - household, vehicle, wind, drought	1
Snowstorm, wind damage, drought, workplace accident, home accident	1
Snowstorms, drought	1
Vehicle accident	1
Wind storm 1975 (August 1st)	1

Table 4 Time hazard event could next affect community of respondent

		Christchurch versus wider Canterbury					
		Christchurch		Wider Canterbury		Total	
		Count	Column Total N %	Count	Column Total N %	Count	Column Total N %
Bad weather (e.g. cyclone, storm, heavy rainfall, wind)	Within the next year	71	47.0%	35	44.9%	106	46.3%
	Within the next 5 years	49	32.5%	31	39.7%	80	34.9%
	Within the next 10 years	21	13.9%	5	6.4%	26	11.4%
	Within the next 50 years	0	.0%	1	1.3%	1	.4%
	In over 50 years	1	.7%	1	1.3%	2	.9%
	Never	1	.7%	0	.0%	1	.4%
	Total	143	100.0%	73	100.0%	216	100.0%
Snowstorm	Within the next year	45	29.8%	25	32.1%	70	30.6%
	Within the next 5 years	57	37.7%	31	39.7%	88	38.4%
	Within the next 10 years	30	19.9%	13	16.7%	43	18.8%
	Within the next 50 years	9	6.0%	0	.0%	9	3.9%
	In over 50 years	2	1.3%	1	1.3%	3	1.3%
	Never	1	.7%	2	2.6%	3	1.3%
	Total	144	100.0%	72	100.0%	216	100.0%
Flooding	Within the next year	26	17.2%	15	19.2%	41	17.9%
	Within the next 5 years	49	32.5%	23	29.5%	72	31.4%
	Within the next 10 years	38	25.2%	18	23.1%	56	24.5%
	Within the next 50 years	12	7.9%	6	7.7%	18	7.9%
	In over 50 years	5	3.3%	5	6.4%	10	4.4%
	Never	13	8.6%	3	3.8%	16	7.0%
	Total	143	100.0%	70	100.0%	213	100.0%
Ash fall from a volcano	Within the next year	6	4.0%	1	1.3%	7	3.1%
	Within the next 5 years	0	.0%	2	2.6%	2	.9%
	Within the next 10 years	6	4.0%	2	2.6%	8	3.5%
	Within the next 50 years	17	11.3%	6	7.7%	23	10.0%
	In over 50 years	33	21.9%	16	20.5%	49	21.4%
	Never	80	53.0%	45	57.7%	125	54.6%
	Total	142	100.0%	72	100.0%	214	100.0%
Earthquake	Within the next year	26	17.2%	4	5.1%	30	13.1%
	Within the next 5 years	44	29.1%	21	26.9%	65	28.4%
	Within the next 10 years	32	21.2%	23	29.5%	55	24.0%
	Within the next 50 years	33	21.9%	18	23.1%	51	22.3%
	In over 50 years	8	5.3%	5	6.4%	13	5.7%
	Never	1	.7%	1	1.3%	2	.9%
	Total	144	100.0%	72	100.0%	216	100.0%
Bushfire/wildfire	Within the next year	6	4.0%	3	3.8%	9	3.9%

	Within the next 5 years	17	11.3%	12	15.4%	29	12.7%
	Within the next 10 years	19	12.6%	18	23.1%	37	16.2%
	Within the next 50 years	23	15.2%	16	20.5%	39	17.0%
	In over 50 years	21	13.9%	7	9.0%	28	12.2%
	Never	57	37.7%	14	17.9%	71	31.0%
	Total	143	100.0%	70	100.0%	213	100.0%
Landslide	Within the next year	5	3.3%	0	.0%	5	2.2%
	Within the next 5 years	13	8.6%	4	5.1%	17	7.4%
	Within the next 10 years	23	15.2%	7	9.0%	30	13.1%
	Within the next 50 years	21	13.9%	4	5.1%	25	10.9%
	In over 50 years	16	10.6%	9	11.5%	25	10.9%
	Never	65	43.0%	47	60.3%	112	48.9%
	Total	143	100.0%	71	100.0%	214	100.0%
Tsunami	Within the next year	8	5.3%	0	.0%	8	3.5%
	Within the next 5 years	21	13.9%	8	10.3%	29	12.7%
	Within the next 10 years	27	17.9%	7	9.0%	34	14.8%
	Within the next 50 years	28	18.5%	5	6.4%	33	14.4%
	In over 50 years	27	17.9%	10	12.8%	37	16.2%
	Never	33	21.9%	40	51.3%	73	31.9%
	Total	144	100.0%	70	100.0%	214	100.0%
Drought	Within the next year	20	13.2%	16	20.5%	36	15.7%
	Within the next 5 years	45	29.8%	34	43.6%	79	34.5%
	Within the next 10 years	36	23.8%	16	20.5%	52	22.7%
	Within the next 50 years	19	12.6%	5	6.4%	24	10.5%
	In over 50 years	6	4.0%	0	.0%	6	2.6%
	Never	17	11.3%	2	2.6%	19	8.3%
	Total	143	100.0%	73	100.0%	216	100.0%
Climate change/global warming	Within the next year	10	6.6%	8	10.3%	18	7.9%
	Within the next 5 years	29	19.2%	7	9.0%	36	15.7%
	Within the next 10 years	44	29.1%	25	32.1%	69	30.1%
	Within the next 50 years	32	21.2%	17	21.8%	49	21.4%
	In over 50 years	14	9.3%	10	12.8%	24	10.5%
	Never	15	9.9%	6	7.7%	21	9.2%
	Total	144	100.0%	73	100.0%	217	100.0%
Workplace accidents	Within the next year	46	30.5%	9	11.5%	55	24.0%
	Within the next 5 years	32	21.2%	23	29.5%	55	24.0%
	Within the next 10 years	32	21.2%	21	26.9%	53	23.1%
	Within the next 50 years	6	4.0%	5	6.4%	11	4.8%
	In over 50 years	2	1.3%	0	.0%	2	.9%
	Never	21	13.9%	11	14.1%	32	14.0%
	Total	139	100.0%	69	100.0%	208	100.0%
Household accidents	Within the next year	53	35.1%	14	17.9%	67	29.3%
	Within the next 5 years	44	29.1%	24	30.8%	68	29.7%
	Within the next 10 years	37	24.5%	24	30.8%	61	26.6%
	Within the next 50 years	4	2.6%	3	3.8%	7	3.1%
	In over 50 years	2	1.3%	0	.0%	2	.9%
	Never	4	2.6%	5	6.4%	9	3.9%
	Total	144	100.0%	70	100.0%	214	100.0%
Crime	Within the next year	54	35.8%	16	20.5%	70	30.6%
	Within the next 5 years	49	32.5%	26	33.3%	75	32.8%

	Within the next 10 years	27	17.9%	27	34.6%	54	23.6%
	Within the next 50 years	8	5.3%	1	1.3%	9	3.9%
	In over 50 years	0	.0%	1	1.3%	1	.4%
	Never	7	4.6%	0	.0%	7	3.1%
	Total	145	100.0%	71	100.0%	216	100.0%
House fire	Within the next year	44	29.1%	8	10.3%	52	22.7%
	Within the next 5 years	24	15.9%	16	20.5%	40	17.5%
	Within the next 10 years	35	23.2%	22	28.2%	57	24.9%
	Within the next 50 years	29	19.2%	18	23.1%	47	20.5%
	In over 50 years	6	4.0%	2	2.6%	8	3.5%
	Never	6	4.0%	3	3.8%	9	3.9%
	Total	144	100.0%	69	100.0%	213	100.0%
Vehicle accidents	Within the next year	51	33.8%	15	19.2%	66	28.8%
	Within the next 5 years	39	25.8%	24	30.8%	63	27.5%
	Within the next 10 years	33	21.9%	26	33.3%	59	25.8%
	Within the next 50 years	17	11.3%	2	2.6%	19	8.3%
	In over 50 years	0	.0%	0	.0%	0	.0%
	Never	4	2.6%	3	3.8%	7	3.1%
	Total	144	100.0%	70	100.0%	214	100.0%
Industrial accidents	Within the next year	37	24.5%	10	12.8%	47	20.5%
	Within the next 5 years	23	15.2%	9	11.5%	32	14.0%
	Within the next 10 years	21	13.9%	18	23.1%	39	17.0%
	Within the next 50 years	17	11.3%	9	11.5%	26	11.4%
	In over 50 years	11	7.3%	6	7.7%	17	7.4%
	Never	31	20.5%	16	20.5%	47	20.5%
	Total	140	100.0%	68	100.0%	208	100.0%
Infrastructural failure	Within the next year	21	13.9%	13	16.7%	34	14.8%
	Within the next 5 years	41	27.2%	11	14.1%	52	22.7%
	Within the next 10 years	32	21.2%	18	23.1%	50	21.8%
	Within the next 50 years	28	18.5%	14	17.9%	42	18.3%
	In over 50 years	4	2.6%	5	6.4%	9	3.9%
	Never	13	8.6%	6	7.7%	19	8.3%
	Total	139	100.0%	67	100.0%	206	100.0%
Pandemic	Within the next year	23	15.2%	3	3.8%	26	11.4%
	Within the next 5 years	41	27.2%	23	29.5%	64	27.9%
	Within the next 10 years	42	27.8%	18	23.1%	60	26.2%
	Within the next 50 years	21	13.9%	23	29.5%	44	19.2%
	In over 50 years	6	4.0%	1	1.3%	7	3.1%
	Never	7	4.6%	3	3.8%	10	4.4%
	Total	140	100.0%	71	100.0%	211	100.0%
Personal health issues	Within the next year	44	29.1%	14	17.9%	58	25.3%
	Within the next 5 years	40	26.5%	19	24.4%	59	25.8%
	Within the next 10 years	37	24.5%	28	35.9%	65	28.4%
	Within the next 50 years	17	11.3%	7	9.0%	24	10.5%
	In over 50 years	1	.7%	1	1.3%	2	.9%
	Never	5	3.3%	1	1.3%	6	2.6%
	Total	144	100.0%	70	100.0%	214	100.0%
War/terrorism	Within the next year	6	4.0%	2	2.6%	8	3.5%
	Within the next 5 years	15	9.9%	3	3.8%	18	7.9%
	Within the next 10 years	24	15.9%	7	9.0%	31	13.5%

	Within the next 50 years	47	31.1%	22	28.2%	69	30.1%
	In over 50 years	23	15.2%	18	23.1%	41	17.9%
	Never	29	19.2%	18	23.1%	47	20.5%
	Total	144	100.0%	70	100.0%	214	100.0%
Recreational hazards (e.g. tramping, diving, boating)	Within the next year	41	27.2%	15	19.2%	56	24.5%
	Within the next 5 years	32	21.2%	18	23.1%	50	21.8%
	Within the next 10 years	33	21.9%	16	20.5%	49	21.4%
	Within the next 50 years	13	8.6%	9	11.5%	22	9.6%
	In over 50 years	3	2.0%	2	2.6%	5	2.2%
	Never	20	13.2%	6	7.7%	26	11.4%
	Total	142	100.0%	66	100.0%	208	100.0%
Other	Within the next year	0	.0%	0	.0%	0	.0%
	Within the next 5 years	2	1.3%	0	.0%	2	.9%
	Within the next 10 years	0	.0%	0	.0%	0	.0%
	Within the next 50 years	0	.0%	0	.0%	0	.0%
	In over 50 years	0	.0%	0	.0%	0	.0%
	Never	2	1.3%	0	.0%	2	.9%
	Total	4	100.0%	0	100.0%	4	100.0%

Table 5 Preparedness information seen or received

	Christchurch versus wider Canterbury					
	Christchurch		Wider Canterbury		Total	
	Count	Column Total N %	Count	Column Total N %	Count	Column Total N %
I haven't heard, seen or received any information about preparing for hazards or emergencies	4	2.6%	2	2.6%	6	2.6%
Television	126	83.4%	61	78.2%	187	81.7%
Radio	75	49.7%	50	64.1%	125	54.6%
Newspaper/magazines	109	72.2%	56	71.8%	165	72.1%
The yellow pages in the telephone book	118	78.1%	60	76.9%	178	77.7%
Other written information e.g. brochures, posters, fridge magnets	110	72.8%	49	62.8%	159	69.4%
Internet	25	16.6%	14	17.9%	39	17.0%
Electronic networking (e.g. text, email, Facebook)	9	6.0%	5	6.4%	14	6.1%
Friends or relatives	49	32.5%	23	29.5%	72	31.4%
Marae	1	.7%	1	1.3%	2	.9%
Central Government (Ministry of Civil Defence & Emergency Management)	52	34.4%	26	33.3%	78	34.1%
Canterbury Civil Defence Emergency Management Group	53	35.1%	33	42.3%	86	37.6%
Your district-based Civil Defence Emergency Management Team	17	11.3%	27	34.6%	44	19.2%
Regional Council	36	23.8%	28	35.9%	64	27.9%
District Council	21	13.9%	33	42.3%	54	23.6%
Earthquake Commission	61	40.4%	32	41.0%	93	40.6%
Emergency services (e.g. police, fire service)	39	25.8%	24	30.8%	63	27.5%
Service organisations (e.g. Red	20	13.2%	12	15.4%	32	14.0%

Cross)						
School (e.g. brochures, homework)	19	12.6%	11	14.1%	30	13.1%
Community meetings, hui, seminars or workshops	9	6.0%	5	6.4%	14	6.1%
Businesses (e.g. pamphlets in power or phone accounts)	16	10.6%	12	15.4%	28	12.2%
My insurance company/agent	20	13.2%	14	17.9%	34	14.8%
Neighbourhood Watch groups	14	9.3%	7	9.0%	21	9.2%
Where you work	37	24.5%	10	12.8%	47	20.5%
Other	3	2.0%	0	.0%	3	1.3%

Table 6 Perception of roles

	Christchurch versus wider Canterbury					
	Christchurch		Wider Canterbury		Total	
	Count	Column Total N %	Count	Column Total N %	Count	Column Total N %
Individuals						
Have no role	2	1.3%	1	1.3%	3	1.3%
Get prepared for disasters	128	84.8%	63	80.8%	191	83.4%
Undertake planning for disasters	76	50.3%	44	56.4%	120	52.4%
Undertake training for emergency response	41	27.2%	22	28.2%	63	27.5%
Undertake general safety training (e.g. first aid, survival skills)	83	55.0%	35	44.9%	118	51.5%
Provide education about hazards & preparedness	17	11.3%	9	11.5%	26	11.4%
Provide warnings about impending events	15	9.9%	12	15.4%	27	11.8%
Respond to disasters	62	41.1%	32	41.0%	94	41.0%
Assist with disaster relief	72	47.7%	40	51.3%	112	48.9%
Community Groups						
Have no role	5	3.3%	3	3.8%	8	3.5%
Get prepared for disasters	91	60.3%	33	42.3%	124	54.1%
Undertake planning for disasters	92	60.9%	44	56.4%	136	59.4%
Undertake training for emergency response	65	43.0%	31	39.7%	96	41.9%
Undertake general safety training (e.g. first aid, survival skills)	66	43.7%	32	41.0%	98	42.8%
Provide education about hazards & preparedness	51	33.8%	23	29.5%	74	32.3%
Provide warnings about impending events	33	21.9%	24	30.8%	57	24.9%
Respond to disasters	69	45.7%	30	38.5%	99	43.2%
Assist with disaster relief	83	55.0%	39	50.0%	122	53.3%
Civil Defence						
Have no role	5	3.3%	4	5.1%	9	3.9%
Get prepared for disasters	97	64.2%	41	52.6%	138	60.3%
Undertake planning for disasters	113	74.8%	53	67.9%	166	72.5%
Undertake training for emergency response	115	76.2%	55	70.5%	170	74.2%
Undertake general safety training (e.g. first aid, survival skills)	98	64.9%	46	59.0%	144	62.9%
Provide education about hazards & preparedness	111	73.5%	52	66.7%	163	71.2%

Provide warnings about impending events	114	75.5%	54	69.2%	168	73.4%
Respond to disasters	121	80.1%	59	75.6%	180	78.6%
Assist with disaster relief	107	70.9%	55	70.5%	162	70.7%
District Council (excl. civil defence):						
Have no role	5	3.3%	3	3.8%	8	3.5%
Get prepared for disasters	93	61.6%	45	57.7%	138	60.3%
Undertake planning for disasters	104	68.9%	54	69.2%	158	69.0%
Undertake training for emergency response	70	46.4%	44	56.4%	114	49.8%
Undertake general safety training (e.g. first aid, survival skills)	62	41.1%	39	50.0%	101	44.1%
Provide education about hazards & preparedness	93	61.6%	45	57.7%	138	60.3%
Provide warnings about impending events	71	47.0%	52	66.7%	123	53.7%
Respond to disasters	96	63.6%	51	65.4%	147	64.2%
Assist with disaster relief	103	68.2%	54	69.2%	157	68.6%
Regional Council (excl. civil defence):						
Have no role	5	3.3%	4	5.1%	9	3.9%
Get prepared for disasters	85	56.3%	40	51.3%	125	54.6%
Undertake planning for disasters	97	64.2%	47	60.3%	144	62.9%
Undertake training for emergency response	72	47.7%	40	51.3%	112	48.9%
Undertake general safety training (e.g. first aid, survival skills)	59	39.1%	33	42.3%	92	40.2%
Provide education about hazards & preparedness	94	62.3%	43	55.1%	137	59.8%
Provide warnings about impending events	73	48.3%	50	64.1%	123	53.7%
Respond to disasters	93	61.6%	48	61.5%	141	61.6%
Assist with disaster relief	98	64.9%	49	62.8%	147	64.2%
Central government						
Have no role	6	4.0%	3	3.8%	9	3.9%
Get prepared for disasters	86	57.0%	41	52.6%	127	55.5%
Undertake planning for disasters	94	62.3%	50	64.1%	144	62.9%
Undertake training for emergency response	68	45.0%	33	42.3%	101	44.1%
Undertake general safety training (e.g. first aid, survival skills)	49	32.5%	28	35.9%	77	33.6%
Provide education about hazards & preparedness	90	59.6%	42	53.8%	132	57.6%
Provide warnings about impending events	84	55.6%	49	62.8%	133	58.1%
Respond to disasters	100	66.2%	51	65.4%	151	65.9%
Assist with disaster relief	107	70.9%	55	70.5%	162	70.7%
Schools						
Have no role	6	4.0%	6	7.7%	12	5.2%
Get prepared for disasters	110	72.8%	42	53.8%	152	66.4%
Undertake planning for disasters	103	68.2%	47	60.3%	150	65.5%
Undertake training for emergency response	85	56.3%	36	46.2%	121	52.8%
Undertake general safety training (e.g. first aid, survival skills)	98	64.9%	33	42.3%	131	57.2%
Provide education about hazards & preparedness	101	66.9%	43	55.1%	144	62.9%

Provide warnings about impending events	31	20.5%	15	19.2%	46	20.1%
Respond to disasters	55	36.4%	21	26.9%	76	33.2%
Assist with disaster relief	52	34.4%	21	26.9%	73	31.9%
Workplaces						
Have no role	4	2.6%	5	6.4%	9	3.9%
Get prepared for disasters	99	65.6%	45	57.7%	144	62.9%
Undertake planning for disasters	95	62.9%	42	53.8%	137	59.8%
Undertake training for emergency response	78	51.7%	30	38.5%	108	47.2%
Undertake general safety training (e.g. first aid, survival skills)	88	58.3%	35	44.9%	123	53.7%
Provide education about hazards & preparedness	68	45.0%	31	39.7%	99	43.2%
Provide warnings about impending events	33	21.9%	14	17.9%	47	20.5%
Respond to disasters	59	39.1%	24	30.8%	83	36.2%
Assist with disaster relief	44	29.1%	23	29.5%	67	29.3%
Emergency services (e.g. police, fire)						
Have no role	4	2.6%	3	3.8%	7	3.1%
Get prepared for disasters	107	70.9%	51	65.4%	158	69.0%
Undertake planning for disasters	110	72.8%	57	73.1%	167	72.9%
Undertake training for emergency response	117	77.5%	54	69.2%	171	74.7%
Undertake general safety training (e.g. first aid, survival skills)	103	68.2%	54	69.2%	157	68.6%
Provide education about hazards & preparedness	89	58.9%	40	51.3%	129	56.3%
Provide warnings about impending events	91	60.3%	47	60.3%	138	60.3%
Respond to disasters	122	80.8%	59	75.6%	181	79.0%
Assist with disaster relief	116	76.8%	56	71.8%	172	75.1%
Infrastructure/utility companies						
Have no role	3	2.0%	4	5.1%	7	3.1%
Get prepared for disasters	98	64.9%	41	52.6%	139	60.7%
Undertake planning for disasters	103	68.2%	45	57.7%	148	64.6%
Undertake training for emergency response	77	51.0%	40	51.3%	117	51.1%
Undertake general safety training (e.g. first aid, survival skills)	65	43.0%	27	34.6%	92	40.2%
Provide education about hazards & preparedness	49	32.5%	22	28.2%	71	31.0%
Provide warnings about impending events	39	25.8%	21	26.9%	60	26.2%
Respond to disasters	89	58.9%	44	56.4%	133	58.1%
Assist with disaster relief	69	45.7%	39	50.0%	108	47.2%
Insurance companies						
Have no role	11	7.3%	7	9.0%	18	7.9%
Get prepared for disasters	63	41.7%	27	34.6%	90	39.3%
Undertake planning for disasters	68	45.0%	33	42.3%	101	44.1%
Undertake training for emergency response	32	21.2%	16	20.5%	48	21.0%
Undertake general safety training (e.g. first aid, survival skills)	29	19.2%	13	16.7%	42	18.3%
Provide education about hazards & preparedness	55	36.4%	25	32.1%	80	34.9%
Provide warnings about impending events	26	17.2%	13	16.7%	39	17.0%

Respond to disasters	56	37.1%	34	43.6%	90	39.3%
Assist with disaster relief	76	50.3%	36	46.2%	112	48.9%
Armed forces						
Have no role	6	4.0%	2	2.6%	8	3.5%
Get prepared for disasters	94	62.3%	47	60.3%	141	61.6%
Undertake planning for disasters	98	64.9%	48	61.5%	146	63.8%
Undertake training for emergency response	96	63.6%	53	67.9%	149	65.1%
Undertake general safety training (e.g. first aid, survival skills)	92	60.9%	47	60.3%	139	60.7%
Provide education about hazards & preparedness	50	33.1%	24	30.8%	74	32.3%
Provide warnings about impending events	51	33.8%	26	33.3%	77	33.6%
Respond to disasters	116	76.8%	60	76.9%	176	76.9%
Assist with disaster relief	123	81.5%	65	83.3%	188	82.1%
Other						
Have no role	0	.0%	1	1.3%	1	.4%
Get prepared for disasters	3	2.0%	0	.0%	3	1.3%
Undertake planning for disasters	6	4.0%	1	1.3%	7	3.1%
Undertake training for emergency response	1	.7%	0	.0%	1	.4%
Undertake general safety training (e.g. first aid, survival skills)	3	2.0%	1	1.3%	4	1.7%
Provide education about hazards & preparedness	1	.7%	1	1.3%	2	.9%
Provide warnings about impending events	3	2.0%	1	1.3%	4	1.7%
Respond to disasters	3	2.0%	1	1.3%	4	1.7%
Assist with disaster relief	5	3.3%	1	1.3%	6	2.6%

Table 7 How communities can be involved in hazard and preparedness issues

	Count
Christchurch	N=58
"Neighbourhood Watch" encouraged local schools holding community meetings not just for parents of school age children & also local churches	1
Adverts	1
Attend meetings, training first aid etc, sell first aid & preparedness kits, talk to MP, Civil Defence etc, ensure local schools & church groups have plans & are prepared	1
Awareness of	1
Be aware it's "when", not "if" it will occur. Be taught what they can do for themselves then to help others around them	1
Be ready	1
Best is probably at the neighbourhood level where people can talk face-to-face and provide mutual help when needed. This has to be supported by the bigger organisations (Civil Defence, etc)	1
By building community relationships through social and residential activities. Hold information/planning evenings for interested members of community. Local people know local issues & resources	1
By heavy discussion groups on the most likely disaster scenarios. By providing leaflets on the most likely disasters and providing an action plan	1
By holding workshops that serve as an educational tool to inform your locals	1
By leaflet drops informing of general hazards in the region and by being given information on handling the general hazards should they occur	1

By looking out for neighbours	1
By remaining calm, not panicking and not clearing the supermarket shelves of all food just because it's a public holiday or a disaster tomorrow	1
By taking part in Civil Defence practices	1
Call for volunteers for Civil Defence	1
Can assess what hazards are likely to effect that community and ensure that everybody within that community is aware and prepared for those hazards	1
CD meetings advertised. Local meeting points advertised	1
Circulate information. Take part in community based seminars (run by Civil Defence)	1
Civil Defence off-shoot. Voluntary group all belonging to particular local community. Civil Defence give instructions. Meet a couple of times a year	1
Communication, flyers etc, meetings	1
Communities could be involved by creating a group who can be trained and together create a plan to best serve the community - safe places, resources from where - neighbourhood support	1
Communities should run workshops & training	1
Community awareness	1
Community consultation. Thinking through what individual community needs may be in event of emergency, i.e. communities know who may be most vulnerable in their own community	1
Community group involvement in all aspects. Encouraging householders to join community groups	1
Community interactions (similar to neighbourhood watch) should be encouraged. Possibly "neighbourhood disaster preparedness"	1
Community meetings/training - regularly and ongoing	1
Community planning/training	1
Education & sharing information	1
Education i.e. TV and know your neighbours	1
Encourage people to prepare and have places organised for people to go in the event of a disaster - make sure people know this	1
Exercises like the West Coast earthquake preparedness exercise	1
Fairs or community days with hazard & preparedness activities	1
Follow instructions, be prepared, have emergency equipment & food etc. Check on neighbours	1
General preparation/education of community members	1
Get together often	1
Getting ideas together and implementing community hazards response methods through having periodic community meetings for interested parties	1
Have a disaster kit	1
Have meetings and courses	1
Having emergency practices. Regular updates of procedures	1
Helping according to ability and keep away from busy professionals	1
Hold educational meetings-possibly provide venue for 1st aid training for community members	1
Home owners to have supplies and plan for up to 5 days with no utilities	1

I think individuals and communities need to take ownership and responsibility for preparation	1
Identify potential hazards. Liaise with Civil Defence on how to be prepared to deal with hazards	1
Identify resources that can be used in an event i.e. accommodation, fuel, food, water, bedding, 1st aid kit	1
If the appropriate authorities have identified any specific or particular likely problem in their community - then by doing all they can to inform, educate and train the members of that community to be aware of these issues and assist them to be prepared as much as possible	1
In all ways possible	1
Individuals prepare, be aware and identify plans	1
Individuals. Should, by thinking through the process, prepare themselves for survival then focus on instructions from Civil Defence, Emergency and Government authorities	1
Info sessions, attend community events	1
info sharing - internet/notices in supermarkets. Radio/TV ads	1
Know the people in it. Talk to people	1
Learn how to protect your household or how to survive	1
Look out for each other and support each other. Educate individuals to prepare. Need to be self-sufficient where possible	1
Meet & consult	1
Meet/discuss/plan. Fund "Be Risky"	1
Meetings at local church	1
More education that reaches a wider range of people. e.g. many people still do not have an emergency disaster kit	1
Neighbourhood Watch & the like to provide support locally, short term	1
Neighbourhood Watch type event, maybe Civil Defence could put up one subject each month and neighbours could meet and organise for that particular type of event	1
No need apart from neighbourhood support	1
Occasional day community meetings to provide info or alternatively making it clear where individuals can go on-line to find info e.g. on specific warning signals for hazards	1
Of course, they should be prepared at all times, with community training etc	1
Organised, informed, equipped, enabled.	1
Personal invitations to attend neighbourhood meetings	1
Plan, prepare, train, practise, gather & share information, prepare hazard register, response planning, communication systems & plans	1
Planning in case of hazards	1
Planning, training programmes	1
Prepare themselves before helping others, in times of emergency keep calm, and informed (TV/radio updates). Self impose house arrest	1
Provide local knowledge in planning & responding	1
Providing awareness of results in other countries for learning "NOT SCARE TATICS". Providing passing on written material from organisation such as yourselves	1
Providing information so families & workplaces can best prepare themselves	1
Regular talks, courses, generally higher awareness. Advertising	1
Reiterating communication methods	1
Run work based "Top Town" Civil Defence competitions - have cheap prepared CD kits available in supermarket etc. Public identify hazards to avoid	1

	Schools & early childhood centres inform communities of preparedness plans, where local sector posts are & household responsibilities to create a plan & CD kit	1
	Setting up community/neighbourhood groups	1
	Setting up response centre. Halls to which people can go in time of need	1
	Similar to company - make sure each community knows how to respond for their area - i.e. areas likely to be flooded/fire/earthquake should be informed on their risk areas particularly	1
	Sirens & practices, fun with serious effect	1
	Through Civil Defence	1
	Through community watch & communicating with one another	1
	Through involvement in Civil Defence	1
	Through neighbourhood watch groups operating effectively, being involved in Civil Defence, receiving, realising & acting upon information received (e.g. brochures, news items)	1
	Through planning & organisation lists, phone trees, etc	1
	Through Community Boards	1
	Very difficult to get commitment to planning & training to deal with undefined hazards	1
	We should all be aware and prepared, individuals, families and community organizations	1
	Yes - monthly or 2 monthly meetings	1
	Yes	3
Wider Canterbury		N= 39
	Annual community days to reinforce & educate	1
	Be aware of possible hazards, put in place disaster plan, communicate plan to community, general communications to community	1
	Be aware of the latest and most up-to-date technology and techniques for best use of people and the community	1
	Be prepared	1
	By better education & TV programmes	1
	By continually being vigilant & keeping focused on everything	1
	By providing as much information as possible and making people aware	1
	Communication through local board members, meetings, local papers & radio with advice as to what one can do to lessen the effects of emergency situation	1
	Direct "hands on" training & dry run for events	1
	Education	2
	Ensuring community awareness of need for and contents of disaster preparedness lists. Ensure knowledge of local representations	1
	Formulating an emergency package for communities with specific disaster needs	1
	Good communication, especially with neighbours, have a plan for disasters	1
	Have groups set up to have meetings	1
	Having their emergency response teams/doctors/school have communication systems in place and 'safe' locations identified	1
	Helping people to evacuate, make sure the warning was heard	1
	Inform the wives	1
	Keep up to date	1

Know your neighbours & check on them if necessary. wider Canterbury households tend to have supplies & of food & ways of surviving without services	1
Lists of personal & equipment e.g. tractors, 4x4's maintained - CD should call on them to help - not try to do all by themselves (most CD personal I have met are in 60yrs bracket)	1
Look after/check on neighbours	1
Meetings, discussing protocols, information on what to do	1
Move education thru schools, local council (Natural disasters)	1
Planning and safety of most likely hazards	1
Probably getting to know the neighbours - fastening a sense of community	1
Probably not at all - individuals can best assess their own needs	1
Provide temp accommodation (safe)	1
Recognition of the dangers and planning, including funding	1
School training. Work place (employers release for training)	1
Set up phone/email lists to get info out, and to help with databases for relief operation	1
Some will, some won't	1
Take training courses for individuals to learn	1
Through schools - community men/women groups	1
Training & co-ordination	1
Training days	1
Use of buildings etc. Assist with planning	1
Yes	2

Table 8 Tasks participants would be willing to undertake

		Christchurch versus wider Canterbury					
		Christchurch		Wider Canterbury		Total	
		Count	Column Valid N %	Count	Column Valid N %	Count	Column Valid N %
Participate regularly, on an on-going basis (e.g. belong to a group; attend monthly meetings)	Yes	10	7.2%	6	9.7%	16	8.0%
	Possibly	62	44.6%	29	46.8%	91	45.3%
	No	67	48.2%	27	43.5%	94	46.8%
	Total	139	100.0%	62	100.0%	201	100.0%
Participate for specific reasons or events (e.g. attend a one-off community meeting; be involved in a preparedness fair)	Yes	64	46.0%	31	46.3%	95	46.1%
	Possibly	53	38.1%	23	34.3%	76	36.9%
	No	22	15.8%	13	19.4%	35	17.0%
	Total	139	100.0%	67	100.0%	206	100.0%
Pass on information about hazards and preparing to other community members?	Yes	40	28.8%	23	37.1%	63	31.3%
	Possibly	61	43.9%	21	33.9%	82	40.8%
	No	38	27.3%	18	29.0%	56	27.9%
	Total	139	100.0%	62	100.0%	201	100.0%

Encourage other people in your community to get prepared for disasters?	Yes	42	29.8%	20	30.8%	62	30.1%
	Possibly	62	44.0%	27	41.5%	89	43.2%
	No	37	26.2%	18	27.7%	55	26.7%
	Total	141	100.0%	65	100.0%	206	100.0%
Take a 20 hour training course to be qualified to help your community recover from disasters?	Yes	25	18.1%	19	27.9%	44	21.4%
	Possibly	57	41.3%	24	35.3%	81	39.3%
	No	56	40.6%	25	36.8%	81	39.3%
	Total	138	100.0%	68	100.0%	206	100.0%

Table 9 Whether people feel informed enough to be able to adequately plan for emergencies

		Christchurch versus wider Canterbury					
		Christchurch		Wider Canterbury		Total	
		Count	Column Valid N %	Count	Column Valid N %	Count	Column Valid N %
Do you feel that you are informed enough to be to adequately plan for emergencies?	Yes	96	67.6%	58	79.5%	154	71.6%
	No	46	32.4%	15	20.5%	61	28.4%

Table 10 How respondents would like to be informed about how to plan for emergencies

	Count
Christchurch	109
A coordinated approach to planning/education. It seems haphazard at present with different information arriving irregularly from different organisations. Information needs to be specific and the same for everyone (else confusion follows). It should also be graded: essential (everyone should do this), strongly recommended (do it if you can), pre-cautionary (preparation for less likely hazards)	1
Actually perhaps I do know but I'm just ignoring it because of the, "It won't happen to me" mentality	1
As part of my employment I am required to hold a current first aid certificate & be involved in CD plan for my workplace & the local community. I received up-to-date information regularly	1
Booklets, checklists etc	1
By post, local meeting, where my Civil Defence post is at home & work	1
By receiving a leaflet on the certain emergencies/disasters most likely to affect me	1
Community training i.e. Civil Defence displays, training days i.e. show public, what is needed, how to look after yourself in an emergency	1
Direct communication (written) from the authorities. Follow up reinforcement by general advertising	1
Don't know	2
I don't need more information I just need to refresh myself	1
I feel at present we get too much information at one time. Maybe one small part covered each fortnight	1
I think given the potential for emergency situation - everyone in society should be aware of what proviso is there whether in the form of media e.g. a DVD, computer program, newsletter, TV program or E-mail, mail out or phone messaging service	1
Information through the mail - this is good because we can read through it in our own time, rather than having to attend a meeting etc	1

	Instruction booklets etc	1
	Just a reminder in out rate demands & power accounts	1
	Local workshops to educate all	1
	Mail outs, community meetings	1
	More information on local CD meeting points or contact points in my community	1
	More structured information, brochures, lectures, talks, demonstrations, lists	1
	Need more fridge magnets!	1
	Neighbourhood watch meetings perhaps. Youth groups (get while young) i.e. Boys Brigade, Girls Brigade etc. Newspapers odd one page only limited information to act on at a time	1
	Not sure	1
	Pamphlet or brochure explaining it all	1
	Pamphlets/articles	1
	Paper work - community meetings	1
	Participate in a preparedness fair	1
	Prepare our household more with ideas and the written material on where to go and who to ask	1
	Probably through delivered circulars/and/or talks/TV presentations. I think if there was a major pandemic be work places/schools were closed & other places where infection could spread (supermarkets?) many people would struggle if it lasted for weeks	1
	Provision of local community meetings during the day hours, to update participants how to keep themselves individually, (+ if possible) their community involvement	1
	Refer to reply to Question No 7	1
	Regular reminders in community papers	1
	Single website to check or booklet i.e. one central point of information	1
	Thinking of the longer term needs of a disaster, the recent swine-flu identified longer term planning need	1
	Through TV programs	1
	Training in communication, planning & response. Perhaps use of emergency rescue equipment	1
	Up to date information and necessary information where and how booklet	1
	What it costs?	1
	What the plans of Civil Defence etc are so you know what to expect when something happens	1
	Written info sent in the post	1
Wider Canterbury		63
	A training course would be good	1
	Attend courses	1
	Email	1
	Info on communications for emergency when power/phone doesn't work & roads are blocked for example	1
	Information, checklist, meetings	1
	Mail drop a preparedness booklet providing step-by-step guide of how to be prepared, training course run in community	1
	Mail - if preparedness information. Radio - national & local if imminent	1
	More details on how to help locally once family are basically "safe"	1
	Need to know more about lines of communication	1
	No, No, No, I'm ex professional fire-fighter of 25 yrs and have seen how some of these ancillary organisations work not very impressed with them at all!!	1
	One off community meeting describing each disaster e.g. snow & what to do	1
	Perhaps a twice yearly day course?	1
	Specific best practice lists for a variety of emergencies - an expanded form of yellow pages	1
	Thru TV programmes	1
	Training, mail/booklets, DVD	1

Table 11 Critical awareness

In regard to what happens in your community, please describe the extent to which you agree or disagree with each of the following statements:		Christchurch versus wider Canterbury					
		Christchurch		Wider Canterbury		Total	
		Count	Column Valid N %	Count	Column Valid N %	Count	Column Valid N %
I think about earthquake issues and problems in my community	Never	6	4.1%	2	2.7%	8	3.6%
	Rarely	39	26.9%	25	33.3%	64	29.1%
	A few times a year	70	48.3%	37	49.3%	107	48.6%
	Once a month	12	8.3%	5	6.7%	17	7.7%
	A few times a month	15	10.3%	2	2.7%	17	7.7%
	Once a week or more	3	2.1%	4	5.3%	7	3.2%
	Total	145	100.0%	75	100.0%	220	100.0%
I talk about earthquake problems and issues with others in my community	Never	30	20.8%	21	28.0%	51	23.3%
	Rarely	71	49.3%	31	41.3%	102	46.6%
	A few times a year	35	24.3%	17	22.7%	52	23.7%
	Once a month	6	4.2%	3	4.0%	9	4.1%
	A few times a month	2	1.4%	3	4.0%	5	2.3%
	Once a week or more	0	.0%	0	.0%	0	.0%
	Total	144	100.0%	75	100.0%	219	100.0%

Table 12 Coping style

In regard to how you normally deal with any problem in your <i>life</i> , please describe the extent to which you agree or disagree with each of the following statements: (1=strongly disagree, 5=strongly agree)	Christchurch versus wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
I try to come up with a strategy about what to do	4.1	.7	143	4.3	.7	75	4.2	.7	218
I make a plan of action	3.9	.7	143	4.1	.8	75	3.9	.8	218
I think hard about what steps to take	3.9	.8	141	4.1	.8	74	4.0	.8	215
I think about how I might best handle the problem	4.1	.7	144	4.3	.6	76	4.1	.7	220

Table 13 Negative outcome expectancy

Please describe the extent to which you agree or disagree with each of the following statements: (1=strongly disagree, 5=strongly agree)	Christchurch versus wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
Earthquakes are too destructive to bother preparing for	1.9	.8	149	1.9	.9	74	1.9	.8	223
A serious earthquake is unlikely to occur during my lifetime	2.2	1.0	149	2.5	1.1	74	2.3	1.1	223
Preparing for earthquakes is inconvenient	2.4	1.0	149	2.4	1.1	72	2.4	1.1	221
It is difficult to prepare for earthquakes	2.8	1.1	149	2.8	1.1	75	2.8	1.1	224

Table 14 Positive outcome expectancy

Please describe the extent to which you agree or disagree with each of the following statements: (1=strongly disagree, 5=strongly agree)	Christchurch versus wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
Preparing for earthquakes will significantly reduce damage to my home should an earthquake occur	3.1	1.1	147	3.3	1.0	75	3.2	1.1	222
Preparing for earthquakes will improve my everyday living conditions	2.7	.9	146	2.8	.9	75	2.7	.9	221
Preparing for earthquakes will improve the value of my house/property	2.7	.9	147	2.8	1.0	75	2.7	.9	222
Preparing for earthquakes will improve the ability to deal with disruptions to family/community life following an earthquake	3.9	.8	146	3.9	.9	75	3.9	.8	221

Table 15 Self efficacy

In regard to the issues and problems you deal with in your everyday life, please describe the extent to which you agree or disagree with each of the following statements: (1=strongly disagree, 5=strongly agree)	Christchurch versus wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
I feel I have control over the things that happen in my life	3.5	.9	149	3.6	.9	75	3.5	.9	224
There is no way I can solve some of the problems I have by myself	3.2	1.1	147	3.2	1.0	75	3.2	1.0	222
I can't do much to change what happens in my life	2.3	.8	148	2.2	.8	75	2.2	.8	223
Somehow problems in my life usually solve themselves	2.6	.8	148	2.7	1.0	75	2.6	.9	223

Table 16 Intention to prepare

In the next month or so, do you intend to (please circle as appropriate):		Christchurch versus wider Canterbury					
		Christchurch		Wider Canterbury		Total	
		Count	Column Valid N %	Count	Column Valid N %	Count	Column Valid N %
Check your level of preparedness for earthquakes	No	39	26.9%	33	44.6%	72	32.9%
	Possibly	79	54.5%	30	40.5%	109	49.8%
	Definitely	27	18.6%	11	14.9%	38	17.4%
	Total	145	100.0%	74	100.0%	219	100.0%
Increase your level of preparedness for earthquakes	No	42	28.8%	32	43.8%	74	33.8%
	Possibly	83	56.8%	35	47.9%	118	53.9%
	Definitely	21	14.4%	6	8.2%	27	12.3%
	Total	146	100.0%	73	100.0%	219	100.0%
Become involved with a local group to discuss how to reduce earthquake damage or loss	No	116	80.0%	55	75.3%	171	78.4%
	Possibly	25	17.2%	18	24.7%	43	19.7%
	Definitely	4	2.8%	0	.0%	4	1.8%
	Total	145	100.0%	73	100.0%	218	100.0%
Seek information on earthquake risk	No	84	57.9%	45	61.6%	129	59.2%
	Possibly	49	33.8%	27	37.0%	76	34.9%
	Definitely	12	8.3%	1	1.4%	13	6.0%
	Total	145	100.0%	73	100.0%	218	100.0%
Seek information on things to do to prepare	No	62	42.2%	39	52.7%	101	45.7%
	Possibly	63	42.9%	32	43.2%	95	43.0%
	Definitely	22	15.0%	3	4.1%	25	11.3%
	Total	147	100.0%	74	100.0%	221	100.0%

Table 17 Earthquake beliefs

Please read each of the following statements and describe the extent to which you agree or disagree with each. (1=strongly disagree, 5=strongly agree)	Christchurch versus Wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
There may be earthquakes, but they won't be that bad	2.6	.9	149	2.7	1.1	75	2.6	1.0	224
The location of the earthquakes will be far away from here and have little impact on us	2.4	.9	148	2.6	1.1	75	2.4	1.0	223
The likelihood that major earthquakes will occur here has been greatly exaggerated	2.3	.8	149	2.5	1.0	75	2.3	.9	224
I have been fine during the earthquakes we have had and I will be fine in the next one too	2.8	.9	149	2.7	1.0	75	2.8	.9	224
An earthquake could pose a threat to my personal safety	4.0	.8	146	3.8	.9	75	3.9	.8	221
An earthquake could pose a threat to my daily life (e.g., work, leisure)	4.0	.8	147	3.8	.9	75	3.9	.9	222
An earthquake could pose a threat to my property	4.1	.8	148	3.9	.9	75	4.0	.8	223

Table 18 Community participation

In regard to participating in life in this community, please describe how often you undertake each of the following. (1=never, 4=often)	Christchurch versus wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
I have worked with others on something to improve community life	2.5	1.0	147	2.9	.8	73	2.6	1.0	220
I participate in local activities or events (e.g., Festivals, fetes, fair)	2.5	1.0	147	2.9	.8	74	2.6	.9	221
I have contributed money, food or clothing to local causes, charities, or to others in my community	3.3	.8	148	3.3	.8	75	3.3	.8	223
I have attended a public meeting on a community issue	2.1	1.0	147	2.8	.9	75	2.4	1.0	222
I have been involved in volunteer activities intended to benefit my community (e.g. fundraising, clean-up days, local groups, Scouts)	2.5	1.0	147	3.1	1.0	75	2.7	1.0	222

Table 19 Articulating problems and leadership

In regard to your general feelings about living in this community, please describe the extent to which you agree or disagree with each statement. (1=strongly disagree, 5=strongly agree)	Christchurch versus wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
People around here will express an opinion even though they know it will be unpopular	3.3	.7	140	3.5	.7	74	3.4	.7	214
When it comes to saying something in front of a group, most people in this community will do it	3.1	.8	140	3.1	.9	75	3.1	.9	215
When people are needed to stand before a group of outsiders to tell them what this community needs, most	3.1	.8	139	3.1	.9	74	3.1	.8	213
In community meetings, I am often a leader	2.4	.9	139	2.6	1.0	72	2.5	1.0	211
In community meetings I prefer to be a leader rather than a follower	2.5	.9	137	2.6	1.0	74	2.6	1.0	211
In community meetings, I prefer others to take over the leadership role	3.4	.9	138	3.2	1.0	73	3.3	.9	211
What a community talks about depends on what residents are interested in	3.8	.7	138	3.9	.7	74	3.8	.7	212
Struggles always occur to determine what issues this community should focus on	3.3	.6	137	3.4	.7	73	3.3	.7	210
Community perceptions of issues depend on the quality of the individuals in that community	3.7	.8	137	3.8	.7	73	3.7	.8	210
How people think about community problems controls what is done about those problems	3.8	.6	138	3.9	.6	73	3.8	.6	211

Table 20 Empowerment

In regard to what happens in the wider community, in general, to what extent do you think that: (1=not at all, 5=Always)	Christchurch versus wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
Voting in local elections influences what happens in my community	3.2	.9	146	3.3	.8	73	3.2	.9	219
Voting in local elections helps solve local problems	2.8	.8	146	3.0	.7	74	2.9	.8	220
Community groups can get something done about local problems	3.2	.7	146	3.4	.7	74	3.3	.7	220
I feel that I can influence what happens in my community	2.4	.9	145	2.6	.9	75	2.5	.9	220
I feel that I see positive results from participating in the community activities	2.8	.9	143	3.2	.9	73	2.9	.9	216
I feel that I have an active part in keeping this community going	2.4	1.0	143	2.6	1.0	74	2.5	1.0	217
I care about my community's appearance	3.8	.8	145	3.7	.8	73	3.8	.8	218
I feel that what happens in this community can affect my life	3.6	.8	146	3.6	.8	73	3.6	.8	219
I have strong opinions about the way things are done by elected representatives	3.2	.9	146	3.3	1.0	74	3.2	1.0	220
I think that elected representatives seriously consider my opinions	2.3	.9	143	2.5	.9	73	2.4	.9	216
I think that elected representatives try to influence what goes on in my community	3.1	.9	144	3.3	.9	74	3.2	.9	218

Table 21 Trust

In regard to your general feelings about living in this community, please describe the extent to which you agree or disagree with each statement: (1=strongly disagree, 5=strongly agree)	Christchurch versus wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
I trust my Local Council to respond to meet the needs of its residents	3.2	.9	146	3.3	.9	75	3.2	.9	221
I trust the community leaders in my community	3.2	.8	146	3.3	.8	75	3.2	.8	221
I trust the media (newspapers, TV, radio) to report fairly	2.8	1.0	146	2.8	.9	75	2.8	1.0	221
I trust my Local Council to do what is right for the people they represent	3.2	1.0	146	3.3	.9	74	3.2	1.0	220
I have confidence in the law to protect and maintain order in my community	3.5	.9	146	3.7	.9	75	3.6	.9	221

Table 22 Responsibility for preparedness

In regard to responsibility for earthquake preparedness, please describe the extent to which you agree or disagree with each of the following statements. (1=strongly disagree, 5=strongly agree)	Christchurch versus wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
I feel responsible for preparing for a major earthquake	3.9	.8	145	3.9	.9	75	3.9	.8	220
The Council/Civil Defence is responsible for making sure that I am prepared for the occurrence	3.3	1.0	145	3.0	1.0	74	3.2	1.0	219

Table 23 Preparedness undertaken by survey respondents

		Christchurch versus wider Canterbury					
		Christchurch		Wider Canterbury		Total	
		Count	Column Valid N %	Count	Column Valid N %	Count	Column Valid N %
I have considered the risk of a major earthquake when deciding to live in the house that I do now	Will not do this	41	29.9%	26	35.6%	67	31.9%
	May do this	37	27.0%	15	20.5%	52	24.8%
	Have done this	59	43.1%	32	43.8%	91	43.3%
I have fastened tall furniture to the wall	Will not do this	34	24.1%	18	24.7%	52	24.3%
	May do this	74	52.5%	41	56.2%	115	53.7%
	Have done this	33	23.4%	14	19.2%	47	22.0%
I have fastened my hot water cylinder	Will not do this	26	19.7%	12	16.9%	38	18.7%
	May do this	49	37.1%	23	32.4%	72	35.5%
	Have done this	57	43.2%	36	50.7%	93	45.8%
I have either strengthened my chimney, or satisfied myself that it will not fall down in a major earthquake	Will not do this	40	38.1%	24	34.3%	64	36.6%
	May do this	23	21.9%	11	15.7%	34	19.4%
	Have done this	42	40.0%	35	50.0%	77	44.0%
I have either strengthened my house to increase its earthquake resistance, or satisfied myself that it will probably not fall down in a major earthquake	Will not do this	53	37.9%	27	37.0%	80	37.6%
	May do this	32	22.9%	7	9.6%	39	18.3%
	Have done this	55	39.3%	39	53.4%	94	44.1%
I have ensured that my roof will probably not collapse in a major earthquake	Will not do this	53	37.9%	25	35.2%	78	37.0%
	May do this	39	27.9%	12	16.9%	51	24.2%
	Have done this	48	34.3%	34	47.9%	82	38.9%
I have arranged the cupboards so that heavy objects are stored at ground level	Will not do this	28	19.4%	10	13.7%	38	17.5%
	May do this	63	43.8%	23	31.5%	86	39.6%
	Have done this	53	36.8%	40	54.8%	93	42.9%
I have securely fastened cupboards with latches	Will not do this	61	42.7%	34	47.2%	95	44.2%
	May do this	52	36.4%	20	27.8%	72	33.5%
	Have done this	30	21.0%	18	25.0%	48	22.3%
I have ensured that objects that contain water have not been stored on top of electrical equipment (eg., a pot plant or fishbowl on top of television)	Will not do this	13	9.1%	5	6.8%	18	8.3%
	May do this	21	14.7%	10	13.5%	31	14.3%
	Have done this	109	76.2%	59	79.7%	168	77.4%

I have ensured that heavy objects are stored on the floor	Will not do this	10	7.0%	7	9.5%	17	7.9%
	May do this	50	35.2%	19	25.7%	69	31.9%
	Have done this	82	57.7%	48	64.9%	130	60.2%
I have stored water for survival	Will not do this	11	9.9%	8	16.3%	19	11.9%
	May do this	51	45.9%	7	14.3%	58	36.3%
	Have done this	49	44.1%	34	69.4%	83	51.9%
I have put aside spare plastic bags and toilet paper for use as an emergency toilet	Will not do this	13	9.2%	13	17.8%	26	12.1%
	May do this	62	43.7%	20	27.4%	82	38.1%
	Have done this	67	47.2%	40	54.8%	107	49.8%
I have accumulated enough tools to make minor repairs to the house following a major earthquake	Will not do this	11	7.7%	4	5.4%	15	6.9%
	May do this	27	18.9%	10	13.5%	37	17.1%
	Have done this	105	73.4%	60	81.1%	165	76.0%
I have obtained a supply of tinned or dehydrated food that could be used in an emergency	Will not do this	3	2.1%	3	4.2%	6	2.8%
	May do this	39	27.3%	15	20.8%	54	25.1%
	Have done this	101	70.6%	54	75.0%	155	72.1%
I have purchased or put together a first aid kit	Will not do this	2	1.4%	4	5.5%	6	2.8%
	May do this	26	18.1%	5	6.8%	31	14.3%
	Have done this	116	80.6%	64	87.7%	180	82.9%
I have a supply of essential medicines for illness or allergies	Will not do this	6	4.2%	4	5.6%	10	4.7%
	May do this	32	22.5%	5	6.9%	37	17.3%
	Have done this	104	73.2%	63	87.5%	167	78.0%
I have obtained a working battery radio (or solar/dynamo equivalent)	Will not do this	10	7.0%	7	9.5%	17	7.8%
	May do this	53	37.1%	18	24.3%	71	32.7%
	Have done this	80	55.9%	49	66.2%	129	59.4%
I have obtained a working battery torch (or solar/dynamo equivalent)	Will not do this	1	.7%	3	4.1%	4	1.8%
	May do this	22	15.3%	10	13.7%	32	14.7%
	Have done this	121	84.0%	60	82.2%	181	83.4%
I have secured moveable objects in my home (e.g., TV, computer)	Will not do this	34	23.9%	26	35.6%	60	27.9%
	May do this	97	68.3%	38	52.1%	135	62.8%
	Have done this	11	7.7%	9	12.3%	20	9.3%
I have access to an alternative cooking source (e.g., gas barbeque)	Will not do this	9	6.2%	0	.0%	9	4.1%
	May do this	19	13.1%	4	5.5%	23	10.6%
	Have done this	117	80.7%	69	94.5%	186	85.3%

I have a household earthquake emergency plan	Will not do this	18	12.9%	15	20.5%	33	15.5%
	May do this	87	62.1%	35	47.9%	122	57.3%
	Have done this	35	25.0%	23	31.5%	58	27.2%
My plan covers where the family should meet if an earthquake occurs during the day	Will not do this	23	16.4%	19	27.5%	42	20.1%
	May do this	86	61.4%	30	43.5%	116	55.5%
	Have done this	31	22.1%	20	29.0%	51	24.4%
I have obtained a working fire extinguisher	Will not do this	18	12.6%	6	8.2%	24	11.1%
	May do this	50	35.0%	15	20.5%	65	30.1%
	Have done this	75	52.4%	52	71.2%	127	58.8%
I have taken some steps at work	Will not do this	38	31.7%	13	23.6%	51	29.1%
	May do this	41	34.2%	10	18.2%	51	29.1%
	Have done this	41	34.2%	32	58.2%	73	41.7%
I have obtained spare batteries for the appliances I might need to use	Will not do this	10	7.0%	6	8.5%	16	7.5%
	May do this	57	39.9%	15	21.1%	72	33.6%
	Have done this	76	53.1%	50	70.4%	126	58.9%
I have specifically put together an emergency kit	Will not do this	8	5.6%	14	20.0%	22	10.4%
	May do this	89	62.7%	22	31.4%	111	52.4%
	Have done this	45	31.7%	34	48.6%	79	37.3%
I check the contents/operation of my emergency supplies at least every six months	Will not do this	18	13.1%	18	25.0%	36	17.2%
	May do this	96	70.1%	39	54.2%	135	64.6%
	Have done this	23	16.8%	15	20.8%	38	18.2%
I have at least 2 litres water (in plastic containers) per person, per day for three days	Will not do this	13	9.0%	17	24.3%	30	14.0%
	May do this	80	55.6%	17	24.3%	97	45.3%
	Have done this	51	35.4%	36	51.4%	87	40.7%
I have 3 days supply of dehydrated or canned food	Will not do this	6	4.2%	6	8.3%	12	5.6%
	May do this	39	27.1%	6	8.3%	45	20.8%
	Have done this	99	68.8%	60	83.3%	159	73.6%

Table 24 Beliefs about preparedness

Please rate (from 1 = not at all prepared to 5 = very prepared) the extent to which you perceive each of the following is prepared to deal with an earthquake (please circle as appropriate)	Christchurch versus wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
How prepared do you think you are for a major earthquake	2.7	1.0	145	3.3	.8	73	2.9	1.0	218
How well prepared do you think other members of your community are for a major earthquake	2.3	.7	132	2.7	.8	69	2.4	.8	201
How well prepared do you think your local Council is for a major earthquake	3.1	.9	137	3.1	.9	67	3.1	.9	204

Table 25 To what extent might each of the following prevent you preparing for earthquakes?

Please rate the impact of each statement from 1 (not at all) to 5 (a great deal).	Christchurch versus wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
The cost	2.5	1.4	143	2.3	1.3	75	2.4	1.4	218
The skill or knowledge required	2.4	1.2	143	2.2	1.2	75	2.3	1.2	218
The time needed to prepare	2.5	1.1	142	2.4	1.2	73	2.4	1.1	215
There are others things to think about	2.5	1.2	142	2.7	1.2	73	2.6	1.2	215
Need for co-operation with others	2.5	1.2	143	2.3	1.2	73	2.4	1.2	216

Table 26 Gender

	Christchurch versus wider Canterbury					
	Christchurch		Wider Canterbury		Total	
	Count	Column Valid N %	Count	Column Valid N %	Count	Column Valid N %
Male	71	48.6%	38	50.0%	109	49.1%
Female	75	51.4%	38	50.0%	113	50.9%
Total	146	100.0%	76	100.0%	222	100.0%

Table 27 Age

	Christchurch versus wider Canterbury					
	Christchurch		Wider Canterbury		Total	
	Count	Column Valid N %	Count	Column Valid N %	Count	Column Valid N %
18-19yrs	1	.7%	0	.0%	1	.4%
20-24yrs	6	4.1%	0	.0%	6	2.7%
25-29yrs	5	3.4%	2	2.6%	7	3.1%
30-34yrs	12	8.2%	2	2.6%	14	6.3%
35-39yrs	9	6.1%	3	3.9%	12	5.4%
40-44yrs	15	10.2%	7	9.2%	22	9.9%
45-49yrs	12	8.2%	12	15.8%	24	10.8%
50-54yrs	13	8.8%	10	13.2%	23	10.3%
55-59yrs	11	7.5%	7	9.2%	18	8.1%
60-64yrs	22	15.0%	15	19.7%	37	16.6%
65-69yrs	10	6.8%	7	9.2%	17	7.6%
70-74yrs	8	5.4%	4	5.3%	12	5.4%
75-79yrs	12	8.2%	3	3.9%	15	6.7%
80-84yrs	7	4.8%	3	3.9%	10	4.5%
85 years +	4	2.7%	1	1.3%	5	2.2%
Total	147	100.0%	76	100.0%	223	100.0%

Table 28 Ethnic group

	Christchurch vs Rural					
	Christchurch		Wider Canterbury		Total	
	Count	Column Total N %	Count	Column Total N %	Count	Column Total N %
New Zealand European	134	88.7%	71	91.0%	205	89.5%
Maori	6	4.0%	1	1.3%	7	3.1%
Chinese	1	.7%	0	.0%	1	.4%
Other	11	7.3%	5	6.4%	16	7.0%

Table 29 Main occupation

	Christchurch versus wider Canterbury					
	Christchurch		Wider Canterbury		Total	
	Count	Column Valid N %	Count	Column Valid N %	Count	Column Valid N %
Employed	84	57.1%	41	53.9%	125	56.1%
Unemployed	1	.7%	1	1.3%	2	.9%
Retired	40	27.2%	20	26.3%	60	26.9%
House person	6	4.1%	3	3.9%	9	4.0%
Student	7	4.8%	1	1.3%	8	3.6%
Other	9	6.1%	10	13.2%	19	8.5%
Total	147	100.0%	76	100.0%	223	100.0%

Table 30 Highest educational qualification

	Christchurch versus wider Canterbury					
	Christchurch		Wider Canterbury		Total	
	Count	Column Valid N %	Count	Column Valid N %	Count	Column Valid N %
No school qualifications	7	4.8%	2	2.6%	9	4.0%
Secondary school qualifications	27	18.4%	26	34.2%	53	23.8%
Trade certificate or professional certificate or diploma	39	26.5%	24	31.6%	63	28.3%
University undergraduate degree (e.g., diploma or bachelor's degree)	53	36.1%	20	26.3%	73	32.7%
University postgraduate degree (e.g., Master's, PhD)	18	12.2%	3	3.9%	21	9.4%
Other	3	2.0%	1	1.3%	4	1.8%
Total	147	100.0%	76	100.0%	223	100.0%

Table 31 Length of time in current house

	Christchurch versus wider Canterbury								
	Christchurch			Wider Canterbury			Total		
	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	Valid N
Year/s	11.1	12.1	146	17.9	16.0	75	13.4	13.9	221

Table 32 Household

	Christchurch versus wider Canterbury					
	Christchurch		Wider Canterbury		Total	
	Count	Column Valid N %	Count	Column Valid N %	Count	Column Valid N %
A couple without children	59	40.1%	36	47.4%	95	42.6%
One person household	28	19.0%	8	10.5%	36	16.1%
Two parent family with one child or more	40	27.2%	26	34.2%	66	29.6%
One parent family with one child or more	5	3.4%	2	2.6%	7	3.1%
Non family household (e.g., flatting)	11	7.5%	0	.0%	11	4.9%
Other	4	2.7%	4	5.3%	8	3.6%
Total	147	100.0%	76	100.0%	223	100.0%

Table 33 Home ownership/rental

	Christchurch versus wider Canterbury					
	Christchurch		Wider Canterbury		Total	
	Count	Column Valid N %	Count	Column Valid N %	Count	Column Valid N %
Own or buying, to live in it	124	83.8%	69	93.2%	193	86.9%
Own or buying, but only for use as a holiday home	0	.0%	0	.0%	0	.0%
Rent, to live in it	21	14.2%	5	6.8%	26	11.7%
Rent as a holiday home	0	.0%	0	.0%	0	.0%
Other	3	2.0%	0	.0%	3	1.4%
Total	148	100.0%	74	100.0%	222	100.0%

Table 34 Household's total income (before tax) for the 2008 financial year

	Christchurch versus wider Canterbury					
	Christchurch		Wider Canterbury		Total	
	Count	Column Valid N %	Count	Column Valid N %	Count	Column Valid N %
Loss	1	.7%	1	1.6%	2	1.0%
Zero Income	0	.0%	0	.0%	0	.0%
\$1-\$5,000	1	.7%	0	.0%	1	.5%
\$5,001-\$10,000	1	.7%	0	.0%	1	.5%
\$10,001-\$15,000	7	5.0%	3	4.9%	10	5.0%
\$15,001-\$20,000	2	1.4%	3	4.9%	5	2.5%
\$20,001-\$25,000	9	6.5%	2	3.3%	11	5.5%
\$25,001-\$30,000	7	5.0%	1	1.6%	8	4.0%
\$30,001-\$35,000	11	7.9%	8	13.1%	19	9.5%
\$35,001-\$40,000	4	2.9%	2	3.3%	6	3.0%
\$40,001-\$50,000	16	11.5%	9	14.8%	25	12.5%
\$50,001-\$70,000	20	14.4%	7	11.5%	27	13.5%
\$70,001-\$100,000	28	20.1%	12	19.7%	40	20.0%
\$100,001 or more	32	23.0%	13	21.3%	45	22.5%
Total	139	100.0%	61	100.0%	200	100.0%



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