

# **Proceedings of a Workshop on Emergency Management and Social Science Disaster Research in New Zealand**

Te Papa, Wellington, 6<sup>th</sup> December 2007



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## SUMMARY OF WORKSHOP

### **Background**

The past decade has seen substantial growth in social/behavioural hazard research in New Zealand and the wider Australasian region. With an increased focus on sustainability and community resilience, there is a compelling need to deepen and extend our knowledge of and understanding about the social science dimension of disasters. Future research would benefit from the alignment of strategic directions and focus, as gaps, overlaps and missed opportunities exist. Much can be gained by a more deliberate effort to share information and improve coordination within the field of social science disaster research, as well as between researchers, policy-makers and emergency management practitioners. To meet this need and explore this issue, representatives from government, social science researchers, funders and practitioners participated in a workshop held on 6 December 2007 at Te Papa in Wellington.

### **Workshop purpose**

To share thoughts, stimulate discussion and identify opportunities for collaboration between social science disaster researchers, and between researchers and emergency management policy-makers and practitioners. The workshop sought to build upon and extend past efforts to close the gap between research and practice; build relationships and develop collaboration between researchers, policy-makers and practitioners.

### **Summary of workshop findings**

The workshop was structured around a series of critical questions:

1. How would we experience success if we could create the future we wanted for emergency management and social science disaster research? In addition, what works well now?
2. What do we want more of?
3. Where are we now?
4. What are the main issues and priorities; and what targets should we aim for?
5. What actions do we need to take next?

The main findings of the workshop on each of these questions are described in turn below.

### **1. Experiencing successful emergency management and social science disaster research**

Participants explored what they thought a successful future for emergency management and social science disaster research (EM&SSDR) in New Zealand would look like. Key elements of the collective vision for a successful future are that:

- New Zealand will be a country fully prepared for a disaster, with well-developed public awareness of hazard risks, effective impact avoidance and reduction strategies, and deep community resilience;
- Policy, legislation and EM practice will be evidence-based and robust, effectively incorporating social science research findings;
- Policy-makers and practitioners will understand the social context and the research opportunities and constraints of their work;

- Researchers will understand and address the needs of the EM professional community and society at large. This holistic and integrated approach to EM&SSDR and practice needs to develop through improved communication, interaction and collaboration within and between sectors, including researchers, policy-makers, practitioners, community stakeholders and other interested and affected parties;
- SSSDR is well-resourced and addresses societal needs on a proactive and practical basis;
- SSSDR is integrated and interdisciplinary, taking into account and addressing the diverse cultural perspectives and worldviews of all New Zealand communities, and Maori in particular;
- Research outputs are readily accessible and easily understood by prospective users and the public;
- Opportunities are created for stakeholders to initiate 'bottom up' SSSDR. A long term perspective is taken to ensure that EM&SSDR is integrated and holistic, with a clear understanding of priority research needs and funding mechanisms in place.

## 2. What do we want more of?

A wide range of specific SSSDR needs were identified, including research that leads to better understanding about:

- Community resilience – how it can be measured, what can be done to deepen resilience, and the nature of its relationship to sustainability and other societal objectives;
- What motivates people to become better prepared for hazard events;
- Community behaviour in disaster situations;
- How to improve communication about hazard risks and disaster preparedness, and the effectiveness of education / communication / information campaigns;
- Improving practical implementation of policies, laws and plans, including addressing gaps/overlaps and clarifying the roles and responsibilities of different stakeholders;
- How to use land-use planning more effectively in hazard avoidance and risk reduction;
- Philosophical perspectives in relation to hazards and what it means to be human;
- The nature and place of belief and value systems with respect to hazards;
- The role of Maori and indigenous knowledge and practice in EM;
- Relocating 'at risk' communities;
- Action research approaches;
- Comparative analysis of New Zealand and international hazard and EM experience;
- Conducting regular and systematic post-event assessments to improve future EM practice; and
- Learning from related fields of study that could improve EM best practice.

A number of opportunities were identified for informal collaboration and joint working, a number of which are already taking place, including:

- Improved communication *within* organisations; for instance, between local authority emergency management staff and planners;
- Between tertiary education organisations, funding agencies, local and central Government and iwi authorities;
- Between the public; community and private sectors;
- Between researchers within and between different disciplines, and amongst graduate students;
- Creating opportunities for improved networking within the EM sector, particularly between civil defence and emergency management (CDEM) groups, including improved access to research findings;
- Establishing an EM Association;
- Establishing a ‘clearing house’ for research findings and other hazards information;
- A web portal that includes access to lists of current and past projects;
- Creating internships that provide opportunities for interchange between policy-making, practice and research;
- Engaging non-governmental organisations (NGOs) in EM&SSDR, including improved access to research funding; and
- Increasing opportunities for community participation in CDEM plan development.

### 3. Where are we now?

A number of social science researchers gave short presentations describing what work they are engaged in. Several participants also submitted abstracts summarising their research and research-related activities. These brief overviews highlight the range of current projects and the diversity of research foci and interests, including:

- Community resilience: how to measure and monitor resilience, and how to build resilience in communities;
- Organisational responses to tsunamis and the Mount Ruapehu eruptions;
- The role of land-use planning in risk reduction and EM;
- Maori and Pacific Islanders’ preparedness for disasters;
- The effectiveness and impact of hazard information;
- Warning systems;
- Social judgement and the way these judgements affect preparedness;
- Developing and testing models of community and organisational resilience / adaptive and coping capacity;
- Organisational resilience and business continuity planning;
- The 2004-2005 Manawatu and Bay of Plenty floods and the role of Maori traditional knowledge in preparedness and adaptive capacity;
- Behavioural responses to hazard events in relation to transport and infrastructure development;
- Recovery experiences in the aftermath of the Indian Ocean tsunami, Hurricanes Katrina and Rita in the USA Gulf of Mexico coast, and the 2004 Lower North Island and 2007 Northland floods;
- Belief systems in relation to trauma and terrorism; and

- Resilience and farm family response in the aftermath of the 2004 Manawatu floods, and in the aftermath of the 2006 Canterbury snow storm.

This list is not comprehensive but highlights the scope of current SSDR. A discussion was then held to consider what the main issues and priorities were for each of the main groups involved in EM - the researchers, EM policy makers and practitioners.

#### **4. What are the main issues and priorities; and what targets should we aim for?**

##### *The main issues*

A number of important issues were identified, mainly related to what can best be described as the 'SSD research-practice gap'. The challenge is to ensure that research is appreciated by users and that research outputs are relevant, accessible and effectively integrated into practice.

The main problem identified was poor communication between researchers and other groups; and the need to make sure that research is relevant and that research findings are more readily accessible. Practitioners and users often have difficulty accessing and understanding research findings, and their needs and priorities are frequently not taken into account by researchers. Various reasons were suggested for these problems, including inadequate appreciation of the value of research by the EM policy and practitioner community; inadequate understanding by researchers about the context, constraints and needs of practitioners; and the different priorities, time frames and incentives for practice and research. Increased attention needs to be focused on the longer-term social consequences of disasters; and SSDR needs to be more effectively linked with other social science research endeavours.

Another major issue concerns inadequate public and practitioner understanding about how EM policy and legislation fit together; and what can be done to more effectively address gaps, overlaps and other shortcomings, including improving coordination between and within agencies and regions.

##### *Priorities and targets*

To close the research-practice gap and make research more accessible, strategies need to be adopted that encourage communication and collaboration between practitioners and researchers. In addition, tangible incentives need to be provided to encourage needs-based research that can yield timely results, and to translate research findings into accessible information written in plain language. Findings may also need to be translated into other languages. Particular attention needs to be focused on ensuring that research is relevant and addresses practitioner needs and priorities. However, it is also important to retain opportunities for 'blue-sky' research that can yield important unexpected discoveries.

Attention was focused on a number of practical measures to close the research-practice gap, including:

- More inclusive processes for evaluating and funding SSDR proposals, including direct involvement by social scientists in processes to evaluate research proposals;

- Establishing a baseline of current research and identifying priority future research activities;
- Facilitating dialogue between and within agencies in order to ensure better communication between and coordination of agency-directed research that is related to hazards, e.g., flood hazards and climate change research;
- More proactive involvement of local government in SSSDR;
- Research focused on better understanding about how to build effective networks of hazards and EM related practitioners and other stakeholders;
- Addressing policy and legal shortcomings by undertaking appropriate policy-relevant SSSDR, with particular attention focused on opportunities for risk avoidance and reduction;
- Undertaking SSSDR and evidence-based social marketing to understand how to improve the effectiveness of public hazards and EM education efforts;
- Raising the profile of EM and extending professional development opportunities for its practitioners;
- Creating opportunities for emerging SSSDR researchers to engage in research and to pursue careers in EM;
- Ensuring that accumulated 'institutional knowledge' about hazards and EM is not lost through staff turnover;
- Providing funding and incentives to translate research findings into information that can be readily understood and used by EM practitioners and the public at large, including practical case studies that demonstrate how research and practice can be effectively integrated into, for example, planning documents; and
- Promoting opportunities such as conferences, websites, academic and professional publications, agency education efforts and research programmes as forums for sharing information about and promoting collaboration between SSSDR researchers, practitioners and other stakeholders.

## 5. What actions do we need to take next?

Specific actions were then suggested. These fell into four categories: strategy, communication, funding and research.

### *Strategy*

Attention should be focused on closing the SSD research-practice gap. Among other things, action should be taken to ensure that

- There is consistency in the use of different terms in policies and laws;
- Maori cultural values are integrated into policies and laws;
- Mechanisms need to be introduced to ensure that the value of SSSDR is appreciated and leads to evidence-based policy and practice;
- An independent high level Advisory Group should be established to review CDEM in New Zealand;
- An independent review should be carried out on CDEM policy and legislation and SSSDR and practice in New Zealand, leading to a national disaster research strategy;
- CDEM Groups are guided by a newly established research/education advisory group;

- Local councils should establish a national working group to provide guidance on appropriate SDR;
- A workshop is held to improve communication and collaboration between EM practitioners and researchers
- A reward system is developed for academics to translate their research findings into accessible and useful information;
- Best-practice guidelines for hazard avoidance and risk reduction are prepared for practitioners and the general public; and
- A steering group is set up to ensure that the researcher-policy and practitioner dialogue started at the 6 December 2007 workshop is continued.

### *Communication*

The majority of recommended actions related to ways to improve communication, including:

- The need for a web portal/clearing house for research. In addition to information about past and current projects, access should be provided to research reports as well as links to relevant websites, upcoming events and conferences. The Joint Centre for Disaster Research has recently developed a website that could host such a resource.
- More active involvement by practitioners and policy-makers in EM conferences and symposia.
- Providing more ready access to up-to-date publications, including current research findings. Consideration should be given to a newsletter or professional publication that could help close the research practitioner gap.

### *Funding*

In short, additional funds need to be invested in SDR by the Foundation for Research, Science and Technology, Ministry of Research, Science and Technology and the Ministry of Civil Defence and Emergency Management and the Earthquake Commission. Social scientists need to be more effectively integrated into the processes that lead to identifying research priorities and in evaluating funding applications. Resources need to be invested in practice-based research, and to funding the translation of research findings into plain language information and other languages if required. Follow-up workshops need to be held to continue the dialogue initiated by the December 2006 workshop. Dedicated funds need to be set aside to conduct systematic post-hazard event research with the purpose of learning lessons and improving future EM policy and practice.

### *Research*

Among other things, future SDR needs to be

- Focused on meeting the needs and priorities of the EM sector and public at large, with increased opportunity for more active involvement of stakeholders in the research process;
- Made accessible for a broader audience that includes policy-makers, practitioners and the public;
- More effectively coordinated within and between local, regional and national government agencies and research organisations;

- Based on a clear understanding of existing knowledge. A critical review of SSDR needs to be undertaken to synthesise our current understanding about the social dimensions of disaster research, with a view to defining key issues and priorities for future research. This review of SSDR should be undertaken in a collaborative manner, involving researchers and other stakeholders;
- A broader review of prevailing hazards-related policy and practice in New Zealand also needs to be undertaken to build upon lessons learned from recent hazard events and EM experience more generally. Again, a collaborative effort between policy-makers, practitioners and researchers is essential to this vital endeavour.

## **6. Last words and closure**

Hugh Cowan advised that the EQC would be willing to fund a follow-up workshop by mid-2008 to continue the dialogue initiated by the December 2007 workshop. This generous offer was enthusiastically welcomed by participants.

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## **1.0 INTRODUCTION**

The past decade has seen substantial growth in social/behavioural hazard research in New Zealand and the wider Australasian region. With an increased focus on sustainability and community resilience, there is a compelling need to deepen and extend our knowledge of and understanding about the social science dimension of disasters. Future research would benefit from the alignment of strategic directions and focus, as gaps, overlaps and missed opportunities exist. Much can be gained by a more deliberate effort to share information and improve coordination within the field of social science disaster research, as well as between researchers, policy-makers and emergency management practitioners. To meet this need and explore this issue, representatives from government, social science researchers, funders and practitioners participated in a workshop held on 6 December 2007 at Te Papa in Wellington.

The purpose of this workshop was to share thoughts, stimulate discussion and identify opportunities for collaboration between social science disaster researchers, and between researchers and emergency management policy-makers and practitioners. The workshop sought to build upon and extend past efforts to close the gap between research and practice; build relationships and develop collaboration between researchers, policy-makers and practitioners.

## **2.0 FINDINGS FROM WORKSHOP**

The workshop was structured around a series of critical questions:

1. How would we experience success if we could create the future we wanted for emergency management and social science disaster research? In addition, what works well now?
2. What do we want more of?
3. Where are we now?
4. What are the main issues and priorities; and what targets should we aim for?
5. What actions do we need to take next?

The main findings of the workshop on each of these questions are summarised in this section for each of these questions.

### **2.1 How we would experience success if we created the future we wanted for EM&SSDR research in New Zealand**

Participants divided into five groups to address the question of how success might be experienced if participants were able to create the future they wanted for emergency management and social science disaster research in New Zealand. They also considered what elements are working well at present. The main outcomes from the discussion held by each group are presented below.

#### **Group 1**

*What would we see?*

- We would see an impact on policy and practice.
- Policy writers would understand the context of the research better.
- There would be increased collaboration between policy writers and practitioners.
- Policy advisors and makers would have adequate awareness of the emergency management and disaster (research) context, and would be less driven by political pressures.
- Social risk would be reduced as EM would have a higher profile in the community.
- There would be more funding for social science research and collaboration between groups, a broader range of disciplines would be involved in EM and disaster research.
- Policy and (response) decision making would place more emphasis on real life behavioural response to emergency.
- Researchers would feel securely and consistently funded. Social science research would make a real contribution to the field.
- Overall there would be more consistent responses to emergencies, and therefore people would feel more secure

*What would it look like?*

- A more holistic approach.

- A Centre for Excellence.
- Collaborative programmes.
- Overall increased community resilience and better impact reduction strategies.

### **Group 2**

This group's discussion focused on what we would see if we experienced a successful future for emergency management in New Zealand.

- Increased discussion and integration between groups involved in EM leading to better cross disciplinary relationships forming.
- Outputs of research would lead to meaningful outcomes. Research based policy.
- Lower barriers between practitioners and policy.
- Increased accessibility and understanding of information/research.
- A proactive, interdisciplinary approach to forming policy.
- Breaking down of barriers to forming excellent EM.
- EM is bigger than just the CDEM.

### **Group 3**

*How would we experience success?*

- All New Zealanders are prepared for and aware of risks (putting plans in place, know how to react and be safe).
- Keen to ensure emergency risk management in place, in terms of sickness/bacterial occurrence, informed of health EM procedures.
- Management of emergencies.
- Robust legislation (floods, coasts, earthquakes) for buildings and bridges.
- Survival kits.
- Damage insurance.
- Preparedness and planning.
- Social science research built into all aspects before, during and after disasters.
- Improved methodology.
- Land use research into flooding and irrigation systems, with the Government able to make decisions with research findings in mind.
- Integrated and collective capacity of New Zealand society to respond to, adapt to and develop from natural hazard impacts using their resources, competencies and relationships.
- Research leading to outcomes.
- Multidisciplinary.
- Intercultural.
- Research produced that translates into practical outcomes.
- Educated and informed people who know what to do.

### **Group 4**

Group Four's vision for a successful future includes a better awareness of:

- Published and current research being carried out.
- Policy and best practice needs.
- How to prepare for disaster in the community.

Other elements of their vision are that:

- Policy should result in behavioural change in the community through empowerment of the public by the CDEM community.
- EM would be focused in a better direction, i.e. better co-ordination and facilitation between all groups involved in the processes, including, but not limited to, the community, policy makers, researchers, local government, iwi, and funding agencies.
- Research should be geared to need – this is a ‘bottom up’ rather than ‘top down’ approach.
- Information available to groups should be written at the correct level for the audience and packaged in appropriate ways to communicate the information for the best effect.
- This information would be accessible to all those who are interested/need it.
- Better mechanisms for sharing information and research.
- Define ‘social science’ research.

Ideal outcomes for this group were as follows:

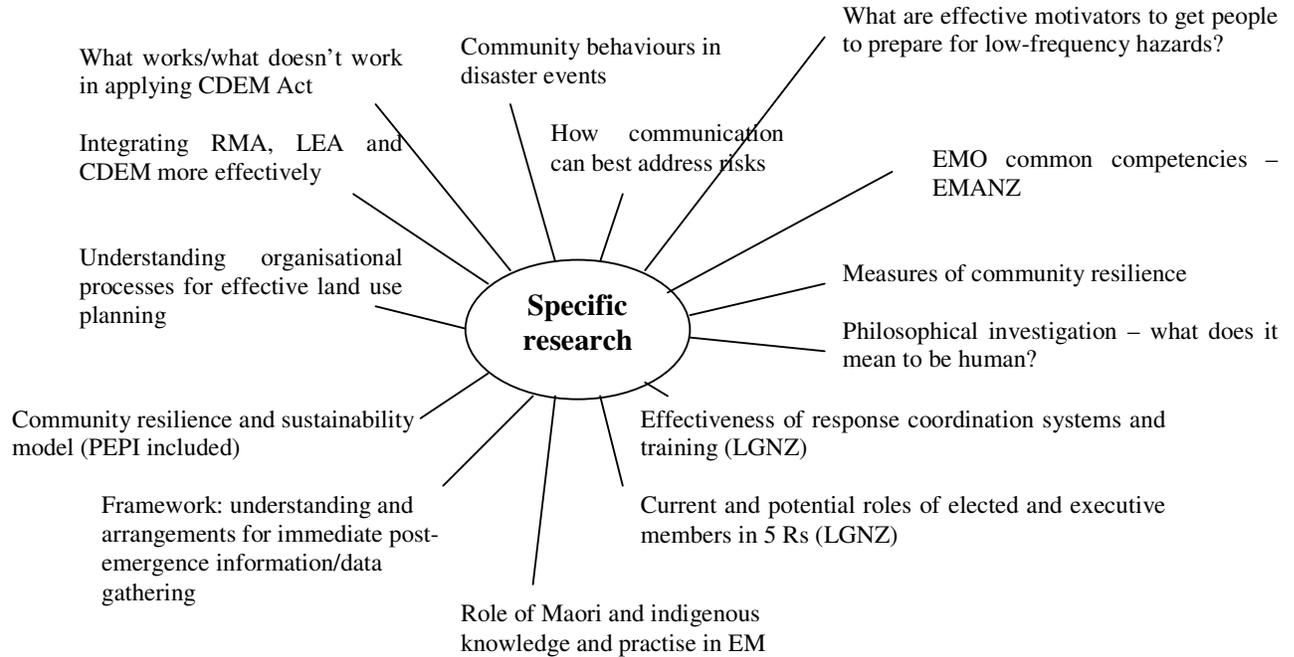
- Develop a framework to address responsibilities in behavioural research, policy and practice.
- Develop relationships.
- Co-ordinate researchers, funders and implementers.
- Take EM seriously.
- Maori perspectives need to be taken into account.

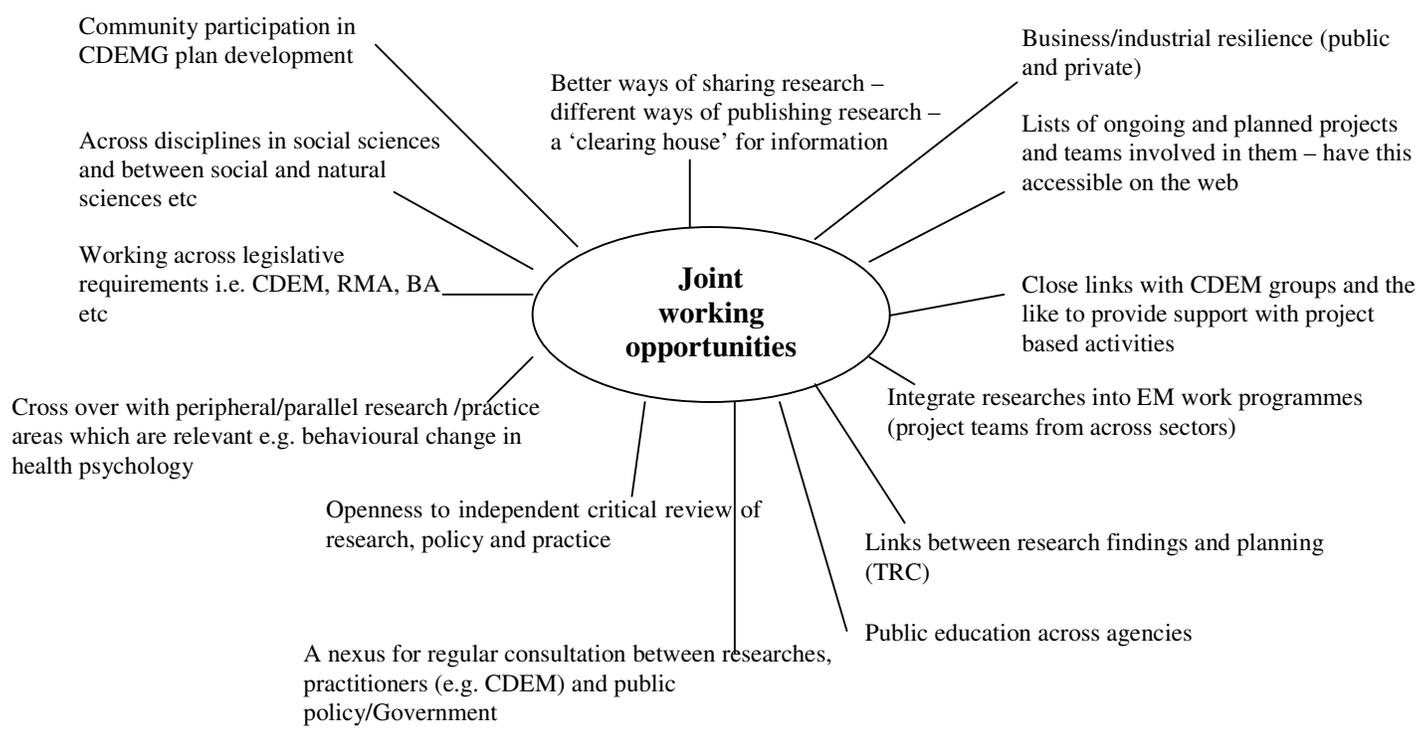
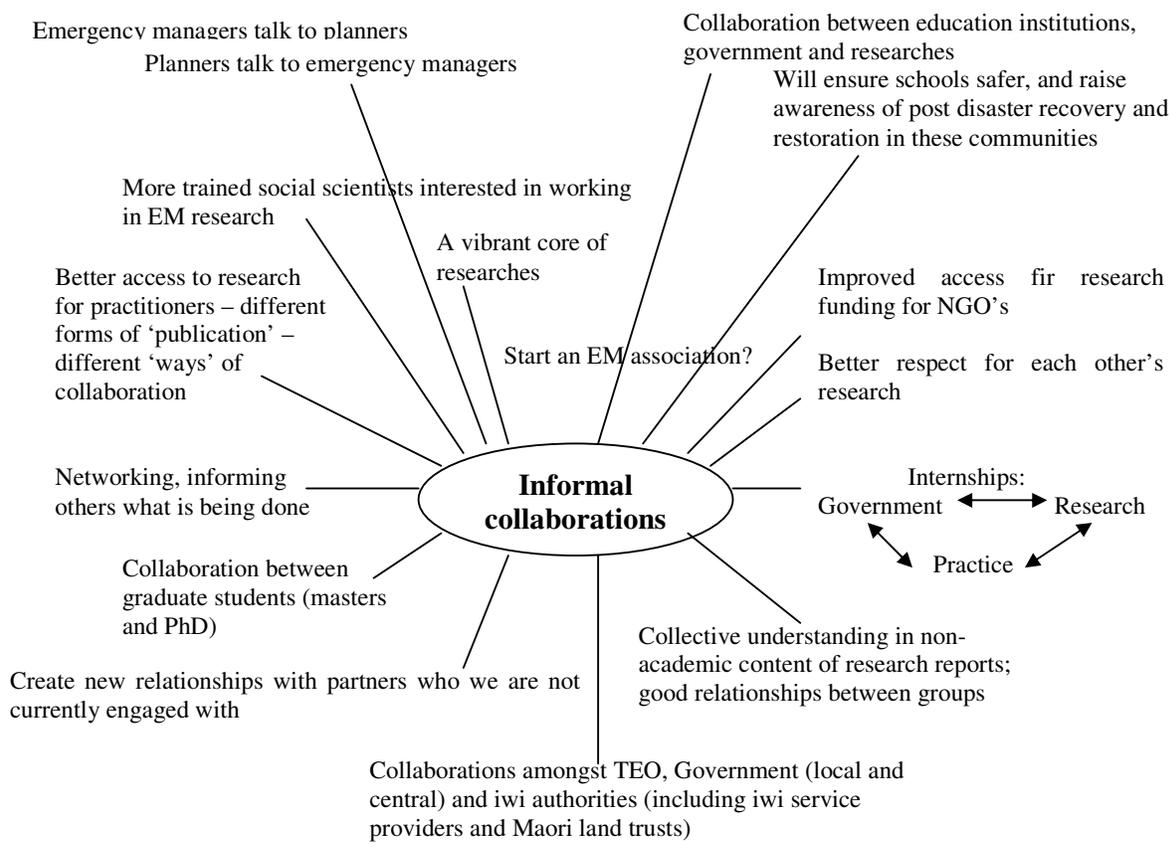
**Group 5:**

- Research would meet the practical needs of the community (a bottom up approach).
- There would be an increase in collaboration between groups and a more integrated approach to EM.
- Evidence -based policy and evidence-based operational decision making.
- Research providing a linkage between policy makers and the people who implement the policy.
- Identify research needs for ‘events’ prior to events occurring.
- Widen the audience so that more people understand the role they have to play in CDEM
- Develop a practical map/framework to find gaps in EM planning and research, and allocate funding with a long term view.
- Maturing of the EM sector, in terms of what areas of research are needed to progress, more understanding and acceptability that social science research is needed.
- Spreading the knowledge and management of EM over different sectors, increase the research outputs to a bigger market.
- Spreading ownership across sectors (moving away from ‘silos’).
- Broader thinking regarding academic research; for instance, that prestige be attached not only to publications in journals but also to more practical publications and collaborations.
- Research acknowledged as necessary in plans and documentation.

## 2.2 What do we want more of?

This question was addressed in relation to the topics of specific research, informal collaborations and joint working opportunities using a flipchart exercise.





## 2.3 Where are we now?

### 2.3.1 Presentations of individual research

Short outlines of individual research were presented to the group and are briefly summarised below.

*David Johnston, Joint Centre for Disaster Research, Massey University and GNS Science*

David discussed what the Joint Centre for Disaster Research (a joint venture between Massey University and GNS Science) does, and how it is involved in examining behavioural sciences and disasters through the research activities of its graduate students. David has studied the organisational response to tsunamis, and the Mt Ruapehu eruptions. He is also involved in the GNS geological hazards social science programme which looks at planning/policy, resilience, disaster recovery and warning systems.

*Wendy Saunders, GNS Science*

Wendy is interested in land use planning and policy, and how land use can be effectively and objectively used before/after disaster events in the context of risk reduction. This includes pre-event recovery plans (a new concept to planners), and land use guidelines for after disasters, for example, landslides, that result in a positive outcome that the community is happy with. Wendy is also interested in Maori and Pacific Island preparedness to disaster, and how their knowledge on land issues affects this. Wendy is doing a PhD into innovative land use planning for natural hazard risk reduction.

*Julia Becker, GNS Science*

An recent example of Julia's work was the response to the Mt Ruapehu Crater Lake tephra dam bursting its banks in March 2007, resulting in a lahar flow down the Whangaehu River. The fact this event was predicted a long time in advance meant she had the opportunity to study the response planning pre-event. She is currently undertaking a PhD into how to increase community resilience, to better understand how individuals make meaning from hazard information and how this relates to preparing for disasters.

*Graham Leonard, GNS Science*

Graham's interests include evaluating the effectiveness of warning systems. A recent example is the influence of the Boxing Day tsunami on the evolution of tsunami warning systems in New Zealand. Graham primarily studies tsunami and volcanic events mainly, but also is interested in floods and landslides. He wants to combine natural, informal, and official warnings into one combined system. He wants to do this through linking notifications and pathways at the national and regional levels, including transient responses (tourists) and organisational responses, so that effective warning systems can be developed.

*John McClure, Victoria University of Wellington*

John is especially interested in social judgment; for example, causal attributions, biases such as unrealistic optimism, risk judgments, and the way these judgments affect helplessness and fatalism. John has undertaken research into what can make people prepare for low frequency events, using cost of insurance as an example. John also spoke about how research has shown that negative messages are more effective than positive ones in changing behaviour, so the message “if you don’t prepare for disaster you will suffer” is more effective than “if you prepare for a disaster you will suffer less”.

*Douglas Paton, University of Tasmania*

Douglas has a particular interest in why some people tend to recover better than others (have a greater adaptive capacity) after a disaster or trauma. He is developing models of adaption and coping to explain this phenomenon; this work is supported by the EQC. An aim is to develop an overarching model of societal resistance to disasters. This would be an all-hazards approach, including volcanoes, earthquakes, floods, and bush fires, also bringing together how relationships within communities and between communities and government make a difference in these preparedness models. He wants to convert his findings into risk strategies, especially for bush fire models in Australia. As these events happen every year, they are particularly amenable to study - as the effectiveness of various measures such as public education programmes can readily be seen. A second focus of his research is into organisational resilience, such as how the fire, police and ambulance departments respond and cope during disasters.

*James Hudson, Massey University*

James’s research interests include an investigation of the 2004-2005 floods in the Manawatu and Bay of Plenty regions, and how the role of traditional Maori knowledge contributed to the mobilisation of people during the emergency, and the adaptive capacity of the Maori people afterwards. James is concerned about the lack of knowledge in civil defence groups and local councils about what iwi and Maori service providers did and can do during an emergency. He wants to increase the awareness of what Maori are capable of during an emergency, and how this can benefit other communities locally and nationally. James is studying towards a PhD to develop a framework to identify and measure what iwi consider to be good outcomes after an event, and the role of adaptive capacity and resilience in the Maori community.

*Darren Walton, Opus International Consultants*

Darren is involved with research into transport and infrastructure development, which is part of OIC’s natural hazard programme. He studies behavioural aspects which are then integrated with the work of traffic engineers. Darren has been modelling earthquakes in Wellington and predicting post-event response behaviour, including return-to-work behaviour.

*Bruce Glavovic, Massey University*

Bruce is interested in recovery response following hazard events, such as Hurricane Katrina, the Indian Ocean tsunami (focusing on Indonesia and the Maldives), the 2004 floods in New Zealand and the March/July 2007 events in Northland. He has an

interest in studying recovery in affected communities to determine what works and doesn't work in realistic situations, so that valuable lessons may be learnt. Bruce is also interested in climate change and the adaptive capacity of coastal communities, and wants to do a comparative analysis of New Zealand, the Gulf Coast of the United States, the Maldives, Indonesia, Brazil and South Africa. Bruce also wants to see increased collaboration between sectors, and stresses the need for a critical review of EM policy and practice to find the gaps and to determine what is working at strategic and operational levels.

*Tony Taylor, Victoria University of Wellington*

Tony has been involved in trauma and terrorist research and the subjective behaviour observed in trauma situations. Tony emphasised that people's core belief systems contribute to their adaptive capabilities, and that these values should be used to help people cope and deal with trauma following emergency events.

### **2.3.2 Questions following research summaries**

*How can we make this research available to other sectors?*

Graham Leonard: We often work with local partners.

Shane Bayley: The problem is that research doesn't always lend itself to immediate uptake.

*John Mitchell: So how can we have better access to this information?*

Douglas Paton: For our bush fire work, we regularly meet with reference groups to show how our research can be best translated into end-user practise.

John McClure: It would be helpful to have CDEM people attend workshops at conferences, which are mainly focussed on the research side of EM. It would be great to see that interaction, and this would enable them to get involved and access research information easily.

Julia Becker: Unless researchers have excellent connections there is a substantial time lag between research being finished and getting published.

*David Allen: What really interests the CEOs of organisations? How can we create interest in the senior partners in government and commerce?*

Tony Taylor: We need to challenge people to continue to learn everything they can on the subject so that they can integrate it and make sense of it all. It is also important that a holistic approach be used – this includes mental, physical, social and spiritual aspects. However, not everyone is readily able to embrace this approach.

James Hudson: Following on from what Tony was saying, James gave an example of lack of mental health problems in the Maori population compared with the rest of the population after the 2004-05 flooding events in the Manawatu, and suggested it could be linked to their spiritual views related to the disaster and the adaptive processes that the Maori people have already in their communities.

Comment: lack of readily-understandable information can be a barrier.

MCDEM: The research need to be presented for the end user. Writing at an appropriate level (comprehensible by an eight year old) helps; also translation into relevant languages such as Maori should be considered.

David Johnston: The Joint Centre for Disaster Research is trying to lower this barrier through putting on day meetings like today's one. We are setting up a comprehensive website (<http://disasters.massey.ac.nz/index.htm>). It will contain information on the centre and people carrying out EM research, publications and research updates, current projects, public seminars and conferences, EM courses and links.

Douglas Paton: The *Australasian Journal of Disaster and Trauma Studies* is a free online publication. Douglas, who is the editor, welcomes suggestions for other articles to publish within it. This journal can be found at:

<http://www.massey.ac.nz/~trauma/issues/current.shtml>

Other resource websites noted:

[www.resilience.org.nz](http://www.resilience.org.nz)

[www.hazards-education.org](http://www.hazards-education.org)

Concluding comment: It is important to focus on progress and the many achievements that have been made in this sector, rather than on the limitations and omissions. Compared to five to ten years ago, a great deal of progress has been made.

### **2.3.3 Abstracts received of other relevant EM&SSDR projects**

*Current emergency management strategic issues and priority social science research needs*

*Michele Daly, Director, Kestrel Group Ltd*

From our work across the emergency management sector in New Zealand and the Pacific, here are some observations regarding social science research needs:

#### *Community resilience*

- Measurement of and developing means to monitor improvements and changes in community resilience over time
- Developing a tool box of activities and programmes which support one or more of the community resilience indicators
- Identifying the particular attributes of specific communities which makes a particular programme or initiative work well for them (e.g. demographics, isolation, hazard)
- Identifying conditions ensuring the sustainability of programmes (i.e. council support, local leaders, existing community group)

#### *Performance measurement of CDEM Groups/ CD sector*

- Developing systems and methodologies which measure the performance of CDEM groups' key functions across the 4Rs, and which can be used to track improvements in this over time.

#### *Factors increasing risk ownership by individuals/property owners*

#### *Private property rights versus reducing collective community risk*

### *Evacuation planning*

- Understanding community behaviour in an evacuation in the NZ context
- Transportation modelling (route modelling)

### *Improving community involvement in risk management.*

Bottom-up approaches using community response teams (examples from Pacific)

### *Improving risk reduction outcomes*

Getting risk reduction happening better in practice using planning tools. Profiling councils who are achieving positive outcomes – how are they tackling problems and what are they doing that is different?

## *John McClure, Victoria University of Wellington*

John McClure is researching factors that affect preparation for hazards, with particular emphasis on earthquakes. The research focuses on factors that contribute to reducing fatalism about preparing for earthquakes (in other words, the belief that preparation is not worth doing or will make no difference).

### *Completed projects*

Projects 1 and 2 examined the effects of messages in the media, and other communications, that led people to attribute outcomes in earthquakes to preparedness, rather than to earthquake magnitude [McClure et al., BASP 2001; Cowan et al., AJSP 2002].

Project 3 examined the effects of information showing that buildings that collapsed had poorer designs than buildings that remained intact [McClure et al., AJSP 2007].

### *Current and future projects*

Project 4 is examining why people are more likely to take survival actions (such as getting an emergency kit) than damage mitigation actions - which may also enhance survival after an earthquake [Spittal, McClure et al., in press, E&B]. Is it due to perceived costs or the judgment that life and injury losses are more important than business or housing losses? We have applied for an EQC grant to further this research.

Project 5 (funded by a GNS subcontract) is examining whether people have a bias towards discounting the importance of low frequency hazards, even when costs for these events are equal to those for high frequency events. This research compares judgments of the importance of taking out insurance for high and low frequency events.

Project 6 (funded by a GNS subcontract) is examining the effects of how messages are framed (positively or negatively) on individuals' intentions to prepare for earthquakes. As an example, the same message can be framed positively: "If you prepare, you are likely to suffer less harm"; or negatively: "If you don't prepare, you are likely to suffer more harm".

Project 7 (funded by an EQC subcontract) is examining whether giving businesses hazard information accompanied by an action plan leads to higher uptake of particular earthquake preparedness actions [a survival action and a damage mitigation action] than hazard information without an action plan.

*Social and planning research at GNS Science*

*David Johnston, Julia Becker and Wendy Saunders, GNS Science*

The Geological Hazards and Society programme, managed by GNS Science, conducts nationwide research into earthquakes, volcanoes, slope instability and tsunami to achieve an integrated and comprehensive appreciation of geological hazards in New Zealand. A fundamental concept of the programme is an “all hazards” approach, meaning each of the hazards is compared spatially, temporally and geographically. Within the wider Geological Hazards Programme, social and hazards planning research provides knowledge of the social, economic and cultural factors that influence the development of strong communities resilient to the impacts of natural disasters. Government research directions and strategic priorities are strongly reflected through integrated research of all natural hazards across the 4Rs of hazard management: reduction, readiness, response and recovery.

The research will be undertaken by GNS scientists, several subcontractors and collaborators, constituting an integrated, multidisciplinary and multi-agency (both nationally and internationally) team with a long track record of delivering high-quality science outcomes to a range of end users. The team is comprised of sociologists, psychologists, planners, geologists, Māori researchers, and GIS modellers. The future programme has a clear, balanced portfolio of research grouped in the following four interlinked themes:

**1. Policy and planning** aims to build knowledge about best practice and increase the uptake of hazard knowledge by policy makers, land use planners, communities and iwi through the adoption of appropriate land use practices and public policy. Building on current research, we will explore how to improve the preparation and implementation of plans and policies addressing natural hazards within district, regional and central government (eg. District, Regional and CDEM plans). In particular, we will analyse barriers to successful policy implementation and work towards overcoming such barriers.

**2. Community resilience** aims to explore the relationship between risk perception, risk acceptance, evaluation of personal competencies and capabilities and preparedness at a community, organisational and individual level. From this research we will identify practical strategies for developing resilience factors and of the process by which emergency management agencies can do so. Research will explore the role of formal and informal social networks, community engagement, empowerment, and strategies for motivating and sustaining community participation in at-risk communities. The role of education in schools and community groups in preparing for hazard events is also a focus.

**3. Effective warnings and emergency management response** aims to directly assist the CDEM sector in developing appropriately targeted strategies to improve procedures, and crisis management methodologies. It will consider societal perceptions of hazards and warning messages (including researching events as they occur), and develop strategies that motivate and maintain appropriate social responses. Research will evaluate the effectiveness of emergency management response to recent events with respect to community response needs, organisational effectiveness and the monitoring and evaluation process. Research will also assess a range of monitoring frameworks for CDEM group plans for specific hazards and functions.

**4. Disaster recovery** aims to assist community recovery by improving our understanding of the process. Following natural hazard events, researchers will investigate the range of physical and psychosocial impacts on communities, using longitudinal evaluative methodologies to better understand the recovery process over time. We will also explore how land use planning processes can assist the recovery process by developing pre-event recovery plans, and whether the regulatory environment promotes or inhibits recovery.

*Douglas Paton, University of Tasmania*

Douglas Paton is a Professor in the School of Psychology at the University of Tasmania. His research focuses on developing and testing models of natural hazard resilience in communities and in emergency and protective services organisations. This work takes a multi-level, all hazards approach to understanding resilience. By modelling generic processes using variables that are amenable to change through risk management intervention, the models can be used to assist several risk management functions (e.g., community assessment, development). All models are rigorously tested for their validity and reliability. This process increases the utility of the research to support practice risk management intervention.

His initial work in this field involved using a basic model (comprising sense of community, self efficacy and coping) to examine resilience to salinity hazards in rural Australia and volcanic hazards in New Zealand. Building on this work, a model based on the Theory of Planned Behaviour was developed. This model was used to examine earthquake preparedness in several New Zealand towns. An important outcome of this work was finding that while some people were predisposed to prepare for hazards, others were disinclined to do so. That is, preparing and not preparing did not lie at opposite ends of a continuum. Rather they represent the outcome of discrete reasoning processes.

Subsequent work has focussed on articulating the underlying reasoning processes and on incorporating factors identified in earlier work. In particular, it has involved developing models that integrate the social construction of risk, empowerment, and trust into a coherent framework for understanding resilience. It thus conceptualises resilience as a process that facilitates people's ability to adapt to hazard consequences. The current model comprises personal (e.g. outcome expectancy, coping, and self-efficacy), community (community participation, leadership, sense of community) and societal (trust) levels, with the constructs of collective efficacy, community problem

solving and empowerment representing factors that link the levels to represent a coherent model of resilience. The model has been tested against volcanic, earthquake, tsunami, flooding, bushfire and pandemic hazards to ensure that there is all-hazards applicability. Testing the model in New Zealand (Napier, Auckland), Australia (Tasmania, Victoria, Queensland) and the US (Alaska, Oregon) provided some measure of the generalisability of the model. Future work will involve testing the cross-cultural validity of the model and research in Japan, Taiwan and Portugal is currently being planned. Future work will also expand the range of variables tested, develop new variables, and examine their operation in community contexts, and conduct evaluation research of intervention programs developed from the model. The outcome of these activities will produce guidelines to assist risk management planning and intervention.

The organisational resilience research initially involved testing models derived from the occupational health and empowerment literatures. Current and planned work involves testing a model derived from integrating these theoretical perspectives. Specifically it examines how the relationship between organizational culture and empowerment predicts adaptive capacity and social and psychological growth in emergency workers. This work thus focuses in the human resources aspects of resilience in organizations. A related project is examining how work-family relationships influence resilience in Antarctic expeditionaries and their families. Testing of these models is underway, with data being collected from the South Australian Metropolitan Fire Service, the United Kingdom Prison Service, the New York Police Department and Auckland District Health Board.

Both the community and organizational resilience models are designed as generic models. In addition to expanding the scope of the generic model, the constituent components provide a basis for planning programs into the operation of each component.

*Auckland CDEM Group Resilience Project*  
*Bruce Parkes (St John) and Michele Daly (Kestrel Group Ltd)*

The Auckland Community Resilience project, commissioned by the Auckland Civil Defence and Emergency Management Group, has been focussed on what makes communities and individuals resilient; measuring current levels of resilience; and identifying cost-effective ways of improving that resilience level.

The Auckland project began by adopting a conceptually sound and easily understood definition of resilience. Resilience has been defined as “adaptive capacity.” Based on Douglas Paton’s model, nine individual, community and institutional indicators for resilience have been identified and these can be measured in the community. For example, one key community indicator is ‘Making a Difference’ – people having a sense that they have control over their environment and can do things to positively affect the outcome after a disaster for themselves and their families. Where people have an individual sense of responsibility and believe they have information about what they can do (e.g. take out insurance) and how much of a difference this can make it will increase their family’s chances of recovering.

Building on community strengths is equally important. Those populations not connected to their communities are the most vulnerable and will require the most support. The growing body of mental health research indicates that negative mental health consequences of disasters are reduced by both involvement in disaster risk reduction and preparedness activities, as well as by involvement in post-disaster response.

By being empowered and involved by councils and other agencies, people will trust them and the people representing them. Good leadership is vital and it can come from within many different parts of the community.

The identification of these indicators has specific implications for the design of educational materials, programs and campaigns. Dissemination of information as a sole strategy will NOT be a strong influence on whether people prepare.

- Involve those trusted by the public, including respected academic and scientific institutes, government agencies, teachers, community leaders, celebrity role models as much as possible.
- Focus on solving the problem rather than on negative emotional consequences of not solving the problem.
- Provide evidence for the effectiveness of mitigation measures, including how much of a difference to people's lives undertaking them would mean.
- Help people to recognise the skills and resources that they have to increase their sense of personal effectiveness
- Be honest about what we do and don't know and don't underestimate people's ability to deal with uncertainty
- Make it fun across the board (for adults and children alike and encourage parent-child interactions)

Increasing resilience will decrease recovery time after an event. Research has shown that for every x% effort in just the key community indicators, a 10% decrease in recovery time can be predicted. Given the length of time it can take to recover from an event, this is significant.

The next phase of the project is to develop a tool box of practical strategies which demonstrate how the indicators can be applied and work in practice. This phase is currently being progressed through the National Resilience Working Group.

The Auckland team are focusing on measures of organisational resilience. This will be achieved by working collaboratively with the Resilient Organisations Research Programme at the University of Canterbury. A pilot project is currently being developed as part of a PhD study, which will look at piloting a self-questionnaire on organisational resilience with Auckland businesses.

*MAF's role in disasters*  
*Rebecca Williams*

MAF's role in disasters to assess the impact of a disaster on rural areas, provide advice to the Government on the recovery assistance require, and administer any MAF recovery initiatives.

MAF is very interested in the social impacts/implications of disasters affecting the rural sector. This research provides us with a platform to guide and refine recovery assistance policy (e.g. provision of counselling and welfare support) and also informing the development of the Rural Support Trusts network.

MAF is very keen for this workshop and ongoing research to interpret the term 'disaster' broadly to capture the range of events and impacts that can have a substantial impact on rural areas. For example, a major biosecurity incursion such as a Foot and Mouth disease outbreak could have a devastating impact on the rural sector. We also think that given the context of climate change, and the increased risk of drought, that drought is not 'forgotten' as a potential disaster.

*Current research*

We have just completed two social impact reports; one on the lower North Island floods, and the other on the Canterbury snowstorms.

- Resilience and Farm Family Response in the Aftermath of the 2004 Manawatu Floods (Willie Smith, Auckland University)
- The Resilience and Response of Farm Households in the Aftermath of the 2006 Canterbury Snow Storm (Willie Smith, Auckland University)

We hope to publish these on our website shortly. We are also doing research on the impact of a volcanic eruption on the New Zealand dairy sector. This is a technical assessment on the vulnerability of the sector, likely impacts of an eruption, and possible mitigation/recovery actions.

*Priority social research areas*

- Impact of a Foot and Mouth disease outbreak and how farming families and rural communities would cope.
- Factors which affect farmers and growers to prepare for a disaster - how we can improve the readiness of the sector, with a particular focus on drought.

*Social and economic recovery from natural disasters through community resilience*

[www.resilience.org.nz](http://www.resilience.org.nz)

*Dr Darren Walton, Steve Lamb, Kate Smith.*

*Behavioural Sciences, Central Laboratories, Opus International Consultants.*

This research is part of a four-year FRST-funded project that aims to determine how to improve the resilience of communities to aid recovery after a natural disaster. Three recent or ongoing studies within this project are outlined below.

### *Emergency Event Information Needs Analysis (EEINA)*

The EEINA is a computer-aided survey designed to examine post-earthquake information needs and was undertaken with 562 participants. The participants were shown video earthquake simulations that varied in severity of the event and starting location (home or office) and then viewed TV, internet and radio media reports in any order. Perceptions of the event were measured across source prior to viewing, with television found to cause the largest increase in perceptions of severity. Viewing all media sources significantly increased perceptions of severity compared only viewing the initial earthquake simulation video. This work is to be published in the *International Journal of Emergency Management* (citation below).

### *Emergency Event Travel Analysis (EETA)*

The EETA investigated the likely travel movements of 803 people in the 48 hours following a large scale earthquake event. A similar method to that of the EEINA was used, but it incorporated QuickMap GIS (Geographic Information System) software to obtain trip start and end locations, predicted route taken using a shortest path algorithm, and trip distances. Research in this area has traditionally focussed on evacuation behaviours, traffic management during recovery and post-event surveys, and has not addresses travel responses to sudden events to the same degree.

Overall, those at work at the time of the earthquake were significantly more likely to want to travel than those at home, and their choice of travel mode was affected by the severity of the event, with driving more likely in the moderate event, and walking more likely in the severe event. By knowing these intentions, agencies will be better able to plan their management of travel on a disrupted network. This work has also recently been submitted for publication in the *International Journal of Emergency Management*.

### *Business Continuity Planning*

Surveys at two local city councils (Hutt City Council and Porirua City Council) have recently been completed, investigating staff return-to-work behaviour after an earthquake event. City councils were chosen as they are key to community recovery. Staff were presented with a severe earthquake scenario (similar to the one used in the EETA) and interviewed about their needs and priorities after such as event. A questionnaire was also developed to investigate work-home tensions and attitudes toward returning to work. A social network analysis is currently being conducted that will identify key members of staff from the nominations of every staff member in organisation. While this type of analysis has been conducted in a business context in the past, it has never been applied to emergency management and business continuity. Reports are currently in preparation for the two councils involved, and it is likely the project will be expanded to include different organisation types in the future.

### *Recent publications:*

Walton, D., Lamb S., Dravitzki, V. (2007). An experimental investigation of the influence of media type on individual perceptions of the severity of earthquake events. *International Journal of Emergency Management*, 4(4), 630-648.

The Resilient Organisations research programme ([www.resorgs.org.nz](http://www.resorgs.org.nz)) is designed to understand and improve the resilience of New Zealand organisations to major disruption. The ability of organisations to respond effectively following a hazard event will have a large influence on the length of time that essential services are unavailable, and therefore New Zealand's ability to retain economic competitiveness in the aftermath of a hazard event.

This is a six year research programme (2004 – 2010) funded by the Foundation of Research Science and Technology (FRST), with a total research budget of \$1.8M. The research programme is led by Dr. Erica Seville (Department of Civil Engineering, University of Canterbury, New Zealand), and is a collaborative project between the University of Canterbury, University of Auckland, and Kestrel Group.

The research programme is divided into three inter-related objectives:

1. Organisational planning for hazard events
2. Prioritisation and deployment of physical and human resources for recovery
3. Legal and contractual frameworks for post-disaster reconstruction

Key outputs expected from each of these objectives over the six years include:

*Objective 1: Organisational planning for hazard events*

Key Contact: Erica Seville [erica.seville@canterbury.ac.nz](mailto:erica.seville@canterbury.ac.nz)

- Development of a resilience management framework. Development of a framework for evaluating and improving the resilience of organisations. Application of this framework to ten case study organisations.
- Metrics for benchmarking resilience across different organisations. Metrics are needed so that organisations can demonstrate and value their resilience strategies, and create a business case for improving resilience.
- Best practice principles for improving resilience. Best practice principles and 'real-world' examples to be identified and promoted throughout the research programme.

*Objective 2: Prioritisation and deployment of physical and human resources for recovery*

Key Contact: Andre Dantas [andre.dantas@canterbury.ac.nz](mailto:andre.dantas@canterbury.ac.nz)

- *Analysis of Information Flows and Requirements during Response and Recovery* Activities for the Road Network. Significant challenges exist for collecting, collating, and communicating information about the real-time status of the road network in times of major disruption. Initial focus is to understand current information flows during response and recovery. Focus will then shift towards how these information flows could be improved.
- *Generalising the methodology*. Taking the techniques and principles developed for the road network and looking at how they might be applied more generally to other types of networked infrastructure and industry sectors.

- *An Optimisation Procedure for Prioritising Works on Networked Infrastructure.* Networked infrastructure provides unique challenges in optimising in real time response and recovery activities as the importance of any one particular link will be dependent on the availability of alternative links across the network.

*Objective 3: Legal and contractual frameworks for post-disaster reconstruction*

Key Contact: Suzanne Wilkinson [s.wilkinson@auckland.ac.nz](mailto:s.wilkinson@auckland.ac.nz)

- *Suggested Clauses for Contracts.* Our objective is to provide immediate solutions for asset owners and operators, for example through draft standard clauses or specifications relevant to response and recovery activities that can be added to conventional procurement contracts.
- *Best Practice Construction Procurement Strategies for Response and Recovery Activities.* Best practice principles to be written up and published as a set of construction industry guidelines, and promoted to the construction industry through targeted workshops and conferences.
- *Strategic Review and Recommendations where appropriate for Industry Wide Action.* Where significant industry wide issues are identified, the researchers will prepare discussion documents and facilitate workshops with industry players to promote discussion and change.

## **2.4 What are the main issues and priorities, and what targets should we aim for?**

To address these questions, participants divided into sector groups.

### **2.4.1 Group 1 (emergency management practitioners)**

Scribe: Jon Mitchell

#### *Issues*

- Methods to get research to users are not effective enough
- Needs of practitioners not communicated clearly enough to researchers
- Lack of collaboration between practitioners and researchers, need increased participation in research
- Insufficient recognition of need for, and value of research in the public policy/practitioner community
- Insufficient emphasis on translation and implementation
- Lack of knowledge in public policy of research approaches available
- Emphasis on “life and limb”, “preservation of life” focused research, rather than on longer-term social impacts and potential responses.
- Other social research is not seen as being adequately linked with emergency management research (e.g. rural social research, research, research commissioned by the fire service).

#### *Priorities*

- Pat asked why we should bother with sociological research, why should the Government pay for research for the sake of research – can we justify why the research is being done?
- Practitioners need clear understanding of what needs to be done with public policy providing leadership and boundaries.
- We need a rigorous process for commissioning and evaluating research that is more inclusive – more people need to be involved in funding decisions.
- Kirsten Finnis’s report on what research was underway.
- Establish the baseline of current research programmes and identify potential research themes.
- Need to join up research between government agencies commissioning research
- This is happening in flood hazard management and climate change with sector reference groups.
- EQC and MCDEM need to be involved in public education research.
- Room for more involvement of local government in research funding, and research theme priorities.

### **2.4.2 Group 2 (emergency management practitioners)**

Scribe: Jo Horrocks, MCDEM

#### *Legislation*

- How different parts fit together, in particular with regard to risk reduction and management.
- Linkages
- Framework of decision making in risk reduction
- Regional co-ordination of public decision making
- Different organisations, different messaging, often not co-ordinated and don't agree
- Regionally and nationally

#### *Professional development*

- CDEM professional development for non-emergency managers e.g. communicators, political level etc
- What integrated emergency management means

#### *Profile building*

- Profile of emergency management within organisations
- Strategic issue
- The emerging management 'product' we're delivering
- Incentives, direction etc

#### *Evidence-based social marketing*

- Want more of it – precious little understood about the efficacy of these efforts
- Large amounts of public money spent on public education, but very little assessment of whether it works or not
- Need more social science research to find out how it works, why it works etc

#### *Working collaboratively*

- Synergy
- Building networks, what makes groups connect together, advantages, disadvantages
- Effective groups

#### *Research lag*

- The time it takes for researchers to feed into practice is a problem
- Feed research into planning cycles?
- Researchers need to target relevant practitioners – practitioner user groups?
- Composition of research
- Creating a good mix of work, particularly PhD and graduate student research – but not telling them what to do (subverting autonomy, but research needs to be relevant and applicable)
- How the research fits together to make a whole is important, as it is easy to expand and expand without looking at the quality of the whole project
- Collation of a body of research (students) into a useful whole

#### *Development of researchers*

- Where do graduates go after finishing a PhD?
- Offer incentives to become practitioners
- Important to stay open-minded

*Translating academic work into useful messages*

- How is research communicated to practitioners? Needs to be in a brief understandable way
- Not about putting a filter between researcher and practitioner, but there is a need for academic work to be more accessible

*Need collaborative strategic plans*

- Where do we want to be in 10-15 years time? But remaining flexible as in 10-15 years time the priorities will be different.
- Need a social science/emergency management agenda, and incremental discussions about the future, e.g. discuss what we want in 10 years time every 5 years.

**2.4.3 Group 3 (researchers)**

Scribe: Julia Becker, GNS Science

*Issues*

- How to engage between researchers and practitioners so that research is well used
- Need to develop the EM sector to understand the information.
- Can change information/publications
- What capacity do practitioners have to make meaning and ask the correct questions about research
- Need to recognise that we are dealing with different entities and individuals – Important for all parties to feel they are peers.
- Whose job is it to interpret information?
- Can be collective, both the researcher and practitioner need to be involved
- Need up-skilling at both ends, and maybe an intermediary or interpreter between the two groups.
- Funders need to be educated to ensure that funding can include engagement and/or an end product for practitioners
- Conflicts between changing sciences – it is politically unacceptable to make people in old topic areas redundant. The system needs more flexibility
- Capacity development – can we provide a pathway to get new researchers into the EM field?

*Priorities*

- Excellent appropriate research
- Excellent communication of that research to appropriate parties

*Uptake of information*

- Needs to be better – but how do we achieve this?
- The definition of ‘uptake’ needs to be defined, i.e. when should uptake occur – at the end of the research or during it be being carried out.

*Mechanisms to build communication*

- Conferences (2<sup>nd</sup> Australasian Natural Hazard Management Conference 2008 – contact [ahmc@hazards-education.org](mailto:ahmc@hazards-education.org) for information)

- Websites
- Special journals for practitioners and other organisations with publication of popular articles and science reports e.g. NIWA atmosphere reports, GNS natural hazard reports.
- Successes with communication
- Auckland resilience project: 18-month-long dialogue led to success, but needs continuity.
- Auckland district health board acted after a hazard event had occurred. If hazard had not appeared, the initiative would not have happened.
- Key is dialogue and creating partnership (sharing the research). For instance, skifield warnings at Mt Ruapehu arose out of mutual learning and doing research together.
- There is the potential for more structural mechanisms to help uptake of information – but need to work with policy groups to get this.

Compile some documentation for ‘how to communicate/integrate social science research into practice’ using case studies.

The priority will always be building a team for excellent research, but also need to build in how to integrate that research into practice.

The challenge is that some end-users are constantly moving on in their jobs during the time that research is progressing, so it can be difficult to keep them involved and stop the project ‘losing steam’. There may be a need to promote the ‘message at the end’ of research rather than articulate the whole research process.

Communities and practitioners can act as validators of research.

#### **2.4.4 Group 4 (policy makers and practitioners)**

##### *Issues*

- Getting research and then putting it into planning documents. Practical application from research. Relevant information and straight to point for the end user.
- Relevance to the agency
- Are we engaging with researchers at the right time?
- Marketing the information from the researchers to the community
- Local commission research – information sharing important
- No current mechanisms to share findings
- Coordination of agencies to discuss research needed
- MCDEM- research website?
- Practitioners are working in isolation – they are not aware of research going on within government and research agencies.
- FRST – issues in identifying key research programmes? Is the research funding process adequate?
- The length of research programmes (2-3 years) and peer review pressures before final reporting is too long, for example for regional councils.
- regional councils tend to undertake funding for own research
- Accessing and understanding current research and being able to identify which is good research hard from a policy/practitioner point of view.
- Policy is based on ministerial requirements, not what researchers want to study

### *Priorities*

- Biggest gap – communication
- Research needs to be aimed at a practical level (brief and appropriate)
- Research needs to be made available faster
- needs to be able to be accessed prior to peer review process

### *Notes from David Allen*

#### Fact 1:

Recent changes in emergency management (EM) legislation and direction have focused on the need for closer integration and coordination between various disciplines of government agencies, authorities and many non-government organisations (including service providers who traditionally have not been classified as ‘responders’).

#### Response 1:

Some significant interest in EM is being displayed by local authorities (politicians and senior officers) through the legislated formation of CDEMGs (Auckland pilot commenced in 1997). This high level interest is driving some significant improvements in EM practices, however these are generally focused on local authority response.

#### Issue 1:

What are the ‘drivers’ that have created local authority high level interest and how can they be adapted to provide similar influence to other community organisations so that they can improve their understanding and also benefit from increased local authority liaison and support.

#### Fact 2:

Local authorities are taking ownership of the need to increase individual and community resilience by listing resilience related activities in their respective plans and by supporting some ‘resilience’ research work.

#### Response 2:

The main ‘change’ mechanism used by authorities to date relies upon local authority civil defence emergency management staff who generally have a narrow ‘response’ related focus, with their planning potential being primarily based on utilizing existing capacity of various disciplines.

#### Issue 2:

What is preventing local authority senior management from requiring CDEMG plans to belong to ‘whole-of-council’ so that individual and community ‘resilience’ issues can be better addressed through a multi-discipline approach.

#### Fact 3:

Some EM change has been successfully implemented by a limited number of local government and other agencies where various disciplines within the parent organisations have been introduced to emergency management as an additional management tool that they are being required to deliver on.

Response 3:

Courses are being introduced by tertiary establishments, reflecting CDEM changes, to encourage attendees to extend their knowledge into a broad understanding of the complete comprehensive emergency management package.

Issue 3:

What courses are being developed to provide focused EM training to attendees from different disciplines, to enable practitioners to better develop increased capacity to cope with adverse events.

## **2.5 What actions do we need to take next?**

Many ideas and suggestions were written down during a Post-It note exercise, and have been compiled into the four main action areas of strategy, funding, research and communication.

### **2.5.1 Strategy: a top-down approach**

#### *Government*

*DIA*

*MCDEM*

*LGNZ*

- Develop clear long-term legislation for the EM sector, include Maori cultural values in policy and acknowledge that the social sciences are also an important part of research in this field.
- Have specific leadership, and put structure in place first within networks.
- Make sure everyone understands the same concepts
- Have clear lines of accountability.
- Have clear expectations across all sectors.
- Develop processes for integrating research/evidence base into policy process (SSC/DPML.)
- Establish independent high level advisory group to 'steer' review of CDEM (MCDEM/DIA By March 2008.)

#### *MCDEM*

*MORST*

*FRST*

*EQC*

- Carry out an independent review of CDEM policy, EM and social science research and practice in New Zealand (including provisions for urban, rural and Maori communities)
- Develop a disaster research strategy for NZ
- Set up a multiple agency agreement to manage resources
- Establish a research/education advisory group for CDEM groups (by Feb 2008)
- Have a workshop to:

- Explore how to improve dialogue and collaboration between emergency managers, planners and councils (by 2008).
- To develop best practice in “reduction and recovery” (by 2008)
- A strategy for developing CDEM research, policy and practice within Maori/iwi communities (collaboration between iwi/universities/government – have a working group in place by 2008).
- Set up a committee to coordinate all research activity between academic/policy and practitioner sectors (by March 2008).
- Prepare publications about best practice in hazard preparation for general public

#### *Local councils*

*TEC*

*NZVCC*

*Community*

- Local councils establish a national working group for social science (similar to the natural hazard group)
- Set up a steering or advisory group to explore how to keep science-practice dialogue going (by Feb 2008)
- Promote a reward system in academia that recognises outreach work
- Accountability shared amongst the community – responsibility delegated to those confronting issues

### **2.5.2 Funding: more of it!**

*Who?*

- EQC, FRST and MORST
- MCDEM
- Put social scientists onto funding evaluation panels, i.e. the EQC research funding panel.

*What?*

- More money
- More funding rounds
- Funding targeted to specific outcomes

*Where?*

- Into social science, and practice-based research
- To pay for review projects into EM sector
- For ‘translation services’
- To translate research into plain language to give to practitioners
- For follow up workshops (i.e. for response/outcomes from this meeting – thank you to EQC for offering to look into this.)
- For immediate disaster response research after events.

*When?*

- As soon as possible

*Why?*

- To help build communication and collaboration between groups in the EM sector in New Zealand.
- To ensure the correct and most important research is being done, and translated into policy and practice effectively.
- So that all communities and people in New Zealand are more prepared and resilient to emergencies.

### **2.5.3 Research**

- Research needs to consider a broader audience just academic journals – write with end users in mind.
- Promote research science cluster concept (MCDEM).
- Introduce action research principles into work.
- Broaden research to reflect integrated social systems (FRST/providers.)
- Ensure research undertaken in necessary – reflects policy needs, not just what researchers think is important (driven by government/MORST/FORST).
- Perceived problem of researchers choosing topics that will test their skills as a graduate, and with a view to obtaining a PhD, this is a conflict of interest with needs-based research.
- Need active participation in research from end user – serving as participants and assisting in the data collection. This way it is a less passive approach than just waiting for outcomes.
- Action-based research.
- Research needs rigorous evaluation outside the group of interest (peer reviewed journals?).
- Broaden the research community (more competition?).
- Support your peers!

### **2.5.4 Communication**

Most of the suggestions from this exercise were regarding communication and how to build it. The action points fell into three main categories.

#### *A web portal /clearing house for research*

There is a need for an integrated web portal containing information about current research projects, groups and individuals working in the field, across all agencies in New Zealand. Also, free publications in PDF form could be posted, along with an archive of abstracts (literature review in the field) updated every six months, and have links to journals where other recent research is published. It also needs to contain information and links to meetings and conferences that are going to be held. It could also have a forum/message board where people could leave messages and communicate with each other. The Joint Centre for Disaster Research is currently setting up a website where a lot of these resources will be uploaded.

#### *Meetings and conferences*

There needs to be more participation by practitioners and policy makers at emergency management conferences. At these conferences there could be specific focus groups and forums where individuals from different agencies can share thoughts and

information and discuss the latest research. Conference programmes should broaden to incorporate all the four R's, and ensure that they have a social science theme. Networking at these meetings can then be build up during social time – over food and drinks.

### *Publications*

Update the MCDEM bibliography on New Zealand social science disaster research. An idea would be to publish a list of research projects in a monthly or quarterly newsletter, preferably to be distributed by email. If a newsletter is not sufficient, a further idea could be to publish an industry-type magazine with brief, non-technical articles about ongoing research, policy and community issues. Possible agencies to be involved include MCDEM, GNS Science and the Joint Centre for Disaster Research.

## **2.6 Last words and closure**

Hugh Cowan advised that the EQC would be willing to fund a follow-up workshop by mid-2008 to continue the dialogue initiated by the December 2007 workshop. This generous offer was enthusiastically welcomed by participants.

## **Acknowledgements**

The workshop was convened under the auspices of the Joint Centre for Disaster Research. We would like to express our appreciation to a number of people who made the workshop possible and contributed to its success. Firstly, we appreciate the financial support and encouragement provided by the Earthquake Commission (EQC), with particular thanks to Hugh Cowan. Priscilla Cheung of the EQC provided valuable assistance in organising the logistics of the workshop in liaison with staff at Te Papa. Richard Smith, of the Ministry of Civil Defence and Emergency Management, provided helpful suggestions about workshop invitees. Daryl Barton provided support in coordinating the registration and marketing of the workshop. Tom Wilson and Debra Ellis ably recorded the proceedings and assisted with the transcription of the many ideas and comments offered by participants. Carol Stewart did a final technical edit of this report. The workshop was creatively designed and facilitated by Hilary Bryan. Finally, the success of the workshop was a product of the enthusiasm and valuable contributions made by participants.

Bruce C. Glavovic  
David Johnston  
Douglas Paton

Wellington  
December 2007

## APPENDIX 1: LIST OF ATTENDEES

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