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ABSTRACT

The New Zealand ShakeOut, organised by the Ministry of Civil Defence and Emergency Management (MCDEM), was the largest earthquake drill in the history of the country. Over 1.3 million participants registered to participate in the drill via the ShakeOut website. The drill was held on 26 September 2012 at 9:26 a.m., and participants were asked to 'Drop, Cover and Hold' in response to a potential earthquake. In addition to the drill, other relevant activities were also promoted as part of the ShakeOut including undertaking preparedness activities for earthquakes, and emergency response planning and exercising.

A programme of evaluation was undertaken to determine the effectiveness of the ShakeOut drill in engaging people about what to do during an earthquake. One of the streams of research within this evaluation was having volunteer observers make notes about how people participated in the drill. More than 5,000 observer forms were completed and collected in the month following the drill. Another of the evaluation streams involved surveys undertaken with schools about their participation in ShakeOut.

This report provides an initial summary of the findings of the observer forms, and a summary of participation in ShakeOut by schools. In terms of the observer forms it was found that there was a high level of participation in ShakeOut, especially by workplaces, suggesting that workplaces provide an important outlet for public education activities regarding earthquakes and disasters in general. Over 60% of people seen by the observers actively participated in the actions of 'Drop, Cover Hold'. Of those who didn't participate, disability and age (too young and too old) were reported to have been factors preventing participation. In terms of regional involvement, Wellington had the largest proportion of observer forms returned, followed by Auckland. Several provincial centres (e.g. Nelson, Timaru) also returned good numbers of observer sheets.

In terms of the school survey, initial results show a very high level of participation by schools in the ShakeOut drill, high assessment of performance for 'Drop, Cover and Hold' for the drill, and significant use of ShakeOut resources by schools (91%).

KEYWORDS

Earthquake drill, ShakeOut, New Zealand

1.0 INTRODUCTION

The 2012 New Zealand ShakeOut was the largest earthquake drill in the history of the country with 1.3 million participants registered on the ShakeOut website (www.shakeout.govt.nz). The drill began on 26 September at 9:26 a.m., and participants were asked to ‘drop, cover and hold’ in response to a potential earthquake of one minute duration. In addition to the drill, other relevant activities were also promoted as part of the ShakeOut including undertaking preparedness activities for earthquakes, and emergency response planning and exercising.

The drill was a significant undertaking for the Ministry of Civil Defence and Emergency Management (MCDEM), along with their partner agencies. New Zealand was the first country in the world to do ShakeOut as a national drill, rather than a regional drill. The goal of having one million people register to participate, was exceeded. It was recognised that evaluation of this event could assist in the planning of similar initiatives in future and could identify areas of learning for the organisers. Consequently, a programme of evaluation was created to determine the effectiveness of the ShakeOut drill in engaging with people about what to do during an earthquake (see Appendix 1 for the full Evaluation Strategy). One of the streams of evaluation work involved having observers make notes about how people participated in the drill on 26 September 2012. More than 5,000 observer forms were filled out by volunteers and collected in the month following the drill. Another stream of evaluation involved a survey of schools participating in the ShakeOut drill.

This report contributes to the overall evaluation of the ShakeOut drill. It provides an initial summary of the findings of the observer forms received, and of the participation of schools in the drill. The results presented here provide a preliminary evaluative overview, and more data analysis is recommended to understand complex themes within the data.

2.0 BACKGROUND

The first ever ShakeOut drill was held in 2008 as the *Great Southern California ShakeOut*, and was a joint effort by scientists and emergency managers to inform the public about earthquakes (Becker, 2009). It was based on the *ShakeOut Scenario*, a comprehensive description of a magnitude 7.8 earthquake on the San Andreas fault in southern California and the destruction it would cause, developed by the USGS Multi-Hazards Demonstration Project led by Dr. Lucy Jones (Jones et al., 2008).

The scenario was planned to be used as the basis of California's 2008 *Golden Guardian* earthquake response exercise. In the Fall of 2007, leaders of the Earthquake Country Alliance began discussing how to involve all residents of southern California in the exercise, and thus planning for the ShakeOut drill began. The first ShakeOut held on November 13, 2008, was the largest earthquake drill in U.S. history at the time with a total of 5.4 million participants spanning eight counties in the southern part of the state of California, who practiced *Drop, Cover, and Hold On* and other aspects of family, school, and workplace preparedness and emergency plans (Becker, 2009).

In California, the ShakeOut drill continues to be run on a regular basis. It is coordinated by the Earthquake Country Alliance, and the ShakeOut website is developed and maintained by the Southern California Earthquake Center, based at the University of Southern California. Additionally, since the first ShakeOut, more U.S. states and regions within other countries have participated in ShakeOut drills, including Canada (British Columbia), Japan and Italy. More than 18 million people participated internationally in various ShakeOuts in 2012.

In New Zealand, the first ShakeOut was a local drill in the West Coast of the South Island in 2009 (Coomer, 2009). New Zealand was the first country to organise and execute a nationwide ShakeOut drill, held in 2012. The New Zealand-wide drill was planned as part of the National Exercise Programme run by MCDEM. Planning for the exercise began in October 2011, with the culmination of the actual event on 26 September 2012. The drill was an opportunity for people to practice appropriate actions in response to an earthquake (i.e., Drop, Cover and Hold), as well as to undertake other relevant activities such as preparedness activities or emergency response planning and exercising. Individuals and groups were encouraged to sign up to the New Zealand Shakeout website (www.shakeout.govt.nz) to register their intent to participate in the drill. Table 1 outlines the range of category groups and numbers of individuals from each group that participated in ShakeOut based on registrations on the ShakeOut website.

Table 1 Category groups and participant numbers for New Zealand ShakeOut.

| Category group | Number of individual participants | Percentage of total |
|-----------------------------------|-----------------------------------|---------------------|
| Individuals/Families | 20,499 | 1.52 |
| Pre-schools | 108,936 | 8.13 |
| Schools | 650,962 | 48.56 |
| Youth Organisations | 1,345 | 0.10 |
| Tertiary Education | 134,140 | 10.00 |
| Iwi | 384 | 0.03 |
| Government Agencies | 72,597 | 5.42 |
| Local Authorities | 28,623 | 2.14 |
| Emergency Services | 17,510 | 1.31 |
| Businesses | 203,712 | 15.20 |
| Health & Disability Sector | 59,220 | 4.42 |
| Non-Government Agencies | 14,961 | 1.12 |
| Volunteer/Service Clubs | 1,440 | 0.11 |
| Animal Shelter/Service Providers | 274 | 0.02 |
| Agriculture/Livestock | 311 | 0.02 |
| Science/Engineering Organisations | 5,234 | 0.39 |
| Media Organisations | 2,103 | 0.16 |
| Community Groups | 9,378 | 0.70 |
| Other | 8,800 | 0.65 |
| TOTAL | 1,340,429 | 100 |

Schools were the major participants in the Shakeout making up 67% of registrants, and 30% of other participants were located at work places. Schools and work places were clearly an important component of registrations that warrants further study. The participation of schools was also evaluated as part of a separate survey and is discussed in Section 4.2 of this report. The rest of the registrations came predominantly from individuals, community groups or volunteer and service clubs.

3.0 METHODOLOGY

3.1 METHODOLOGY FOR OBSERVATIONS

The key method of evaluation was based on observation of whether individuals, businesses, schools and other organisations participated in the ShakeOut drill on 26 September 2012 (i.e., whether they undertook the actions 'Drop, Cover and Hold'). This was a preferred method of evaluation because such observations were able to identify direct actions and outcomes based on information promulgated in the ShakeOut campaign. This was important in order to understand how effective the messaging was at promoting appropriate actions.

The observational methodology used for ShakeOut was based on projects undertaken at Ruapehu ski field and the subsequent lahar warnings developed by Dr. David Johnston and Dr. Graham Leonard (Leonard et al., 2008). The observational data for these aforementioned projects was collected over a period of ten years and has assisted in developing public education initiatives for the ski field. The method used for the ski field projects was modified for the ShakeOut drill. Dr. Graham Leonard developed the initial observational survey with Maureen Coomer, and Sara McBride created the observer forms ensuring that these were consistent with the ShakeOut campaign. The forms were reviewed by social science experts and key stakeholders such as MCDEM. After the review feedback was obtained a modified design was created and the forms were finalised (see Appendix 2 for a copy of the observer form).

The observer research initiative was announced via a ShakeOut online newsletter in July 2012, and promoted again in August 2012 on the ShakeOut website. These were the main channels of communication that informed people about the observational research. People were invited to observe the actions of others at the time of the drill at 9.26 a.m. on 26 September 2012, fill out the observer form to report what they saw, and send back their form to the researchers. Observers had from 25 September to 26 October, 2012 to send in forms. Some drills were held on 25 September as some participants preferred that date.

Respondents were provided with four methods to report back their findings: mail, email, fax, and SurveyMonkey (online survey form). The diverse report back process proved useful as each method was highly utilised, especially the mailing option. The variety of ways people responded proved to be highly informative regarding how people prefer to send back information about their observations.

Initially, it was estimated that GNS Science, who were collating and analysing the forms, would receive approximately 1,000-1,500 responses. Within the first 24 hours, more than 1,000 forms had been received. It was quickly identified that the response would be much larger than 1,000. The final number of completed observer forms was 5,129.

Given the high rate of return for observer forms, data entry personnel were contracted to assist with inputting data into the online SurveyMonkey programme. This process took approximately four weeks and up to six people were employed to do data entry. The quality control process included rationalising incomplete information and forms, and eliminating duplicates from the data set. After completion of the data input, the data was exported from SurveyMonkey into the statistical analysis programme SPSS and frequency tables were run for each question from the observer forms. The following section reports the results of that analysis.

In undertaking the analysis it was noted that for Question 14 (“How was the end of the drill announced”) the online SurveyMonkey observer form had missed including two categories (i.e. “Someone from the organisation” and “Over intercom/speakers”) that were asked on the other observer forms that people could send back by mail, email and fax. The results section notes this and explains how this issue was dealt with.

3.2 METHODOLOGY FOR SURVEYING SCHOOL PARTICIPATION IN THE NEW ZEALAND SHAKEOUT EARTHQUAKE DRILL

Karlene Tipler, PhD student at Massey University, surveyed school principals and teachers regarding participation in the ShakeOut drill and general preparedness for earthquakes. In 2012 there were a total of 2558 schools in New Zealand (Education Counts, 2012), and 2054 of those signed up to participate in the drill on the New Zealand ShakeOut website. Of the 2054 schools that had signed up, 1,878 schools stated that they were willing to being contacted by a researcher about ShakeOut. Thus, 1,878 schools were invited to complete the New Zealand ShakeOut earthquake drill school participation survey (Appendix 3). A total of 514 schools responded to the survey, i.e., 27% of schools that were invited to participate.

4.0 RESULTS

4.1 OBSERVATION RESULTS

Results from the observer forms are presented in tabular format for each question, followed by a brief statement discussing the findings.

Q.1 Participating city or town

Table 2 Numbers of people participating in ShakeOut by region.

| Region (based on Civil Defence Emergency Management Boundaries) | Number of participants | Percentage of total |
|--|-----------------------------------|--------------------------------|
| Address not given | 19 | 0 |
| Auckland | 1641 | 32 |
| Bay of Plenty | 366 | 7 |
| Canterbury | 243 | 5 |
| Central Plateau | 58 | 1 |
| Chatham Islands | 1 | 0 |
| Coromandel | 19 | 0 |
| Dunedin | 109 | 2 |
| East Coast | 60 | 1 |
| Fiordland | 2 | 0 |
| Hawke's Bay | 186 | 4 |
| Manawatu-Wanganui | 254 | 5 |
| Marlborough | 38 | 1 |
| Nelson | 127 | 3 |
| Northland | 103 | 2 |
| Otago | 109 | 2 |
| Southland | 68 | 1 |
| Taranaki | 154 | 3 |
| Waikato | 402 | 8 |
| Wairarapa | 37 | 1 |
| Wellington | 1076 | 21 |
| West Coast | 57 | 1 |
| Total | 5129 | |

(Note: percentages have been rounded to the nearest interger.)

Analysis: Auckland had the highest rate of return at 32%, which is consistent with the total population of the region in comparison to the overall population of New Zealand. According to Statistics New Zealand (Population Statistics Stocktake, 2011), 31% of New Zealand's population live in the Auckland region.

Wellington had the second highest return rate of observation forms at 21%. This is much higher than the population in relation to the rest of the country (10%) (Population Statistics Stocktake, 2011). Auckland and Wellington statistics are further explored in Section 4.2. Originally, the data here was not inputted based on region but on city, township or locality. Prior to the regional grouping, we observed that relatively small centres of Timaru (Canterbury) and Te Awamutu (Waikato) provided an unusually high number of forms given their size. Given that 38% of forms did not come from one of the major or minor urban or suburban areas, there appears to be considerable return of observer forms from rural New Zealand.

Q.2 (Date) and Q.3 (Observer Name)

The details for Q2 (date) and Q3 (observer name) are not reported here. The majority of people indicated that they participated in the drill on 26 September 2012 when it was held.

Q.4 How was the start of the drill announced? (tick as many options as required)

Table 3 Announcement of the start of the drill.

| Type (N=5811) | Alarm sounding | Fire warden | Email | Phone | Civil defence sting | Sms/text message | Intercom/ speakers | Someone from organisation |
|---------------|----------------|-------------|-------|-------|---------------------|------------------|--------------------|---------------------------|
| Percentage | 45.2 | 10.9 | 5.1 | 1.9 | 20.2 | 0.9 | 15.4 | 30.9 |

(Note: the above percentages add up to more than 100% as respondents could tick more than one option)

Analysis: Alarm sounding was the preferred method to communicate the start of the drill, with the second being someone from the organisation. As multiple choices were offered for those answering the question, some people ticked several options (e.g. alarm and someone from organisation).

Q.5 Address details

Question 5 (address details) are not reported here.

Q.6 Did participants Drop, Cover and Hold? (tick only one)

Table 4 Did participants drop cover and hold?

| Answer: | Percentage (N=5129) |
|----------------------|---------------------|
| Yes, everybody | 63.0 |
| Yes but not everyone | 34.1 |
| No, nobody | 1.9 |
| Did not answer | 1.0 |

Analysis: Two-thirds of people observed participated.

Q.7 *If you answered, “Yes but not everyone”, approximately what percentage of people did you see drop, cover and hold (tick only one)*

Table 5 Percentage of people seen to drop, cover and hold.

| Answer: | Percentage (N=2039) |
|----------------|---------------------|
| 0-25 percent | 14.2 |
| 26-50 percent | 7.3 |
| 51-75 percent | 16.6 |
| 76-100 percent | 61.9 |

Analysis: The vast majority of people observed participated in the drill.

Q.8 *Of those who did drop, cover and hold, how long before the LAST PEOPLE took action (tick only one)?*

Table 6 How long before the last people took action?

| Answer: | Percentage (N=5129) |
|------------------------|---------------------|
| Within 10 seconds | 64.4 |
| 11-30 seconds | 22.5 |
| 31-60 seconds | 5.8 |
| Longer than 60 seconds | 3.8 |
| Did not answer | 3.5 |

Analysis: The majority of people observed took action within 10 seconds of the drill starting.

Q.9 *How many people did you see participate in the drill? (tick only one)*

Table 7 Number of people seen participating in drill.

| Answer: | Percentage (N=5129) |
|----------------|---------------------|
| 1-10 | 41.7 |
| 11-20 | 22.0 |
| 21-30 | 13.5 |
| 31-40 | 6.6 |
| 41-50 | 3.9 |
| 51- plus | 9.3 |
| Did not answer | 3.0 |

Analysis: The majority of people observed participating were in groups of 1-20 people.

Q.10 How long did most people who did drop, cover and hold stay in that position? (tick only one)

Table 8 How long people stayed in the drop, cover, hold position.

| Answer: | Percentage (N=5129) |
|------------------------|---------------------|
| 0-10 seconds | 6.6 |
| 11-30 seconds | 27.0 |
| 31-60 seconds | 34.6 |
| Longer than 60 seconds | 28.9 |
| Did not answer | 2.9 |

Analysis: The majority of people held the position for 11-60 seconds.

Q.11 Please give details (if there was a wide range of time people stayed in the position)

The full results for Question 11 are not reported here, as they require further textual analysis. However some analysis was undertaken on the reasons why people stayed in the 'Drop, Cover and Hold' position for more than 60 seconds.

Table 9 Why did people stay in place for more than 60 seconds?

| Why did people stay in place for more than 60 seconds? | Number of responses | Percentage of total |
|--|---------------------|---------------------|
| Until 'all clear' given | 346 | 84.07 |
| As long as an earthquake would be felt | 16 | 3.87 |
| Confused as to how long to stay under cover | 8 | 1.93 |
| Planned to stay in position for 2 minutes | 7 | 1.69 |
| Planned to stay in position till end of drill | 7 | 1.70 |
| Planned to stay in position for 1 minute | 5 | 1.20 |
| Planned to stay in position for 3 minutes | 4 | 0.96 |
| Earthquake discussion while under desks | 4 | 0.96 |
| Until evacuation place was checked | 3 | 0.73 |
| Confusion among children | 3 | 0.73 |
| Stayed down until photo taken | 2 | 0.48 |
| Elderly slow to respond and get up | 1 | 0.24 |
| Planned to stay in position | 1 | 0.24 |
| Staff roll call | 1 | 0.24 |
| Confused as to when to start so we were early | 1 | 0.24 |
| Waiting for radio announcement | 1 | 0.24 |
| When 'sting' stopped | 1 | 0.24 |
| When ambulance and fire service arrived | 1 | 0.24 |
| Total | 412 | |

Analysis: Most people stayed in place for more than 60 seconds because they were waiting to hear an 'all clear' message which indicated the end of the drill.

Q.12 Did anyone seem reluctant to drop, cover and hold?(tick only one)

Table 10 Were people reluctant to drop, cover, and hold?

| Answer: | Percentage (N=5129) |
|----------------|---------------------|
| Yes | 37.6 |
| No | 60.5 |
| Did not answer | 1.9 |

Analysis: the majority of people observed were not reluctant to participate fully in the drill.

Q.13 If you answered yes to the last question, why? (Tick as many options as required)

Table 11 Why observers thought people were reluctant to drop, cover and hold.

| Answer: | Percentage (N=1131) |
|--|---------------------|
| Disability | 31.8 |
| Age (fragility) | 27.2 |
| Restrictive clothing | 3.0 |
| Embarrassment | 43.1 |
| Did not have a place to drop, cover and hold | 19.9 |

(Note: the above percentages add up to more than 100% as respondents could tick more than one option)

Analysis: Disability and age appear to have been factors in people being reluctant or unable to participate. Embarrassment seemed to be the overall highest response to this question.

Q.14 How was the end of the drill announced? (Tick as many options as required)

Table 12 Method of announcement of the end of the drill.

| Answer: | Percentage (N=5046) |
|--------------------------------|---------------------|
| Alarm sounds (fire or other) | 20.9 |
| Civil Defence 'sting' | 6.1 |
| Fire warden | 16.6 |
| Email | 0.6 |
| Phone | 0.6 |
| Wasn't announced | 11.0 |
| SMS/Text message | 0.3 |
| Someone from the organisation* | 31.9 |
| Over intercom/speakers* | 12.0 |

Analysis: The majority of people were notified that the drill was over by either an alarm, fire warden or someone from the organisation. For 10 percent of people there was no official 'all clear' given.

NOTE: *These 'tick-box' questions were missing from the SurveyMonkey internet questionnaire, but where people had stated "someone from the organisation" or "over the intercom/speakers" in the 'other' box on the internet form, this was included in the total figures.

Q.15 How did you hear about New Zealand ShakeOut? (Tick as many options as required)

Table 13 How participants heard about ShakeOut.

| Answer: | Percentage (N= 5129) |
|------------------------------|-----------------------------|
| Someone from work | 49.7 |
| Family member | 5.3 |
| Friend | 4.2 |
| Email | 27.0 |
| TV News | 25.4 |
| Radio news | 31.0 |
| Newspaper | 20.2 |
| Online news | 13.6 |
| Work | 35.3 |
| Facebook | 3.5 |
| Twitter | 0.7 |
| SMS/Text message | 0.8 |
| Saw it advertised on posters | 17.3 |
| TV commercial | 19.0 |
| YouTube video | 1.3 |
| Website | 9.4 |
| Traffic signs | 12.6 |

(Note: the above percentages add up to more than 100% as respondents could tick more than one option)

Analysis: The workplace was the most common place where people heard information about ShakeOut. Of the traditional media outlets, radio was the most frequently quoted, and newspapers were the least. Social media ranked low, as did text messaging.

Q.16 Location of participants observed (Tick only one)

Table 14 Location of participants observed.

| Answer: | Percentage: (N=5129) |
|--|----------------------|
| Small business (1-10 employees) | 10.0 |
| Medium business (11-50) | 13.8 |
| Large business (50 +) | 17.7 |
| Early Childhood Centre | 9.3 |
| Primary School | 13.4 |
| Secondary School | 3.6 |
| Tertiary campus | 3.5 |
| Home | 2.4 |
| Government agency | 13.9 |
| Not for profit organisation | 5.2 |
| Mall | 0.1 |
| Shop | 0.5 |
| Emergency services (Police, Fire, Ambulance) | 0.4 |
| Crown Research Institute | 0.4 |
| Regional Council Office | 2.3 |
| Territorial Authority Office | 2.9 |
| Marae | 0.1 |
| Church | 0.2 |
| Volunteer Centre | 0.1 |
| Farm | 0.1 |
| Pub | 0.1 |
| Street (outside location) | 0.2 |
| Community Hall | 0.1 |

Analysis: The majority of people observed were at work, either for business or government organisations. Businesses alone represented 40 percent of forms returned. This is interesting given that only 15 percent of businesses registered overall.

Q.17 Can researchers contact you regarding this survey in the future? (this was only available on the online form)

Table 15 Agreement that researchers may make contact in future.

| Answer: | Percentage (N=636) |
|---------|--------------------|
| Yes | 76.1 |
| No | 23.9 |

Analysis: Nearly 500 people indicated researchers could contact them in the future. This provides an opportunity for following up the long-term effects of the ShakeOut exercise.

Method by which survey form was filled out and sent in:

Table 16 Method by which survey form was filled out and sent in.

| | Percentage N=5129 |
|--------------|-------------------|
| Mail | 50.6 |
| Email | 29.5 |
| Fax | 7.3 |
| SurveyMonkey | 12.7 |

Analysis: Most participants sent in their observer sheets by mail.

Regional Information

Additional regional information has been extracted from the data, as per the suggestion of MCDEM. In particular, this data shows the breakdown of people in the Wellington and Auckland Regions, and how they heard about the New Zealand ShakeOut drill.

Table 17 How Wellington and Auckland regions heard about the ShakeOut drill.

| How did you hear about New Zealand ShakeOut? | Wellington Region | Wellington Region | Auckland Region | Auckland Region |
|--|-------------------|---------------------|-----------------|---------------------|
| | Count | Percentage of total | Count | Percentage of total |
| Someone from work | 559 | 12.55 | 852 | 13.78 |
| Work | 448 | 10.06 | 572 | 9.25 |
| Radio news | 324 | 7.27 | 521 | 8.42 |
| Friend | 72 | 1.62 | 63 | 1.02 |
| Email | 263 | 5.90 | 434 | 7.01 |
| Newspaper | 265 | 5.95 | 259 | 4.18 |
| Saw it advertised on posters | 256 | 5.75 | 286 | 4.62 |
| TV news | 254 | 5.70 | 419 | 6.77 |
| TV commercial | 214 | 4.80 | 288 | 4.65 |
| Online news | 200 | 4.49 | 188 | 3.04 |
| Facebook | 67 | 1.50 | 45 | 0.73 |
| Twitter | 10 | 0.22 | 12 | 0.19 |
| SMS/text message | 20 | 0.44 | 4 | 0.06 |
| Family member | 78 | 1.75 | 79 | 1.27 |
| YouTube Video | 15 | 0.34 | 22 | 0.36 |
| Website | 141 | 3.16 | 142 | 2.30 |
| Traffic signs | 202 | 4.53 | 368 | 5.95 |
| No answer | 1062 | 23.84 | 1627 | 26.30 |
| Other: | | 0 | | 0 |
| USAR | 1 | 0.02 | | 0 |
| WEMO | 5 | 0.11 | | 0 |
| CDEM | | 0 | 3 | 0.05 |
| Postal | | 0 | 2 | 0.03 |
| Neighbourhood Support | | 0 | 1 | 0.01 |
| MCDEM | | 0 | 1 | 0.01 |
| Total | 4456 | | 6188 | |

Analysis: Most people in both Wellington and Auckland heard about the ShakeOut drill through their workplaces. Radio, television and newspaper were also common ways of hearing about ShakeOut, as was email.

4.2 SCHOOL PARTICIPATION RESULTS

The following data is a summary of initial results related to the ShakeOut drill conducted by schools. In-depth analysis has not yet been completed and will be finished as part of Ms Tipler's thesis. Questions on earthquake preparedness for schools are not presented in this report.

Results from the observer forms are presented in tabular format for each relevant question. No detailed analysis of the tabular data has been undertaken as this will be done at a later date.

Q.2 Numbers of students, teachers and other staff

Table 18 Approximate numbers of students, teachers and other staff across the schools surveyed (N=514).

| | Total number | Mean per school |
|------------------------|--------------|-----------------|
| Students | 155,244 | 303 |
| Teachers | 9,158 | 18 |
| All other school staff | 4,974 | 10 |
| Management | 2,062 | 4 |
| Total | 171,438 | 335 |

Q.3-5 Demographics of respondent schools

School type, decile rating, and geographic location data was gathered from respondents. Missing responses were supplemented with statistical data about New Zealand schools available from the Ministry of Education linked website Education Counts (2012).

Q.3 School type (please select the school type you identify with the most)

Table 19 Type of schools participating in the survey (N=514) versus the total number of New Zealand schools.

| School Type | School survey participants | | NZ Schools (total) | |
|---|----------------------------|-------|--------------------|-------|
| | Number of schools | % | Number of schools | % |
| Full primary school (Years 1-8) | 218 | 42.4 | 1102 | 43.1 |
| Contributing primary (Years 1-6) | 171 | 33.3 | 775 | 30.3 |
| Secondary school (Years 9-13) | 42 | 8.2 | 103 | 4.0 |
| Intermediate school (Years 7-8) | 26 | 5.1 | 236 | 9.2 |
| Secondary school with intermediate (Years 7-13) | 23 | 4.5 | 122 | 4.8 |
| Composite school (Years 1-13) | 18 | 3.5 | 149 | 5.8 |
| Te Kura Kaupapa Maori | 7 | 1.4 | * | * |
| Other | 9 | 1.8 | 71 | 2.8 |
| Total | 514 | 100.0 | 2558 | 100.0 |

* Te Kura total schools data not available.

Q.4 School Decile Rating (optional)

Table 20 School decile rating of schools participating in the survey (N=514) versus the total number of New Zealand schools.

| Decile Rating | School survey participants | | NZ Schools (total) | |
|---------------|----------------------------|------|--------------------|------|
| | Number of schools | % | Number of schools | % |
| Decile 1 | 43 | 8.4 | 274 | 11.0 |
| Decile 2 | 62 | 12.1 | 252 | 10.0 |
| Decile 3 | 50 | 9.7 | 250 | 10.0 |
| Decile 4 | 52 | 10.1 | 249 | 10.0 |
| Decile 5 | 44 | 8.6 | 254 | 10.0 |
| Decile 6 | 53 | 10.3 | 252 | 10.0 |
| Decile 7 | 51 | 9.9 | 230 | 9.0 |
| Decile 8 | 54 | 10.5 | 252 | 10.0 |
| Decile 9 | 49 | 9.5 | 254 | 10.0 |
| Decile 10 | 54 | 10.5 | 267 | 10.0 |
| Other | 2 | 0.4 | 24 | 0.0 |
| Total | 514 | 100 | 2558 | 100 |

Q.5 Regional Distribution

Table 21 Regional distribution* of schools participating in the survey (N=514) versus the total number of New Zealand schools.

| Region | School survey participants | | NZ Schools (total) | |
|-------------------|----------------------------|------|--------------------|------|
| | Number of schools | % | Number of schools | % |
| Auckland | 99 | 19.3 | 538 | 21.0 |
| Wellington | 79 | 15.4 | 253 | 9.9 |
| Waikato | 65 | 12.6 | 307 | 12.0 |
| Canterbury | 41 | 8 | 306 | 12.0 |
| Manawatu-Wanganui | 39 | 7.6 | 206 | 8.1 |
| Bay of Plenty | 35 | 6.8 | 161 | 6.3 |
| Otago | 29 | 5.6 | 145 | 5.7 |
| Hawke's Bay | 25 | 4.9 | 127 | 5.0 |
| Northland | 24 | 4.7 | 149 | 5.8 |
| Taranaki | 23 | 4.5 | 94 | 3.7 |
| Southland | 16 | 3.1 | 87 | 3.4 |
| Marlborough | 9 | 1.8 | 31 | 1.2 |
| West Coast | 12 | 2.3 | 38 | 1.5 |
| Nelson Tasman | 10 | 1.9 | 57 | 2.2 |
| Gisborne | 7 | 1.4 | 54 | 2.1 |
| Multiple/Other | 1 | 0.2 | 5 | 0.2 |
| Total | 514 | 100 | 2558 | 100 |

*Based on regions identified by the Ministry of Education (predominantly aligned with Regional Council boundaries).

Q.6 In our school the following people participated in the New Zealand ShakeOut earthquake drill (select all that apply)

Table 22 Drill participants.

| Drill participants | Number of schools | % |
|-------------------------------------|-------------------|------|
| Staff | 513 | 99.8 |
| Students | 511 | 99.4 |
| Students or staff with disabilities | 293 | 57.0 |
| Parents | 124 | 24.1 |
| Other | 66 | 12.8 |

Note: This question provides the opportunity for multiple responses. A total of 513 schools responded to this question.

Q.7 Our school participated in the New Zealand ShakeOut earthquake drill in the following ways (select all that apply)

Table 23 Participation type.

| Participation type | Number of schools | % |
|--------------------------|-------------------|-------|
| Drop, cover, hold | 510 | 99.22 |
| Building evacuation | 225 | 43.77 |
| School evacuation | 15 | 2.92 |
| Full simulation exercise | 8 | 1.56 |
| Other | 31 | 6.03 |

Note: This question provides the opportunity for multiple responses. A total of 512 schools responded to this question.

Q.8 Estimation of our school's performance of the New Zealand ShakeOut earthquake drill elements (select one response in each row)

A Likert Scale was used to enable schools to rate the quality of their performance for eight elements of the drill.

Table 24 Self-evaluation of drill elements.

| Drill Elements | Excellent | | Very good | | Good | | Fair | | Poor | | Not practiced | | Total |
|--|-----------|----|-----------|----|------|-----|------|-----|------|-----|---------------|-----|-------|
| | N | % | N | % | N | % | N | % | N | % | N | % | % |
| Staff provided leadership to students and each other | 336 | 66 | 115 | 23 | 28 | 6 | 1 | 0.2 | 0 | 0 | 28 | 6 | 100 |
| Participants adopted the "drop, cover, hold" position during the drill | 335 | 66 | 150 | 30 | 19 | 4 | 1 | 0.2 | 1 | 0.2 | 2 | 0.4 | 100 |
| All participants were accounted for in the assembly area | 226 | 44 | 45 | 9 | 4 | 1 | 1 | 0.2 | 0 | 0 | 232 | 46 | 100 |
| Emergency 'alert' systems were appropriate | 211 | 42 | 159 | 31 | 90 | 18 | 24 | 5 | 10 | 2 | 14 | 3 | 100 |
| Participants assembled promptly in a safe area outside following the building evacuation | 175 | 34 | 67 | 13 | 17 | 3 | 3 | 1 | 1 | 0.2 | 245 | 48 | 100 |
| Participants safely evacuated the building in a quiet and orderly manner | 165 | 33 | 77 | 15 | 21 | 4 | 2 | 0.4 | 0 | 0 | 243 | 48 | 100 |
| Participants moved to higher ground in case of a "tsunami" | 26 | 5 | 12 | 2 | 1 | 0.2 | 3 | 1 | 1 | 0.2 | 465 | 92 | 100 |
| Procedures for family reunification were followed | 22 | 4 | 7 | 1 | 7 | 1 | 1 | 0.2 | 1 | 0.2 | 470 | 93 | 100 |

Note: 508 schools responded to this question.

Q.9 Our school used the following resources for our New Zealand ShakeOut earthquake drill (select all that apply)

Table 25 Resources used for ShakeOut.

| Resources | Number of schools | % |
|---|-------------------|------|
| Resources from the ShakeOut website | 455 | 91.4 |
| "What's the plan Stan?" educational resource | 178 | 35.7 |
| Civil defence 'sting' to begin the drill | 129 | 25.9 |
| Ministry of Education guidelines or templates | 119 | 23.9 |
| None - we did not use any resources | 25 | 5.0 |
| Other resources | 50 | 10.0 |

Note: This question provides the opportunity for multiple responses. A total of 498 schools responded to this question.

Q.10 Our school did (or will) evaluate the New Zealand ShakeOut earthquake drill in the following ways (select all that apply)

Table 26 Drill evaluation methods.

| Evaluation method | Number of schools | % |
|---|-------------------|------|
| In a staff meeting | 337 | 67.1 |
| In classroom with students | 318 | 63.3 |
| Written report | 95 | 18.9 |
| Not planning to evaluate the ShakeOut drill | 34 | 6.8 |
| "What's the plan Stan?" evaluation forms | 24 | 4.8 |
| Other | 60 | 12.0 |

Note: This question provides the opportunity for multiple responses. A total of 502 schools responded to this question.

Q.11-12 Qualitative Results

The survey also contained two qualitative questions related to the ShakeOut drill, neither of which are analysed in detail in this report:

- Q.11 The top three (3) lessons learned during the New Zealand ShakeOut earthquake drill. In total 444 respondents identified a total of 1160 lessons from the drill, many of which were similar; and
- Q.12 Any other comments or suggestions regarding the New Zealand ShakeOut earthquake drill. Eighty-nine participants made additional comments.

4.2.1.1 Analysis of results

More analysis is required to fully interpret the data obtained from the school survey. Initial results indicate a very high level of participation in the Shakeout drill by schools. When asked about the quality of their performance for participating in the actions of 'drop, cover, hold' for the drill, 96% of respondents rated their performance as "excellent" or "very good". There was also substantial use of the ShakeOut resources by schools (91%) and additional use of the school resource "What's the Plan Stan" (36%). Around two thirds of schools indicated that they had or would evaluate their participation ShakeOut drill by use of staff meetings (67%) or in a classroom with their students (63%).

5.0 CONCLUSIONS

The following bullet-point summary of some of the key findings of the ShakeOut evaluation research is based on the observer forms returned by participants and on the school survey undertaken by Karlene Tipler:

- ShakeOut had high levels of participation with more than 1.3 million people registered.
- Relative to population, the Wellington region had the largest number of observer forms received by researchers, followed by Auckland. Several provincial towns including Timaru and Napier did well in recruiting participants.
- ShakeOut appears to have been a well-received work-place activity. The most popular type of location for respondents were workplaces, educational facilities (e.g. schools, childcare centres, tertiary institutions) and government agencies. Given the popularity of workplace participation, in the future such an exercise could be incorporated into workplace health and safety activities.
- According to observers, a large percentage of people actively participated in the drill (over 60%).
- People generally participated in small groups (e.g. up to 20 people) indicating strength of social norms and benefits of group participation. Also, this could be indicative of the type of work-places that participated, or of people's "line of sight" during the drill.
- People held their position for 11-60 seconds, which was consistent with advice to hold the position for one minute.
- Most people were happy to participate (more than 60%); of those reluctant to participate embarrassment appears to have been a factor.
- Disability and age are issues regarding participation. More work engaging with health, preschool, and age care groups might be beneficial in the future to deal with this issue.
- The most common form of drill announcement was 'alarms' and 'someone from the organisation'.
- A large number of people heard about ShakeOut through the workplace, highlighting the key role that workplaces play in educating adults about appropriate actions before, during and after earthquakes. More emphasis could be placed on workplace education, which could be framed in a Health and Safety context. ShakeOut could, in the future, be created as a regular workplace and schools initiative, similar to fire drills. Workplaces could, given the success of ShakeOut, be a good channel for future public education initiatives.
- Traditional media, like radio and television are still important avenues for disseminating information about preparedness and response.
- The use of social media was surprisingly low in terms of hearing about ShakeOut. However, this could have been due to the fact that social media use is still evolving in regards to Civil Defence and public organisations using it to disseminate information.
- From a Social Science perspective, people responded positively to having four different methods for returning observer forms. In the future, large scale Social Science surveys should provide multiple methods for report-back to increase respondent participation.

- Nearly 500 people agreed to be contacted again by researchers, providing an excellent opportunity to follow-up on the long term effects of ShakeOut.
- More analysis of the data would be beneficial. Researchers could geo-code and further disaggregate the data from the observer forms to compare urban/suburban/rural participation and regional issues.
- More analysis is required to interpret the data obtained from the school survey, however, initial results show a very high level of participation by schools in the Shakeout drill, high assessment of performance for 'Drop, Cover and Hold' for the drill, and significant use of ShakeOut resources by schools (91%).

6.0 ACKNOWLEDGEMENTS

The researchers would like acknowledge the assistance of the Ministry of Civil Defence and Emergency Management, in particular Jo Guard and Anita Komen. Their assistance was invaluable.

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APPENDICES

APPENDIX 1: SHAKEOUT EVALUATION STRATEGY

A1.1 NEW ZEALAND SHAKEOUT RESEARCH AND EVALUATION STRATEGY

Purpose

To evaluate the effectiveness of the national earthquake preparedness campaign 'New Zealand Shake Out'.

Objectives

- To measure effectiveness of ShakeOut against the established ShakeOut aim, objectives and key performance indicators (see Section A1.2 for details).
- To gauge public response, negative or supportive, to ShakeOut and Get Ready Get Thru advertising, promotion, risk communication and action planning since the beginning of promotion and publicity (March 2012).
- To better understand people's perceptions of the earthquake risk in New Zealand in low probability, high impact areas.
- To gauge organisational participation in New Zealand ShakeOut (drill and other preparedness activities).
- To analyse and provide recommendations for future ShakeOut drills, should there be organisational support for on-going activities.

Time frame for delivery

The initial findings of the evaluation of ShakeOut against the ShakeOut aims, objectives and key performance indicators will be delivered within three months to the Ministry of Civil Defence & Emergency Management for comment and discussion.

The final report of the research and evaluation programme will be delivered within six months to the Ministry of Civil Defence & Emergency Management as well as the general public.

Methodology

Three major work flows have been proposed for data collection and analysis. These work flows focus on schools, organisations and individual actions. The three work projects are as follows:

A1.1.1 Evaluation of exercise within the education sector

This project will focus on evaluation of the schools, teachers and students regarding the earthquake drill and other preparedness actions taken in response to New Zealand ShakeOut. We will liaise with Ministry of Education regarding the project.

Lead Researcher: Victoria Johnston

Team Members: Maureen Coomer, David Johnston, Karlene Tripler, Ruth Tarrant

Timeframe: July – October 2012

Goals

- Include questions regarding Shakeout in the bi-annual survey of schools, performed by the Ministry of Education.
- Create an online survey for school officials to populate regarding the drill.
- Analyse the data and write a journal article for publication.

Methodology

A qualitative survey will be drafted by one of our researchers and tested on two schools for applicability. The survey or survey link will be sent to all schools prior to the exercise. The surveys will then be collected and analysed.

Project Outputs: Academic journal article with a list of recommendations for schools on how they can improve on national campaigns regarding emergency preparedness.

A1.1.2 Online evaluation project

Lead Researcher: Sara K. McBride

Team Members: Maureen Coomer, David Johnston, Vicki Johnson

Timeframe: July 2012-October 2012

Goals

- Liaise with the Ministry of Civil Defence and Emergency Management regarding collection of online registration information.
- Collect data after the ShakeOut drill has been completed.
- Perform a data analysis and generate recommendations based on this analysis.
- Draft recommendations within a report, and share information with the Ministry of Civil Defence and Emergency Management.

Methodology: Analysis of the registrations on the ShakeOut website, the following of ShakeOut on social media sites, and the survey on GeoNet website. This is a quantitative research project.

Project Outputs: A report regarding key findings regarding demographic and quantitative information.

A1.1.3 Organisational Observation

Lead Researcher: Sara K. McBride

Team Members: Maureen Coomer, David Johnston, Vicki Johnson, others

Timeframe: July – September 2012

Goals

- To create a simple survey for observers of the ShakeOut within organisations and external participants.
- To engage with members of the public and organisations participating in ShakeOut to assist with gathering data using the observation forms.
- Collect the data and analyse the information.
- Write an academic journal article covering the data collected and recommendations for future ShakeOuts.

Methodology: An observer survey will be created and tested for appropriateness. Observer surveys have been used in the U.S. ShakeOut (the Great Central U.S. Shakeout), these forms will be analysed for usability within this project. This survey will be a quantitative data collection. An online survey will be available and a paper survey will be available as well. Data will be collected and analysed.

Ongoing Research

A follow up survey will be created and sent out to people who participated via email and social media six months prior to the exercise to determine the long term effectiveness of the NZ Shakeout.

Project Output

- Survey
- Journal article

Coordinating Research throughout New Zealand

A publication will be created that will include all the research from the ShakeOut exercise. There will be a number of research initiatives throughout New Zealand outside of this research strategy. In order to support research from different organisations, a publication should be created, with the intention of including research from this strategy and the inclusion of others.

A1.2 AIM, OBJECTIVES AND KEY PERFORMANCE INDICATORS OF NEW ZEALAND SHAKEOUT

Aim: Everyone who participates in New Zealand ShakeOut is better prepared to 'Get Thru' an earthquake.

| No. | Objective | Key Performance Indicators |
|-----|---|--|
| 1. | People throughout New Zealand understand the right actions to take in an earthquake. | <ul style="list-style-type: none"> To provide evidence that people throughout New Zealand understand the right actions to take in an earthquake. <p><i>Measure: We will assess understanding through surveys, stories and feedback on the website, feedback from CDEM Groups and informal media and social media monitoring.</i></p> |
| 2. | To promote earthquake planning and discussion by individuals, families and organisations in the lead up to 26 September 2012. | <ul style="list-style-type: none"> All agreed opportunities to promote earthquake planning and discussion are taken, for example, through: <ul style="list-style-type: none"> Core information, New Zealand ShakeOut website, Advertising, Marketing (including sponsorship), Media/PR Plan and Event Opportunities, Social media, Printed material and other collateral, Partner organisations. <p><i>Measure: We will assess the level of planning and discussion through website analytics, stories and feedback on the website, feedback from CDEM Groups and informal media and social media monitoring.</i></p> |
| 3. | To have one million people participate in the 'Drop,Cover and Hold' drill at 9:26am on 26 September 2012. | <ul style="list-style-type: none"> One million people participate in the Drop Cover and Hold drill. <p><i>Measure: We will assess participation by the number of people registered on the website, surveys, feedback from CDEM Groups and informal media and social media monitoring.</i></p> |
| 4. | To provide targeted resources and activities enabling varying levels of participation. | <ul style="list-style-type: none"> To provide options to allow various levels of participation To ensure at least one appropriate resource is available for each target group by end of April 2012. |

APPENDIX 2: OBSERVER FORM

The following is a copy of the observer form that was used for the ShakeOut evaluation. This was the form available on the ShakeOut website that people could download, fill in, and return to the researchers.



OBSERVER INFORMATION FOR NEW ZEALAND SHAKEOUT

New Zealand's largest ever earthquake drill

Thank you for agreeing to observe and evaluate New Zealand ShakeOut. Below is some important information you will need to know before you start the drill on 26 September 2012.

Being an observer and returning this form will help us know how successful the drill was and what could be improved in the future. It is important to identify areas requiring improvement before the next big earthquake!

When to complete this form:

Please complete this form during the drill at 9.26am on Wednesday 26 September 2012 (or alternative date and time if your organisation has chosen to conduct the drill on a different day).

Please send your form to us as soon as possible after the drill. The last day for forms to be accepted is 26 October 2012.

Do's and Don'ts for the ShakeOut observation:

Do watch the drill and record your answers based on your observations. You can participate in the drill and write your observations afterwards as well. Give lots of detail, there are no wrong answers.

Do make sure ahead of time that there is a good, wide, logical distribution of observers if there is more than one.

Do send the form back to us as soon as possible after filling it in. You can mail it, scan and send it by email or fill out the form online (see below for further information).

Do fill out the form as honestly as you can, without concern for who is reading it. Please be both critical, and where possible also give constructive suggestions.

Do ask questions of the organisers if you don't understand a part of the observer questionnaire (see below for our contact details). Just do the best you can, there are no wrong answers!

Don't ask other people to give opinions about the drill. What you write in the form should be based solely on your own observation. Don't share forms with other observers, this is meant to be filled out by one person only.

Don't have all your observers in one place.

Don't throw your observation form away – this information is crucial to understanding whether this activity is effective or not.

Don't worry about your organisation's performance. This is not a test of your organisation or the people who work in it. We will not report back the raw information found directly to your organisation. Only generalised, anonymous results will be made public.

Send us your forms!

Post: Attention: ShakeOut Evaluation
PO Box 30368
Lower Hutt

Email: nzshakeoutobserv@gmail.com
Online: <https://www.surveymonkey.com/s/nzshakeout>
Fax: 04 570 4600

How to contact us:

Email: nzshakeoutobserv@gmail.com or contact the ShakeOut Coordinators at 04 473 7363





NEW ZEALAND SHAKEOUT- OBSERVERS RESULT FORM

1. City/Town: _____ 2. Date: _____

3. Observer Name: _____

4. How was the START of the drill announced (tick ALL that apply)?

- | | |
|--|--|
| <input type="checkbox"/> Alarm sounding | <input type="checkbox"/> SMS/text message |
| <input type="checkbox"/> Fire warden | <input type="checkbox"/> Over intercom/speakers |
| <input type="checkbox"/> Email | <input type="checkbox"/> Someone from organisation |
| <input type="checkbox"/> Phone | |
| <input type="checkbox"/> Civil defence 'sting' | |

☐ Other _____

5. Please give or describe the specific address you were at or information about your location:

6. Did participants drop, cover and hold (tick only ONE)?

- ☐ Yes, everybody
- ☐ Yes but not everyone ANSWER QUESTION 7:
- ☐ No, nobody

GIVE DETAILS: _____

7. If "yes but not everyone", approximately what percentage of people did you see "drop, cover and hold"? (tick only ONE)

- | | |
|--|---|
| <input type="checkbox"/> 0-25 percent | <input type="checkbox"/> 51-75 percent |
| <input type="checkbox"/> 26-50 percent | <input type="checkbox"/> 76-100 percent |

8. Of those who did "drop, cover and hold", how long before the LAST PEOPLE took action? (tick only ONE)

- ☐ Within 10 seconds
- ☐ 11-30 seconds
- ☐ 31-60 seconds
- ☐ Longer than 60 seconds

9. How many people did you see participate in the drill (tick only ONE):

- | | |
|--------------------------------|--------------------------------|
| <input type="checkbox"/> 1-10 | <input type="checkbox"/> 31-40 |
| <input type="checkbox"/> 11-20 | <input type="checkbox"/> 41-50 |
| <input type="checkbox"/> 21-30 | <input type="checkbox"/> > 50 |

10. How long did most people who did "drop, cover and hold" stay in that position? (tick only ONE)

- ☐ 0- 10 seconds
- ☐ 11-30 seconds
- ☐ 31-60 seconds
- ☐ Longer than 60 seconds

11. Please give details [e.g. if there was a wide range of times that people stayed in the position]:



12. Did anyone seem reluctant to “drop, cover and hold”? (tick only ONE)

- ☐ Yes ANSWER QUESTION 13:
☐ No

13. If “Yes” to question 12, why?

- ☐ Disability ☐ Did not have a place to drop, cover and hold (no table or desk available)
☐ Age (fragility)
☐ Restrictive clothing
☐ Embarrassment
☐ Other _____

14. How was the END of the drill announced (tick ALL that apply)?

- ☐ Alarm sounding ☐ Phone ☐ Over intercom/speakers ☐ Someone from organisation
☐ Civil defence ‘sting’ ☐ Wasn’t announced
☐ Fire warden ☐ SMS/text message
☐ Email ☐ Other _____

15. How did you hear about New Zealand ShakeOut?

- ☐ Someone from work ☐ Radio news ☐ Twitter ☐ YouTube video
☐ Family member ☐ Newspaper ☐ SMS/text message ☐ Website
☐ Friend ☐ Online news ☐ Saw it advertised on posters ☐ Traffic signs
☐ Email ☐ Work
☐ TV news ☐ Facebook ☐ TV commercial

16. Location of participants observed (tick only one):

- ☐ Small Business (1-10 employees) ☐ Home ☐ Crown Research Institute ☐ Church
☐ Medium Business (11-50) ☐ Government Agency Office ☐ Regional Council Office ☐ Volunteer Centre
☐ Large Business (50+) ☐ Not for profit organisation ☐ Territorial Authority Office ☐ Farm
☐ Early Childhood Centre ☐ Mall ☐ Marae ☐ Pub
☐ Primary School ☐ Shop ☐ Street (outside location)
☐ Secondary School ☐ Emergency Services (Police, Fire, Ambulance) ☐ Community Hall
☐ Tertiary campus ☐ Other: _____

17. Additional Comments:



APPENDIX 3: SCHOOL PARTICIPATION SURVEY FORM

The following is a copy of the school participation survey form that was used for the ShakeOut school evaluation.

1. ABOUT THIS SURVEY

Massey University and GNS Science are carrying out a survey of school participation in the New Zealand ShakeOut earthquake drill. The aim is to improve future New Zealand ShakeOut drills and also provide information about emergency preparedness in New Zealand schools.

The first part of the survey will collect feedback about your school's experience of the New Zealand ShakeOut earthquake drill with the aim of improving future ShakeOut drills. The second part of the survey will gather information about current emergency preparedness practices in schools with the aim of identifying areas where assistance may be required to better support schools in their future preparedness efforts.

The survey will be available between September 27th and October 21st and will take between 15 and 20 minutes to complete. Participation in the survey is voluntary and any identifying information you provide will only be available to the researchers identified below and will not be included in any published reports. You are under no obligation to complete this survey. If you decide to participate, you have the right to:

- * decline to answer any particular question;
- * withdraw from the study at any time before the results are sent for publication;
- * ask any questions about the study at any time during participation;
- * provide information on the understanding that the name of your school will only be used for regional comparisons;
- * be given access to a summary of the project findings when it is concluded.

You can move through the survey using the "prev" and "next" prompts at the bottom of each page. Your survey will be submitted once you have selected the "done" prompt on the final page.

If you have any questions or comments about this survey, please feel free to contact: Karlene Tipler, Ph: 04 801 5799 ext 62552, email: K.S.Tipler@massey.ac.nz or Dr Ruth Tarrant, Ph: 04 801 5799 Ext 6754, email: R.A.Tarrant@massey.ac.nz.

"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researchers, please contact Professor John O'Neill, Director (Research Ethics), telephone 06 350 5249, email humanethics@massey.ac.nz".

Thank you.

2. SURVEY REFUSAL

1. Would you like to proceed with the survey?

- ☐ Yes, I would like to proceed to the survey
- ☐ No, I do not want to complete the survey

3. DESCRIPTIVE INFORMATION

This section asks some basic information about your school.

2. Approximate numbers in our school:

| | |
|-----------------|----------------------|
| Management | <input type="text"/> |
| Teachers | <input type="text"/> |
| Students | <input type="text"/> |
| All other staff | <input type="text"/> |

3. School type: (please select the school type you identify with the most)

- | | |
|---|---|
| <input type="radio"/> Full primary school (Years 1-8) | <input type="radio"/> Secondary school (Years 9-13) |
| <input type="radio"/> Contributing primary (Years 1-6) | <input type="radio"/> Composite school (Years 1-13) |
| <input type="radio"/> Intermediate school (Years 7-8) | <input type="radio"/> Te kura kaupapa Maori |
| <input type="radio"/> Secondary school with intermediate (Years 7-13) | |

Other (please specify)

4. School decile: (optional)

5. School name: (optional - this will remain confidential and will be used for regional comparison only)

4. SHAKEOUT DRILL PARTICIPATION

The following questions are about the participation of your school in the New Zealand ShakeOut earthquake drill.

6. In our school the following people participated in the New Zealand ShakeOut earthquake drill: (select all that apply)

- | | |
|-----------------------------------|--|
| <input type="checkbox"/> Staff | <input type="checkbox"/> Students or staff with disabilities |
| <input type="checkbox"/> Students | <input type="checkbox"/> Parents |

Other (please specify)

**7. Our school participated in the New Zealand ShakeOut earthquake drill in the following ways:
(select all that apply)**

☐ Drop, cover, hold

☐ School evacuation (i.e., parents collected their children)

☐ Building evacuation

☐ Full simulation exercise (which included one or more outside agencies e.g., civil defence, police, fire)

Other (please specify)

SHAKEOUT DRILL PARTICIPATION

8. Our school's performance of the New Zealand ShakeOut earthquake drill elements: (select one response in each row)

| | Excellent | Very good | Good | Fair | Poor | Not practiced |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Emergency 'alert' systems were appropriate | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Participants adopted the "drop, cover, hold" position during the drill | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Participants safely evacuated the building in a quiet and orderly manner | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Participants assembled promptly in a safe area outside following the building evacuation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Participants moved to higher ground in case of a "tsunami" | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| All participants were accounted for in the assembly area | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Staff provided leadership to students and each other | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Procedures for family reunification were followed | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Other (please specify)

SHAKEOUT DRILL PARTICIPATION

9. Our school used the following resources for our New Zealand ShakeOut earthquake drill: (select all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Resources from the ShakeOut website | <input type="checkbox"/> Ministry of Education guidelines or templates |
| <input type="checkbox"/> Civil defence 'sting' to begin the drill | <input type="checkbox"/> None - we did not use any resources |
| <input type="checkbox"/> "What's the plan Stan?" educational resource | |

Other (please specify)

10. Our school did (or will) evaluate the New Zealand ShakeOut earthquake drill in the following ways: (select all that apply)

- | | |
|---|---|
| <input type="checkbox"/> Written report | <input type="checkbox"/> In classroom with students |
| <input type="checkbox"/> "What's the plan Stan?" evaluation forms | <input type="checkbox"/> We are not planning to evaluate the ShakeOut drill |
| <input type="checkbox"/> In a staff meeting | |

Other (please specify)

SHAKEOUT DRILL PARTICIPATION

11. Our top three (3) lessons learned during the New Zealand ShakeOut earthquake drill were:

1.
2.
3.

12. Any other comments or suggestions regarding the New Zealand ShakeOut earthquake drill:

Thank you for completing the New Zealand ShakeOut earthquake drill participation section of the survey.

The next page has some questions about school emergency preparedness activities.

13. Are you willing to answer the additional preparedness questions for your school?

- ☐ Yes, I will answer the preparedness questions.
- ☐ No, thank you.

5. SCHOOL PREPAREDNESS

The following questions are about emergency preparedness in your school.

14. Our school has taken the following physical protection measures against earthquakes and other hazards: (select all that apply)

- ☐ We know the state of school buildings with regard to earthquake risk
- ☐ All or most tall or heavy furnishings and equipment are secured to wall studs
- ☐ Exit routes have signage and are kept clear
- ☐ Emergency equipment is in place and maintained regularly

Other (please specify)

SCHOOL PREPAREDNESS

15. Our school has taken the following assessment and planning measures against earthquakes and other hazards (select all that apply)

- ☐ Developed an emergency response plan
- ☐ Identified the roles and responsibilities of staff in an emergency
- ☐ Established communication plans in the case of an emergency
- ☐ Established plans for continuity of school operations after an emergency
- ☐ Developed site and neighbourhood maps that identify evacuation routes and locations (e.g., in case of tsunami)
- ☐ Identified and planned for the needs of staff or students with disabilities
- ☐ Ensured staff members are aware that they may be asked to remain at school to supervise children who cannot be collected after an emergency or disaster event
- ☐ Identified individual staff who may need to be released in advance of other staff
- ☐ Ensured all staff and parents are familiar with the school's emergency plan
- ☐ Ensured all staff and parents are familiar with the school's student release procedures

Other (please specify)

SCHOOL PREPAREDNESS

16. Our school has taken the following measures to develop response skills and provisions against earthquakes and other hazards: (select all that apply)

- ☐ Staff and students are encouraged to prepare at home
- ☐ Support material has been provided to staff and students about preparing for disasters at home
- ☐ First aid training has been provided to all or some staff
- ☐ Psychological first aid or crisis counselling has been provided to all or some staff
- ☐ Classroom teaching on disaster preparedness is provided to students every year
- ☐ Emergency 'grab bags/get away kits' are available in each work area and/or classroom
- ☐ Emergency supplies (e.g., food, water, shelter) are provided for staff and students who must remain at school after an emergency or disaster event
- ☐ We have discussed with civil defence our role (if any) as a civil defence centre or a community emergency shelter
- ☐ We invite emergency preparedness professionals (i.e., civil defence, police, fire) into our school annually
- ☐ We link our emergency preparedness programmes to other community initiatives

Other (please specify)

SCHOOL PREPAREDNESS

17. Our school involves parents in learning about our emergency plans and drills by: (select all that apply)

- ☐ Requiring parents to update emergency contact information at the beginning of each school year or more often
- ☐ Practising family reunification procedures during emergency drills at least once a year
- ☐ Encouraging parent participation in hazard education programmes and homework activities
- ☐ Discussing emergency plans in parent teacher meetings
- ☐ Social media messages (e.g., Facebook, Twitter, school website) or texting prior to emergency drills
- ☐ Regular updates in school newsletters
- ☐ We do not involve parents in our emergency plans or drills

Other (please specify)

SCHOOL PREPAREDNESS

**18. Our school participates in the following types of emergency drills:
(select one response in each row)**

| | Every term | More than once per year | Annually | Every few years | Never |
|--|-----------------------|----------------------------|-----------------------|-----------------------|-----------------------|
| Fire | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Earthquake | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Tsunami evacuation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Tornado or severe weather | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Lockdown or shelter in place | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Family reunification | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Full simulation including outside emergency response agencies | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Other (please specify)

SCHOOL PREPAREDNESS

**19. Our school evaluates our emergency preparedness efforts (i.e.,
planning, hazard education, emergency drills) in the following ways:
(select all that apply)**

- ☐ Written report
- ☐ "What's the plan Stan?" evaluation forms
- ☐ In staff meetings
- ☐ In classrooms with students
- ☐ Outside observers (e.g., civil defence)
- ☐ Feedback from parents
- ☐ We do not evaluate our emergency preparedness


Other (please specify)

SCHOOL PREPAREDNESS

20. Our school has had the following emergencies in the last three (3) years: (select all that apply)

- ☐ Fire
- ☐ Earthquake
- ☐ Weather related emergency
- ☐ Violence or bomb threat
- ☐ Temporary school closure
- ☐ Serious injury involving staff or students
- ☐ Death involving staff or students (on campus/fieldtrips)
- ☐ Death involving staff or students (off campus/out of school hours)

Other emergencies (please specify). Please add any other comments you have about emergency preparedness in your school in this space.



6. THANK YOU

Thank you very much for your time.

By sharing your experiences you have played a part in improving future New Zealand ShakeOut earthquake drills and contributed to a better understanding of emergency preparedness in schools.

We hope that participation in this survey may also assist you in your future school preparedness efforts.

Group results (no school will be named) from this survey will be available when the analysis is complete. It is expected that the results will be available from the end of June 2013 and can be accessed on the Joint Centre for Disaster Research website (<http://disasters.massey.ac.nz>) or by emailing me directly at K.S.Tipler@massey.ac.nz after that date.

If your school would be interested in participating in any additional studies investigating how schools prepare for or respond to emergency events please feel free to email me at the address above.



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