

Remembering Abbotsford





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Impact is a quarterly magazine for the Civil Defence sector published, March, June, September and December. Previous issues can be found on the Ministry's website

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Emergency contacts

Public information and media enquires during activation of the National Crisis Management Centre (NCMC) should be directed to: Telephone: 04 494 6951 Email: pim@ncmc.govt.nz

Published by

The Ministry of Civil Defence & Emergency Management (MCDEM) PO Box 5010 Wellington Level 9, 22 The Terrace Telephone: 04 473 7363 Facsimilie: 04 473 7369

Editorial equiries

Adrian Prowse emergency.management@dia.govt.nz

Contributors

Debbie De Geus Jon Mitchell Graham Hancox Tane Woodley Jenna Rogers Jo Guard Jane Pierard Chris Manuel Chandrika Kumaran Mike Langford David Coetzee John Titmus

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NATS CONTRACTOR



John Hamilton, Director

in economies. In the CDEM sector I can also see emerging green shoots and improvements. Let me explain by highlighting some projects.

The monitoring and evaluation programme, trialled with the Bay of Plenty Group, has produced good insights on the Group's current status and areas where improvements could be made. It will soon be available to all groups.

The project to develop a competency framework is formalising the linkages between roles and responsibilities in CDEM and the attributes and skills required. It will eventually ensure those holding key appointments have the necessary training and education.

The integrated initial response plan for a major Wellington earthquake is well underway and we have a clear picture of likely consequences. Planning will indicate response priorities and show who is expected to do what.

The emergency management information system for the National Crisis Management Centre will improve our ability to monitor, manage and respond to emergencies. A decision on the preferred vendor will be made soon.

Lastly I see green shoots emerging from the integrated planning workshops. These workshops bring together council planners, community engagement staff and emergency managers to consider the benefits for communities of using an integrated approach to planning. Initial workshops suggests they should be applied widely.

The green shoots in CDEM are as fragile as those in the economy, and need to be nurtured. We must continue to develop our understanding of our networks, our physical and psychosocial environments and the causes and effects of crises. We must then ensure a thorough integration of planning, exercising and revision to procedures, tools and doctrine. Done well, these steps will help us prepare for likely emergencies, mitigate the risk of surprise and better prepare us to manage and lead in a time of crisis. ▲

CDEM's green shoots

Over the past month I have had several opportunities to learn of the factors that are said to lie behind the current financial crisis and of the strategic choices economies might have to manage their situations.

In the financial crisis, few accurately predicted the onset of the crisis, but many have articulated the risks and consequences when given the scenario. The crisis illustrates the interdependencies between economies and the speed with which information (both good and bad) is passed around the globe. Deteriorating economies have been aggravated by a range of factors such as high-risk decision making, inadequate regulation and lack of awareness.

Civil defence emergency management faces similar factors. We deal with crises that arise with little or no warning. Do *we* have indicators that alert us in enough time to understand the problem and activate warnings and alerts? How well placed are we to manage a crisis?

In the CDEM sector we have considerable scientific advice that enables us to depict the consequences of our most likely emergencies. Through our National CDEM Strategy, we are generating a culture of managing the risks communities are exposed to. If we understand the nature of the risk and crisis, and can describe likely consequences, we should be able to develop and deploy appropriate response plans. How good are our plans?

We are also aware of communities' increasing reliance on interdependent systems and networks. Yet we do not have a complete and coherent map of these interdependencies and vulnerabilities used in normal routines, let alone how they might be impacted by an emergency. A thorough planning process would map dependencies and indicate response options in a crisis.

We know only too well that we face a continual uphill battle to shift public attitudes toward preparedness. What progress can we see in better readiness?

There are signs of green shoots appearing

BERT features in Nelson Ecofest

Each year Nelson City and Tasman District Councils organise a weekend Ecofest expo to promote environmentally friendly products, conduct workshops and provide services that promote community and individual resilience.

There are numerous stalls showcasing issues such as composting, waste management, eco-building, self sufficiency and personal resilience.

Nelson Tasman Emergency Management was quick to take advantage of a captive audience to promote household preparedness using their new emergency response vehicle as



A NZRT2 team member explains the functions of on-board equipment in BERT (the big emergency rescue truck) to a member of the public during Ecofest.

a draw card. BERT (Big Emergency Rescue Truck) is operated by NZ Response Team 2 and team members demonstrated the rescue equipment on board. They were also able to provide background information about the team as well as interesting stories about rescues they have performed.

Torrential rain on the day resulted in many people sheltering within the emergency management tent which not only housed BERT but also a 'be prepared' information stall.

Several themes emerged from discussions with members of the public. These included How long does water last in a bottle, how much water do I need, and which radio station do I listen to in an emergency?

Emergency management staff discovered that many people only listen to nationally networked radio stations thereby failing to receive import local advice from local radio stations during an emergency. As a result large bright yellow pens were produced with the frequencies of the two local radio stations printed on them. By opting for large yellow pens it is hoped they will stay at home rather than 'disappear' into pockets and bags as pens often do!

Other activities on the day included a quiz with prizes of 10 litre water containers for the adults and lollies and a cartoon of BERT to colour in for the children. \triangle

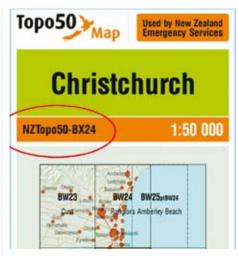
Canterbury adopts integrated emergency management principles

The Canterbury Regional Emergency Management Office has adopted the international "Principles of Emergency Management".

The principles were developed by the International Association of Emergency Managers in 2007, in conjunction with emergency management agencies internationally, to provide a clear framework on which to build more effective relationships, structures, plans and activities on into the future.

The principles require the work of emergency management agencies to be comprehensive, progressive, risk-driven, integrated, collaborative, co-ordinated, flexible and professional. The overall vision of emergency management is to enable communities to be more resilient to the hazards that they face.

"Although New Zealand has a set of emergency management arrangements, under the Civil Defence Emergency Management Act and other legislation, there is room and a need to use more comprehensive, progressive, integrated approaches. By integrating the international Principles of Emergency Management in Canterbury we are indicating that the agencies in our region are committed to moving emergency management forward" said Councillor



Topo50 map delivery

Land Information New Zealand's Topo50 map project is running to schedule, and as a result, maps will be posted to emergency services around the country, from September 1, 2009.

Local and Regional Authorities who lodged an order with MCDEM prior to April 30 can expect new maps in the first week of September, while those who ordered after this date may experience a short delay. However, all agencies who ordered prior to August 1 should receive new maps by the project launch date, September 23, 2009 when the new maps take effect.

Old maps are to be destroyed or returned to LINZ for disposal. They must not be given away as they differ considerably to the new Topo50 maps which will be used by all emergency services.

Any local and regional authorities that have not ordered replacement maps are encouraged to do so by contacting Tane Woodley at MCDEM on 04-495 6827.

Bob Shearing, Canterbury CDEM Group Joint Committee chairperson.

Jon Mitchell, Manager of the Regional Emergency Management Office commented that "the principles sit well with the approaches to emergency management taken in Canterbury, and will support us as we work to move away from a response-driven "civil defence" model to a more effective and contemporary "emergency management" community-resilience model"

The Principles of Emergency Management can be downloaded from www.iaem.com/ EMprinciples



NORTH ISLAND CIVIL DEFENCE EMERGENCY MANAGEMENT CONFERENCE

The North Island Civil Defence Emergency Management Conference will be held in Hastings, November 9-10, 2009. The conference theme is community recovery through resilience.

Day one will showcase developments in resilience since the 1931 earthquake. Day two will focus on welfare and recovery, including a presentation on the recent Napier siege.

A half day pre-conference tour, highlighting impact of the 1931 Earthquake, will be available for those wishing to view the hazardscape in the Hastings and Napier areas.

This conference is being hosted by Hastings District Council as part of 50th jubilee celebrations to recognise the establishment of civil defence in Hastings.

For more information and registration forms, refer to **www.hastingsdc.govt.nz/nicdem**.

New staff at WEMO

The Wellington Emergency Management Office (WEMO) reorganisation is now well underway with the appointment of three new staff, including the manager. WEMO has a renewed focus on engaging the community with the aim of increasing Wellington's preparedness and community response capability.

WEMO's core emergency management personnel are:

- Fred Mecoy, Manager, Emergency Preparedness;
- Adrian Glen, Senior Advisor, Emergency Preparedness;
- Jock Darragh, Principal Rural Fire Officer;
- Daniel Neely, Senior Advisor, Emergency Preparedness;
- David "Reg" Perrin, Emergency Preparedness Advisor; and
- John Barnhill, Technical Assistant.

WEMO will soon be advertising to fill the last vacancy, a schools education programme specialist.

DISASTER AWARENESS WEEK 2009

October 11–17

Integrating planning workshops update

The last issue of Impact reported on the integrated planning workshops the Ministry is holding around the country in support of second generation of CDEM Group plan development.

Workshops are held in conjunction with the Department of Internal Affairs Local Government Branch, Local Government New Zealand and the Ministry for the Environment. They address the alignment of planning processes under the Local Government Act 2002, CDEM Act 2002 and the Resource Management Act (RMA) 1991 to better build resilience. Workshops are conducted collaboratively with CDEM Groups and council policy staff. In the previous article we reported on the outcomes of the first of those workshops, held in Gisborne.

Two more workshops have been held – in Hawkes Bay on July 30, hosted by the Hawke's Bay CDEM Group and in the Bay of Plenty on August 17, hosted by the Bay of Plenty CDEM Group. Both workshops were co-organised by local policy and planning staff and well attended by a cross section of local authority staff and management.

Many of the issues raised in these workshops reflected the issues identified in Gisborne including:

- planning driven by development and land owners and how to deal with this
- a lack of win-win solutions in planning for natural hazards such as low impact planning and urban design, amenity developments in risk zones, opportunities for standardised sections cascading through plans and more effective utilisation of LTCCP planning to incorporate community expectations and acceptable risk solutions
- a more prescriptive approach in regional policy statements
- consistency of information and planning provisions across the region
- the translation of scientific information into policy.

Workshops identified immediate actions participants committed to undertaking, such as: familiarisation with CDEM Group and district plan provisions; alignment of and participation in the current district plan; regional policy and CDEM Group Plan development processes; influencing development of the urban growth strategy; identification of opportunities to join separated activities; consideration of hazards in planning; and taking outcomes from the workshop back to the team.

The workshops also identified strategies for longer term integration of planning for natural hazards. Some of the recommended actions included:

 development of an Integrated regional hazard risk management plan and its implementation strategy

GET READY

- more stringent application of section 32 (RMA) in cost/benefit analysis of proposed development and leveraging of community against individual benefits
- a more prescriptive approach in regional policy statements
- early engagement of the community before policy is developed
- inter and intra-council communication strategies for consent process and building inspection
- integrated communication strategy, including communication with the community
- professional development initiatives.

Discussions also included consideration of targeted rating in high risk areas, justified by infrastructure vulnerability, or the introduction of bonds through the resource consent process.

In the meantime, recommendations from the Gisborne workshop have been incorporated into the Gisborne CDEM Group Plan and accepted by the Council.

For more information Ljubica Mamula-Seadon on 04-473 7363.

CDEM Exercises

Working together to build resilience

An Emergency Operations Centre (EOC) in action during the Tier 4 exercise, Exercise Ruaumoko

The combined effects of New Zealand's geographic location and its geology mean that it is not a matter of if a natural disaster would occur, but when.

However, as major real life disasters do not generally occur that often, exercising is a good way to measure the effectiveness of response plans. Exercising also provides staff an opportunity to practice their skills against an accurate scenario within a simulated emergency environment.

In this issue of Impact, we take a closer look at New Zealand's CDEM exercise programme as well as report on several recent or upcoming exercises. We also have a report on a unique public exercise designed to coincide with a planned formal exercise.

The National Civil Defence Emergency Management Strategy defines its overarching vision as "resilient New Zealand – communities understanding and managing their hazards".

While the Strategy acknowledges that not all risks can be reduced to zero, it emphasises managing the consequences. The Strategy requires central government agencies, local government, emergency services, lifeline utilities and businesses work together to ensure mechanisms are in place for communities to manage their hazards, generate readiness, provide local response and recovery and support continued functioning of communities during an emergency.

Exercising is a core part of this process. It assists in identifying gaps and issues and plays a vital role in the process of developing local and national community resilience. The lessons learned are incorporated into updated plans and procedures to improve the ability to respond to and recover from an emergency.

Regular exercising also helps to remind individuals and organisations that emergency management is not limited to specialist civil defence personnel. Effective emergency management involves the ongoing cultivation of relationships between local authorities, emergency services, utility providers (such as telecommunications and power generation) food distribution, government agencies and other partner agencies.

Exercising helps to facilitate these relationships. Research shows that people generally respond to an emergency the way that they have trained.

National Exercise Programme

The National Exercise Programme was established through a project initiated and managed by MCDEM with representation from the wider CDEM sector. While MCDEM is the overall National Exercise Programme sponsor, the programme is owned collectively by the 16 CDEM Groups and managed through a representative governance group. The governance group meets once a year to set and review a ten-year timetable for exercises.

The programme recognises that exercising needs to occur at all levels of the CDEM structure so a four-tier approach has been adopted.

Tier 1: Local exercises involve a single agency, such as a local authority or the Fire Service. The exercise might be establishing a welfare centre, or practicing search and rescue techniques.

Tier 2: Group exercises involve several agencies within one CDEM Group area. The exercise may involve a number of city or district councils, the regional council and partner agencies such as District Health Boards and emergency services.

Tier 3: Inter-Group exercises involve

several neighbouring CDEM Groups working together in a large multi-agency exercise. For example, all South Island CDEM Groups exercising their response, recovery and support arrangements to a major Alpine Fault earthquake. MCDEM may provide advice and support from the National Crisis Management Centre in Wellington.

Tier 4: National exercises involve most, if not all, CDEM Groups, MCDEM (operating from the National Crisis Management Centre) and central and non-government agencies working in various locations around the country. A tier 4 exercise is based around a major disaster of national importance such as an earthquake on the Wellington Fault or a volcanic eruption in Auckland.

All exercises require careful planning, observation, evaluation, feedback and continuous improvement. Considerable work is undertaken to design and write material that can be introduced during the exercise to simulate developments, challenges and complications, making the exercise as real and credible as possible.

Exercise resources

MCDEM collates and displays exercises that form part of the National Exercise Programme in a calendar published on its website. The website pages have recently undergone a major review. They can be found via: Homepage > For the CDEM Sector > CDEM Exercises.

Also available on the website is the recently-published CDEM Exercises – Director's Guideline, a document designed to assist CDEM Groups and stakeholders plan exercises. The guideline provides a range of practical advice and templates for exercise developers to manage and write either simple or complex exercises.

Recent exercises

Lights out in Canterbury

Civil defence exercises tend to focus on natural disasters such as flooding, earthquake or tsunami. However this year Canterbury CDEM Group focused on a technical emergency – a massive power outage throughout the Canterbury region.

"This year, we really wanted to push the envelope on traditional exercises and challenge ourselves to think more laterally about what it means to work in the civil defence emergency management



A sustained drought and a significant earthquake combine to produce a widespread electricity blackout. This is the scenario faced by those involved with Exercise Pandora this year.

field," says James Thompson, Exercise Director.

While Exercise Pandora 2009, the name of the annual exercise, took place officially on September 4, it began several weeks earlier with media releases and other information regarding a sustained drought in the Waitaki Lakes area. These reports led to media releases warning of planned blackouts for the region.

However before controlled blackouts were implemented, as part of the exercise scenario, a large earthquake occurred in the Mackenzie District on September 4, creating greater strain than the power generation system could handle. This resulted in an electricity blackout throughout the entire region. Exercise writers had worked closely with electricity companies, such as Transpower and Orion, to create a realistic scenario.

"By working with the power companies before this exercise, we learned more than we would have done conducting a more traditional exercise," says James. "We created relationships and learned a lot more about how we can work closer together during emergencies."

To add a sense of realism to the exercise, students from the New Zealand Broadcasting School were invited to work with Exercise Control simulating the likely media pressure during a major event.

"We created a newsroom at Environment Canterbury for the students. There were some technical challenges but it was a great opportunity to work with future journalists. We learned a lot about their processes and they learned about what happens in emergencies," says Sara McBride Steele, Exercise CoordinatorPublic Information.

Key lessons learned from the exercise were related to business continuity planning at the district council level. Several of the councils exercised without their computer systems and had to "manually" start their emergency operations centres.

"We had to think about everything we depend on in our day to day lives. This meant finding out how much petrol we had in the region and which petrol stations had power generators (all petrol pumps require power to dispense fuel), to finding out which organisations had priority for power access and how long we could sustain a 111 number. It was a very thorough process working with all of our lifeline utilities," says James Thompson.

Upcoming exercises

Exercise Ru Whenua - West Coast, September 18

The West Coast Civil Defence Emergency Management Group will exercise together on Friday, September 18 using a scenario based on a shallow, 8.2 magnitude earthquake on the Alpine Fault followed by large aftershocks.

Exercise Ru Whenua (moving of the earth) will run for 18 hours from 6:00 a.m. Its aim is to enhance cooperation and coordination between members of the Group and their partner organisations and between the Group and the National Crisis Management Centre (NCMC).

The organisations involved will include the Group, Buller, Grey and Westland District Councils, Westpower, Transpower, Kiwirail, Telecom, West Cost District Health Board, Community Public Health, St John, Department of Conservation, Kestrel Group, New Zealand Transport Agency, Police, New Zealand Fire Service, and the Ministry of Civil Defence & Emergency Management.

The Group's objectives are to:

- establish and maintain operational communications between the Group's and territorial authorities' emergency operations (EOC) centres and with the NCMC
- share information and intelligence between the EOCs, NCMC and partner organisations
- clarify responsibilities of the local and Group EOCs and NCMC
- actively engage and build relationships with partner agencies
- prepared clear and concise reports and develop effective plans within the region
- maintain situational awareness within the Group EOC
- practice the management and coordinated release of public information.

National exercise in 2010

The National Exercise Programme Governance Group agreed on 25 August on the theme and objectives for a national Tier 4 exercise in 2010. The exercise will focus on a tsunami threat and the decisions that need to be made about warnings, public information and evacuations.

As well as these response components, the exercise will also offer an opportunity to focus on tsunami preparedness and public awareness in the weeks leading up to the event.

The scale of the exercise will provide an opportunity to test a series of outcomes delivered under the national tsunami risk management programme since 2008. These outcomes include tsunami source modelling (arrival times, likely impacts), evacuation planning and signage and public alerting options. Standard operating procedures and tsunami advisory and warning plans will also be thoroughly tested.

The exercise will take place on 20 October 2010 and will test the response to a distant source tsunami. Nominations will be invited from CDEM Groups and other agencies to participate in the exercise writing team. \triangle



The Great West Coast ShakeOut

The Great West Coast ShakeOut was born out of a planning meeting for Ru Whenua, and is based upon the same scenario of a M8.2 earthquake resulting from a rupture of the Alpine Fault 10km north east of Whataroa (area pictured above).

Ru Whenua provided an ideal opportunity to inform West Coast communities about the threat that they live under. Having a teacher fellow (Chris Manuel) working with Westland District Council and the West Coast Regional Council on this type of study gave an added bonus of an enthusiastic worker with the time to administer the project.

Studies in Westland and the rest of New Zealand suggest that the level of personal preparedness for a major natural hazard event is relatively low. Recent studies in Hokitika suggest that even awareness of the risk of a major earthquake in Westland is relatively low, and anecdotal evidence suggests that Hokitika people generally believe the 'Get Ready Get Thru' campaign is directed at Wellingtonians!

The West Coast ShakeOut is modelled on the Great Southern California Shakeout (www.shakeout.org) where members of the public are invited to register online and participate in practicing 'drop, cover and hold' at a designated time. The rationale behind encouraging online registration is that participants will be:

- counted in the earthquake drill
- included on lists of who is participating in their area
- an example that motivates others to participate and get prepared
- updated with ShakeOut news and other information about earthquakes and preparedness.

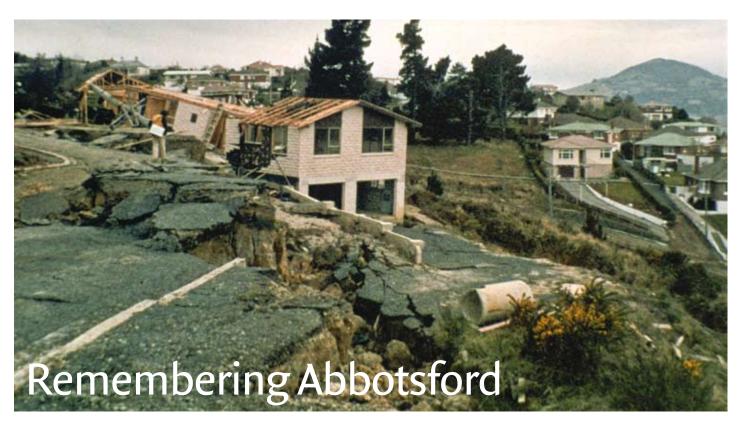
The Southern Californian Earthquake Centre was not only prepared to allow use of their resources, but also agreed to host the website and manage the registrations process. This allowed for local emphasis to be placed upon getting people to participate in the drill. The use of the proven Californian drill system ensured that we adhered to proven scientific and social science principles. (see *Impact* March 2009)

To maximise public engagement in the short timescale for planning such an exercise, local educational institutions were involved to design the publicity and information brochure and have also produce a video to illustrate the effects of a major earthquake on the West Coast. The production costs of the brochure and travel costs to distribute them represent the entire budget for the West Coast ShakeOut.

ShakeOut places information into the public arena, and gets everyone to participate in a 'drop, cover, and hold' exercise at the same time, 10.10am on Friday 18 September (different from the Ru Whenua earthquake at 2.35am, but better for testing workplace readiness). In the process of registering, people will be required to answer a few basic questions about their level of preparedness, and at the same time be drawn into further reading about the topic. Increasing awareness may pave the way towards increased preparedness, but as a minimum it is setting tongues talking in the communities.

Schools have been a major conduit to the community because of the longer-term benefits of educating youngsters, their vulnerability in times of crisis, and the evidence of a lack of appropriate family emergency planning. Businesses and community groups can also register, but the most important category is individuals and families. The most likely place for people to be in a major earthquake is at home. The success of the exercise will depend upon community take-up along with the support of the media given the wide geographic dispersion of the population on the West Coast.

For more information visit the website at **www.shakeout.org.nz**



Thirty years ago, on Wednesday 8 August 1979, New Zealand's biggest urban landslide hit Abbotsford in Dunedin. It left a 150m wide, 16m deep chasm, destroyed 69 houses (further houses had to be transported away from the danger area), and displaced 640 people. Claims to the Earthquake and War Damage Commission (now EQC) eventually totalled \$7.17 million (not adjusted for inflation).

With land movement obvious over the previous two months, and after engineering and geological reports, Green Island Borough declared a state of emergency on 6 August 1979 and began progressive evacuation of the area. Some people were reluctant to leave their homes.

When the main slip occurred two days later at 9.07pm, 17 people were carried down the slope in their houses and were marooned amongst the mud and rubble. Mercifully, no deaths resulted and all people were rescued by 1am the next morning. However because the landslide occurred in an urban area and caused damage to many houses, it is New Zealand's most famous landslide in the last 50 years. It was the subject of the Government Commission of Inquiry, whose primary tasks were to determine the cause of the disaster, whether man-made actions contributed to its cause and the adequacy of measures taken before, during, and after the event.

Thirty years after the disaster, this landslide still offers valuable lessons about the causes of such events, both natural and manmade, and possible measures to avoid or mitigate the effects of similar disasters in the future.

Early movements of the Abbotsford landslide

The Abbotsford Landslide did not occur without warning. Minor cracking damage was reported to one house 60 metres south of Harrison's Pit (a commerical sand pit) as early as 1968–1972, which coincided with the removal of a large volume of sand for the nearby motorway construction. This house may have been affected by initial creep movements of the landslide. Damage to the house was thought to be unrelated to the sand pit

excavations or any major land movement. However, the house was one of the first to be seriously affected by early movement of the Abbotsford Landslide when it became obvious in 1978.

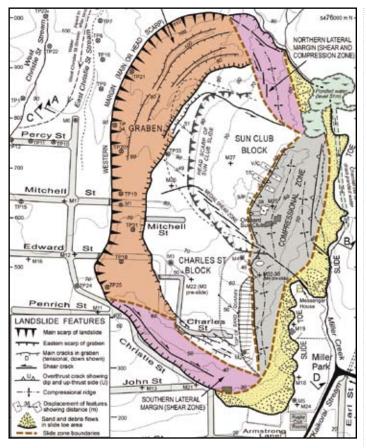
Between October 1978 and June 1979, several water main breakages in nearby Christie and Mitchell streets were caused by the growth of ground cracks. These cracks eventually defined the head scarp (main vertical face) and graben (ground depression) of a developing large landslide.

Final landslide movements

In early July 1979, large cracks opened up between Mitchell and Edwards streets, extending across farmlands to the north (see photo opposite). Surveys showed that ground movement accelerated from approximately 10mm per day in early July to about 100-150 mm per day in the week before the failure. Ground movements were clearly linked to rainfall, reaching a staggering rate of about 650mm per day just before the final movement on 8 August. There was also ground deformation at the base of the slope, not only in Harrison's Pit but also in the pre-historic Sun Club landslide area where cracks 30 metres long developed in mid-July. Between 22 June and 8 August 11, holes were drilled to investigate the ground movement.

The final rapid movement started at about 9pm on 8 August and lasted about 30 minutes. A large block of land containing a number of houses and 17 occupants slid about 50 metres southeast downward toward Miller Creek. The landslide hazard area had only been partly evacuated on 6-7 August when the final rapid failure occurred. Rapid acceleration of movements over two days prior to the failure was undetected by the authorities otherwise people would doubtless have been evacuated from the area more quickly. The moving block left behind it a large depression up to 16 metres deep and 150 metres wide into which many houses collapsed and were destroyed.

Because the slide movement was slow, no lives were lost and no one was injured. Amazingly much of the sliding block



The extent of the landslide can be clearly seen in this diagram. Note the displacement of Mitchell and Charles Streets. Sun Club block within the main landslide is the remains of a much older landslide event.

remained intact, and those people stranded on it were rescued within a few hours. The landslide resulted in 69 houses being either destroyed or rendered inaccessible by the deep earth depression. However many houses on the sliding block survived the landslide, and these were later transported away from the area to new sites elsewhere.

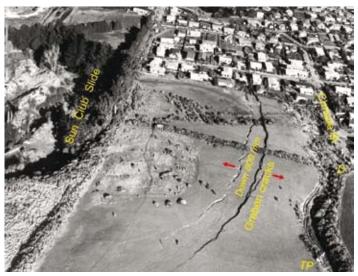
Factors that contributed to the landslide

After several months of investigations, a Commission of Inquiry found that unfavourable geology (specifically, weak clay layers within a slope) was the underlying cause of the landslide. An old sand quarry, from which more than 300,000 cubic metres of sand hand been excavated, at the base of the slope and a leaking water main above the slide area were found to be manmade factors that contributed to the failure. However, because the quarry closed 10 years before the landslide occurred, it was concluded that a long-term rise in groundwater levels due to increased rainfall over the previous decade and leakage from a water main triggered the landslide.

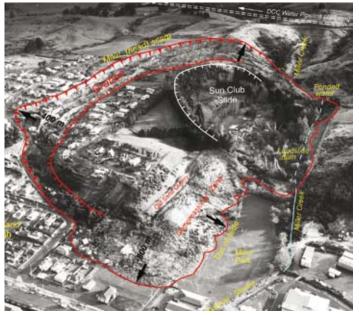
The Abbotsford Landslide points to the need for geotechnical investigations to precede urban development. After extensive earthworks in 1979 to re-grade the earth depression and also the base of the landslide the area was judged to be stable with little potential for reactivation. It remains so today.

Landslides are an ongoing problem

At the end of June this year the Lake Taupo township of Waihi Village was temporarily evacuated for fear of a landslide after heavy rain, a swarm of earthquakes and observed changes



Early warning signs: huge cracks appear in farmland to the north. Investigation drilling (D) and test pit excavations (TP) are in progress in an attempt to determine the cause.



Aerial photo of the landslide the morning after the final movement. The slide mass moved approximately 50m down a clay layer forming a graben 70–150m wide at the head. Features seen here that contributed to the landslide include the old sand quarry at the bottom of the slope (closed 10 years earlier) and a leaking water main approximately 200m north (upslope) of the landslide. Miller Creek was effectively dammed by the landslide.

in the flow of streams and hot springs. The village is near the site of previous fatal landslides. Also this year in July a landslide derailed a train near Upper Hutt and blocked access to Wellington following heavy rain. That same evening, other landslides and flooding cut road access to the capital.

Taihape and Utiku are now monitored by networks of lasers, rainfall gauges, groundwater instruments and data-loggers providing real time monitoring of what is happening to the ground beneath them. Both areas sit astride large, slow-moving landslides.

What was possibly the world's biggest landslide of its type (a rock slide) occurred in Fiordland about 13,000 years ago. Ten kilometres of the southern Hunter Mountains collapsed creating a 26 cubic kilometre landslide.

This article is based on an earlier report prepared by Graham Hancox, GNS Science. All images, including the cover, courtesy of GNS Science.

International disaster response team test skills

Asia-Pacific team members of the United Nations Disaster Assessment and Coordination (UNDAC) and Asia-Pacific Humanitarian Partnership (APHP) met recently in Singapore to test UNDAC procedures and become more familiar with key roles and functions when responding to international disasters. Several learning experiences were undertaken over the week.

Team members reviewed developments in the humanitarian response to disasters including the concept of cluster arrangements and financial and environmental response mechanisms.

For example, when an UNDAC team is deployed to a disaster, it could be tasked with assessing emergency relief and response requirements or establishing coordination structures for emergency relief. It could also be required to support the in-country UN capacity through the preparation of emergency financial aid appeals. Therefore a proper understanding of the recently-developed UN cluster approach to emergency relief coordination as well as the options, mechanisms and processes for emergency relief funding is essential.

Training in core skills utilising new satellite equipment, Microsoft Groove and on-site operations coordination centres was also undertaken. During deployments effective communications is essential. Since it's highly likely that UNDAC teams will be confronted with significant communications problems during deployments, members must be confident with setting up and using satellite communications.

They must also be confident using Microsoft Groove, the primary information software used for communicating information during a mission. Microsoft Groove (soon to be named Microsoft Office SharePoint Workspace) is a desktop application designed for document collaboration in teams with members who are regularly off-line or who do not share the same network security clearance. It's currently used by some CDEM Groups for information or document sharing during emergencies.

When an UNDAC team is deployed, one of its first activities is to set up an on-site operations coordination centre (OSOCC). The main objectives are to provide a system for coordinating and directing the activities of an international relief effort; to provide a framework for cooperation and coordination among the international humanitarian entities; and to act as a link between such entities at the emergency site. In emergencies spread over a wide area there might be a need to establish several sub-OSSOCs.

OSSOCs and team members are in touch with the outside world and in particular the UN Office for the Coordination of Humanitarian Affairs in Geneva through a



UNDAC and APHP team member Joerg Regenaermel, DIA (centre of image), and to his right, David Coetzee, MCDEM and Ian Pickard, NZ Fire Service, work with other UNDAC team members from Singapore and Australia during a training exercise.

web-based virtual OSSOC.

The training event was also an opportunity for team building with other national and international members from countries in the Pacific and Asia. Participants were divided into three teams. Each team had to set up and operate an OSSOC for the duration of the course, undertake assessment missions, develop reports and prepare financial appeals. The teams also undertook first aid refresher training and water safety training. With participants from twelve countries, four UN agencies and four international NGOs, the training provided ideal conditions for UNDAC members to get acquainted with these circumstances and processes. Being able to work within culturally diverse teams is what UNDAC missions are all about. \wedge

Lessons from civil war aftermath

Helping to co-ordinate relief and welfare for thousands of people left homeless by civil war is far removed from day-to-day life in Taranaki. But after a deployment in Sri Lanka, Taranaki Regional Council Senior Emergency Management Officer Mike Langford says it was a useful experience with lessons he can apply at home.

Mike was selected by the Adventist Development and Relief Agency (ADRA New Zealand) for a four-week deployment in Sri Lanka, which is facing a humanitarian crisis with 280,000 people displaced by military action in a 30-year civil war that ended recently.

As well as providing general support for relief and welfare efforts, Mike was involved in organising non-food essentials for displaced people, including cooking equipment, personal hygiene supplies and clothing.

Typically, displaced people have been moved from one temporary shelter to another up to 10 times and have been away from their home well over a year. They suffer bouts of gastro-intestinal disease and have minimal access to food and clean water.

Mike says that while he gained much personal satisfaction from being able to help many people, the wider benefits included the opportunity to use his emergency management and coordination skills in a real situation.

"The scale of the situation in Sri Lanka also became a test of my abilities, and there was also the opportunity to compare notes with and learn from emergency management professionals from around the world. Overall, I gained a lot of practical knowledge that can be transferred to my role in Taranaki."

He says the impact of the civil war was immediately obvious on his arrival at Colombo, the Sri Lankan capital, with many checkpoints manned by armed personnel. But he would "jump at the chance" for a similar deployment in future, and would recommend it to others.

ADRA met all of the costs of Mike's deployment. ADRA also assumed full responsibility for his health and wellbeing requirements, including insurance cover during the deployment. Emergency management specialists considering similar deployments should ensure they partner with reputable relief agencies and discuss heath and safety issues and insurance cover prior to departure.

Building capability, creating professionals

A wide range of organisations are involved in CDEM, some of which have specific roles and responsibilities identified in the CDEM Act 2002.

The scale of CDEM roles can range from a 0.3FTE position having responsibility for all CDEM-related work in an area, to a CDEM office of more than ten people, each with specific responsibilities. This diversity presents a range of challenges for capability building in the sector, particularly in the drive for national consistency.

While significant responsibility lies with CDEM Groups, capable and competent personnel can only be achieved through acknowledgment that it is a shared responsibility across all

organisations and individuals involved in CDEM. For all parties to be collaborating towards national consistency in CDEM capability a framework has to exist – this is the function of the CDEM Competency Framework.

Capability building takes many forms, and is not restricted to formal class-based learning

The CDEM Competency

Framework was released in June

2009 and includes all the high-level competencies common to a range of roles in CDEM. The Framework also describes indicators (the things you would see people doing if they were performing that competency). This presence of high-level competencies creates a solid evidence base for the second stage of the project. Stage Two involves defining the specific skills, knowledge and attributes for a range of CDEM roles. This is called functional role mapping.

As advocates for the learners and practitioners, the Ministry's objective is to determine how the programmes offered by education and training providers reflect or support the intent of the Framework. Therefore the other activity being undertaken in Stage Two of the project is to work in partnership with education providers.

CDEM competencies: hard and soft skills

The competencies in the CDEM Competency Framework contain a mix of hard and soft skills. For example, the ability to create an action plan would be classified as a hard skill, while the behaviours associated with achieving buy-in for partners involved in a collaborative process (the communication, and leadership skills required) are soft skills.

Early work on the Framework revealed relationship management, a soft skill, as the most important thing to get right. Naturally, this is difficult to teach. Education providers tend to concentrate on hard skills and cannot be expected to cover all aspects of the Framework. Soft skills are generally recruited for and can be developed further within an organisation. Hard skills get someone a job interview – soft skills get them the job!

The three core elements of shared responsibility

If CDEM capability building is a shared responsibility, there are three core elements that need to be present: individual

commitment, commitment from the employing organisation, and commitment from education providers to ensuring that their programmes are consistent with the CDEM Competency Framework.

Individuals working in CDEM are responsible for their own capability development. Without personal commitment to a development programme, the benefits of both work-based and formal education and training are negligible.

Organisations need to commit to ongoing and supported staff development. Where an individual learns something through education and training, any skills gained and the accompanying enthusiasm to apply them, may easily be eroded through limited

opportunity to apply them.

Negative factors include lack of direction by the employer, lack of time or resources, lack of opportunities to practise or apply new skills or knowledge, insufficient mandate, and lack of motivation, or sense of reward for effort.

The organisation is also responsible for making the best hiring decisions possible. It must recognise the soft (behavioural) skills required in the CDEM environment when recruiting, understanding that many of the hard (technical) skills are able to be either learned on the job or through formal education. CDEM is also reliant on volunteers and an understanding of the motivations for volunteers is crucial to understanding how best to encourage their commitment.

An organisation's education and training should be based on a development needs analysis of their organisation. It is also vital to look at aspects of the organisation that may be having an impact on the existing training gap, rather than leaping straight to training and education as the cure-all or magic bullet.

Capability building takes many forms, and is not restricted to formal class-based learning. Coaching and mentoring, among other types of learning, are also examples of ways to develop CDEM personnel.

Education and training providers need to consider the CDEM Competency Framework when creating or reviewing programmes of study. While universities deal mostly with theories and concepts in emergency management or underpinning knowledge to support the development of the competencies, other providers, such as polytechnics and private training establishments generally offer more skills-based learning opportunities such as hard skills used in operational contexts.

Integration of the three core elements

The CDEM Competency Framework supports the integration of the three core elements of shared responsibility for capability building. The Ministry's Professional Development Team is committed to working with all the parties to ensure the best possible outcomes for the learners and practitioners.

For more information, contact Jane Pierard on 04-473 7363. 📥

Public education update

Minister launches revised resource

The Minister of Civil Defence, **John Carter**, launched the revised *What's the Plan Stan?* school resource at Clyde Quay School in Wellington on 10 August. Mr Carter joined Ngaio class for a lesson on earthquakes and had a great time with the kids as they learnt about how to keep safe in an earthquake, and practised their earthquake drill. The resource, which has been revised to align with the new school curriculum, was sent to all primary and intermediate schools in August. Stan is aimed at helping children, schools and families be better prepared for disasters. As well as being a teaching resource it is also designed to help schools develop their own emergency plans. A third purpose is to provide information that families can use to plan for emergencies at home and in their communities.



Disaster Awareness Week 2009, 11–17 October

Every year since the early nineties, the United Nations organises a World Disaster Reduction Campaign, which culminates on International Disaster Reduction Day, the second Wednesday of October. In New Zealand, the Ministry of Civil Defence & Emergency Management, in collaboration with Civil Defence Emergency Management Groups, promotes Disaster Awareness Week.

The aim of the week is to conduct an intensive series of activities around the country to raise awareness of hazards and the need to be prepared. The national theme is the generic public education slogan "Get Ready Get Thru" and it is up to CDEM Groups to focus on specific aspects such as water, schools, or the workplace. As in previous years there will be an intensive national mass media campaign on television and radio along with other activities to support CDEM Groups.

Support from The Warehouse and New World

During the week we are encouraging activities to prompt people to take action and get their emergency survival items. The Ministry would like to acknowledge the support of The Warehouse Group and the Foodstuff's New World chain. Both retailers will feature our key preparedness messages in their promotional material and will also encourage their stores to be supportive of requests from their local council civil defence staff to explore instore opportunities.

Online resources and Group initatives To support this and other initiatives, a number of resources are available on the Ministry's website for CDEM Groups. These include a media kit with suggestions on things councils could undertake in their communities, as well as a range of printed material and templates for media articles, posters and advertisements that can be customised for local use.

CDEM Groups around the country have planned activities to encourage their communities to get ready. Details of their programmes can be viewed on the Ministry's website under Public Education > Disaster Awareness Week.

Taranaki CDEM Group

Activities include a radio advertising campaign throughout October and a two-page advertising feature in the Taranaki Daily News with a "Get Ready" competition to name three items for a survival kit to go into a prize draw. An agreement with the local Mitre 10 Mega Store will enable 'Get Ready' shopping bags, a shopping list and household pamphlet to be handed to shoppers entering the store. Shoppers that buy an item for their household emergency kit will be entitled to a free sausage from the fundraising booth as they exit the store. There will also be a competition and an emergency survival kit showing essential items will be on display inside the store.

Wellington CDEM Group

The Group will be focusing on retailers and supporting them in promoting specific survival items during the month of October. Retailers will be provided with a range of promotional material and themed posters and encouraged to set up a store display promoting the suggested survival item to customers during the week. Each week during October will feature specific survival items such as water containers, food, pet supplies, first aid kits and hygiene products.

The Group will also be aiming to utilise media editorial opportunities as well as internal council newsletters or databases for advertising.

Hawke's Bay CDEM Group

Following on from the recent Chaucer Road siege event in Napier and pandemic messaging, the focus this year is on the need to prepare each household for a 'Get Thru' period of up to 2 weeks. Planned activities will target a cross section of the community including shoppers, children and schools via the local media, various competitions and the revised What's the Plan Stan? resource.

Merchandise for the week includes flag pens and recyclable bags as well as Get Ready brochures and checklists.

Other activities during the week

Several central government agencies will also be looking at supporting the week with activities aimed at encouraging staff preparedness. The Ministry of Social Development will be reminding staff of the importance of being prepared, both at home and at work. Planned activities include a daily quiz, with a focus on finding information about being prepared, daily stories on their intranet, featuring staff and highlighting quick tips for personal preparedness, and customising and distributing the 'Get Ready Get Thru' posters around the office.