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Readiness counts

The events of 30 September 2009 when a M8.0 earthquake struck south of Samoa and generated a destructive tsunami in Samoa and Tonga are still vivid in many minds. While those images are still fresh it is worth reflecting on our performances and experiences as individuals, organisations and communities during the response to the tsunami threat and learning from them to institute improvements in preparation for the next time.

EDITORIAL

The response by the Ministry has been subject to two reviews which have identified a number of areas for improvement. An extensive corrective action plan is now in place and already a number of critical adjustments to our national tsunami response procedures have been implemented to ensure that warnings are distributed faster, that information is provided to the public quickly and is expressed clearly and carries the appropriate level of authority and credibility. The Ministry has learnt from this experience and is implementing the necessary changes but there are many other wider aspects of the response that provide injects for action.

The foundation for any action has to be the understanding of the phenomenon of tsunami itself. There is a wealth of information and doctrine available to us, but the response, reactions and feedback post-event indicate that the information has not been sheeted home strongly enough. Tsunami is not well understood by the public and the media and in many cases within the CDEM sector.

Part of improving our performance at all levels to cope with situations like that of 30 September is to generate deeper and more consistent understanding of the cause and effect of tsunami, which in turn should lead to improved response.

The heart-rending and tragic stories that have come out of Samoa serve to illustrate the critical importance of understanding the risk we face from near-source tsunami. There will be no time for an official warning and therefore the response has to be intuitive and based on a thorough understanding of natural warning signs and response actions. Television New Zealand has taken the initiative to capture the stories of Kiwis who survived the tsunami in Samoa and it is hoped the corresponding documentary will be broadcast to help promote better understanding and better readiness.

If knowledge and understanding is the foundation of an effective response, preparation and planning in at-risk communities is a powerful and critical

No matter how good the warning system is, what counts is the reaction of the public

enabler. The response across communities is varied. Not surprisingly, those authorities that had done the planning and developed and practiced local response plans with their communities performed better than those that had not. Authorities with at-risk coastal communities would be well advised to revisit their approach to tsunami planning and seek to implement improvements.

It is very easy to focus attention on perceived weaknesses in public alerting and tsunami warning systems. But the truth of the matter is that no matter how good the warning system is, what counts is the reaction of the public on learning of the alert or being aware of a warning or other indications of a threat.

The response to the alert goes back to how well we have prepared the community about the risk, the plan and the actions they are expected to take. The Ministry will continue to work to improve public alerting including working with Australian authorities on the use of telecommunications technologies. But in the meantime there are many communities that would benefit from higher readiness for tsunami through use of local planning and alerting initiatives.

Similarly it is tempting to blame a poor



response to the tsunami threat on inadequacies in John Hamilton, Director

managing public information and the media but that too is only one factor in a complicated equation. Yes, we did learn at the national level that we need to change our approach. We need to be proactive and use the media to assist us in distributing our critical public safety messages swiftly and clearly. Again, to be effective that takes preparation, planning, training and education. This path has been cleared and steps are underway to improve the performance at the National Crisis Management Centre.

Readiness counts. High levels of readiness contributes to an effective response to the threat of a tsunami as well as the response to any of the many other hazards and risks to which New Zealand communities are exposed. Readiness encompasses education and awareness. It involves the collation and dissemination of advice from science and research. It involves thinking, trialling and planning at all levels. True readiness requires training and practice, integration of procedures across the networks vertically and horizontally.

As we approach the Christmas holiday period, I ask you to pause and think about the way you tackle plans for holidays, festivities and family celebrations. The successful holidays and events do not come by chance; they do not emanate from a spur of the moment decision.

Success, enjoyment and benefit come from thinking, planning and preparation. If the occasion is important to us, we plan for it and the more important the function, the more thorough is our planning. Emergency management is no different and yet our recent experience has highlighted shortfalls in many of these aspects.

I take this opportunity to thank you for your contribution to community readiness during 2009. I hope your planning for the holiday period is sound and that it produces the results you desire and your break is free of emergencies and unforeseen problems!

FROM JOHN CARTER, MINISTER OF CIVIL DEFENCE

It's been a huge year for our civil defence teams around New Zealand. With Christmas and summer just around the corner – although you wouldn't know it with Wellington's weather – I know many of you will be taking well-deserved breaks to catch up with families and friends. Of course, we all know the summer doesn't mean a respite from the natural hazards our country faces, so I extend a big thank you to those who are standing ready over the break.



Civil defence has completed massive amount of policy and operational work this year, and I've been really impressed with your professionalism - especially under some trying circumstances. The September 30 tsunami warning prompted quick reactions from coastal communities and organisations around New Zealand. Like with any fast-moving emergency situation, people respond in the best way they can and the effort you all put into the tsunami response shows there's a lot of dedication out there. With the benefit of two reviews into our tsunami response, we can go into 2010 armed with new knowledge as we face fresh challenges.

Thank you for all your hard work and service. I hope you have a fantastic summer and a refreshing New Year. A

CDEM Awards Programme

The Civil Defence Emergency Management (CDEM) Awards programme was launched by the Minister of Civil Defence, John Carter, in Manukau City during Disaster Awareness Week in October 2009. At the launch, the Minister presented CDEM Awards for Long Service to 43 Manukau City CDEM staff and volunteers. Further presentations were made in Napier City and are also scheduled to take place in Taranaki in December.

During the launch the Minister noted that "throughout New Zealand hundreds of volunteers have given their time to serve their local communities and help to make their citizens safer. They are our society's unsung heroes - those people who have, and will in the future, help many of us during emergency situations.

"This work is crucial to the success of civil defence in New Zealand and CDEM Awards recognise the effort that has been put in over the years. These contributions have been about more than just being available to help communities during emergencies. The awards also recognise and appreciate the regular training and education undertaken to ensure that people are always ready to respond when needed."

The awards programme has been developed to recognise career and volunteer personnel within the CDEM sector. The programme also provides an



(Left to right) Minister of Civil Defence, John Carter, brother and sister Suzanne and Stephen Russ, Mayor of Manukau City, Len Brown, at the Manukau awards ceremony.

opportunity to raise awareness of CDEM efforts across New Zealand. Awards are presented to those people, groups or organisations that have made a significant contribution to CDEM in New Zealand and deserve recognition at a national level.

There are three awards available:

- CDEM Gold Award: for outstanding contributions to CDEM; and
- CDEM Silver Award: for important contributions to CDEM.
- CDEM Award for Long Service: for at least ten years CDEM service at the local or national level.

Further information about the Ministerial Awards for CDEM is available on the Ministry's website along with a list of recipients. Any enquiries can be directed to CDEM.Awards@dia.govt.nz.

Wellington civil defence volunteers turn out in numbers

It was a busy weekend for civic-minded Wellingtonians on Saturday 8 November, with more than 80 volunteers taking part in an emergency exercise. Wellington City Council's Emergency Preparedness Manager, Fred Mecoy, says Exercise Phoenix tested how our volunteer civil defence network would cope with a large-scale disaster – in this case, a major earthquake.

"Volunteers from eight of our civil defence centres – Karori, Khandallah, Crofton Downs, Mt Victoria, Miramar, Northland, Clifton Terrace and Brooklyn – spent Saturday morning practising for a situation like this. The Council's emergency office issued the centres with search perimeters and the centres had to find information markers, each describing a different scene. Volunteers had to sift through the information and communicate the relevant facts back to us on the civil defence two-way radio," says Fred.

"And to keep everyone on their toes, we 'kidnapped' some of the centres' most knowledgeable and long-serving volunteers – in a real emergency, key people might not be available and it's important that as many people as possible know how to do these roles."

Mayor Kerry Prendergast took part in some of the morning's exercise and thanked the volunteers for their dedication and hard work. "It was fantastic to see our volunteers at work. It highlighted the hard work many people in our communities are putting in to prepare for a day we hope will never come. But it is vital that all Wellingtonians prepare – an emergency could come at any time and people could have to fend for themselves for days. There are simple measures which can be taken, such as storing water and food, which could literally be lifesavers" she said.

The volunteer fire fighters' helicopter exercise ran in the afternoon on the waterfront, with volunteers demonstrating their airborne rappelling skills, while others performed a simulated rescue in front of a large crowd of spectators.

Wellington community resilience gala

Also coinciding with Exercise Phoenix, a group of community-minded Wellington residents were running a resilience gala. They brought together tenants from Wellington City Council's Arlington Apartments complex and other Mt Cook residents together to motivate people to prepare for emergencies – and have a great time with their neighbours too.

Leigh Harrington from the Arlington Resilience Network says several hundred locals turned up to enjoy the bouncy castle, petting zoo, second-hand stalls and great food, raising enough money for the network to stock up on emergency supplies.



Emergency Preparedness Manager Fred Mecoy presenting a water container to a resisdent during the council's recent initiative to promote emergency water storgage.

"All the civil defence experts we spoke to stressed the importance of two things in a disaster – water and relationships. This gala helped build these relationships in our community, as well as raising funds for the network to store emergency water and community first aid supplies," says Leigh.

Fred Mecoy says the weekend "really showed Wellingtonians are committed to preparing themselves and their community for a major disaster. It's fantastic to see community groups taking ownership of this issue and banding together to make their own emergency preparations. We are really pleased to support a community event like this." A

Hawke's Bay region exercises a major flood response

Hawke's Bay's Civil Defence Emergency Management organisations have had experience with a number of emergencies this year including Police action, snow storms and tsunami alerts. However the region wanted to learn more through a region-wide exercise, Exercise BayVac held on Friday 13 November.

The hypothetical BayVac scenario was a prolonged heavy rain storm occurring over Hawke's Bay resulting in flooding, plus strong gales affecting parts of the region.

Taking part in the exercise were the Hawke's Bay Regional Council, Wairoa District Council, Napier City Council, Hastings District Council, Central Hawke's Bay District Council, NZ Fire Service, NZ Police, St John Ambulance, Hawke's Bay District Health Board Public Health Unit and the Ministry of Social Development. Members of the Hawke's Bay Engineering Lifelines Group, Welfare Advisory Group and the National Crisis Management Centre in Wellington also participated.

The exercise was an excellent opportunity to enhance working relationships between these organisations and clarify roles and responsibilities in the response to a region-wide emergency. It sought to test inter-agency communication, public information and each organisation's response procedures.

There was consensus there had been overall improvement since the last

region-wide exercise, but there were still lots of lessons learnt during the day. The exercise also identified improvements for future events which is why exercises are so valuable. Staff can slow things down to get processes right and cement their knowledge so as to be better prepared for the real event.

These lessons will be documented following a formal debrief in December and incorporated into work programmes. Once documented, lessons can be shared with other Groups on request.

Thanks to exercise director Karen Stephens from Kestrel and the many evaluators who volunteered to assist from around the country.

PACIFIC TSUNAMI Supporting Samoa and Tonga

On September 30 at 06:48 a magnitude 8.0 submarine earthquake occurred just south of Samoa. The tsunami generated by this event caused substantial damage and loss of life in Samoa, American Samoa and Tonga.

Two Ministry of Civil Defence & Emergency Management (MCDEM) staff were deployed to Samoa and Tonga under the arrangements outlined in a memorandum of understanding between NZAid and MCDEM. Their brief was to assist the staff from the Disaster Management Offices (DMO) in each country.

Emergency Management Advisor for National Operations, Jo Guard, was deployed to Samoa on Friday October 2. She travelled from Wellington to Ohakea along with two New Zealand engineers who were deployed to provide earthquake assessments on significant buildings, water treatment plants and dams.

Regional Emergency Management Advisor for the Development Unit, Ian Wilson, was deployed to Tonga on Wednesday 7 October 2009 on a civilian aircraft.

Jo and Ian were in country for two weeks and based at the respective DMO. Recent work with both DMO offices meant that Jo and Ian were familiar with people and arrangements in each country.

Jo had worked with the Samoan DMO in October 2008 to provide exercise writing and management training and Ian had visited Tonga in May and June this year to re-establish a close working relationship with the DMO there. These prior relationships proved invaluable.

Jo Guard: supporting the Samoa response

Samoa's south eastern coast was hardest hit by the tsunami with approximately 40 villages affected, 20 of which were destroyed. A number of schools sustained significant damage, three were completely destroyed. Pupils have been relocated to other schools until new classrooms are rebuilt. The wharf at Aleipata sustained extensive damage and a number of excavators were lost in the tsunami.

Many New Zealanders provided support to the Samoan communities affected. Medical personnel from New Zealand worked alongside local medical teams, navy dive teams assisted in searching for missing people and New Zealand Police provided assistance in victim identification. The New Zealand Defence Force provided two helicopters along with medical and logistics staff, as well as deploying the HMNZS Canterbury to bring supplies from New Zealand. Many other New Zealanders generously contributed financial and other assistance to their Pacific neighbours.

I provided operational support at the National Emergency Operations Centre in Samoa, assisting DMO staff in the response by writing situation reports, media releases and creating and maintaining a logging system and various templates for use during the response and early recovery.

The National Emergency Operations Centre was relocated to an inland fire station due to existing facilities being too close to the coast. The fire station comprised a large covered area which was perfect for the distribution of relief items, and the surrounding fields became a storage/staging area with large shipping containers, tents and a helicopter landing zone. Resources such as computers, information sharing facilities, stationery and meeting areas were limited, however, people worked with what was available.

The government of Samoa was quick to respond. A state of emergency was declared on October 2 to empower the head of state to make emergency orders, secure public safety and essential supplies and services and generally safeguard the interests and welfare of the communities affected. Road access around the affected area was quickly restored, along with the majority of power and water connections. Aid distribution was coordinated by the National Emergency Operations Centre.

I was in Samoa when the Vanuatu earthquake occurred October 7. A warning was issued which resulted in the evacuation of coastal areas. New Zealand engineers were conducting building assessments in Apia and received the warning message and, along with the Samoan community, evacuated inland. Vehicles moving inland took over both sides of the road to travel in one direction while pedestrians walked in droves to evacuation points. The New Zealand High Commission, located on Apia's waterfront, evacuated its staff to a safer location. While there were reports of a traffic jam in central Apia, the events of the tsunami a week earlier provided fresh motivation to evacuate and people appeared to do this in an orderly fashion.

Some of the key lessons identified will come as no surprise to the civil defence community. Pre-planning was vital – having plans, processes and procedures, and templates in place that people are familiar with and have practiced using made it easier to respond under pressure. It would have been difficult and time-consuming to create plans in the middle of the response.

Part of the pre-planning undertaken by Samoan DMO staff included building and maintaining relationships with other agencies: Knowing their roles and responsibilities and that of others reduced the potential for double-ups and miscommunication during the response. This made dealing with people during the emergency much easier than trying to establish relationships in the middle of the response.

Samoa relaxed immigration requirements to get people out of the country quickly after the tsunami, as well as waiving certain importation regulations (such as taxation and pre-clearing shipments) for goods coming into the country to speed up the response. There were numerous offers of assistance and donated goods and it was important to record these and identify early on what resources were actually needed. It was difficult to manage the large volumes of donated items which were generously donated but not actually required. It took some time for Samoan authorities to establish exactly what was needed and to communicate these needs to the international community.

Communities in the affected areas were isolated and some people were left with nothing. It was important to identify the extent of damage and what community needs were and to work to get these needs met as quickly as possible. Information sharing was therefore vital to ensure that aid was getting to the right places and not being duplicated.

A huge lesson learned was that communities needed to be educated about natural warning signs. The first waves hit Samoan coastal communities within 15 minutes of the earthquake. While early warning systems are able to warn of a regional or distant source tsunami, there is generally no time to warn people for local source events. There is no questioning the



Above: Samoan response: National Emergency Operations Centre, relocated inland. Below: Evacuating following the Vanuatu earthquake and warning.



fact that people who felt the earthquake and immediately made their way to higher ground or inland managed to save themselves. In New Zealand we need to plan evacuation routes and know where or how to make contact with loved ones.

The recovery phase continues, however, difficult decisions must be made on whether to rebuild affected communities and infrastructure on the coast or whether to relocate further inland.

The experience was profound. I was amazed at the resilience and resourcefulness of the people of Samoa, and the generosity of complete strangers (both domestic and international) to contribute time, money and effects to those in need. People involved in the response worked around the clock to ensure affected families were cared for. It was an invaluable experience and I feel privileged to be part of the response.

I'm keen to apply lessons learned in Samoa to my work on the National Warning System, National Crisis Management Centre training programme and the National Exercise Programme. There are always opportunities for improvement, and it is events like these that inspire us to keep improving in order to minimise the devastating effects a disaster like this could have in New Zealand.

Ian Wilson: supporting the Tonga response

The tsunami struck the northern island of Niuatoputapu at 7am, some 12 minutes after the earthquake and four minutes after the warning was received from PTWC. This highlighted to me the need for locals to be aware of, and respond to natural warnings as a precursor to possible tsunami waves. In this instance, there were three significant waves – the third wave doing most of the damage.

One of the most significant factors affecting the response to this disaster was the isolation of Niuatoputapu and the logistical problem this represents. The island is 788km from main island of Tongatapu and the capital, Nuku'alofa. All equipment needed for the recovery had to be transported in as there is no heavy earth-moving equipment or extra fuel supplies on

Niuatoputapu. The island community is also reliant on transport



Above: Managing donated goods in Tonga required a lot of effort (and also in Samoa). Below: Niuatoputapu's only port comprising a stone wharf. Much of the port infrastructure was destroyed by tsunami waves.



for all processed food such as flour and sugar and supplies quickly became an issue. Fortunately local crops suffered minimal damage.

Travel to the island by sea takes about 25 hours. The only airport is small and limited to light aircraft. Air transport takes six hours and necessitates a refuelling stop halfway. Initially no aircraft could land as communication equipment had been destroyed and the tsunami waves had deposited huge boulders on the runway. There was also considerable debris at either end of the runway. The Tongan Defence Service moved quickly to clear the runway and survey it to ensure that small aircraft could land. However, due to the inability to clear sufficient space at either end it was decided not to allow a French emergency response aircraft to land. Upon arrival of the HMNZS Canterbury from New Zealand, engineers were able to clear the ends of the runway thereby providing the necessary clearance for a Hercules C130 to land if required.

The Canterbury was faced with its own demanding issues. Port access is via a wharf made from large rocks making berthing extremely hazardous. Weather conditions meant that unloading was often delayed and on one day, impossible. The Canterbury crew unloaded as much equipment and supplies as possible using the onboard helicopter, but were unable to offload heavy equipment. Canterbury was then deployed to Samoa returning later to unload trucks, cars and a digger.

This meant that cleanup activity was delayed and at times very difficult. Recovery staff on Tongatapu had to anticipate resources required on Niuatoputapu, prioritise distribution and establish how to transport them. Resources taken from the main island meant whatever work was being undertaken there had to stop until the resource could be replaced from either New Zealand or Australia.

Equipment deployed to Niuatoputapu stayed there - a factor that logistics staff had to be very aware of in their planning. While this is unlikely to occur in New Zealand, items taken to assist in recovery in remote locations may well be out of commission for extended periods creating similar logistical problems.

Another recovery complication was that the island has no reticulated power. Power is provided by either solar energy or by diesel generator. This placed considerable pressure on diesel supplies necessitating rationing and prioritising of supply.

Donations to the effected community were very forthcoming. The Tongan community is very caring and gave freely. Food, clothing, shelter, money and personal items were given to the people of Niuatoputapu. Often friends and relatives on Tongatapu gave beyond their means and became dependant on the Tongan Government for food support creating unforeseen internal issues. This was one aspect of the response that caught everyone off guard but was quickly resolved.

Items donated were collated by the Tongan Defence Service and efficiently transported to the island by Tongan navel vessels or foreign vessels. Distribution of supplies was coordinated by the National Controller, Lord Ma'afu and his staff. The actions of the Tongan Defence Service, local people and defence staff from New Zealand and Australia greatly enhanced response efforts making the lives of those affected by the tsunami more bearable. Water tanks delivered by Tongan naval vessels and by the Canterbury were strategically located for easy access. Septic tanks were sprayed and reburied to prevent the spread of disease. Unstable buildings were cleared along with rubble thrown up by the force of the waves. The Tongan Communication Corporation despatched staff to the island to quickly re-established communication links with the main island via satellite.

The National Emergency Recovery Committee developed a community survey for establishing how rebuilding should proceed. It quickly became apparent that some people would need to be relocated as the tsunami had washed away storm surge protective measures in some areas. The Ministry of Works conducted surveys for possible sites and consulted with land owners.

Several donor agencies wished to help with rebuilding including work to replace education facilities, houses, medical centres, infrastructure, community buildings and vegetation replanting. Work was undertaken to collate this information and a spreadsheet was created to establish who was offering what and when. This allowed the Tongan government to efficiently manage the recovery process by identifying gaps, where overlaps existed and prioritising the rebuilding programme. It allowed for the maximum use of the resources offered and kept donors informed. Similar issues could arise in New Zealand where massive rebuilding is required following an event.

None of these actions would have been possible without the goodwill of donors, the people of Tonga, the Tongan government and Defence Services and the staff at the national emergency management office. People worked tirelessly to help effected islanders. This was a massive undertaking that was responded to very effectively.

Tsunami a timely reminder for New Zealanders

"The first waves hit Samoan coastal communities within 15 minutes of the earthquake... There is no questioning the fact that people who felt the earthquake and immediately made their way to higher ground or inland managed to save themselves."

These comments from Jo Guard, **Emergency Management Advisor for** National Operations, who assisted in the Samoan recovery operation (see previous story) are a timely reminder of the tsunami risk faced by many New Zealand coastal communities. It is vital that people understand the risk and know what to do as outlined in this excerpt from the tsunami public education brochure published by MCDEM and available from local authorities.

TSUNAMI NATURAL WARNINGS

IF you are at the coast and you experience any of the following:

- you feel a strong earthquake (it's hard to stand up)
- you feel a weak earthquake that lasts for a minute or more
- you see strange sea behaviour, such as the sea level suddenly rising or falling
- you hear the sea making loud, unusual noises or roaring like a jet engine

THEN get to high ground or go inland.

Do not wait for an official warning. Instead, let the natural signs be your warning. First, protect yourself from falling objects then immediately get to high ground or go inland. Wait for official all clear.



Bravery awards for students

Albany Junior High School student Maxwell Wilson has received a national award for his quick thinking and bravery in helping to warn people about the imminent tsunami in Samoa.

Twelve-year-old Max and his family were holidaying at the Litia

Sini Beach Resort on Samoa's Upolu Island when they saw the sea go dead calm and begin to drain out over the reef "like a backwards waterfall."

Max and his father Christopher and sister Poppy realised that this was an unmistakable sign of an approaching tsunami, and Max ran through the beach



North Shore Mayor Andrew Williams presenting Max Wilson with his bravery award.

resort, shouting "Get out! Run!" This gave most people the chance to run for higher ground before the deadly waves struck.

The award, from the Ministry of Civil Defence and Emergency Management, was presented at a school assembly by North Shore Mayor Andrew Williams. A similar award was presented earlier to Abby Wutzler, a 10-year-old Wellington girl who was staying at the same resort. (see: October 2009 e-bulletin on the Ministry's website)

The tsunami struck Samoa, American Samoa and Tonga on 29 September 2009, killing almost 200 people and injuring many more. Tsunami waves arrived 12-15 minutes after the earthquake which generated them, so there was no time for an official warning to be issued. The death toll could have been much higher if it was not for the quick reactions of people like Max, Abby and their families. A

Waikato exercises tsunami response

The Waikato Valley Emergency Operating Area conducted its valley-wide exercise on four separate days during Disaster Awareness Week on the 12-16 October.

Exercise Parawhenua was based on a tsunami generated from an earthquake in the Solomon Islands. Planning turned out to be rather prophetic as there were two real tsunami warnings in the ten days preceding the exercise. Personnel from all five councils within the Waikato Valley area were brought together to coordinate the response from the Emergency Operations Centre (EOC) in Hamilton.

More than 100 volunteers, including three local controllers, participated in the response along with five liaison officers from fire, Police and the District Health Board. Observers were provided by the MCDEM, Waikato CDEM Group and Red Cross, with three local politicians dropping in to the EOC to view the response.

These exercises demonstrated the significance of teamwork and the importance of training and exercising. Teams within the EOC comprised individuals from various councils, many of whom had never met before let alone worked together as a team, and it was great to see them all just get in and do it - very successfully.

Participants thoroughly enjoyed the realism of the exercise, working with people from other councils, and seeing the bigger picture of coordination that is involved at the EOC level as opposed to their own council levels. The external liaison officers found it reassuring to see CIMS terminology and roles being used throughout the EOC, with a lot of forward thinking going on, and people clearly learning as they went.

Thanks to MCDEM, for providing realistic media role playing to help our Public Information staff simulate the pressure of responding to media enquiries.

Tsunami planning roadshows in North Canterbury

During National Disaster Awareness Week, a series of informational tsunami roadshows toured to two communities in North Canterbury. The roadshows were developed by Emergency Management Officers Brennan Wiremu (Hurunui DC) and Les Pester (Waimakariri DC).

"We felt strongly that these communities needed more information regarding their risk and how they could work together during a tsunami. The model used was based on work done in Northland with local modifications," says Brennan.

Local Police and fire representatives presented information regarding their role in the community. The roadshow included presentations by Environment Canterbury Hazard Analyst Helen Grant, who provided scientific understanding of tsunami. Communities were then asked to contribute to writing a response plan for their local area.

"The timing was interesting as the first

advert in the local paper ran on September 30, the same day as the Samoa tsunami. We had a really great turnout in Pines/Karaki Beach and I think in part, that was because the public was really ready for this kind of roadshow. And the work with these communities is really just beginning," says Les.

Les and Brennan plan take the roadshow to eight other at-risk communities over the next year.

Christchurch family win emergency ready prize

Christchurch couple Euan and Robyn Heffer along with their two children, Samuel (7) and Emily (1) recently won the inaugural Emergency Ready competition initiated by Canterbury CDEM Group. The competition was launched as part of the Groups Disaster Awareness Week initiatives.

The family home was made emergency ready with help from the New Zealand Fire Service, St. John Ambulance, Christchurch City Council and Canterbury Emergency Management Office staff. The Fire Service checked all smoke alarms and developed a fire response plan for the family. The original smoke alarms were old and needed replacing so alarms with a 10-year battery life were installed, assisted by Samuel! St John provided first aid basics training and the win also included water and food storage for emergencies and how to create an emergency plan.

Euan's entry was chosen because of his answer to the question about why his family should be prepared. He wanted his family to be prepared so he could assist other members of his community. \triangle

URGNT PLSE MVE YR CAR

Hutt Valley Emergency Management have partnered with emergency preparedness company Readynet to alert Hutt Valley commuters of flood danger.

The Hutt Valley is vulnerable to flooding and the popular Riverbank car park is one of the first areas to be threatened by rising water levels as the before and after photos dramatically illustrate! The car park is located in the central business district close to the Hutt River and has space for 700 vehicles. This new initiative allows txt requests to be sent to people who use the car park to move their vehicles in the event of likely flooding.

Car park users' txt their details to a dedicated number in order to be added to the service. "When the river is rising and the car park needs to be closed, we will send out a txt alert to this group requesting them to move their vehicles" says Paul Nickalls, Hutt Valley Emergency Management Controller. Signs are being erected in the area advising people of the new service and the information is also being added to monthly car park passes. △





Survey reveals community perceptions

The results of the national Colmar Brunton CDEM Survey in June 2009 indicated a significant drop in preparedness levels in Canterbury from 2008 to 2009. The survey revealed a decrease in preparedness at home from 40% to 25%. (see summary of results opposite)

Canterbury CDEM Group has an established relationship with survey company Opinions Market Research and conducts its own community survey every two years. In response to the national survey results the Group modified its instructions to Opinions Market Research in an effort to understand why preparedness levels at home decreased. The Canterbury survey was able to go beyond the questions in the national survey to ask about personal and community preparedness, possible disasters in Canterbury and actions to enable communities to cope better. The results provide some useful insights into current issues and future directions.

Levels of preparedness

Although 95% of those surveyed in the Canterbury survey rated being prepared as very or quite important, only 64% reported that they were quite or very well prepared (compared to 50% nationally). Only 44% of residents reported that they had water and other survival items, and only 11% reported they were fully prepared with water, survival items and an up-to-date plan. These results mirror those of the national survey (41% and 11% respectively).

More in-depth analysis of the results indicate significant intra-regional variation in full preparedness, from 9% in Christchurch, 12% in South Canterbury, 13% in North Canterbury, to 15% in Central Canterbury. Those partially prepared do not however follow the same pattern, with those reporting they have water and survival items being 41% Christchurch, 41% South Canterbury, 54% North Canterbury, and 52% in Central Canterbury. These results are indicative of variability in the inherent levels of preparedness in communities, and variability between emergency managementrelated public education and response activities at CDEM Group, local authority and community levels.

Perceptions of community response

The survey went beyond perceptions of individual preparedness to inquiring into belief in the ability of communities to cope (see



Figure 1. Ability of local community to cope with possible disaster

	Benchmark	2007	2008	2009
Fully Prepared	5%	10%	8%	11%
Prepared at home	19%	24%	40%	25%*
Has a plan	52%	52%	62%	54%
Has survival items	79%	87%	89%	83%

*Significant decrease since 2008

The 2007–2009 Colmar Brunton survey results for preparedness in the Canterbury/West Coast region measured against a pre-Get Ready, Get Thru campaign benchmark survey. Sample size for 2009: 137.

Figure 1). The results for respondent belief in the community's collective ability to cope with specific hazards were: snow (87% quite/very well), fire (72%), storm (68%), pandemic (67%), earthquake (62%), flooding (60%), and tsunami (36%). Clearly tsunami is the hazard respondents are least confident about their community's ability to cope. This is a key issue for Canterbury to take on board in its resilience planning.

There was also substantial variability in the level of confidence within the sample depending on location within the region.

Perceptions of hazards

Understandably questions about perceptions of specific hazards diverged from the results of the national survey. The most marked distinctions being volcanic eruption (42% national, 2% Canterbury) and snow (7% national, 14% Canterbury), reflecting the Canterbury hazardscape. Local distinctions were also identified with tsunami being of much more concern in Christchurch 55%, than to Central Canterbury of 23%.

Effectiveness of public education

Respondents were asked what actions would enable them to cope better with disasters. Although there were some interesting contrasts within the regional data, the overall results (*see Figure* 2) indicated that largest group of respondents (38%) felt that information and education would make a difference, followed by community interaction (22%), preparation and practice (20%), don't know (18%), and 8% for both warning systems and nothing can be done. More thorough analysis of this data indicates a wide range of factors make up the community's desire for more effective information and education. Some



Figure 2. Actions to enable communities to cope better with disasters

respondents nominated information packs/fliers (13%), more education (13%), more awareness (11%), knowledge of areas to go/meeting points/shelters, etc (9%), and better communication (6%) as being action that would enable better coping.

Those who nominated community interaction and preparation and practice did not, in most cases, also identify with information and education, indicating a need to distinguish between motivators to action within communities. Therefore a diversity of public education strategies is most probably required.

Focus groups

Following on from the telephone survey further work was carried out with community focus groups in Christchurch, rural Central/ North Canterbury and South Canterbury. Specific, genderbalanced groups were established to gain an understanding of the awareness, expectations and attitudes of 18 to 35 and 35-plus age groups. A total of 6 focus groups of 8 to 10 participants were conducted by experienced researchers.

The focus groups occurred immediately after the Samoan earthquake and tsunami. This was reflected in the responses of participants and provided more insight into hazard-specific issues, particularly in relation to perceptions of risk and organisational branding. More analysis of data is required so these are initial results.

Perceptions of Civil Defence

Many participants had the understanding that civil defence is other than them or their community, perceiving groups of individuals at local, regional and national levels who are there to meet the needs of the community in an emergency. Although many agreed that they would be on their own in the first few hours or days of an emergency, they do expect that an organised response will be mounted immediately, under the banner of civil defence to save them or others injured, isolated or otherwise in need of support. When asked what they would do if civil defence was not there, the consistent response was that they would have to look after themselves and their neighbours.

The civil defence logo clearly gives the community a degree of comfort and a feeling of safety – perhaps more than would be ideal when the objective is to encourage and enable community self-help and resilience. The value of civil defence as a term, in comparison to emergency management, disaster management and a range of other terms, was also explored. There was a tendency for some participants to relate civil defence with community-level emergency response, while others wanted to move away from civil defence and toward the concept of community emergency response capability.

There was an appreciable difference in attitudes toward civil defence between the two age groups with older participants articulating stronger affiliation to the term and harbouring higher expectations of a significant organised response in the event of an emergency. Younger participants have been exposed to, and are comfortable with, a much broader range of emergency management-related experiences, concepts and terms, mostly due to recent significant disasters internationally and contemporary media – factual and fictional.

Younger participants were not as strongly connected with the concept of civil defence and demonstrated a more complete

appreciation of hazards and their likelihoods and consequences. Younger participants, rather unexpectedly, articulated a higher expectation that they would have to fend for themselves and work collaboratively with others in the community, rather than rely on organised responses.

Interestingly, there were some younger participants who suggested the brand should be retained only to ensure older members of the community, who had grown up with it, did not feel less secure. These responses indicated a degree of social awareness that some may find surprising, but also an insight into the impact that the civil defence brand may actually have on fostering preparedness and resilience.

Conclusions

The 2009 national CDEM Survey indicated a significant drop in preparedness levels at home in Canterbury. Research was initiated by the Canterbury Regional EMO to ascertain if these results were reliable or an anomaly. Comparison of the national and Canterbury-focused surveys demonstrated that the change in indicated levels of preparedness in the national survey could have been a result of small size of regional samples, rather than any actual decrease in preparedness within the region. However, overall rates of fully prepared people were consistent with the national survey.

The Canterbury-focused research indicated to the Group that local and regional preparedness programmes, including the Pandemic Roadshow, added a lot of value to the national campaign. Regional and local public education initiatives therefore do matter and are a necessary part of public education. The survey indicated that communities wanted more information packs and more engagement at community level as well as household level.

Focus groups revealed preparedness levels were consistent regardless of age. This was surprising, as many previous surveys indicated that levels of preparedness amongst 18-35 year olds were lower than 35 and older. The reliance on social media to receive emergency information and public education was high in this younger age group. This could lead to a new avenue of public education utilising social media networks.

In the survey and the focus groups, a large number of respondents indicated that they wanted more community planning and information regarding emergencies. This was especially relevant to focus group participants who lived in coastal areas as the Samoan tsunami had just occurred. Adding an element of community planning or education during National Disaster Awareness Week and other planned events seems to be an avenue that could be explored further.

Perceptions about civil defence revealed an understanding by some of external actors "rescuing" communities rather than communities responding to their own needs. However the national survey reveals that the vast majority of New Zealanders (98%) agree that it is their responsibility to look after themselves and their family in a disaster. This inconsistency may relate to the perception of how long people are expected to fend for themselves during an emergency before official help arrives.

One possibility for addressing this inconsistency is renaming Disaster Awareness Week to Disaster Preparedness Week to emphasise personal and community preparedness and the minimum time required to get ready and get through.

Disaster research expert visits NZ

The Ministry of Civil Defence & Emergency Management (MCDEM) was delighted to host Professor Kathleen Tierney in Wellington for three days, prior to FRSITO's Australasian Emergency Management Training Conference at which she was an invited speaker.

Professor Tierney, a professor of sociology, is a world renowned researcher on the social aspects and consequences of major natural and technological disaster events. She is currently Director of the Natural Hazards Centre at the University of Colorado. The Centre fosters information sharing and integration of researchers, practitioners, and policy makers, and hosts the annual Hazards Research and Applications Workshop.

During her time with MCDEM staff and other emergency management stakeholders, Professor Tierney discussed disaster research developments internationally, and provided insights into recent United States disasters and institutional responses.

A seminar with New Zealand hazard and disaster researchers allowed for current and emerging research areas in New Zealand and the United States to be discussed, and highlighted the opportunities provided by the annual Hazards Research and Applications Workshop.

A range of key messages arose from discussions with Professor Tierney. She noted that risk is continuously being generated by social activities. For example, building in areas prone to flooding or storm surge or the breakdown of social networks due to population migration. These societal risks may vary across communities depending on cultural and social norms. However, these norms are also key determinants in enabling adaptive resilience and behavioural changes both pre- and post event. Professor Tierney also encouraged utilising and strengthening existing social networks, especially within vulnerable communities, as a highly effective means for building community disaster resilience.

Another message stemmed from recent research into agency interactions during an event. This research indicated that emergency response communication networks evolve out of everyday lines of



Natural Hazards Centre website (www.colorado. edu/hazards) provides numerous resources for emergency management professionals.

communication, and that an event could have unanticipated impacts on critical communication nodes and pathways within these networks.

Also an intensifying use of social media, such as wikis, Facebook, Bebo and Twitter, for peer-to-peer communication, collective sense-making, and situation assessment during events has also been identified. Emergency managers must anticipate such trends, and learn to work with increasingly rich and fluid information flows across affected communities, the media and the wider public.

Professor Tierney suggested that in large scale disasters, there can be a greater requirement for flexibility and adaptivity in the management of response and recovery that step outside standard operating procedures. She also expressed that recent economic events have meant that many community social support groups, while aware of the risks, are now in daily crises mode with no capacity to prepare for and manage a major event.

Professor Tierney's visit was a highly enjoyable and valuable time and we look forward to further interaction with her and the Natural Hazards Centre. For further information on the Natural Hazards Centre, its publications and the annual workshop, visit www.colorado. edu/hazards. The website provides numerous resources for emergency management professionals.

FRSITO AUSTRALASIAN EMERGENCY MANAGEMENT TRAINING CONFERENCE

More than 140 local and international visitors attended the inaugural New Zealand Fire and Rescue Services Industy Training Organisation (FRSITO) conference in Rotorua.

Professor Kathleen Tierney Director of the Natural Hazards Centre from the University of Colorado delivered the keynote address discussing the gap between research and practice and how this may be addressed.

Another guest speaker from the United States was Dr Cortez Lawrence, Superintendent of the Emergency Management Institute for the Department of Homeland Security based in Emmitsburg.

Dr Lawrence is already well known to a number of New Zealanders and so it was a warm welcome among friends. In his first presentation he spoke about a number of the higher level education programmes run by the Department and the outcomes from these.

There were also several guest speakers from Australia presenting keynote addresses – Dr Christine Owen; Tony Duckmanton and Julie Harris; and fellow New Zealanders Dr Chris Holland and Bill Robertson.

Christine Owen, from the Bushfire Cooperative Research Centre, made available some of the early results of her incident management research conducted across Australia and New Zealand.

We are all aware of the statistics of an ageing population and Julie Harris highlighted some of the issues that will face emergency services personnel when working with this group. For example, how will you work with people with dementia; people who won't leave their home; who won't ask for support?

Proceedings from the conference are available and can be requested at info@frsito.org.nz.