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Disaster Preparedness Education in Schools: Recommendations for New Zealand and the United States

Prepared by
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With funding from the sponsors of the
Ian Axford (New Zealand) Fellowships in Public Policy

August 2011

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Published by Fulbright New Zealand, August 2011

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ISBN 978-1-877502-26-2 (print)

ISBN 978-1-877502-27-9 (PDF)

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- Ministry of Social Development
- New Zealand Customs Service
- New Zealand Police
- State Services Commission
- Te Puni Kōkiri (Ministry of Māori Development)
- The Treasury

ACKNOWLEDGEMENTS

I am enormously grateful to the many people who have made my Ian Axford Fellowship such a rewarding professional and personal experience.

First I wish to thank my hosts and mentors Chandrika Kumaran and Dr Richard Smith of the Ministry of Civil Defence & Emergency Management. Their guidance, support and trust were critical to the success of this project. They not only made me feel at home at the Ministry, but they also provided me advice, access, travel support and a desk with a view of the Wellington waterfront, which I will very much miss!

I would also like to give a very special thanks to Dr David Johnston, Director of the Joint Centre for Disaster Research at Massey University for his extraordinary support during my fellowship. I am particularly grateful the opportunity to pursue a PhD in Emergency Management at Massey University so that I may continue my work evaluating disaster education programmes for children in New Zealand and the United States and remain involved in new research opportunities stemming from the Christchurch earthquakes.

I also would like to thank Dr David Schonfeld and Dr Kevin Ronan for their academic mentorship and support.

I thank all of the Civil Defence & Emergency Management (CDEM) and Council staff who facilitated my communication with their local schools and provided space, food and logistics for the focus groups. They also provided invaluable insights on delivering CDEM in schools. I extend my gratitude to Kevin Archer, Ross Brannigan, Debbie De Geus, Keith Evans, Andrew Hickey, Monique Jeffares, Anne-Marie Kite, Sandra Miller, Kathryn Nankivell, Dan Neely, Kate Pischief, Angela Reade, Jamie Richards, Rusty Ritchie, Peter Walker and Ian Wilson.

I would like to thank the individual school staff who volunteered to participate in the focus groups and took time from their busy schedules to share their personal experiences with me. Thank you to the following schools who provided representatives: Arakura School, Central School, Clyde Quay School, Destiny School, Dyer Street School, Hutt Intermediate, Karori West Normal School, Kimbolton School, Kiwitea School, Limehills School, Longburn School, Manchester Street School, Matura School, Nelson Park School, North Street School, Omata School, Otatara School, Pomare School, Randwick Park School, Richmond School (Nelson), Silverdale School, St. Joseph's School (New Plymouth), St. Joseph's School (Waitara), St. Mary's School (Northcote), St. Paul's School (Richmond), Stoke School, Tapawera Area School, Taradale Intermediate, Victory Primary School, Westmount School and Westshore School.

I am grateful to the entire Fulbright New Zealand staff, especially Stefanie Joe, Andy Mitchell and Mele Wendt, who arranged for our stay in New Zealand, offered ongoing support and provided a memorable and enriching orientation week.

Finally, I thank my partner Ryan Johnson for his willingness to pick up and move to the other side of the world with me. Our experience in New Zealand has been the

adventure of a lifetime, and his unending encouragement, support and excitement is more than I could have ever hoped for.

Victoria A. Johnson
Wellington, August, 2011

EXECUTIVE SUMMARY

The United States (US) Federal Emergency Management Agency (FEMA) and Department of Education (ED) are currently considering strategies to reach children and youth through disaster preparedness education in schools and extracurricular activities. Collaborating with the National Commission on Children and Disasters, FEMA established a Children's Working Group in 2009 and in September 2010 launched the first "National Summit on Youth Preparedness" in Washington, DC. Chandrika Kumaran of the New Zealand Ministry of Civil Defence & Emergency Management (MCDEM) spoke to participants at the Summit about New Zealand's national school-based disaster preparedness education programme, "What's the Plan, Stan?" (WTPS). WTPS includes learning and teaching resources for children aged seven to 12 years old, as well as information on school emergency management and disaster drills. WTPS could be a potential model for the US as a single national teaching resource. There are currently a number of disparate federal programmes for disaster education for children and school emergency management planning, in addition to many state-based programmes.

This study aimed to gather insights on the implementation of WTPS and identify some of the impacts of developing and promoting a single, national resource for disaster preparedness education in New Zealand schools. The study used a mixed methods approach of focus groups, interviews and an online survey. Seven focus groups in different regions on both the North and South Islands were used to gather in-depth qualitative data on personal and group experiences of primary and intermediate school educators. Focus group participants who had used WTPS in their classroom were provided a 10 question online survey to gather additional information on their use of WTPS resources. Lastly, individual and group interviews were conducted with regional and local CDEM and Council staff to gather perspectives on their role in working with schools and supporting WTPS. On 22 February 2011, in the midst of planning for this study, a magnitude 6.3 earthquake occurred in Christchurch taking the lives of 181 people. The focus groups and interviews took place in March and April 2011 and the results were uniquely influenced by these events.

Findings from this study indicate there is a very positive impression of WTPS among the participants who have used the resource. Some advantages to the WTPS resource are the inclusion of components recommended in research for disaster education programmes for children, such as 1) adoption of an emergency management perspective that supports teaching of protective behaviours before and during disasters, 2) use of a graduated sequence of learning activities across school years and 3) the inclusion of activities that facilitate interaction between children and parents. More research is needed to determine national uptake of WTPS and school disaster drills, and an evaluation of effectiveness would be useful to determine if WTPS is achieving learning outcomes in students.

A number of challenges to implementation were identified. First, a national strategy with measurable outcomes and on-going evaluation of WTPS is needed. Because there are no requirements for disaster preparedness education or disaster exercises beyond fire evacuation drills in schools, it is sometimes difficult for schools and individual teachers to make the topic of disaster preparedness a priority in classroom activities. Improved coordination and consistency in messaging from MCDEM and

the Ministry of Education are needed, particularly as WTPS is in competition with other important school-based safety and life skills education programmes. Findings from the study also indicate there is mixed understanding among educators about the roles of schools as civil defence centres. There is also concern about the appropriate approach to discussing disasters or conducting earthquake drills in schools in the aftermath of the Christchurch earthquake.

Recommendations for New Zealand include 1) an evaluation of effectiveness of WTPS, 2) an outcomes-based strategy for children's exposure to disaster preparedness education, 3) the establishment of a National School Earthquake Exercise Day, ideally in collaboration with the US, 4) messages for schools developed pre-disaster, 5) utilisation of webinars and search engine optimisation to address surges in inquiries from schools, and 6) incorporation of disaster preparedness lessons with *Firewise* and the Life Education Trust mobile classroom.

There are a number of lessons for the US from New Zealand's experience implementing a single national teaching resource for disaster preparedness education for children. Before embarking on the development and endorsement of a single national resource, FEMA and ED should collaborate with state agencies and relevant experts to develop a measurable outcomes-based strategy for children's exposure to effective disaster preparedness messages and consider the best approach for meeting those goals. The best approach may depend on a number of factors including the current use of state-based teaching resources and the level of funding needed to maintain awareness, buy-in and on-going evaluation. Also, US states should determine the use and frequency of school disaster drills in high-risk areas and determine if a new strategy is needed to increase uptake. Lastly, both the US and New Zealand should incorporate and evaluate psychosocial resources to address the needs of children affected by disasters to ensure these resources meet the needs of teachers.

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PREFACE

On 22 February 2011, three weeks into my Ian Axford Fellowship in Wellington, I was sitting at my desk at the eighth floor offices of the Ministry of Civil Defence & Emergency Management (MCDEM) when I felt an unusual dizziness. I realized that the building was swaying and I smiled to myself thinking I had just felt my first Wellington earthquake. Only a few minutes later at 1:10pm, I received an all-staff email from Duty Manager Sarah Stuart-Black that a large earthquake had just hit Christchurch. It took me a moment to grasp that the shaking I had just felt was a 6.3 magnitude earthquake nearly 190 miles away on the South Island.

Most of the MCDEM staff were out of the office at a training session, so I was asked to join the four staff members that were in the office to answer phone calls from the media. It was a chaotic moment. There were already reports of casualties on the radio. It was not long before we were asked to join other staff at the activated National Crisis Management Centre (NCMC) situated below ground in the Beehive (Parliament buildings). I worked with colleagues in the Public Information Section, answering phones and keeping records of reports on television and radio. This was the first of several days that I reported to the NCMC and assisted where I could. It was a week I will never forget.

I am extremely grateful to have had the opportunity to work in the NCMC and be a part of the initial emergency response to the Christchurch earthquake. What I witnessed was a very dedicated family of public sector staff and volunteers working tirelessly to coordinate critical resources, make difficult decisions and ultimately save lives. The selfless efforts in New Zealand are not unlike what I have witnessed during my career in emergency management in the United States. However, being a relatively isolated island of four million people in the southwest Pacific Ocean, New Zealand faces geographic, economic and human resource challenges unlike those that Americans have ever faced.

While my contribution to the Christchurch earthquake response was very small compared to those of my colleagues at MCDEM, I hope that this report provides insights that will lead to policies that will help both New Zealanders and Americans better prepare for disasters, particularly for the protection of our nations' children, who are often in the care of schools, child care and other institutions during the day. Sadly, 181 people lost their lives in February's earthquake, which occurred during the busy lunchtime hour when families were separated at work, school and other activities. This report is dedicated to those who lost their lives and to the heroic emergency responders, civil defence staff and volunteers who take on the challenging task of preparing our communities for disasters every day.

INTRODUCTION

Before undertaking an Ian Axford (New Zealand) Fellowship in Public Policy, I served as Policy Director of the National Commission on Children and Disasters (the “Commission”). Our objective was to develop recommendations for policy changes in the United States (US) that would lessen the physical and psychosocial impacts of disasters on children. One of the main findings of the Commission’s *2010 Report to the President and Congress* is that the vast majority of schools in the US are significantly unprepared for disasters.¹ The Commission proposed a number of policy recommendations to increase the preparedness of schools, including the establishment of a national school disaster preparedness programme for state- and school district-level disaster response planning, training, exercises and evaluation; and the establishment of initiatives that promote training of teachers and other school staff to support grieving students after disasters.² The Commission was also presented with teaching resources that aim to increase students’ awareness of disasters and provide them tools to prepare themselves and their families.³ The Commission’s main concern was the lack of evidence-based evaluations of existing disaster education programmes for children.

My goal for the Ian Axford Fellowship was to identify policy recommendations to improve school preparedness through disaster preparedness education for children by observing and documenting practices in New Zealand. The New Zealand Ministry of Civil Defence & Emergency Management (MCDEM), my fellowship host agency, developed and promotes “What’s the Plan, Stan?”(WTPS)⁴, a national resource for school-based disaster preparedness education and emergency planning. Before I began my fellowship, the Federal Emergency Management Agency (FEMA) expressed an interest in WTPS and invited Chandrika Kumaran, MCDEM’s Public Education Manager, to give an overview of WTPS at the very first “National Summit on Youth Preparedness” in Washington, DC in September 2010. The Summit was the beginning of a national policy dialogue on disaster preparedness education programmes for children and youth. Around the same time, FEMA’s Region III officials released a policy paper recommending that FEMA develop a single, national education programme focused on emergency preparedness that could be adapted by schools nationwide.⁵

In the US there are a number of federal initiatives and resources for school preparedness and youth resiliency. The US Department of Education (ED) provides guidance and resources for school emergency planning. Its main programme is the Readiness and Emergency Management for Schools (REMS) discretionary grant programme, which provides federal funding to individual school districts to develop comprehensive plans for emergencies and disasters.⁶ REMS funding is granted to approximately 150 school districts per year, about one per cent of all school districts

¹ National Commission on Children and Disasters (2010), p. 91

² National Commission on Children and Disasters (2010), p. 91-95

³ FEMA Administrator Fugate Addresses National Commission On Children And Disasters (23 August 2010)

⁴ Ministry of Civil Defence and Emergency Management (2009)

⁵ Federal Emergency Management Agency – Region III, Regional Advisory Council (2010), p. 53

⁶ *Readiness and Emergency Management for Schools* (n.d.)

in the country.⁷

During the past several years, FEMA has focused on developing teaching and learning resources for children, including the “FEMA for Kids” website⁸, for third through sixth grade students (aged eight to 12 years old), which provides resources for students, parents and teachers including lesson plans, classroom activities and interactive games for children. FEMA also developed the “Ready Kids” teaching resources in collaboration with Scholastic, Inc., an organisation that specialises in curriculum development. “Ready Kids” also includes lessons plans and activities for fourth through sixth grade students (aged nine to 12 years old) and includes a website.⁹ A programme for pre-school aged children and their families called “Let’s Get Ready” was also developed in collaboration with Sesame Workshop.¹⁰ Additionally, FEMA developed teaching resources in collaboration with the Discovery Channel and the Advertising Council called “Ready Classroom.”¹¹ Another programme of note is FEMA’s “Student Tools for Emergency Planning (STEP)”, currently in pilot phase in FEMA Region I, which provides teachers with a template for a one-hour unit on disaster awareness for fifth grade students (aged 10 to 11 years old) and a free emergency kit backpack for each student.¹² STEP conducted an evaluation in 2010 to assess if the programme could be delivered nationally.¹³

In addition to these programmes, FEMA identified over 50 individual state, local and non-governmental disaster preparedness education resources, indicating that states and local emergency management offices are promoting very different resources for disaster education and school emergency preparedness, if they are promoting a programme at all.¹⁴ Because disaster preparedness education in schools is not required at a national level, states and localities have the freedom to use and promote a disaster preparedness teaching resource of their choosing or develop their own.

For my Ian Axford Fellowship policy project, I proposed to study the implementation of WTPS in New Zealand schools and to identify some of the impacts of developing and endorsing a single, national teaching resource for disaster education in schools. Since WTPS was released in 2006, MCDEM has not had the resources to conduct a comprehensive evaluation of the use or effectiveness of the resource.

⁷ National Commission on Children and Disasters (2010), p. 92

⁸ *FEMA for Kids* (n.d.)

⁹ *FEMA Ready Kids* (n.d.)

¹⁰ *Let’s Get Ready: Planning Together for Emergencies* (n.d.)

¹¹ *Ready Classroom: Emergency Preparedness for Teachers, Students and Families* (n.d.)

¹² *Student Tools for Emergency Planning* (2009)

¹³ Federal Emergency Management Agency, Individual and Community Preparedness Division (2010)

¹⁴ Federal Emergency Management Agency (2010a)

1 OVERVIEW OF “WHAT’S THE PLAN, STAN?”

WTPS is a teaching and emergency planning resource developed by MCDEM for use by teachers and students.¹⁵ The resource comes in the form of a binder of materials, a CD-ROM (Compact Disc, read-only-memory) and a website, and includes: a) unit plans, fact sheets and activities for seven to 12 year old students, to teach about a range of disasters that occur in New Zealand and actions children should take when disasters strike, b) guidance on executing school disaster drills, with drill evaluation templates, and c) information regarding the roles of school staff, Boards of Trustees, parents and community agencies. Local and regional civil defence groups or local councils are responsible for promoting and providing support for WTPS in schools. Teachers are encouraged to modify and adapt the unit plans and activities to suit the needs of their students, and a school-wide approach is recommended.¹⁶

WTPS was part of MCDEM’s *National Public Education Strategy 2003-2008*¹⁷ and the revised *Strategic Framework for the National CDEM Public Education Programme 2006-2015*.¹⁸ In 2004 MCDEM organised a “CDEM in Schools” working group of civil defence staff from around the country to identify objectives and strategies. The working group began by conducting an analysis of existing CDEM public education materials and conducted a survey with teachers from different regions. They identified a number of challenges, including the lack of CDEM linkages with the national curriculum, the need for commitment from teachers to teach CDEM, and inconsistent messages, resources and teaching materials for children.¹⁹ In 2005-06, MCDEM sought and obtained \$6.1 million in Crown funding for national public education awareness initiatives for four years, including the development of teaching resources. The aim of developing teaching resources was to provide a consistent platform for teaching CDEM at schools, improve children’s awareness and preparedness for emergencies and deliver preparedness messages through children to households and the greater community.²⁰

In late 2004, the working group developed a three-phase plan to develop and roll out a national “all-hazards” resource for schools. They chose to create a brand specific to CDEM education that would allow any future resource development to have a strong, pre-existing identity.²¹ In 2005, MCDEM tendered Educating NZ²² to assist in developing appropriate support resources for teachers and CDEM offices to meet the objectives identified in the strategy.²³ In the development stage, information and ideas were gathered through focus groups with teachers and CDEM staff, as well as student interviews.

¹⁵ *What’s the Plan, Stan?* (2009)

¹⁶ *Public Education: What’s the Plan, Stan?* (n.d.)

¹⁷ Ministry of Civil Defence and Emergency Management (2003)

¹⁸ Ministry of Civil Defence and Emergency Management (2006), p. 6

¹⁹ *Department of Internal Affairs and Educating NZ Agreement for the provision of consultancy services* (2005)

²⁰ Ministry of Civil Defence and Emergency Management (2006), p. 6

²¹ *CDEM in Schools Working Group Recommendations* (2004)

²² Educating NZ is an education consultancy that specialises in professional learning and training, curriculum-based advice and educational publishing. *Welcome to Educating NZ* (n.d.)

²³ *Department of Internal Affairs and Educating NZ Agreement for the provision of consultancy services* (2005)

In 2006, the brand “What’s the Plan, Stan?” was born, with its iconic cartoon mascot, Stan the dog. The initial WTPS materials included a teachers’ guide with unit plans and activities; a CD-ROM for teachers and students featuring stories, interactive games, research material and tips for teachers; and a website. These materials were developed to align with the New Zealand Curriculum and are based on an inquiry approach model, to allow teachers to incorporate civil defence emergency management contexts and activity-based learning across all areas of the required curriculum.²⁴ The activities are linked to specific curriculum achievement objectives from the English, Social Studies, Science, and Health and Physical Education curricula. Teachers are guided to use the resource to help students develop “key competencies” including: relating to others; managing self; participating and contributing; thinking; and using languages, symbols and text.²⁵

MCDEM provided hard copies of the resource to every primary and intermediate school in New Zealand and held 15 workshops around the country to introduce teachers and principals to the materials. Approximately 700 educators participated in these workshops in 2006 and 2007.²⁶ After the initial phase of work, WTPS was enhanced with an additional storybook and audio CD, as well as a version of the resource in Te Reo Māori, entitled *Kia Takatū*, for use by schools with Māori language immersion classes. Also, additional focus groups were conducted in 2008 and 2009 to gather feedback from teachers and civil defence staff on ways to improve the resource and to ensure the resource aligned with the New Zealand Curriculum.²⁷ This feedback was incorporated into a revised version of WTPS that was launched in 2009. The objectives of the WTPS Communications Strategy for the 2009 launch was to maximise opportunities to raise awareness of the resource and ensure that strategies were put in place both nationally and by CDEM Groups to encourage and support the ongoing use of the resource in all schools.²⁸

The total annual budget in 2005-06 to scope, plan and develop the WTPS resource was approximately \$450,000 (approximately US\$355,000).²⁹ The 2006 workshops with educators cost approximately \$250,000, including the cost of teacher relief reimbursements to the participants’ schools. The budget also included the cost of printing and distributing hard copies of the resource to every primary and intermediate school in New Zealand at approximately \$22 per unit. Set-up and maintenance of the WTPS website cost approximately \$10,000 but relied heavily on in-house resources. Most of the content for the website was developed and is now maintained in-house.

In 2008-09, MCDEM budgeted an additional \$275,000 to update the resource, including scoping, consultation and project management; an update of the teachers’ handbook, CD-ROM and website; and the printing and postage of 6,000 hard copies of the revised resource to all primary and intermediate schools.

WTPS will be updated approximately every four years and the next update of the WTPS website is expected to be completed by 2012, with new information about the

²⁴ *Public Education: What’s the Plan, Stan?* (n.d.)

²⁵ *What’s the Plan, Stan? Teacher’s Guide (2009)*, pp. 13-14

²⁶ *Communications Strategy for 2009 Launch* (24 April 2009)

²⁷ *What’s the Plan, Stan?* (n.d.)

²⁸ *Communications Strategy for 2009 Launch* (24 April 2009)

²⁹ Kumaran, C. (10 May 2011)

Christchurch earthquakes in September 2010 and February 2011. A quantitative survey of all primary and intermediate schools on uptake and use of WTSP was planned for execution in early 2011; however, due to the national response to the Christchurch earthquake, this survey has been postponed until February 2012.³⁰

The *National Public Education Strategy* is constantly evolving. In 2011, MCDEM, in partnership with the Ministry of Education and other experts, began the development of a guidance document on CDEM for the early childhood education sector, which will be published electronically in September 2011.³¹ Also, *Turtle Safe*, a revision of the pre-school resource teaching children what to do during and after an earthquake, was launched in May 2011. The *Turtle Safe* DVD was developed jointly by MCDEM and the Auckland Council and features the current turtle character as well as Stan from WTSP. Over 10,000 copies of the DVD were sent to all early childcare centres, libraries and councils, and also made available online.³²

³⁰ *MCDEM Work Programme Status Report* (December 2010)

³¹ *E-bulletin* (June 2011)

³² *E-bulletin* (May 2011)

2 METHODS

To identify some of the impacts of developing and promoting a single, national teaching resource for disaster preparedness education in New Zealand schools, I used a mixed methods approach of focus groups, interviews and an online survey.

Focus groups

Focus groups were used to gather in-depth qualitative data on personal and group experiences of primary and intermediate school educators (Year 1 – 7; teaching students aged five to 12 years old). Focus groups are a technique involving the use of in-depth group interviews in which participants are purposely selected because of their knowledge or experience with the subject of the research. The type and range of data gathered on participants' ideas and feelings are generally more in-depth than that obtained from surveys, and group dynamics can also be assessed.³³

Seven 2.5 hour focus groups were conducted with primary and intermediate school educators using a questionnaire of 30 open-ended questions (see Appendix 1). The focus groups were populated using an opportunity sample of primary and intermediate schools in eight jurisdictions around the country, representing one half of the 16 regional Civil Defence Emergency Management Groups in New Zealand.³⁴ These locations were chosen because they comprised a mix of rural, suburban and urban communities on both the North and South Islands, some of which have been affected by disasters in the past five years (see Appendix 2). They include:

1. Auckland (Auckland CDEM Group)
2. New Plymouth (Taranaki CDEM Group)
3. Napier (Hawke's Bay CDEM Group)
4. Manawatū (Manawatū-Wanganui CDEM Group)
5. Lower Hutt (Wellington CDEM Group)
6. Nelson (Nelson-Tasman CDEM Group)
7. Invercargill (Southland CDEM Group)
8. Christchurch (Canterbury CDEM Group)

For each focus group, local and regional civil defence staff were asked to choose an opportunity sample of five to 15 local schools that represented a mix of small, medium and large schools that were likely to respond to the invitation (see Appendix 3). Use of WTPS in the school was not a requirement for the sample.

During the course of the study preparation, a 6.3 magnitude earthquake occurred in Christchurch on 22 February 2011. This earthquake was an aftershock of the 7.1 magnitude earthquake in Darfield on 4 September 2010.³⁵ The February earthquake resulted in 181 casualties; as a result social science research in Christchurch was restricted for six months, and the Christchurch focus group scheduled for 17 March

³³ Rabiee, F (2004)

³⁴ *CDEM Groups* (n.d.)

³⁵ GNS Science (2011)

2011 was cancelled. Therefore, this study was refined to seven focus groups. In the Study Limitations section, I discuss the impacts of this earthquake on the study and its results.

Forty-eight schools were sent an invitation to provide one or two volunteer teachers or principal to participate in a focus group. It was clarified that use of WTPS was not a requirement for participation in the focus group. The schools were offered teacher relief reimbursement from MCDEM as an incentive to participate.

Of the 47 schools that were invited, 34 (72 per cent) agreed to participate and provide a total of 56 volunteers. Seven volunteers did not appear on the day of the focus groups. In total, 49 educators representing 31 schools participated in the seven focus groups.

On-line survey

Of the 49 teachers that participated in the focus groups, 21 indicated that they had used WTPS in their classroom in the past and 17 of these provided a personal email address during the focus group. These 17 teachers were emailed a 10 question online survey (see Appendix 4) to gather additional information on their use of WTPS resources in their classrooms. The survey received 12 responses (70 per cent). The survey results provided an additional layer of information on the components of the resource that the teachers used and the likelihood that they would use the resource again.

Interviews

Individual and group interviews were conducted with regional and local CDEM and Council staff to gather perspectives on their role in working with schools and supporting WTPS. These interviews provided an additional layer of information about the benefits and challenges of implementing WTPS in schools. Interviews with one or more CDEM staff were conducted in each of the seven focus group regions.

Study Limitations

This study has several limitations. First, because it was developed with an opportunity sample of schools that were likely to respond to an invitation via their civil defence office, the sample was anticipated to be over-represented by schools who are already engaged in civil defence activities. Slightly less than half of the focus group participants have used WTPS in their classroom. Uptake among teachers nationally is likely to be significantly lower than this. Additional research is needed to determine actual uptake of WTPS in classrooms and schools. The MCDEM survey that was postponed until February 2012 may shed light on uptake of WTPS nationally.

The cancellation of the focus group in Christchurch, the jurisdiction most recently impacted by a major disaster, is another limitation to this study. The perspectives of the teachers affected by the September 2010 and February 2011 Christchurch earthquakes and on-going aftershocks could change the recommendations in this report. It is important to understand what materials and resources teachers in the Canterbury region have been using, if any, to discuss the earthquakes and disaster

preparedness with students and parents. The Christchurch focus group may be rescheduled in early 2012 so that those perspectives can be incorporated into the analysis.

Also, had this study been conducted one year ago, before the September 2010 earthquake in Christchurch, the perspectives of the focus group participants, their involvement in civil defence activities, and their willingness to participate in the study may have been very different. Further, we can anticipate that the opinions and perspectives gathered in this study may change significantly over time due to the impacts and consequences of recovery from the Christchurch earthquakes.

The recommendations in this study are based on perspectives concerning implementation of the WTPS programme, not its effectiveness as an education programme. One challenge to studying the effectiveness of WTPS on a large scale is that individual teachers use different elements of the resource for different periods of time, and in many cases modify the materials to meet their student's needs and interests. However, a rigorous of evaluation of effectiveness should be conducted if the goals of delivering WTPS in schools are to improve children's, teachers' and household knowledge, awareness and preparedness for emergencies.

3 RESULTS

The results are divided into the findings of the three research methods: the focus groups, the on-line survey and the individual and group interviews with CDEM and Council staff.

Focus Group Results

The seven 2.5 hour focus groups with primary and intermediate school educators were conducted with a script of 30 open-ended questions as well as additional probe questions. These 30 questions were divided into six sections. During the focus groups, all of the participants filled out an anonymous survey form indicating their school, title, student year, use of WTPS and use of classroom disaster drills not including fire evacuation drills. Of the 49 educators that participated in the focus groups, 34 are teachers, seven are principals, six are senior management staff, one is a resource teacher and one was identified as 'other.' Twenty-one participants (43 per cent) indicated that they had used WTPS in the past, 25 (51 per cent) indicated that they have not used WTPS, and three (two Principals and an Associate Principal) responded "not applicable." Also, of the 49 participants, 14 (29 per cent) indicated they have conducted classroom disaster drills, 34 (69 per cent) indicated they have not conducted classroom disaster drills, and one responded "not sure."

Section 1: Initial communication about the WTPS programme

1A: How did you receive information about the WTPS programme?

Summary: Approximately half of all focus groups participants had not heard of the WTPS before their invitation to participate in the focus group. WTPS was launched and delivered to schools in 2006 and again in 2009, therefore some of the participants were not entirely sure how they first received information about WTPS. During the focus groups, some individuals who initially could not remember provided an answer after listening to other responses.

Themes:

- Several found WTPS on the internet through a Google.co.nz search, using terms such as "civil defence" and "earthquake for primary school"; in some cases, this search led them to the WTPS website;
- Several indicated that they received information directly from local or regional civil defence (CDEM) staff. In some cases, the educators reached out to their local CDEM staff for school resources; in other cases, the CDEM staff contacted the school and promoted the WTPS materials;
- Some received information from other school staff, generally another teacher or librarian;
- Some could not remember how they first heard about WTPS;
- A few indicated that they had found the WTPS materials in their school's resource room;

- A few participated in the workshops conducted by Educating NZ and MCDEM in 2006; and
- One indicated that she saw a TV advertisement of WTPS. (Note: There have been no TV advertisements of WTPS.)

1B: What was your initial reaction to the WTPS materials? Probe: Has your opinion about the programme changed since using it?

Summary: All of the participants who had used WTPS in the past had overwhelmingly positive impressions of the WTPS materials. There were a few critical comments in this discussion and later discussions. In some of the focus groups, the resulting discussion led to conversations about how they used the materials in their classroom. These responses were more relevant to questions 1C and 1D, which followed.

Themes:

- Most who had not used WTPS indicated that their initial impressions of the WTPS materials were positive. They felt the materials in the WTPS folder were well-organised and easy to follow;
- Many who had used WTPS indicated that the materials were extensive and they could easily pick and choose components of the materials for use in their classroom teaching;
- Several who had used WTPS indicated that they did not use the materials exactly as they are, but instead adapted them to fit into their classroom teaching;
- Several who used WTPS appreciated the various formats of the materials, particularly the lesson plans, the templates, the CD-ROM and the on-line activities for children;
- Several indicated that their initial reaction to the WTPS materials did not change after they used the materials;
- Some who used WTPS indicated that WTPS related well with the New Zealand curriculum;
- Some who used WTPS felt the materials provided good background information for teaching about disasters;
- Some indicated that they saw the WTPS materials in their school resource room and, while they had a positive impression, they did not use them;
- Some felt that the materials should be regularly updated, and a few indicated that the materials should be updated with information about the Christchurch earthquakes;
- One indicated that, although the materials were very good, she felt there are too many; and
- One mentioned that his school modified its policies and their disaster drills in response to working through the WTPS materials.

1C: What motivated you to incorporate the WTPS programme into your curriculum?

Summary: While half of the participants indicated that they had used WTPS to teach about disasters and preparedness in their classrooms, most of them have only taught this topic once in the five years since WTPS was released. Generally, classrooms do not cover topics like safety and disaster preparedness every year, even if they are teaching a new group of children. The teachers generally cited lack of time and concern about student boredom as the main reasons for teaching disaster preparedness on a three- or four-year cycle or an *ad hoc* basis.

Themes:

- Many who have used WTPS indicated that disasters were chosen as a topic by their classroom through the inquiry model, or by the school as a “rich topic,”³⁶ and subsequently the educators sought the resource to create their lesson plans and activities;
- Several mentioned that the topic of disaster preparedness fits under larger umbrella topics, such as *Health* and *People Who Help Us*;
- Some were inspired to use WTPS because they liked the activities and templates and felt they would stimulate students’ interest;
- Some used WTPS when there was a community event or disaster. Disasters that were mentioned include flooding in the Hutt Valley, the 2009 Samoan tsunami, volcanic eruptions in Taupo, and pandemic influenza;
- Some indicated that they used the WTPS materials to provide context to school-wide evacuation exercises, in some cases to provide information home to parents;
- Some were motivated to use WTPS because they were concerned about the school’s or their personal lack of preparedness;
- In the New Plymouth focus group, a few participants indicated they had used the resource in their classroom in response to the community-wide volcano exercise *Taranaki Blowout*,³⁷ sponsored by the Taranaki Regional Council from September to October 2010;
- One used WTPS because her parents survived the 1931 Napier earthquake and thus she has a strong, personal interest in disaster preparedness; and
- One had an academic background in geology and used WTPS due to a personal interest in natural disasters.

1D: What dissuaded you from incorporating the programme into your curriculum?

Summary: Although approximately half of the participants have not used WTPS, some of them have taught about disasters in the past. The main reason these participants have not used WTPS was that they were not aware the resource existed.

³⁶ New Zealand schools with a “Rich Topic Integrated Curriculum” choose a school-wide topic for each term.

³⁷ *Taranaki Blowout* (n.d.)

There was some lack of understanding among these participants of what the WTPS materials provide.

Themes:

- Several responded that it was difficult or impossible to fit disaster preparedness as a topic into their curriculum because there are so many required topics and other priorities;
- Some felt that it was difficult to garner interest among students or staff for a disaster topic unless a disaster actually occurs. When disasters do occur, they become an *ad hoc* topic that is discussed for a limited period in the classroom;
- There was some sentiment that it is not useful to discuss disasters during periods when there are no disasters because it is not relevant;
- Some who had taught about disasters indicated that the topic was more focused on science or history than preparedness;
- Some did not know why disaster preparedness has not been used as topic at their school;
- A few expressed that they or their school colleagues were not concerned about disasters until they happen; and
- A few stated that they have not used it because it is not required.

1E: Does your school engage with local civil defence staff, and if so, how?

Summary: Approximately half of the focus group participants indicated that their school had personal contact with a regional or local civil defence staff person in the past. The other half indicated that they had no contact or were not aware of any contact with civil defence. With or without this direct contact, many participants stated that they believe their school is a civil defence centre but they did not know the implications of this or their school's responsibilities in regards to the wider community during a disaster.

Themes:

- Many believed their school was a civil defence centre, but were not certain;
- Several have never made any attempt to contact civil defence staff;
- Many indicated that their school had direct contact and engagement with the local fire service;
- Most of the participants from rural schools said that they expected they would need to be self-reliant during a disaster. However, some of these participants are not aware of their school's plans for communication or stockpiling food and water;
- Many of the participants expressed interest in more contact with civil defence and felt that there should be a dedicated civil defence staff person for schools;
- Some mentioned that civil defence staff contacted their school to provide them information, and in some cases, to promote WTPS;

- Some indicated that they or their school reached out to civil defence staff to request presentations or assistance, and in some cases were successful. However, in most cases civil defence staff could not meet them in-person due to time constraints and other priorities;
- Some schools have held full day emergency preparedness events and invited the fire service, Red Cross, civil defence and other community members to provide training and awareness to students and parents. In some cases civil defence participated;
- A few mentioned that their school has a civil defence radio, or simply a radio, for use during disasters and emergencies. However, in response to this, most of the other participants indicated that their school does not have a civil defence radio or they are unaware if they do;
- Although most of the participants did not have direct contact with civil defence staff, there was generally a high level of respect for civil defence staff and their role in the community; and
- One participant was a retired teacher who serves as a full-time volunteer for a district of schools and is not connected with civil defence. This volunteer organises emergency management activities at the schools, such as school emergency stockpiles, classroom “go bags”, radio training, and disaster drills.

Section 2: Classroom implementation of the teaching resource

***2A: What components of the WTPS programme did you use and why did you do so?
Probe: What components did you not use?***

Summary: Among the participants who have used WTPS, there was wide variation in the specific components of the materials that the teachers used. These teachers picked components that they wanted to use and adapted them to their classroom needs. No teacher indicated using all of the materials in the unit plans. Some of the teachers used the WTPS website, but not all. In terms of components that were not used, very few participants indicated that they used the “Practices and Simulations” materials in Section 4 of the WTPS binder. The results of the online survey provide more information on specific components that teachers used.

2B: Do you consider it easy to incorporate the WTPS activities into your curriculum or do you feel it is time-intensive or costly?

Summary: The general response from participants who have used WTPS is that it is easy to incorporate into the required curriculum, particularly if “disasters” is the inquiry topic. Those that used WTPS for teaching activities under general inquiry topics (for example, “Storytelling”) indicated that WTPS was easy to use and incorporate into the curriculum.

Themes:

- Many who used WTPS stated that the materials link very well with the curriculum;
- No one indicated that WTPS was costly to use;

- Some indicated that it would be time-intensive to read through and modify the materials for use in their classroom; however, this was typical of most curriculum materials that teachers use and this background work is normal;
- One indicated that if “disasters” isn’t the rich topic or inquiry topic, it would be hard to cover all the materials in WTPS; and
- One stated that while some teachers would “take it and run with it,” others would not.

2C: If you have not used WTPS, have you ever used disasters as a topical subject in your curriculum and how? Probe: How did you get information on what to tell your students about disasters?

Summary: Many of the teachers who have not used WTPS stated that they have covered “disasters” as a topic in previous years. However, many of them indicated that the topic was science- or history-based and did not touch on disaster preparedness. In most cases “disasters” was an *ad hoc* topic that became a focus due to recent events or student inquiry, and not as a part of the planned curriculum.

Themes:

- Some of the resources that teachers used to teach about disasters included the school emergency procedures, the internet, civil defence staff, museum trips, survivors of earthquakes, the phone book, and word of mouth from other principals;
- When teachers sought information on the internet, some began with a search of key words on Google.co.nz. One person mentioned the GeoNet website and one person mentioned the Ministry of Education website, where she sought information about pandemic flu preparedness;
- Some expressed that although there is a concern about children’s fears and sensitivities about the topic of disasters, they have a responsibility to discuss the topic in the classroom. One teacher expressed that he will not discuss disasters due to his concern about children’s sensitivities;
- Some mentioned that they receive conflicting messages about what to do during an earthquake and feel the information that has been distributed in the past needs to be revised;
- A few mentioned that they used “prior knowledge” to teach about disaster preparedness;
- A few teachers in one focus group espoused a fatalistic perspective stating “[the Christchurch schools] would never have had a plan for what happened and they managed.” However, they did not know specifically how the teachers or children responded in the earthquake beyond one or two personal anecdotes from former students;
- One responded that she taught her classroom about looting and stealing that occurs after disasters and related this to the children’s possessions, such as iPods, play stations, and pets, in order to get the students to take the topic seriously; and

- One stated that she does not cover disasters except when they are in the news because “you don’t want the kids to learn about the same thing, over and over again, every year.”

2D: Do you think the duration of the programme (4-10 weeks) is appropriate for achieving the outcome of prepared students? Probe: Do you think student disaster preparedness could be accomplished in less time, or conversely, requires more classroom time?

Summary: In some of the focus groups there was a leading opinion that was then supported by the other participants, yet that opinion varied greatly among the focus groups. Two focus groups expressed consensus that it should be a whole-term topic; other focus groups came to the consensus that it can be delivered in any amount of time but should be ongoing.

Themes:

- Approximately half felt that the duration of the WTPS curriculum should be one term or no less than 4 weeks;
- Many expressed that disaster preparedness is a topic that should be “ongoing” and “revisited”;
- Several stated that teachers could easily do short lessons or “mini units” using the materials;
- Several expressed that it depends on student interest and the age of the students. Some felt that older students would benefit more from a longer unit than younger students;
- Some stated that drills were more important to revisit than the WTPS activities on disaster preparedness;
- Some stated that children remember disaster preparedness lessons for a long time, suggesting that the topic does not need to be revisited on a yearly basis;
- A few expressed that topics done on cycles are not as effective as inquiry topics; similarly one expressed that “plug-and-play” programmes like WTPS are not as effective for learning outcomes;
- A few stated they were not sure how much students had learned from WTPS because they did not use the entire lesson plan; and
- One assumed that students are taught “drop, cover and hold” in preschool.

2E: What are the challenges to incorporating WTPS into your required curriculum, if any?

Summary: Whether or not they have used WTPS in the past, focus groups participants provided numerous examples of challenges to incorporating WTPS into the required curriculum.

Themes:

- Many indicated lack of time as a challenge. There are many required topics and competencies that teachers must cover in the school and these are priorities;
- Several responded that there is a lack of teacher and parent interest and buy-in. A few stated that a programme like WTPS need to be “driven from the top” from a principal or other school leader;
- Several stated that many teachers are unaware that WTPS exists. Some schools have a copy of the WTPS binder in its resource room, but the vast majority of teachers do not have a personal copy of the materials;
- Several stated that there are many competing programmes like WTPS that are being promoted by outside agencies for incorporation into the school curriculum, and in some cases these agencies are providing teacher workshops and in-person support at the schools. Programmes that were frequently mentioned include *Firewise*, a fire safety programme supported by the Fire Service,³⁸ as well as three programmes supported by New Zealand Police: *Kia Kaha* (Stand Strong),³⁹ an anti-bullying programme; *Keeping Ourselves Safe*,⁴⁰ a child abuse prevention programme; and the *Road Safe Series*,⁴¹ a road safety skills programme for different levels of schooling. A few stated that if an outside expert offers to help them deliver the programme, they are more likely to use the programme. *Firewise* was mentioned as an example, because the Fire Service provides in-person support;
- Some stated that because disaster preparedness is not a required topic, it is not a priority in schools;
- Some indicated concern about repeating a topic like disaster preparedness because they believe students would become bored of the topic and lose interest. A few indicated that a topic like disaster preparedness would only be taught every two, three or four years;
- Some stated that term topics and other curriculum planning activities are done well in advance, in some cases during Term 4 of the previous year (October to December). Generally, topic planning is a consensus process among teachers and school managers. Topic planning appears to be highly influenced by current events and teaching trends and consequently, disaster preparedness is not often suggested as a topic or curriculum strand. However, several teachers noted at different points in the focus group that due to interest generated from the Christchurch earthquakes and other disasters, disaster preparedness will likely be taught in future terms, and in some cases, this has already been planned for future terms;
- A few stated that they would need an expert to help them deliver a programme like WTPS;

³⁸ *Get Firewise* (1 February 2010)

³⁹ *No Bully* (n.d.)

⁴⁰ *YES Resources: Violence Prevention – Keeping Ourselves Safe* (n.d.)

⁴¹ *Road Safety Education* (n.d.)

- A few expressed concerns about disaster preparedness education being the responsibility of schools, as opposed to parents and the community; and
- One noted that the inquiry model approach, which is a student-led curriculum approach, might not be the best model if the goal is to ensure children get the information they need about earthquake preparedness.

Section 3: Activities for children’s emotional well-being

3A: Do you feel prepared to address students’ emotional reactions after disasters?

Summary: This question was thought-provoking and for some participants it took time to deliver a response. It appeared that most had not previously thought about how they would handle students’ emotional reactions after disasters. Some discussed how they were not sure what their own emotional state would be. However, many concluded that they address children’s emotions on an almost daily basis and would address children’s reactions to the best of their ability after a disaster even if they are not certain about the best approach.

Themes:

- Several stated they would not be prepared and one mentioned there is no training for this;
- Some stated that they were struggling with how much they should discuss the Christchurch earthquakes in their classroom because they have new students from Christchurch and other students are frightened by the topic;
- Some have taught young children who thought a disaster drill was a real disaster and had negative reactions;
- Some expressed that disaster preparedness education helps children feel more confident and responsible for themselves;
- Some stated that due to children’s sensitivities, their school was taking a break from evacuation drills;
- Some expressed that teachers should not push discussions about emotions after a disaster if children are not ready to talk about it. Two participants from the Manawatū focus group, who were affected by floods in 2004, stated that they attempted to address children’s emotional well-being through discussion activities but many children were not prepared to talk;
- Some expressed the importance of children getting “back to normal” as quickly as possible;
- A few expressed that children’s reactions can be surprising. They were sometimes surprised by the children who had negative reactions during school fire drills because they were not the children they would have expected those reactions from;
- A few expressed the opinion that teachers and other adults could traumatise children by discussing an event and stimulating concerns that might not have existed otherwise;

- A few expressed that it is up to parents to decide how much children should be exposed to sensitive topics; and
- One participant representing a Christian school stated that they have access to pastoral care and have sufficient resources for addressing emotional issues.

3B: Did you use the “Feelings & Emotions” activities in the WTPS programme, why or why not?

Summary: Only two participants remembered using Feelings & Emotions activities from WTPS; others who have used WTPS did not use them or could not remember. The results of the online survey provide more information on specific components that teachers used.

Themes:

- Several could not remember;
- A few responded that although they did not use the activities from WTPS, they did discuss coping with their students; and
- A few stated that they did not cover feelings and emotions because they were doing a short, basic lesson on disaster preparedness, not a full topic.

3C: What concerns or limitations do these materials present, if any?

Summary: Most have never used the materials so their responses were based on a glance at the materials during the focus group session. The participants expressed few concerns and several expressed they would use these materials in the future. Some expressed that discussing emotions and feelings is appropriate for a disaster preparedness unit.

Themes:

- Some reiterated concerns that if they are not equipped or trained to deal with emotional issues in children, they may do more harm than good and transpose feelings onto them;
- A few suggested they would be more comfortable having an external expert speak to the children after a disaster, if that service was available;
- One did not use the Feelings Pictures in WTPS (Template 7, page 87 in the binder) because she could not distinguish the feelings expressed by the cartoon illustration of Stan and felt the template would be inappropriate for children;
- One stated that the Feelings Pictures would be inappropriate for her Somali students because of cultural sensitivities about dogs; and
- One suggested it would be good to have the activities in a variety of languages.

3D: What other resources do you need to address children’s emotions in preparation for or after disasters?

Summary: Participants gave examples of resources that would be helpful, including resources they have used in the past. The focus group participants had ideas of where they could access additional help if they needed it, but their opinions of these resources were vague. Most of the participants have never used outside assistance from experts to address psychosocial issues in their classroom.

Themes:

- Several suggested resources they have used in the past to address sensitive issues including role playing activities, *Keeping Ourselves Safe*, the Health Curriculum resources on grief and loss, and children’s books such as *When I’m Feeling Scared* by Trace Moroney and *Quakey Cat* by Diana Noonan;
- Several suggested they would like to hear directly from Christchurch teachers on how they managed children’s emotional well-being after the Christchurch earthquakes. One suggested that children would also benefit from a peer perspective from Christchurch students on how they coped;
- Several stated they would access experts from Group Special Education (GSE) and Resource Teachers for Learning and Behaviour (RTLB);
- In the past, some schools have been offered psychological support from the Salvation Army and from kaumātua, the respected tribal elders in a Māori community;
- Some schools have access to pastoral care teams and other faith-based entities for emotional support services;
- A few stated that the school would reach out the school community – parents, friends, etc. – to find people who could provide help, like counselling;
- One stated she and other teachers were emailed the 2006 Psychological First Aid Field Operations Guide;⁴²
- One suggested teachers could access health nurses through the hospital; and
- One stated that he looked for information on the “Get Ready Get Thru website”⁴³ to discuss disaster preparedness with his 14 year old daughter who was feeling anxious.

3E: Have you used the Christchurch earthquake as an opportunity to discuss disaster preparedness, and if yes, how?

Summary: Most of the participants indicated they had discussed the February earthquake in Christchurch with their students. A major theme that emerged was the concern about discussing the earthquake and conducting earthquake drills in schools that had transfer students from Christchurch. Generally the teachers felt the topic could not be avoided because of its presence in the news, but teachers used different approaches.

⁴² Brymer, M. and others (2006)

⁴³ *Get Ready Get Thru* (n.d.)

Themes:

- Several schools represented in the focus groups had transfer students from Christchurch who were affected by the February earthquake;
- Several schools participated in moments of silence for the earthquake victims;
- Some teachers read stories with children about earthquakes, or novels related to survival themes. One had her students do environmental writing, which she described as a form of expressive recount writing;
- Some teachers approached the earthquake like other current events topics and had students gather information from newspapers and websites. A few incorporated preparedness discussions;
- Some discussed how children were very fixated on the disaster and constantly wanted to talk about the earthquake. One mentioned that children like “doom and gloom” topics;
- Some stated they talked about the disaster informally, but they did not do a lesson plan or any specific activities about preparedness;
- A few mentioned concerns that arose from children and parents about the media surrounding Ken Ring, also known as the “Moon Man”, who predicted a major earthquake on 20 March 2011;
- A few stated they had staff meetings to discuss how they would approach earthquake discussions in the classroom; and
- One school used the Christchurch transfer students as “experts” during a whole-school earthquake drill, which they felt was well-received.

Section 4: School exercises

4A: What does your school do when an emergency occurs during the school day?

Summary: Most of the participants expressed an understanding of their school’s procedures for an emergency and discussed fire drills they participated in. However, this discussion generated concerns about scenarios many of them have not exercised with their students, such as earthquakes, tsunamis and emergencies that happen while children are playing outside or are travelling to and from school. It appears schools run classroom and whole-school drills with different approaches and at different times, and have very different procedures for the use of alarms and bells. Many of the participants were not certain what their community’s civil defence alerts or warnings are.

Themes:

- Some no-notice emergencies that participants’ schools have experienced are:
 - nearby chemical leak (Auckland)
 - gas pipe rupture (Manawatū)
 - lockdown for armed intruder in the neighbourhood (Napier)
 - high winds (Nelson)

- and school closure for snow (Invercargill);
- Most understood that their responsibility during a disaster is to care for their students until their parents or an appropriate guardian picks them up. However, several schools noted that they do not have a policy for releasing children to people who are not the students' parents;
- Several questioned whether earthquake drills are required, and a few questioned if fire drills are required and how often. Several teachers responded that fire drills are required;
- Several indicated that the emergency contact numbers of parents and guardians are often out-of-date because parents do not inform them of new contact information. Some schools have made efforts every year to update children's emergency contacts with varying levels of success;
- Several schools have conducted spontaneous fire drills, but many indicated that they are aware of the time frame in which they will be conducted. A few mentioned that school staff expect drills to happen at "convenient" times when students are at their desks and can be easily organised;
- During the discussions, there was a general concern about lack of redundancy for communication systems that may be down, like landlines and mobile phones. Several teachers mentioned that many of their students do not know their parent's phone number;
- Some schools have printed rolls of the students in each classroom or other rooms in case electronic rolls cannot be accessed;
- Some schools use their classroom rolls to check off children once they have evacuated a building. A few schools mentioned an approach where teachers are assigned to areas of the school and must ensure that area is cleared of all people during an evacuation. If an area was not checked, that would be a priority area for search by the fire service;
- One participant said her classroom uses a buddy system, so the children can indicate if their buddy is not with them;
- Some mentioned that they have received pressure from parents to have emergency preparedness plans, but an almost equal number noted there has been no pressure from parents that they are aware of;
- Some of the participants representing coastal schools stated that their school has never conducted a tsunami drill;
- The use of alarms and fire bells in schools to instigate fire, earthquake, lockdown and other measures vary widely from school to school;
- A few schools had conducted a family reunification drill;
- A few questioned what they should do if there is an earthquake while children are in a pool;
- A few questioned what to do with children in wheelchairs;
- A few expressed concern about the strength of their school buildings and questioned whether they could withstand an earthquake;

- One participant who is in charge of drills at her school plans to conduct an earthquake simulation drill, and will use cones to indicate areas where there is damage so that students and teachers will practise finding an alternative route; and
- One noted that they practised turning off the gas in the school during a drill.

4B: Do you conduct disaster drills in your classroom or school, why or why not?

Probe: Who is in charge of running exercises, or providing guidance on exercises, in your school?

Summary: All of the participants indicated that they conduct school-wide fire evacuation drills on a regular basis because they are required. Some teachers indicated that their school conducts earthquake drills, but after some probing, it became clear they were referring to fire drills and there is some misunderstanding about the difference between the two types of drills.

Themes

- Almost all indicated that school drills are the responsibility of the school's principal, safety officer or school management team;
- Several stated their school does not conduct earthquake drills, nor tsunami drills in the case of coastal schools. Most did not know why;
- A few indicated they conduct earthquake drills in their classroom at their own discretion; and
- A few indicated their school conducts school-wide earthquake drills.

4C: Did you use the WTPS materials for conducting disaster drills in your classroom or school, why or why not? If yes, which ones did you use?

Summary: Four participants indicated they used the WTPS materials for disaster drills, but the rest used other resources, such as their school emergency plan or advice from a civil defence staff. Some stated they will use the WTPS materials in the future now that they know they exist. The results of the online survey provide more information on specific components that teachers used.

4D: What are the challenges to conducting drills with your class?

Summary: Participants from all seven focus groups offered multiple challenges to conducting whole-school and classroom drills. The main concern of participants was the challenge of exercising for multiple scenarios. While fire evacuations occur regularly, many other scenarios like earthquakes are not exercised because they are not required or because no one is leading these types of exercises in the school.

Themes:

- Many expressed concerns about the difficulty of conducting drills when some children are not in the classrooms and are for example, playing sports, in reading recovery, at lunch, or in the toilet;

- Many indicated the challenge of keeping the exercises orderly and calm. Some noted that the drills are disruptive to learning and it is difficult to regain children's attention after a drill;
- Several stated that they do not remember to do drills;
- Several noted that children do not take the drills seriously;
- Some noted that some parents do not take the drills seriously and some do not respond to instructions. One noted there is resentment from working parents about drills that requires their participation;
- Some indicated that teachers exert pressure to have the drills at "convenient" times, which makes them too predictable and easy;
- A few stated that no one in their school organises disaster drills;
- A few mentioned that they are not sure of the meaning of the various alarms and bells used for school drills, or those used by civil defence;
- A few mentioned relief teachers are a challenge because they often are not informed of the school emergency procedures;
- A few noted how secondary schools have different policies than primary schools, which causes confusion. One questioned whether a high school would release students in an emergency and whether those students would be allowed to pick up younger siblings;
- A few stated there is not enough interaction with civil defence, or school-to-school discussion about emergency policies;
- A few mentioned challenges exercising with children with special needs;
- One stated her school only has an electronic attendance roll and suspects other schools are the same;
- One noted that because his school is being refurbished, they have modified their school fire evacuation plan multiple times;
- A participant from the Hutt Valley focus group noted that civil defence was conducting a tsunami exercise in the community by driving around with a loud speaker declaring "this is Civil Defence!" However, they did not know an exercise was planned and otherwise would have used it as an exercise opportunity; and
- One stated that she is in denial that disasters will happen.

Section 5: Student experiences

5A: How did students react to the WTPS programme?

Summary: The general response from participants who have used WTPS was that children had very positive reactions to the WTPS programme. There were a few indications from this discussion and others that there were some negative reactions to WTPS.

Themes:

- Several who have used WTPS stated that the children enjoyed the interactive nature of the WTPS activities;
- Several stated the kids “loved it”;
- Some responded that WTPS had a “wow” factor;
- Some indicated that children remembered and talked about the activities long after the unit was given;
- A few said that there was a positive response to the activities children did at home with their families; and
- One stated that a couple of parents were concerned about the unit and kept their children at home that day because their children had nightmares about disasters.

5B: In what way did the curriculum appear to have a positive impact on students?

Summary: The participants who have used WTPS provided several examples of positive impacts on the students. Generally the responses related to student’s interest and participation in the activities, and only a few provided examples of evidence from a formal assessment, like a homework assignment or exercise evaluation, that knowledge was gained.

Themes:

- Several stated that it provided students an opportunity to take personal responsibility and allowed them to interact with their families on activities such as creating a home emergency plan;
- Some stated that children took the topic of disaster preparedness seriously;
- Some indicated that children remembered the WTPS activities and talked about them fondly months later;
- Some stated how the topic allowed children to take an academic subject and put it into practice through activities like disaster drills and preparing survival kits. The teachers feel that interactive activities are more likely to hook children’s interest;
- A few indicated the unit gave children the opportunity to investigate and discover new things on their own;
- A few indicated that WTPS activities made the children feel more secure and prepared for disasters. One went on to discuss how it created the necessary dialogue about disasters and the need for preparedness; and
- One discussed how it gave the opportunity for children who may not excel academically to take a lead role in the classroom and home activities.

5C: Did the curriculum appear to have any negative impacts on students?

Summary: Most of the participants who have used WTPS did not see any negative impacts among their students, except for a few instances of children who were

sensitive and cried during an exercise or had nightmares at home. In some cases, the teachers did not witness these impacts themselves but were made aware of them by parents after the unit. However, even with a few negative reactions, there was a general consensus that the topic of disaster preparedness is important and should not be avoided due to concern about children's sensitivities. Some felt the topic could be approached in a non-scary manner and expressed that the WTPS materials help teachers do this.

Themes:

- Several of the teachers discussed the importance of notifying the parents in advance of the unit in order to mitigate negative reactions from concerned parents;
- Some stated how WTPS makes children more secure and empowered, even if the topic is frightening at times;
- A few stated that after the Christchurch earthquakes, parents with sensitive children might be more supportive of the school teaching disaster preparedness;
- A few mentioned that sensitivities are more of a concern with very young children than the older children; and
- One teacher taught his students that pets might need to be left behind in a disaster, which upset some of them.

***5D: Did the students interact with their family as a result of the WTPS programme?
How?***

Summary: Some of the participants who have used WTPS used activities that created interaction with students' households and they provided several examples. Generally the participants felt that the activities that generate interaction among children and their household are a beneficial component of WTPS.

Themes:

- Several used the template letter home to parents to explain what they would be doing;
- Several mentioned that parents asked questions about the activities;
- Some used the take-home activities for children to identify risks in their home and create a home emergency plan;
- Some had students make a survival kit at home. However, one teacher mentioned this activity was not used because she works in a low-decile school and parents have very limited resources;
- A few schools hosted a community day about disaster preparedness and parents participated;
- One had her student's grandfather speak to the classroom about how he survived the Napier earthquake in 1931; and

- One school had children bring in food, water and other supplies for a school emergency kit.

5E: If you haven't used WTPS, how have your disaster-related activities and drills had positive or negative impacts on children?

Summary: The participants who have not used WTPS had a mix of responses, but generally they felt the impacts of disaster preparedness activities were mostly positive.

Themes:

- Some teachers who have had students prepare emergency plans or kits with their families said they had a very positive reaction from students and parents;
- Some said it was a “motivating” topic and children were “intrigued” by disasters;
- Some who have not taught about disasters or disaster preparedness stated they planned to do so in the future and they anticipate the impacts will be positive;
- A few stated they had positive student reactions when teaching with the *Firewise* programme;
- A few stated that disaster preparedness education was empowering for children and their families;
- One stated that she found the school drills disruptive, but she believed that was because they are not done enough; and
- One responded that he felt the benefit to using WTPS is having everyone teach from the same resource so the message to students is consistent.

5F: How could we evaluate students' learning from this programme?

Summary: Many of the participants felt that it would be relatively easy to assess students' learning and provided a number of suggestions. Most of the ideas were for assessments that would be implemented in an individual classroom.

Themes:

- Many suggested asking students to describe emergency procedures or key competencies. A few suggested this could be done through a formative assessment and one suggested that older students could be asked to justify the procedures;
- Many suggested observing children's actions during exercises;
- Several suggested a self-assessment, including the self-assessment template provided in WTPS;
- Other suggestions for assessments included putting an emergency kit together by themselves or with their family, designing a poster, role play, a presentation, or a peer assessment activity;

- Some suggested that educators should do a pre-activity test to assess children's baseline knowledge and a post-activity test to assess knowledge gained;
- Some stated that evaluation is not necessary when a topic is important. One provided the example that children are not assessed on life education;
- Some suggested that children's knowledge of what to do in an emergency can be assessed, but not their application of the knowledge;
- A few suggested that children's application of their knowledge could be assessed when a disaster happens;
- A few suggested that parents could assess what children learned through a letter sent home to parents;
- One noted that the lack of use of the resource was not a negative evaluation of the resource itself because many teachers were not aware of its existence;
- One suggested that the school should participate in a community exercise to assess children's knowledge; and
- One suggested that children could be assessed by the actions they have taken in their household and in their community.

5G: How can we measure improvements in family preparedness as a result of school disaster preparedness programmes?

Summary: The participants posed some ideas for evaluating family preparedness, but most of the discussions delved into how WTSP could make an impact at home. There was a general sense that parents are apathetic about disaster preparedness unless it is a part of their children's education and activities they do at home. Many of them felt children are a great motivator for adults for topics like disaster preparedness.

Themes:

- Several suggested a take-home questionnaire or checklist that parents could fill out. Some teachers use SurveyMonkey™⁴⁴, an online survey generator, to survey parents;
- Several stated that they have sent children home with questionnaires and sometimes the response rates were low;
- Some suggested a home activity for children that they could do with their parents. One teacher had her students survey their parents on their preparedness as part of a maths unit where they were learning about graphs and statistics;
- Some suggested inviting parents into the school for a forum or meeting;
- Some schools have done full-day or multi-day events on disaster preparedness that involved parents;
- Some indicated that parents are resistant to disaster education for children because they believe it is scaremongering;

⁴⁴ SurveyMonkey: Free online survey software & questionnaire tool (n.d.)

- Some questioned how they would get accurate information from home to determine if families have really taken measures to prepare;
- A few were concerned that their student's families do not have the finances to take preparedness measures; and
- One suggested a community exercise to assess family preparedness.

Section 6: Sustainability

6A: Should the WTPS programme be sustained, why or why not?

Summary: The general response to this question was yes, WTPS should be sustained. This was the general response even from those who have not used it. The main reason appeared to be that there is no alternative or better resource for teaching disaster preparedness in school.

Themes:

- Several said WTPS gives them a base to work from, and is a valuable reference for disaster preparedness activities;
- Several provided the suggestion that WTPS be up-dated with information and anecdotes from the Christchurch earthquake;
- Some noted that disaster preparedness is a real-life lesson and provides survivor skills that are important;
- A few mentioned that it is important for teachers to have something on civil defence that is child-friendly and teacher-friendly;
- A few discussed how civil defence is new to a lot of children, therefore it is important;
- A few suggested that a resource for secondary schools be created so the message is sustained throughout children's education; and
- One stated that having the WTPS resource available is key and her school would not have done an exercise without it.

6B: What would instigate the implementation of programmes like WTPS in a school?

Summary: The overall message from all seven focus groups is that there needs to be a leader in the school driving the incorporation of the programme in each classroom. A leader can be a principal, a deputy principal, a syndicate leader, a learning circle of teachers or a specialist teacher for disaster preparedness. These responses indicate there is a lack of leadership in schools for disaster preparedness. There were several suggestions about how to instigate the implementation of WTPS across a school.

Themes:

- Many stated the principal must be the driving force behind WTPS. If the principal thinks the subject is important, it would be implemented across a school;

- Several suggested the school management team has to drive WTPS because in some schools, curriculum planning is left more to deputy and assistant principals, senior teachers and syndicate leaders;
- Several indicated that as long as there is a leader for the programme in the school, whether a principal, a teacher or a Board of Trustees member, teachers are normally happy to follow;
- Several stated that the resource needs more promotion, and some said the Christchurch earthquake is a good opportunity to do this because people are concerned and interested in the subject now. Many indicated there was complacency among teachers before the earthquakes;
- Some stated there is a need for a paid teacher in-service day or workshop, to provide training to teachers who can re-introduce the resource to the rest of the school staff;
- Some indicated that a civil defence expert or specialist teacher should visit schools and provide in-person assistance. One suggested that civil defence staff should email schools and indicate when they are available for visits or a staff meeting presentation;
- Some suggested that disaster drills be required. One suggested that the Ministry of Education should require schools to have an earthquake drill once a year and teach disaster preparedness on a 2 year cycle;
- A few suggested that the resource should be promoted during Term 4 when curriculum planning is occurring. One suggested that schools should be asked to plan it into their long-term topic cycles, as a curriculum strand, like other programmes such as the *Road Safe Series* and *Keeping Ourselves Safe*. The topic could fall under health/physical education, social science or other curriculum topics. Another stated that schools will not do this as an inquiry topic more than once every 4 or 5 years, but schools may be convinced to do an activity every October during Get Ready Week;
- A few suggested that WTPS should be integrated with the Life Education Trust's mobile classroom⁴⁵, with its main character "Harold the Giraffe", to which several agreed;
- A few suggested that each teacher should have their own binder, however schools would likely not pay for this and the Ministry of Education or MCDEM would be expected to provide them. A few mentioned that although the materials are online, some schools don't have broadband and sometimes printing materials is a challenge;
- One suggested the provision of personal binder could be phased over three years until every syndicate teacher has their own copy;
- A few suggested that WTPS could be promoted with a real-life dog;
- One mentioned that the *Road Safe Series* was effectively implemented in schools because they paid for teachers to attend a workshop and they also

⁴⁵ Life Education Trust is a non-profit organisation that teaches health and life skills to over 225,000 primary and intermediate school children each year using an interactive mobile classroom. *Who We Are* (n.d.)

conducted follow-up with each school that participated to see what they accomplished after the course;

- One suggested that civil defence send principals a catchy email with a poster on WTPS that could be forwarded to school staff;
- One suggested the council should hire a teacher to work within the local schools as a WTPS facilitator.

6C: What would you change about the WTPS programme?

Summary: The participants' suggestions spoke more to enhancing the materials than changing them. Some suggestions were for improving the way WTPS is promoted and delivered to schools. In this section, some suggestions have been culled from discussions generated by other questions. From this discussion and others, there was a perception among some participants that emergency procedures go out-of-date or change regularly and that most people like them are not aware of the latest recommendations.

Themes:

- Over the course of the focus groups, several suggested they would like anecdotes from teachers and students in Christchurch about how they responded and managed during the February earthquake. One suggested a blog on the WTPS website where teachers and students can share their disaster experiences;
- Several suggested WTPS be promoted through the Newspapers in Education (NiE);⁴⁶
- Several suggested WTPS be promoted through Te Kete Ipurangi (TKI) since it is a key resource for curriculum development;⁴⁷
- Some suggested WTPS develop a road show similar to the mobile classroom used by the Life Education Trust. Some also suggested WTPS be directly integrated with the Life Education show and not become a separate initiative;
- Some suggested a paid workshop be provided so teachers can learn how to use the materials;
- A few suggested that the resource provide more links to writing and literacy. Some were not aware that WTPS came with a storybook. One suggested that the WTPS stories be put into a large book for junior students;
- A few suggested the "Feelings Pictures" on page 86 of the binder, which uses pictures of the cartoon dog Stan, are not clear and suggested photos of people be used instead;
- A few suggested that the template activity sheets for junior students should have larger text and bigger spaces for writing;

⁴⁶ The Newspapers in Education (NiE) programme is a free, multi-media education programme that promotes student literacy and analysis of the news and media. *About NiE* (n.d.)

⁴⁷ TKI is a bilingual portal-plus web community which provides curriculum resources and educational material for teachers and school managers. *About Te Kete Ipurangi* (n.d.)

- A few suggested that a similar programme for high school students be developed;
- One suggested that WTPS provide “official copies” of emergency procedures for earthquakes, tsunamis and other disasters; and
- One suggested civil defence provide a video of a classroom or school-wide exercise so teachers can see what an exercise should look like.

6D: Should disaster education be a national requirement for schools? Probe: Do you think other teachers in your school feel the same way?

Summary: Several initially responded yes or “I think so”, but after discussion and consideration some expressed that curriculum requirements are not well-received by teachers and may actually dilute the depth and impact of the programme. Participants generally felt more strongly that disaster drills should be required than the disaster preparedness education activities. No one expressed that a scientific or historical disaster topic should be required.

Themes:

- Several felt there would be resistance among teachers to a new requirement, even if the topic is important;
- Some thought disaster drills, such as earthquake drills, were already a national requirement now;
- Some felt disaster preparedness education should be taught within the curriculum on a cyclical basis every two to four years, but not every year;
- Some of those who said there should be a requirement indicated they probably would not have felt the same way before the Christchurch earthquake; and
- One stated a requirement would be OK as long as there wasn’t a burdensome assessment or paperwork.

Other themes

Some additional themes were identified in the analysis across the results of the seven focus groups. These topics emerged organically in various discussions.

Knowledge of ‘Get Ready Week’

Participants in three focus groups mentioned the national Disaster Awareness Week, which is a week in October promoted by MCDEM and CDEM Groups with activities aimed at raising awareness of hazards and the need to be prepared. Disaster Awareness Week was re-branded as “Get Ready Week” in 2010.⁴⁸ In both the Auckland and Hutt Valley focus groups, someone read about Disaster Awareness Week in the 2009 WTPS binder that was provided and made a comment. After reading about it in the WTPS binder, a few participants expressed that Disaster Awareness Week would be a good time to do activities with their students. In the Nelson focus group a participant mentioned Disaster Awareness Week and suggested

⁴⁸ *Mark your diaries - Get Ready Week 9 - 15 October 2011* (n.d.)

that it be moved to the beginning of the school year in February, so that schools could do drills at that time. In general, there appeared to be very low awareness of Get Ready Week.

Influence of the ‘Triangle of Life’ theory

In four focus groups - Auckland, Invercargill, Manawatū and Nelson – the “Triangle of Life” theory was mentioned, and in all cases a discussion ensued that indicated some of the participants were unsure about the validity of this theory. “Triangle of Life” is a controversial theory promoted through viral email messages that advocates sheltering next to solid objects and not under tables, as advocated by MCDDEM’s “drop, cover and hold” advice.⁴⁹ A participant in the Invercargill focus group indicated that parents had forwarded “Triangle of Life” emails to the school. The Manawatū focus group illustrated general confusion about whether they should get under their desks or not, and indicated there was a “controversy.” One of the participants in Auckland stated:

“There was quite a debate in the class as to whether getting under the tables was in fact the right thing to do and some kids had heard, I’m not sure where, that that was no longer the drill for earthquakes.”

A participant in Nelson expressed the “Triangle of Life” theory as if it was an accepted rule:

“...you might have minor earthquake in which you are able to get under the desk or into the doorway or find your triangles or whatever, or you might be aware of a fire.”

Later in the focus group a participant was asked by another participant about their school’s “under the desk” policy and he responded:

“There’s a debate about that. Is under the desk the place to be, or is it beside the desk, or is it between the desks?”

In all four focus groups civil defence staff were available afterwards to discuss and dispel the “Triangle of Life” theory and provide advice on “drop, cover and hold.”

Schools as civil defence centres or welfare centres

In five focus groups, participants discussed the use of schools as civil defence centres and welfare centres during and after disasters and many questions and misconceptions emerged. While most participants understood correctly that the school staff would be responsible for the care of the children while waiting for parents and appropriate guardians to pick them up, the participants exhibited confusion about whether their school was a civil defence or welfare centre and their school’s responsibility to the greater community in a disaster. There was a general perception that if an disaster occurred and the school was a civil defence centre, that civil defence representatives would show up to the school with food and water supplies and other people from the community would arrive for refuge. Some quotes from different focus groups that illustrate these perceptions include:

⁴⁹ *Drop, cover and hold still the best advice* (n.d.)

“If you are a civil defence centre, you are going to get people coming in off the street. I know we are accountable for the children in our class and in our school, but who comes in and takes care of the general public? I think that’s a huge thing to follow up on.”

“We have got the fact that we are a civil defence location point on our front fence. We now don’t even have the civil defence kit in the school. That’s gone. So apart from the front saying it’s a civil defence centre, it means nothing else.”

“I think it said that we are a welfare centre, whatever that is, but come a civil defence emergency, it’s taken out of your hands, it has nothing to do with the school. They just come in and take over.”

“We’ve built links with our local [businesses] like Fonterra and Goodman-Fielder now. We had the manager over again the other week and we are talking about what we would do... We are the welfare centre, so for those big factories, we are it! We are where they’ll come.”

“I had a conversation with one of our Deputy Principal’s yesterday and she was saying our school is a civil defence post and apparently if there is a major earthquake or disaster then civil defence brings everything in, so the school doesn’t have to actually provide the blankets and the food. Civil defence just comes in with everything and sets up their post where you are.”

There were no discussions that the set-up of civil defence and welfare centres would be based on the time, location and scale of the disaster. In some regions, schools are no longer used as civil defence or welfare centres, although some schools may still have a civil defence centre sign giving the impression they are a site. However, these focus group results are not indicative of the level of awareness of Boards of Trustees and school principals who are responsible for a school’s emergency management plan. Further research would be needed to determine if school leadership understand their role and responsibilities in disasters.

Appeal for anecdotes from Christchurch

Participants in four of the seven focus groups mentioned that they would like to hear anecdotes from the teachers in Christchurch to understand how they reacted during the February earthquake and how they were coping now. Several participants also suggested that their students would benefit from hearing stories from the students who were affected, and in some cases, classrooms had already had discussions with their transfer students from Christchurch or with former students who had been in Christchurch during the earthquake. Some of the quotes from these discussions include:

“If the Christchurch teachers could put some things together, I think we [teachers] would take notice... We can learn from their experience”

“It might even be opportune now to do – either the Ministry or somebody’s been thinking about doing some case studies on some of the kids and using their story from Christchurch to actually support the programme. Because it’s a real situation and to hear their voice and somebody at their own age level is really important.”

“It would be really interesting to talk to some children from Christchurch schools...some communication to help them – our children – to understand a little bit better how it was for them, because that would be part of their recovery process.”

“It was very important during the Christchurch earthquake last year when we were doing our inquiry. We were actually accessing blogs that the children from Christchurch had written – their responses to earthquakes – and that was really cool. If there was something interactive for the children – web-based – it would be really cool...My children were responding to what had happened to them and they were responding back.”

Some participants also suggested leveraging the interest in the Christchurch earthquake for a new campaign this year promoting WTPS. One participant from the Hutt Valley suggested:

“[In terms of] the awareness that Christchurch has brought to teachers, I think now would be a really good time to do a big push on – “have you seen [WTPS], do you know what’s in it?” – have you got these policies in place. Because I’m sure some schools don’t.”

When discussing how to get teachers’ attention, another participant from Manawatū responded:

“The hooks are the Christchurch earthquake. I think the most teachers would be doing something now. They’ve seen a need, and they’ll do something. I doubt there would be many teachers in New Zealand that over the next few months that do not touch on something to do with earthquakes.”

Survey Results

A 10 question online survey (see Appendix 4) that was sent to teachers who had used WTPS included questions about their specific use of the materials. Of the 12 respondents, five were from Auckland, three were from Invercargill, two were from New Plymouth, one was from Napier and one was from Nelson.

Respondents were asked “In which calendar years did you use WTPS resources in your classroom?” Four (33 per cent) responded in 2006, one (eight per cent) in 2007, four (33 per cent) in 2008, five (42 per cent) in 2009, none in 2010, and four (33 per cent) in 2011. Eight of the respondents (67 per cent) had only used the resource once between 2006 and 2011. Most of these teachers had used the resource in either 2006 or 2009, which corresponds to the years of the original launch and the launch of the updated edition. Two of teachers had used the resource in two calendar years, and one respondent indicated that he had used the resource in four calendar years (2006, 2008, 2009 and 2011).

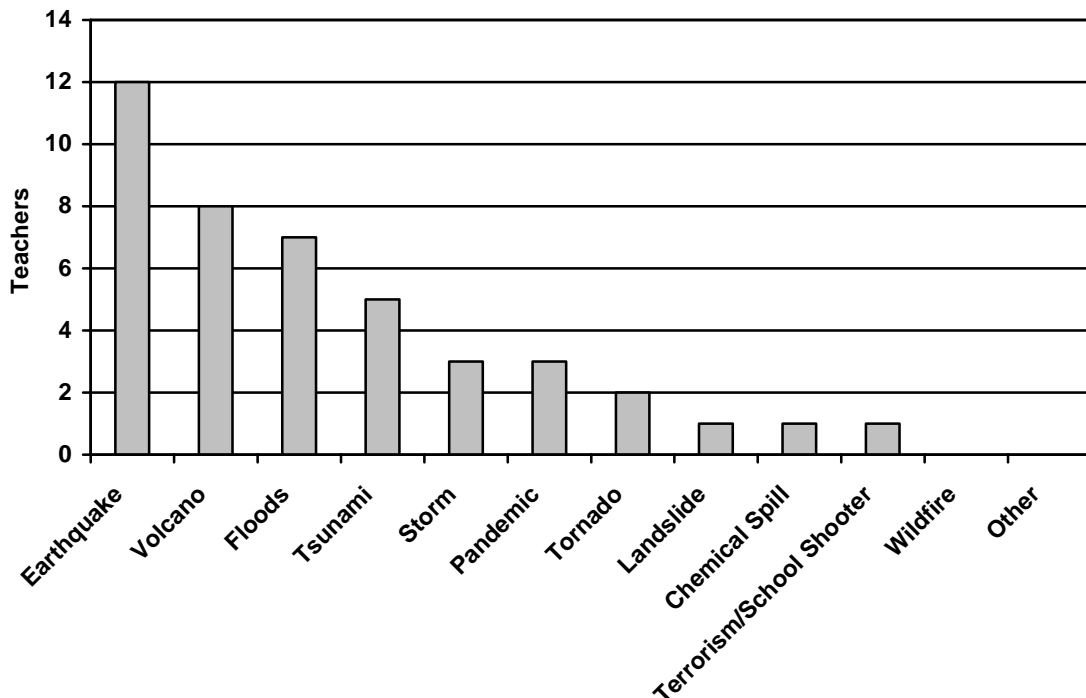
When asked “How did you first receive information about WTPS?,” the top three responses were “Other teacher” (50 per cent), “Local civil defence representative” (42 per cent), and “Found binder in school resource room” (33 per cent). None of the respondents indicated that they had first received information from their principal or from a friend or family member.

Respondents were provided an open-ended question that asked what motivated them to use WTPS in their classroom. Five of the respondents (42 per cent) indicated that their school had facilitated a school-wide event or focus related to disaster preparedness and therefore WTPS had been used as a resource. Four (33 per cent) indicated the materials linked very well with the New Zealand curriculum and they used it because the resources were comprehensive, easy to use and flexible. One indicated that she had a personal interest in earth science and disaster preparedness, and another indicated that she appreciated the relevance of the activities for disaster preparedness at home.

Respondents were provided a list of 11 components of the WTPS materials and an open-ended “Other” category, and were asked to identify the materials that they used. The materials used by the most respondents include the unit plans and activities (92 per cent), the scenario cards (83 per cent), the disaster fact sheets, the practice and simulation materials, the home hazard map, and the Household Emergency Checklist (each 75 per cent). The only component used by less than half of the respondents is the Feelings Pictures (42 per cent). Ten of the 12 respondents (83 per cent) indicated that they used six or more of the components that were listed.

All 12 respondents indicated that earthquakes were the focus of their WTPS unit. Eight teachers (68 per cent) also focused on volcanoes, seven (58 per cent) focused on floods, and five (42 per cent) focused on tsunamis. None focused on wildfires (see Table 1). Three respondents only focused on one disaster, earthquakes, while the rest focused on two or more disasters in their unit.

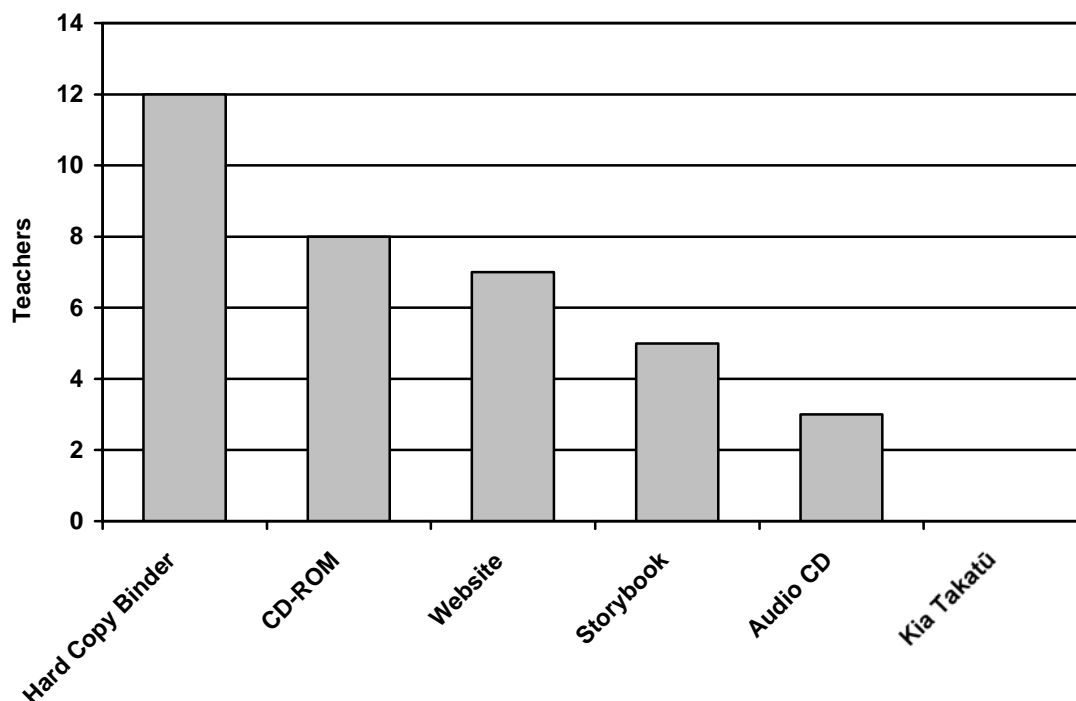
Table 1: What disaster(s) did you focus on when teaching WTPS?



Respondents were asked what formats of WTPS they used and were provided six formats and an open-ended “Other” category. The most commonly used formats were the hard copy binder of unit plans and activities (92 per cent) and the CD-ROM (67

per cent). Only three of the 12 respondents (25 per cent) indicated that they used the website for information or downloaded materials. None used the Kia Takatū bilingual resource (see Table 2). Most of the respondents (83 per cent) used two or more formats of the WTPS resources.

Table 2: Types of WTPS formats used



The next question allowed for an open-ended response to the inquiry “Describe how you used WTPS in you classroom and any special activities.” The responses were quite varied and there were no particular themes. Some of the responses include:

“We also used it alongside an integrated English unit on historical New Zealand disasters.”

“[We] watched the DVD and then had oral discussion.”

“Each teacher took a specific aspect of 'What's the Plan, Stan?' and we rotated children in groups so that we achieved a wide coverage of learning.”

“[We] followed the plan in folder as a whole school and completed the 'disaster' (earthquake) scenario as organised by civil defence representatives and organised whole school evacuation procedures.”

“The survival kit checklist was extensively used however I slightly adapted the task in the folder and included further items which I hoped would encourage debate regarding the value children put on specific items... this included pets and favourite toys.”

“Individual classes used it as they saw best and the whole school had a disaster scenario day.”

“I chose the activities suited to my lessons and topic and followed them through.”

When asked how they felt about the level of attention to disaster preparedness teaching and exercising across their school this year (2011), five (42 per cent)

responded “More attention needed across the school”, three (25 per cent) responded “Appropriate level of attention across the school” and two (17 per cent) responded “Not sure.” Two indicated in the open-ended “Other” category that they planned to do more activities in 2011. None responded “Too much attention across the school.”

The final question allowed an open-end response to the question “Will you use WTPS in 2012 and why or why not?” Eleven of the 12 (92 per cent) responded positively that it was planned or likely, and one indicated that it would not be done in 2012 if the unit was given in Term 4 of 2011 as planned. Several of the responses indicated that they felt the topic was important, particularly in light of the Christchurch earthquake in February. Some of the responses include:

“We will use the resource in 2012 across the whole school as we haven't revisited the disaster scenario teaching since 2006.”

“We are using it this year as part of our school wide topic for 10 weeks. Teachers will be encouraged to use WTPS for a week or so in years where we do not cover disasters as a main topic.”

“Yes, we are teaching a Social Sciences unit this term on the roles of people in a disaster. Our big idea is around the role of civil defence and the other organisations who run the disaster response.”

“Yes. With the introduction of the new resource it would be useful to add it to the school plan for the year. This is however dependent on the collaboration with colleagues.”

“Quite possibly, but it is not something we deliberately set out to focus on each year. In fact, a two yearly cycle is often the norm. This is due to the fact that we are expected to cover a variety of curriculum areas throughout the year and disaster preparedness slots into a topic focus which would need to be decided upon when planning the forthcoming term. A national or international event may prompt the injection of a short-term focus on a specific disaster however, and ‘What's the Plan, Stan?’ would be a quick and efficient tool for this lesson.”

Interviews

Nine individual and group interviews were conducted with a variety of local and regional CDEM staff from each of the seven regions represented by the focus groups. The interview questions focused on the councils' interaction with schools and the challenges to working with schools and promoting the use of WTPS. A number of themes emerged.

1. *Most local and regional CDEM interaction with individual schools is reactive, not proactive.* Because of the large number of schools in their jurisdictions, local and regional staff are not capable of proactive outreach to each school other than through email. Generally, CDEM staff will make time for meetings that promise a high turn-out of school staff or other community members. Most of the CDEM staff would like to do more with schools, but their time and capacity is very limited.

2. *Requests for information and engagements from schools increase drastically after major disasters when staff resources are most strained.* After the Christchurch earthquake in February, many regional and local civil defence staff were serving shifts at the Emergency Operations Centre in Christchurch and at the National Crisis Management Centre in Wellington, therefore were understaffed and faced challenges responding to inquiries and requests from schools and other members of the public. Some CDEM Groups tried to address these requests by referring schools to the WTPS resources and Get Ready Get Thru website.⁵⁰
3. *The annual 'Get Ready Week' often occurs during the school holiday, which is a disadvantage.* Several of the regions discussed how it was difficult to leverage Get Ready Week for exercises and collaborative activities with schools because the week often occurs at the same time as the schools' two week holiday in October.
4. *CDEM staff prefer to do goal-oriented activities with schools, as opposed to passive marketing and talks.* Most felt that seminars, mass emails, mailings and other passive marketing techniques were not effective in getting schools and other groups to prepare emergency plans and conduct exercises. Some CDEM staff discussed how they prefer to observe school exercises or conduct workshops on preparing plans because they feel this is a more effective use of their time and expertise.
5. *CDEM have the most success promoting WTPS through school Boards of Trustees.* Several felt that the key to getting teachers to use WTPS is through gaining buy-in from school leadership, such as principals and other Board of Trustee members. A few specifically stated that they did not feel presentations directly to teachers were effective in gaining teacher buy-in.
6. *Rural schools demand engagement from CDEM more often than urban or suburban schools.* Because rural schools are aware that they may need to be self-sufficient in an emergency, they request assistance with emergency plans and exercises more often than urban schools and generally have stronger personal relationships with the emergency services, including the Fire Service and St. John's Ambulance.
7. *Civil defence messages need to be emphasised and prioritised by the Ministry of Education.* Several CDEM staff believe that schools have a much more direct relationship with the Ministry of Education and noted the Ministry of Education is responsible for ensuring health and safety standards in schools. Some CDEM staff expressed there should be more emphasis on the need and importance of disaster preparedness in the Ministry of Education's communication and interactions with schools.
8. *All of the regions have developed or are working on public education initiatives for children.* Some examples include:
 - a) a mobile trailer with interactive educational activities for children and families (Auckland and Nelson)

⁵⁰ *Get Ready Get Thru* (n.d.)

- b) a ‘Shortest Ever Disaster Movie’ contest for students to create short disaster preparedness films⁵¹ (Hawke’s Bay)
- c) Risklands, a life-size board game for children about disasters (Hutt Valley)
- d) role play activities for children at the local emergency operations centre (Taranaki)
- e) an off-site evacuation exercise for a local school including an event with other local emergency services (Manawatū)
- f) blue shoe bags with civil defence messages provided to local schools (a local district in Auckland)
- g) a real-life dog playing “Stan” at local schools (Wellington), and
- h) an online course developed by youth organisations that will allow children to earn a course completion certificate (Auckland).

⁵¹ Hawke’s Bay Regional Council (February 2011), p. 1

4 DISCUSSION

Research has found that children can be taught self-protective actions for disasters, and schools are an ideal environment for children to learn disaster preparedness skills.^{52 53 54} Also, children's increased knowledge of specific emergency preparedness and response activities has been shown to relate to more realistic risk perceptions and reduced fear of hazards.⁵⁵ MCDEM recognised the potential benefits of teaching CDEM through schools and developed WTPS, a national multidisciplinary resource for teaching children about disaster preparedness in New Zealand.

This study aimed to look at the implementation of WTPS in New Zealand schools since the programme was launched in 2006. Findings from the focus groups, survey, and individual interviews indicate there is a very positive impression of the WTPS resources among the educators who have used the resource. Most of the focus group participants who had used the resource said that the materials are child-friendly, flexible, informative, well-organised and beneficial. Those teachers appreciated that the materials included pick-and-choose activities and templates that could be modified for individual classroom use, and indicated that the materials integrated well with the national curriculum. These teachers also indicated that the WTPS resources enhanced their own knowledge about what to do during a disaster.

The focus group results suggest that uptake is variable from region to region and some of the challenges and barriers to using WTPS were identified. More research is needed to determine the actual uptake of the resource in regions. However, the focus groups participants who had used WTPS expressed that the resource had had a generally positive impact on the children and some expressed that teachers, parents and in some cases, the greater community had benefited from the disaster awareness and preparedness activities in the WTPS programme. Because uptake is limited and teachers are not using the resource uniformly, more research is needed to determine if the resource is effective in teaching children disaster preparedness and response skills and if there is a real impact on school staff and households in improving their preparedness.

There are some contributing factors to the lack of awareness of the WTPS resource. First, MCDEM's *National Public Education Strategy* does not include measurable goals and learning outcomes for the use of WTPS in schools such as increased knowledge of protective behaviours, effective school disaster drills, or an increase in hazards adjustments in schools or households. The lack of an outcomes-based strategy towards use and evaluation of WTPS has contributed to a piecemeal approach to incorporating disaster preparedness education in schools. The study results suggest there is sporadic uptake of WTPS by individual teachers, many of whom have only used the resource once since WTPS was launched in 2006. Further, there were few examples from the focus groups of school-wide approaches to using WTPS. Preliminary research has shown that children who have been exposed one or more times to disaster education programmes have higher levels of awareness, realistic risk perceptions and knowledge of protective behaviours like "drop, cover and hold"

⁵²Federal Emergency Management Agency (2010b), p. 8

⁵³ Ronan, K.R. and Johnston, D. M. (2010), p. 50

⁵⁴ United Nations International Strategy for Disaster Reduction (2007)

⁵⁵ Ronan, K.R. and others (2008), p. 343

compared to children who have had no exposure.^{56 57} At this time, children in the New Zealand school system could complete their primary and intermediate school education and not once be exposed to a school-based lesson on disaster preparedness. If disaster preparedness knowledge among children is a national priority, a strategy is needed to ensure children receive multiple exposures to disaster preparedness education throughout their childhood, including in schools, extracurricular activities and at home.

If WTPS was evaluated and found to be an effective teaching resource, promotion of the resource would need to occur on a more consistent basis. There were suggestions from both teachers and CDEM staff that promotion should be targeted towards school leadership, particularly Boards of Trustees, principals and other senior staff who can champion a school-wide approach. One of the challenges is the real or perceived notion among CDEM staff that passive marketing techniques, such as emails, posters or hardcopy mailings to schools, are not effective in influencing teachers to use the resource in their classroom. Current strategies to conduct outreach to schools are time-intensive and it is impossible for CDEM staff to have personal relationships with all schools in their jurisdiction. New, creative approaches are needed to build relationships between schools and CDEM offices that better leverage web-based technology, community buy-in, and assistance from the Ministry of Education, stakeholder organisations and community volunteers.

One of the challenges to the integration of disaster preparedness education in schools is its competition with other important school-based safety and life skills education programmes, such as *Firewise*, *Keeping Ourselves Safe*, *Kia Kaha* and the *Road Safe Series*. WTPS is at a disadvantage because the agencies that support these programmes are able to provide additional resources such as in-person support at the schools or funded workshops for teachers.⁵⁸ *Firewise* in particular has a track record of integration in schools because it is supported, and in some cases delivered, by local Fire Service staff.⁵⁹ Another programme that was mentioned often and positively in the focus groups is the Life Education Trust mobile classroom, which reaches over 225,000 students every year with interactive lessons on life skills.⁶⁰

An interesting finding from the focus groups is concern about the exposure of children to disaster preparedness education and school disaster drills in the aftermath of a disaster. New Zealand is a very small country, similar to the size of the US state of Colorado in land area and population.⁶¹ The Christchurch earthquake in February 2011, which took the lives of 181 people, had an emotional impact on the entire country of New Zealand. Participants of six of the seven focus groups indicated they had new transfer students from Christchurch after the February earthquake for a temporary or indefinite period of time. There were concerns about the sensitivities of both the transfer students and the local students who had not been directly impacted by the earthquake. Clearly, schools need more guidance on how to revisit and improve

⁵⁶ Ronan, K.R. and Johnston, D. M. (2001b)

⁵⁷ Ronan, K.R. and others (2008), p. 346

⁵⁸ The New Zealand Fire Service Commission (2008), p. 3

⁵⁹ The New Zealand Fire Service Commission (2008), p. 2

⁶⁰ *Who We Are* (n.d.)

⁶¹ NZ has a land area of 268,021 km² and a population of approximately 4.4 million; Colorado has a land area of 269,837 km² and a population of approximately 5 million.

their school disaster policies and drills when concern among teachers, students and parents is high, yet remain poised to address emotional sensitivities and mitigate negative impacts as much as possible.

There is not enough information yet to determine if WTPS could be effectively used as a teaching resource in the aftermath of a disaster to aid in addressing children's psychosocial issues. Although WTPS includes "Feelings and Emotions" activities and resources for classroom use, these may not be adequate or appropriate to address psychosocial issues in children affected by disasters, which may be why some teachers have not considered using the resource for this purpose. There is an opportunity to now assess if and how teachers in Christchurch have used WTPS in their classrooms since the February earthquake, or if they have used other resources to meet these needs, such as school traumatic incident teams provided by the Ministry of Education.⁶² This opportunity is significant because almost no research has been conducted on the effectiveness of a school-based disaster education programme for children following a disaster.⁶³

The study results reinforced that educators seek information on policies, guidance, standards and curriculum resources from the Ministry of Education. While MCDEM and the CDEM Groups have taken great strides to work more directly with schools on civil defence, the Ministry of Education remains the national authority that teachers, school leadership and Boards of Trustees turn to for information and guidance. Therefore, if disaster awareness and preparedness among children and their families is a national priority and not just a MCDEM priority, it is imperative that the Ministry of Education have a leading role in supporting disaster preparedness education in schools. Although there are prominent links to information about the Christchurch earthquakes on the Ministry of Education's homepage as of 1 August 2011⁶⁴, the only link to the WTPS website is on an internal page entitled "Emergency Management Plan."⁶⁵ WTPS is not linked on the "Teaching and learning resources" pages⁶⁶ and the website garners no search results when you search for WTPS by name. The Ministry of Education's limited references to WTPS may be contributing to low awareness of the resource and the lack of interest among school leadership. Greater coordination and consistency in messages about disaster education and preparedness for children is needed across MCDEM and the Ministry of Education, particularly after a significant disaster like the Christchurch earthquake when educators are seeking information from their trusted sources.

Currently, there is no requirement for earthquake, tsunami and tornado exercises in schools. Because all regions of New Zealand are at risk from earthquakes, and large parts of the country are susceptible to other short-notice events like tsunamis and tornados, practising disaster exercises and simulations for earthquakes, tsunamis and tornados in schools must become a national priority. Research has found that disaster drills help children and adults learn and test their knowledge of protective measures for disasters, which can save lives and mitigate injuries when a disaster occurs.⁶⁷

⁶² *Managing emergencies and traumatic incidents* (26 April 2011)

⁶³ Ronan, K.R. and Johnston, D. M. (2010), p. 55

⁶⁴ *Ministry of Education – Home* (30 June 2011)

⁶⁵ *Ministry of Education – Emergency Management Plan* (29 July 2011)

⁶⁶ *Ministry of Education – Home* (30 June 2011)

⁶⁷ Ronan, K.R. and Johnston, D. M. (2010), p. 165

When conducted with appropriate feedback, repeated practice of these skills can also improve children's self-confidence and resiliency.⁶⁸

While additional research is needed to determine the actual frequency of disaster drills in New Zealand schools, the results of the focus groups indicate that some schools in areas at high risk for earthquakes, tsunamis and tornados have never conducted drills for scenarios other than fire. Also, some of the focus group participants could not distinguish earthquake drills from fire evacuation drills. Some focus group participants suggested that disaster drills are infrequent or non-existent because they are not required. Also, there are perceptions among some teachers that school drills are inconvenient, disruptive to learning, and resented by some parents. For these reasons, a new requirement may not be effective in inspiring more schools to conduct disaster drills. Some focus group participants indicated that additional national requirements are unappreciated by teachers attempting to manage an already long list of curricular and extracurricular obligations. Therefore, an alternative to required drills may be needed to facilitate the sharing of best practices and inspire the execution of effective disaster drills in schools. One possibility is the establishment of a National School Earthquake Exercise Day.

There is now a real opportunity to establish a new national campaign to increase school preparedness and improve disaster preparedness education for children. Many of the focus group participants expressed a new or renewed interest in disaster preparedness, but this interest may quickly revert to the complacency that existed before the Christchurch earthquakes. National agencies should seize this opportunity for public education before it is gone.

⁶⁸ Federal Emergency Management Agency (2010b), p. 16

5 RECOMMENDATIONS FOR NEW ZEALAND

1) Evaluate the effectiveness of WTPS

Although WTPS has not yet been evaluated for effectiveness, it includes components that have been recommended for development of disaster education programmes for children, including 1) the adoption of an emergency management perspective that supports teaching of protective behaviours before and during disasters, 2) use of a graduated sequence of learning activities across school years and 3) the inclusion of activities that facilitate interaction between children and parents.^{69 70 71} Also, the focus group results suggest that teachers who use the resource generally have a positive experience integrating the WTPS lessons into their classroom curriculum. These are good first steps. The resource should now be evaluated to identify how educators utilise the resource and if this utilisation adequately achieves the outcomes of improved risk perceptions and knowledge of response-related protective actions among children, as well as indirect outcomes such as improved school and household preparedness for emergencies. Also important to assess is the effectiveness of WTPS as a resource to address students' psychosocial needs during disaster recovery.

2) Develop an outcomes-based strategy for children's exposure to disaster preparedness education

MCDEM should identify the intended outcomes for disaster preparedness education in schools and strategies for achieving these outcomes while appropriately addressing children's sensitivities. Research has found that children have more accurate knowledge of hazards risks and of protective behaviours like "drop, cover and hold" when they have been exposed multiple times to effective educational messages.⁷² Also, preliminary research has found that disaster preparedness education can reduce, rather than increase, negative emotional arousal in children.⁷³ If the intended outcome is for all primary and intermediate students to be exposed multiple times to education on disaster preparedness, then a strategy is needed to ensure that more classrooms are revisiting the disaster preparedness lessons and disaster drills on a regular basis. Additional research is needed to identify the most effective resources for teaching and revisiting these skills in short lessons, as some teachers will not teach a four- to ten-week unit on disaster preparedness more than once every three to five years.

3) Establish a National School Earthquake Exercise Day

MCDEM, in coordination with the Ministry for Education and other national agencies, should establish an annual National School Earthquake Exercise Day on a day when school is in session to encourage schools to conduct earthquake and tsunami drills at least once a year. Building on the national solidarity prompted by the Christchurch earthquakes, a National School Earthquake Exercise Day could inspire schools to conduct these life-saving exercises as part of a single national effort. Also, this initiative may help facilitate more regular exposure and whole-school

⁶⁹ Ronan, K.R. and Johnston, D. M. (2010), p. 163

⁷⁰ Federal Emergency Management Agency (2010b)

⁷¹ Gulay, H. (October 2010)

⁷² Ronan, K.R. and Johnston, D. M. (2001b), p. 1

⁷³ Ronan, K.R. and Johnston, D. M. (2001b), p. 5

participation in disaster preparedness activities and encourage greater school collaboration with CDEM offices. It can also build on existing initiatives such as *ShakeOut*, a large-scale earthquake drill event that took place in the West Coast region in 2009.⁷⁴

Because the entire country is at risk from earthquakes and there is currently a surge of media interest and inquiries about disaster preparedness, there is an opportunity to gain schools' attention through a new national campaign. A National School Earthquake Exercise Day would provide visibility to the need for disaster drills in schools and would instigate parent, community and media pressure on Boards of Trustees and principals to address this issue. School drills for tsunamis, tornadoes and other scenarios could also be advocated by CDEM Groups in high-risk areas. As long as this event is annual and is specific to schools, over time disaster drills may become a regular part of schools' yearly agenda, like fire drills.

WTPS provides materials for disaster drills and simulations in schools, including evaluation templates, so this initiative can build on current resources and should support the sharing of best practices among schools. Get Ready Week in October would be a good time to incorporate a National School Earthquake Exercise Day as long as the week is planned for a time when school is in session. Greater investment is needed to raise awareness among Boards of Trustees and principals about Get Ready Week and ways schools can get more involved and build stronger relationships with their local and regional civil defence offices.

4) Develop messages for schools before disasters occur

Although we cannot predict the circumstances of future disasters, we can anticipate that there will be an increase in inquiries and requests to CDEM staff for information and seminars from schools at a time when CDEM staff are busy assisting with the response. We can also predict there will be a psychosocial impact on teachers and students and a gap in resources to assist every affected school. MCDEM and CDEM Groups in coordination with the Ministry of Education and other relevant agencies, should develop messages in advance of disasters that can be emailed and posted to schools immediately after a disaster to remind them of teaching resources that can be used to address questions, increase their preparedness and help them respond when a disaster occurs in their locality. This activity would also help the national agencies develop consistent messages to schools both before and after disasters.

5) Utilise webinars and search engine optimisation to address surges in inquiries from schools

CDEM Groups are just beginning to leverage websites and online resources like Facebook⁷⁵, Twitter⁷⁶, YouTube⁷⁷ and webinars (short for "web-based seminar") to

⁷⁴ *New Zealand's West Coast ShakeOut – Get Ready!* (n.d.)

⁷⁵ Facebook (www.facebook.com) is the world's largest online social network that is used by individuals, businesses and organisations to connect and share multimedia information such as text, website links, pictures, audio and video.

⁷⁶ Twitter (www.twitter.com) is a social media network where users can share 140-character micro-blog posts that can be viewed online publicly. Users can follow other users to receive their Twitter posts and updates.

communicate with their communities about disaster preparedness. These resources can be better leveraged to reach more people and address the increase in requests for information and seminars that predictably occur after disasters. Many schools have made requests to CDEM staff for visits and talks at the school, which is difficult when staff time is limited. CDEM Groups could use interactive webinars for virtual town hall meetings and workshops on school emergency planning, WTPS and conducting school disaster drills. Webinars can be set-up easily and reach a large audience of multiple schools, and school staff could participate in a webinar as a group. Webinars would provide an opportunity for teachers to ask questions via phone or submit typed questions. They also would allow CDEM staff to provide accurate information and dispel misconceptions about the use of schools as civil defence centres and “Triangle of Life” rumours, among other issues. Webinars can also be used to feature speakers, such as teachers affected by the Christchurch earthquake who would like to share their experience, or peers who are experienced in conducting school drills. Recorded webinars can be posted to YouTube and promoted on CDEM Group websites, Facebook and Twitter. Question and answer sessions can also be conducted through Facebook at set times for people who do not have adequate Internet to stream a webinar.

The top search engine in New Zealand is Google.co.nz⁷⁸ and the focus groups revealed that many teachers use Google.co.nz to find teaching resources and information about disaster preparedness for personal or classroom use. The MCDEM and CDEM Group websites should be search engine optimised (SEO) so that the public can easily find information about disaster preparedness education for children and resources for school emergency management. SEO is a method that enhances a website’s visibility online based on the actual search terms typed into search engines like Google.⁷⁹ SEO of the civil defence websites may require an investment in external expertise but this investment would be worthwhile if it equates to improved access to MCDEM’s public education resources.

6) Incorporate disaster preparedness lessons with Firewise and the Life Education Trust mobile classroom

Important disaster preparedness messages could be incorporated into successful, established life skills programmes for children, particularly *Firewise* and the Life Education Trust mobile classroom. WTPS can remain its own stand-alone programme, but important, basic lessons such as “drop, cover and hold” in earthquakes, preparing a household emergency plan, or listening to the radio for civil defence alerts, could be incorporated into the *Firewise* and Life Education lessons about safety. These measures could significantly increase awareness about disaster preparedness as over 92 per cent of schools have taught *Firewise* since its inception⁸⁰ and the Life Education Trust mobile classroom reaches 225,000 students annually.⁸¹

⁷⁷ You Tube (www.youtube.com) is a video sharing website where users can upload their own video content, as well as embed videos on other websites.

⁷⁸ *New Zealand – New Media Trend Watch Long Haul* (30 June 2011)

⁷⁹ *Search engine optimization* (30 June 2011)

⁸⁰ The New Zealand Fire Service Commission (2008), p. 2

⁸¹ *Who We Are* (n.d.)

6 LESSONS FOR THE UNITED STATES

Some valuable lessons can be drawn from the experience of teachers and CDEM staff in the implementation of a national school-based disaster education programme for children in New Zealand.

If the US chose to embark on the development of a single national teaching resource for disaster preparedness, as recommended by FEMA Region III Regional Advisory Council⁸², FEMA and the Department of Education (ED) should first work with state agencies and relevant experts to develop a measurable outcomes-based strategy. The strategy should identify how often and how in-depth disaster preparedness education and disaster drills should be delivered in schools. Stakeholders should also consider whether a single national teaching resource would achieve the intended outcomes or if other approaches would be more effective, such as the integration of disaster preparedness education in established safety or life skills programmes for children. In New Zealand, MCDEM dedicated a relatively large amount of its public education budget towards development of WTPS but there were limited remaining funds for on-going promotional activities. If the US chose to endorse a single national teaching resource, agencies should be careful not to underestimate the amount of funding needed for consistent and ongoing messages needed for awareness and on-going evaluation of the resource at the local level.

US states have developed unique disaster preparedness education initiatives for schools and in some cases have developed their own teaching resources. FEMA identified several state and even city-specific teaching resources for disaster preparedness in Colorado, Delaware, Florida, Illinois, New York and Washington, DC, among others.⁸³ For those states that do not have a teaching resource, there may be some long-term cost-saving at the state and local level with the development and endorsement of a single national teaching resource that includes on-going evaluation supported by federal agencies. Further, an authoritative resource that has on-going evaluation may be adopted by states currently using unevaluated teaching resources. Participants in the focus groups in New Zealand expressed that they appreciate the existence of a single national teaching resource because teachers are using the same resource and information, which facilitates consistency in teaching messages across schools and school years. Also, they appreciate that the resource was developed by a national authority and that the resource is free and does not require additional funding from schools.

US states should determine the use and frequency of school disaster drills in high-risk areas. Because school disaster drills are not required in most US states, disaster drills may be uncommon in US schools. The US may want to consider the establishment of a National School Exercise Day, perhaps in alignment with New Zealand, as part of the new collaboration established among the US Department of Homeland Security and MCDEM in December 2010.⁸⁴ A National School Exercise Day can build on existing initiatives taking place in both countries including *Get Ready Week* in New

⁸² Federal Emergency Management Agency – Region III, Regional Advisory Council (2010), p. 53

⁸³ Federal Emergency Management Agency (2010a)

⁸⁴ *Memorandum of Cooperation between the United States Department of Homeland Security and the New Zealand Ministry of Civil Defence & Emergency Management* (10 December 2010)

Zealand, National Preparedness Month in the US⁸⁵ and *ShakeOut*⁸⁶, a large-scale earthquake drill event in both the US and New Zealand. Because much of the US is not at high risk for earthquakes, a general National School Exercise Day would allow state and local emergency management and education authorities to advocate for school drills addressing region-specific hazards including earthquakes, tsunamis and tornados.

Any resource promoted by the federal agencies should be rigorously evaluated for effectiveness. Currently there are many unaligned federal programmes for disaster preparedness education in schools including “FEMA for Kids”, “Ready Kids”, “Ready Classroom” and “Student Tools for Emergency Preparedness (STEP).” This plethora of programmes is likely contributing to the lack of strategic planning and on-going evaluation of any one of them. Improved coordination and consistency in public education messages could result from FEMA and ED collaboratively investing in the development and evaluation of one comprehensive disaster education programme that addresses both disaster education in the classroom and school emergency management planning. Also, we can anticipate that US schools will need guidance and significant support to address psychosocial issues in both teachers and children affected by disasters, as demonstrated in the aftermath of the Christchurch earthquakes in New Zealand. If a single national teaching resource is developed and evaluated, psychosocial resources should be incorporated so these resources can be included in the evaluation and improved to better meet the needs of teachers.

⁸⁵ *FEMA Encourages Americans to Participate in September's National Preparedness Month* (20 July 2011)

⁸⁶ *ShakeOut – Get Ready to ShakeOut!* (n.d.)

7 CONCLUSION

WTSPS was developed in 2006 as New Zealand's national teaching resource to deliver disaster preparedness education to children in schools. Focus groups with educators in seven regions indicated that uptake of the resource is variable, but teachers who have used WTSPS expressed that the resource is flexible, informative and beneficial to both children and adults. To address the challenges of implementation in schools, WTSPS would benefit from an evaluation of effectiveness and a national outcomes-based strategy. Outcomes may include an increase in children's knowledge of protective behaviours like "drop, cover and hold" during earthquakes, more frequent and effective school disaster drills, improved school emergency management plans and improved household preparedness. Due to the increased interest and concern about disaster preparedness prompted by the Christchurch earthquakes in September 2010 and February 2011, national agencies now have an opportunity to generate interest around a new national campaign focused on disaster preparedness in schools. The establishment of a National School Earthquake Exercise Day could be a component of a campaign to instigate parent, community and media pressure on Boards of Trustees and principals to facilitate effective disaster drills in New Zealand schools. Other recommended strategies for improving disaster preparedness education in schools are the integration of civil defence messages into established safety and life skills programmes for children and use of Internet-based tools and search engine optimisation of civil defence websites.

The US can learn from New Zealand's experience in developing and endorsing a single national disaster education programme for children in schools. The development of an outcomes-based strategy would help identify whether a single national resource is the best approach. Although many US states have developed and are promoting their own teaching resources for disaster preparedness, a single national programme developed collaboratively by FEMA and ED may reduce costs for individual states if the federal agencies support the significant cost of on-going evaluation and endorsement of one resource. The US should also consider the establishment of a National School Exercise Day in collaboration with New Zealand. Lastly, both the US and New Zealand should incorporate and evaluate psychosocial resources to address the needs of children affected by disasters to ensure these resources meet the needs of teachers.

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APPENDIX 1: FOCUS GROUP QUESTIONNAIRE

Section 1: Initial communication about the WTPS programme

- 1A. How did you receive information about the WTPS programme?
- 1B. What was your initial reaction to the WTPS materials? Probe: Has your opinion about the programme changed since using it?
- 1C. What motivated you to incorporate the WTPS programme into your curriculum?
- 1D. What dissuaded you from incorporating the programme into your curriculum?
- 1E. Does your school engage with local civil defence staff, and if so, how?

Section 2: Classroom implementation of the teaching resources

- 2A. What components of the WTPS programme did you use and why did you do so? Probe: What components did you not use?
- 2B. Do you consider it easy to incorporate the WTPS activities into your curriculum or do you feel it is time-intensive or costly?
- 2C. If you have not used WTPS, have you ever used disasters as a topical subject in your curriculum and how? Probe: How did you get information on what to tell your students about disasters?
- 2D. Do you think the duration of the programme (4-10 weeks) is appropriate for achieving the outcome of prepared students? Probe: Do you think student disaster preparedness could be accomplished in less time, or conversely, requires more classroom time?
- 2E. What are the challenges to incorporating WTPS into your required curriculum, if any?

Section 3: Activities for children's emotional well-being

- 3A. Do you feel prepared to address students' emotional reactions after disasters?
- 3B. Did you use the "Feelings & Emotions" activities in the WTPS programme, why or why not?
- 3C. What concerns or limitations do these materials present, if any?
- 3D. What other resources do you need to address children's emotions in preparation for or after disasters?
- 3E. Have you used the Christchurch earthquake as an opportunity to discuss disaster preparedness, and if yes, how?

Section 4: School exercises

- 4A. What does your school do when an emergency occurs during the school day?

- 4B. Do you conduct disaster drills in your classroom or school, why or why not? Probe: Who is in charge of running exercises, or providing guidance on exercises, in your school?
- 4C. Did you use the WTPS materials for conducting disaster drills in your classroom or school, why or why not? If yes, which ones did you use?
- 4D. What are the challenges to conducting drills with your class?

Section 5: Student experiences

- 5A. How did students react to the WTPS programme?
- 5B. In what way did the curriculum appear to have a positive impact on students?
- 5C. Did the curriculum appear to have any negative impacts on students?
- 5D. Did the students interact with their family as a result of the WTPS programme? How?
- 5E. If you haven't used WTPS, how have your disaster-related activities and drills had positive or negative impacts on children?
- 5F. How could we evaluate students' learning from this programme?
- 5G. How can we measure improvements in family preparedness as a result of school disaster preparedness programmes?

Section 6: Sustainability

- 6A. Should the WTPS programme be sustained, why or why not?
- 6B. What would instigate the implementation of a programme like WTPS in a school?
- 6C. What would you change about the WTPS programme?
- 6D. Should disaster education be a national requirement for schools? Probe: Do you think other teachers in your school feel the same way?

APPENDIX 2: REGIONAL DEMOGRAPHICS AND HAZARDS

Auckland (Auckland Region)

The Auckland Region, situated on the North Island, is the largest and most populous metropolitan area in the country, with over 1.46 million residents, who comprise 33 per cent of New Zealand's population.⁸⁷ The Auckland Council is made up of 14 Wards and the region's civil defence activities are coordinated by the Auckland CDEM Group.⁸⁸ Although Auckland has not experienced any major disasters in recent years, it is susceptible to a variety of hazards.⁸⁹ According to the Auckland Region Emergency Management website, much of Auckland is built on a potentially active volcanic field of approximately 50 volcanoes. None of these existing volcanoes are expected to erupt again, but an eruption can occur in a new, unknown location. Earthquakes of varying magnitude are likely to occur in Auckland even though Auckland has lower earthquake activity compared to other regions. Also, over the last 150 years, the Auckland coast has been hit by 12 tsunamis up to two metres high.⁹⁰ Tornadoes frequently occur in Auckland. On 3 May 2011, a destructive tornado touched down in Auckland and killed one person.⁹¹

New Plymouth (Taranaki Region)

The Taranaki Region is located on the western side of the North Island and is named for the region's active volcano, Mt. Taranaki. The region is a rural dairy farming area with a population of 109,000 residents, 60 per cent of whom live in New Plymouth.⁹² Although the Taranaki Region is susceptible to a number of hazards, the most prominent hazard is the potential eruption of Mt. Taranaki, which has been continuously monitored for earthquake activity since the 1990s. From September to October 2010, the Taranaki CDEM Group ran *Taranaki Blowout*, a six week community exercise using a volcanic eruption scenario.⁹³ In recent years, the Taranaki Region has been affected by two disasters that resulted in an emergency declaration. In 2004, the Patea Ward experienced severe flooding that impacted power, telephones, water and sewage, and approximately 100 residents were evacuated from their homes. Also, on 5 July 2007 a series of tornadoes struck Taranaki, causing widespread damage to homes and properties.⁹⁴

Napier (Hawke's Bay Region)

The Hawke's Bay Region is situated on the eastern coast of the North Island and encompasses four local councils with a total population of 154,800 residents.⁹⁵

⁸⁷ *Subnational population estimates at 30 June 2010 (boundaries at 1 November 2010)* (26 October 2010)

⁸⁸ *About Us* (n.d.)

⁸⁹ *Natural Hazards* (n.d.)

⁹⁰ *Auckland: Regional Information* (n.d.)

⁹¹ One man dead as tornado wreaks havoc in Auckland (3 May 2011)

⁹² *Subnational population estimates at 30 June 2010 (boundaries at 1 November 2010)* (26 October 2010)

⁹³ *Taranaki Blowout* (n.d.)

⁹⁴ *Emergency Declarations 2006 – 2011* (3 May 2011)

⁹⁵ *Subnational population estimates at 30 June 2010 (boundaries at 1 November 2010)* (26 October 2010)

Hawke's Bay is a rural fruit-producing region and includes two small cities, Hastings and Napier. Napier is a popular tourist attraction due to its unique 1930s Art Deco architecture that was erected in the aftermath of 1931 Napier earthquake, which levelled Napier and killed 256 people. According to the Hawke's Bay Civil Defence website, the most common natural hazards in the region are floods, with a severe storm or flood occurring approximately every ten years.⁹⁶ Hawke's Bay was impacted by severe flooding in October 2004⁹⁷ and in April 2011.⁹⁸ Other hazards include tsunamis, storms, and ash falls from Mt. Ruapehu and Mt. Tongariro.⁹⁹ A recent significant event was the "Napier siege." On 7 May 2009, a man who shot and killed a police officer was on the loose in the community for several hours, which instigated lock-downs in several schools.¹⁰⁰

Manawatū (Manawatū-Wanganui Region)

The Manawatū-Wanganui Region, administered by the Horizons Regional Council, covers 10 local councils in the central southern end of the North Island.¹⁰¹ This rural region comprises approximately 220,000 residents, including 29,700 residents in Manawatū District.¹⁰² This region is named after its two major river catchments, the Manawatū and the Wanganui, and includes three major active volcanoes, Ruapehu, Ngauruhoe and Tongariro. Mt. Ruapehu has experienced six significant eruptions in the last 100 years, including eruptions in 1995 and 1996. Also, many New Zealanders are familiar with the history of the Mt. Ruapehu eruption responsible for the 1953 Tangiwai Rail disaster. One hundred fifty one lives were lost when a lahar (volcanic mudflow) swept down the Whangaehu River and destroyed the Tangiwai Rail bridge just as the Express train arrived.¹⁰³ The Manawatū-Wanganui Region is susceptible to many other hazards, including earthquakes, tsunamis and floods. A "100 year flood" event impacted the region in 2004, which caused building and bridge destruction, widespread road and rail closures and instigated the evacuation of more than 1,000 residents. In 2004, the region's floods were estimated to be New Zealand's largest disaster in 20 years.¹⁰⁴

Lower Hutt (Greater Wellington Region)

Greater Wellington, the country's wealthiest region, occupies the southern end of the North Island and is home to 483,300 residents.¹⁰⁵ The region includes the nation's capital, Wellington, a metropolitan area with 197,700 residents, and Lower Hutt, a town contiguous with Wellington with a population of 102,700.¹⁰⁶ The Wellington Region is surrounded by sea and situated on the edge of a tectonic plate criss-crossed

⁹⁶ *Storms and Floods* (n.d.)

⁹⁷ *Civil Defence Flooding 2004* (n.d.)

⁹⁸ *Emergency Declarations 2006 – 2011* (3 May 2011)

⁹⁹ *Hawke's Bay: Regional Information* (n.d.)

¹⁰⁰ *Civil Defence Siege 2009* (n.d.)

¹⁰¹ *Place and People* (n.d.)

¹⁰² *Subnational population estimates at 30 June 2010 (boundaries at 1 November 2010)* (26 October 2010)

¹⁰³ *Mount Ruapehu Crater Lake: Issues Archive* (n.d.)

¹⁰⁴ *Emergency Declarations 2003-2005* (n.d.)

¹⁰⁵ 'Chapter 3: Regional Growth and Innovation: Examining Possible Drivers' (1 November 2005)

¹⁰⁶ *Subnational population estimates at 30 June 2010 (boundaries at 1 November 2010)* (26 October 2010)

by four major faults, which makes it susceptible to damaging earthquakes and tsunamis. In 1855, the Wairarapa Fault experienced a magnitude 8 earthquake, shifting 5000 km² of land vertically and uplifting the Wellington harbour by 1-2 metres, causing a 10 metre tsunami. In the following weeks, Wellington was affected by hundreds of aftershocks greater than magnitude 5.¹⁰⁷ Today, some experts expect the next “big one” to occur at any time, and it will likely cause casualties and significant damage to buildings, infrastructure and transportation routes. The region also encompasses a number of large river systems that have a long history of flooding, including a major flood in Wairarapa in 2004 that caused damage to homes, bridges and roads.¹⁰⁸ Wellington is also renowned for its inclement weather and wind. Strong winds are frequent on the southern coast due to the wind-funnelling effect of the Cook Strait.¹⁰⁹

Nelson (Nelson-Tasman Region)

Nelson, a city of 45,500 residents on the northern coast of the South Island, is governed by the Nelson City Council.¹¹⁰ Civil defence is administered by the Nelson-Tasman CDEM Group, a joint committee of the Nelson City and the Tasman District Councils.¹¹¹ Nelson has had very few natural disasters in the last 100 years, in part due to its location and protected harbour.¹¹² However, the region is susceptible to earthquakes and nearby volcanic eruptions. In 1893, a magnitude 6.9 earthquake pushed the spire of Nelson Cathedral nearly a metre out of vertical.¹¹³ Also, the Alpine Fault, which extends from Marlborough Sounds to the Milford Sounds on the South Island, passes within 35km of Nelson and is expected to rupture in the future.¹¹⁴

Invercargill (Southland Region)

The Southland Region is the southernmost region of the South Island, a rural area comprising 94,200 residents, half of whom live in Invercargill. Southland covers an area of 28,681 square kilometres, including part of Fiordland, making the region one of New Zealand’s most sparsely populated areas. Civil defence is governed by Emergency Management Southland, a collective inter-council organisation that provides services in every part of the region.¹¹⁵ Although historically the Southland region has had few major disasters, it is threatened by hazards such as earthquakes, floods, snow and tsunamis. In 2004, a magnitude 7.2 earthquake hit 240 km southwest of Te Anau, and in 2003, a magnitude 7.1 earthquake in Fiordland triggered more than 200 landslides. Neither of these earthquakes affected people. Every couple years areas of Southland have experienced flooding that instigated evacuations.¹¹⁶

¹⁰⁷ *Earthquakes in the Wellington region* (24 August 2009)

¹⁰⁸ *Big floods in the Wellington region* (9 September 2009)

¹⁰⁹ *Wind & storms* (5 August 2009)

¹¹⁰ *Subnational population estimates at 30 June 2010 (boundaries at 1 November 2010)* (26 October 2010)

¹¹¹ *About Civil Defence in Nelson Tasman* (13 October 2009)

¹¹² *Tsunami Sources for the Nelson Tasman Region* (21 March 2009)

¹¹³ *Nelson-Tasman: Regional Information* (n.d.)

¹¹⁴ ‘Danger Line of Alpine Fault’ (1 January 2009)

¹¹⁵ *Civil Defence Emergency Group Southland* (n.d.)

¹¹⁶ *Southland: Regional Information* (n.d.)

Christchurch (Canterbury Region)

The Canterbury Region is situated on the eastern coast of the Southland and has a population of 545,700. The region encompasses the Canterbury plains and mountains and its main metropolitan area, Christchurch, a city of 376,700 people.¹¹⁷ The Canterbury Region faces a number of hazards including earthquakes, tsunamis, storms, snow and floods. Christchurch made international news for its recent earthquakes, a magnitude 7.1 earthquake on 4 September 2010, and one of its aftershocks, a magnitude 6.3 earthquake on 22 February 2011, which resulted in 181 casualties and widespread damage.¹¹⁸ Since September 2010, Christchurch has been affected by over 3,000 aftershocks, some over magnitude 5.¹¹⁹ The Canterbury Region now faces a long road to recovery. Two on-going challenges for the region include poor sanitation and increasing demand for mental health services.¹²⁰

¹¹⁷ *Subnational population estimates at 30 June 2010 (boundaries at 1 November 2010)* (26 October 2010)

¹¹⁸ *Feb 22 2011 - Christchurch badly damaged by magnitude 6.3 earthquake* (5 April 2011)

¹¹⁹ *Christchurch Quake Map* (25 June 2011)

¹²⁰ 'Sanitation, mental health major issues in Christchurch – Ryall' (3 March 2011)

APPENDIX 3: PARTICIPATING SCHOOL DEMOGRAPHICS

School demographics were retrieved from statistics provided by Education Counts, a subsidiary of the Ministry of Education.¹²¹ The percentages of Māori students were derived by dividing the school's Māori population with the total school roll.

Name	City	Urban Area ¹²²	Institution Information	Authority	Decile 2010	School Roll May 2011	Percentage Māori students
Arakura School	Lower Hutt	Main Urban Area	Contributing	State: Not integrated	3	193	44%
Central School	New Plymouth	Main Urban Area	Contributing	State: Not integrated	8	233	12%
Clyde Quay School	Wellington	Main Urban Area	Full Primary	State: Not integrated	8	211	13%
Destiny School	Auckland	Main Urban Area	Composite (Year 1-15)	Private: Fully Reg.	9	137	75%
Dyer Street School	Lower Hutt	Main Urban Area	Contributing	State: Not integrated	3	227	23%
Hutt Intermediate	Lower Hutt	Main Urban Area	Intermediate	State: Not integrated	8	635	19%
Karori West Normal School	Wellington	Main Urban Area	Full Primary	State: Not integrated	8	383	11%
Kimbolton School	Kimbolton	Rural Area	Full Primary	State: Not integrated	7	59	27%
Kiwitea School	Feilding	Rural Area	Full Primary	State: Not integrated	10	43	0%
Limehills School	Limehills	Rural Area	Full Primary	State: Not integrated	9	153	12%
Longburn School	Palmerston North	Main Urban Area	Full Primary	State: Not integrated	5	54	26%
Manchester Street School	Feilding	Secondary Urban Area	Contributing	State: Not integrated	6	353	17%
Mataura School	Mataura	Secondary Urban Area	Contributing	State: Not integrated	1	91	25%
Nelson Park School	Napier	Main Urban Area	Contributing	State: Not integrated	4	402	29%
North Street School	Feilding	Secondary Urban Area	Full Primary	State: Not integrated	4	370	32%
Omata School	New Plymouth	Main Urban Area	Full Primary	State: Not integrated	8	147	14%
Otatara School	Invercargill	Main Urban Area	Contributing	State: Not integrated	10	281	12%

¹²¹ Education Counts (May 2011)

¹²² None of the schools represented in the focus groups are from a Rural Centre. See definitions.

Pomare School	Lower Hutt	Main Urban Area	Contributing	State: Not integrated	1	119	39%
Randwick Park School	Auckland	Main Urban Area	Full Primary	State: Not integrated	1	687	44%
Richmond School (Nelson)	Richmond	Main Urban Area	Contributing	State: Not integrated	6	400	9%
Silverdale School	Silverdale	Main Urban Area	Full Primary	State: Not integrated	9	276	7%
St Joseph's School (New Plymouth)	New Plymouth	Main Urban Area	Contributing	State: Integrated	7	194	11%
St Joseph's School (Waitara)	Waitara	Minor Urban Area	Full Primary	State: Integrated	2	166	37%
St Mary's School (Northcote)	Auckland	Main Urban Area	Full Primary	State: Integrated	7	387	7%
St Paul's School (Richmond)	Richmond	Main Urban Area	Full Primary	State: Integrated	9	198	6%
Stoke School	Nelson	Main Urban Area	Contributing	State: Not integrated	4	202	31%
Tapawera Area School	Nelson	Rural Area	Composite (Year 1-15)	State: Not integrated	4	223	16%
Taradale Intermediate	Napier	Main Urban Area	Intermediate	State: Not integrated	8	489	19%
Victory Primary School	Nelson	Main Urban Area	Contributing	State: Not integrated	3	374	34%
Westmount School ¹²³	Invercargill	Secondary Urban Area	Contributing	Private	8	43	n/a
Westshore School	Napier	Main Urban Area	Contributing	State: Not integrated	6	114	29%

Definitions¹²⁴:

Urban Area

- *Main Urban Area*: Very large urban areas centred on a city or major urban centre. Main urban areas have a minimum population of 30,000.
- *Secondary Urban Area*: Jurisdictions centred on the larger regional centres. Secondary urban areas have a population between 10,000 and 29,999.
- *Minor Urban Area*: Urbanised settlements centred around smaller towns. Minor urban areas have a population between 1,000 and 9,999
- *Rural Centre*: Rural centres have a population between 300 and 999.
- *Rural Area*: Rural areas have a maximum population of 299.

¹²³ Westmount School's school roll and decile were provided via personal communication with the school's reception. Westmount School Invercargill Campus (4 April 2011)

¹²⁴ *Glossary – Education Counts* (n.d.)

Authority:

- *State: Not integrated:* A school supported by the state-funded system.
- *State: Integrated:* A school which has previously been a private school and is now integrated into the state-funded system.
- *Private: Fully Registered:* A school owned by private proprietors, governed by an independent board, state registered as meeting specific standards, and receiving some state funding but charging tuition fees.

Decile: The Ministry of Education assigns schools a socio-economic status (SES) score based on five census-derived socio-economic factors. Decile 1 schools have the highest proportion of low SES students, upwards to Decile 10, which are schools with the lowest proportion of low SES students.

APPENDIX 4: ONLINE SURVEY QUESTIONNAIRE

User Survey: What's the Plan, Stan?

1. Please enter your information (School, City and Student Year(s))
2. In what calendar years did you use "What's the Plan, Stan?" resources in your classroom? (Check all that apply)
Choice:
 - 2006
 - 2007
 - 2008
 - 2009
 - 2010
 - 2011
3. How did you first receive information about "What's the Plan, Stan?" (Check all that apply)
Choice:
 - Found binder in school resource room
 - Presentation to staff
 - Principal
 - Other teacher
 - Local civil defence representative
 - Friend or family member
 - Internet search
 - 2006 Workshop put on by the Ministry of Civil Defence
 - Other (please specify)
4. What motivated you to use "What's the Plan, Stan?" in your classroom?
5. What components of the "What's the Plan, Stan?" programme did you use? (Check all that apply)
Choice:
 - Unit plans and activities
 - Letter to parents – intro to the unit
 - Scenario cards
 - Disaster fact sheets
 - Practice and simulation materials
 - Home hazard map
 - Household Emergency Checklist
 - Letter to parents – household emergency plan
 - Feelings pictures
 - Self or peer assessment chart
 - Evaluation of an evacuation exercise
 - Other (please specify)
6. What disaster(s) did you focus on when teaching with "What's the Plan, Stan?"

Choice:
Earthquake
Floods
Tsunami
Volcano
Storm
Tornado
Pandemic
Landslide/Mudslide
Wildfire
Chemical Spill
Terrorism/School Shooter
Other (please specify)

7. What formats of “What’s the Plan, Stan?” did you use? (Check all that apply)

Choice:
Hard copy binder of unit plans and activities
Website (information or downloaded materials)
CD-ROM
Storybook (hard copy or downloaded from CD-ROM)
Audio CD (hard copy or downloaded from CD-ROM)
Kia Takatū (bilingual resource)
Other (please specify)

8. Describe how you used “What’s the Plan, Stan?” in your classroom and any special activities.

9. How do you feel about the level of attention to disaster preparedness teaching and exercising across your school this year?

Choose one:
More attention needed across school
Too much attention across school
Appropriate level of attention across school
Not sure
Other (please specify)

10. Will you use “What’s the Plan, Stan?” in 2012, why or why not?