

Proceedings of the 2nd Workshop on Emergency Management and Social Science Disaster Research in New Zealand: Deepening and Extending the Dialogue



Te Papa, Wellington, December 8, 2008

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Cover photo: The Manawatu River at Fitzherbert Bridge, 14 February 2004

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EXECUTIVE SUMMARY

The following **key issues** were highlighted during workshop discussions:

1. Participants recognised that there is **much we don't know** about fundamental concepts such as community resilience and how to make this a reality in real communities. Social Science Disaster Research (SSDR) therefore remains an essential and integral part of effective Emergency Management (EM). However the **SSDR-EM practice gap** remains a serious obstacle.
2. Careful consideration needs to be given to **defining SSDR priorities**. It is unlikely that all research could be coordinated by a government agency(s) or by researchers pursuing their own interests. Clearly there is a **need for better coordination of research and for more effective dissemination of research findings**. This question of strategic priorities is especially significant given that long term strategic priorities can get lost in the relatively short term political cycle that leads to 'new' priorities. It was agreed that there is a need to **conduct a coordinated and collaborative review of SSDR** so as to identify 'what we know and don't know' and to define strategic priorities for future SSDR.
3. There is a need to ensure that SSDR is focused on priority issues and to make sure that **research findings are accessible** so that EM practitioners can use it more effectively. There is however a need to be realistic about what research can and cannot do – so as to avoid creating expectations that cannot be fulfilled.
4. Improved **communication** between and amongst SSD researchers and EM practitioners remains an overriding priority. Participants would like a practical way of staying informed about developments in the sector; and for staying in contact with others. Various suggestions were made as outlined in the recommendations below.
5. It was noted that many people in the EM sector have an operational background and do not have formal academic training in EM. There are **opportunities for continuing professional development and for more formal academic study in EM**. These opportunities need to be encouraged (e.g., scholarships) and expanded without duplicating existing programmes.
6. **Researchers need to become more strategic** about what they focus their research on to ensure that it addresses practical priorities and is more readily 'fundable'. However, at same time, there is a need to continue to promote academic freedom so that top students are attracted to conduct SSDR in New Zealand.
7. It was also pointed out that there are relatively few SSD researchers in New Zealand and that it was not realistic to expect individual researchers to cover all aspects of a topic in all areas of the country. **Locality-specific collaboration** between SSD researchers and EM practitioners should be developed and then lessons learned can be shared with other localities.

RECOMMENDATIONS

The workshop highlighted the many positive developments that have taken place over the last year. But the SSDR-EM practice gap remains a serious concern. It was recognised that there are different priorities and incentives for SSD researchers and EM practitioners. Consequently, there are institutional barriers to prioritising research, improving communication and translating research findings into practice that will not be easily overcome. Nonetheless practical steps can be taken to close the SSDR-EM practice gap, including the following recommendations:

1. **Research priorities and strategy:** *A critical review of SSDR needs to be undertaken in a manner that facilitates dialogue and cooperation between researchers, practitioners, funders and community stakeholders in process to identify gaps in knowledge and priorities for future research.*
2. **Translating research into practice:** Attention needs to be focused on translating relevant research findings into ‘plain language’ in an accessible format that is appropriate for different target audiences so that it can be used effectively by EM practitioners, decision-makers and the general public. This kind of ‘output’ should complement ‘academic’ outputs but will require dedicated funding. *It is recommended that a suitably qualified person be appointed to undertake such work, possibly based at the Joint Centre for Disaster Research.*
3. **Improving communication:** It was recognised that many different organisations are playing a valuable role in this regard. But no one organisation can assume overall responsibility for this function. However, it was agreed that MCDEM has a special role to play as a champion for the EM sector and for improving communication between SSD researchers and EM practitioners. It was recommended that:
 - a. *An annual workshop be held to facilitate improved communication:* Key role players to host such an event include MCDEM, MORST and EQC. Consideration should also be given to hosting a special session to improve communication at the biennial Natural Hazards Management conference series. Future workshops should include a special session for emerging researchers.
 - b. *An information alert service should be investigated.*
 - c. *A central clearinghouse for SSDR information should be established.* It should include a user-friendly and up-to-date website that provides opportunity to interrogate topics of interest. Such a facility will need to be developed incrementally. It will require dedicated personnel. The Joint Centre for Disaster Research is in the process of exploring this initiative. It would be able to provide ready access to research findings through a database; publish newsletters; etc.
 - d. *Investigate the establishment of a Steering Group to advance these recommendations.*

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BACKGROUND

This Workshop Proceedings synthesises discussions about Emergency Management (EM) and Social Science Disaster Research (SSDR) held at Te Papa on 8 December 2008. The workshop continued and extended discussions initiated at a workshop on EM and SSDR held at Te Papa, Wellington on 6 December 2007. The main issue of concern to participants at the earlier workshop was the need to **close the SSDR-EM practice gap**. According to participants, the key to closing this gap lies in improving **communication** among researchers and between researchers and the policy-practitioner community. Participants were unanimous in calling for a **follow-up workshop** to continue the dialogue started at the 2007 workshop.

(http://disasters.massey.ac.nz/pubs/GNS/Proceedings_EM_Workshop_Dec-07.pdf).

2008 WORKSHOP AIM AND PARTICIPANT EXPECTATIONS

Held under the auspices of the Massey University-GNS Science Joint Centre for Disaster Research, **the December 2008 workshop was sponsored by the EQC and MCDEM and aimed to deepen and extend the dialogue about how to better coordinate efforts in EM and SSDR**. The workshop:

- Reflected on the 2007 workshop and explored progress on key issues and actions;
- Provided opportunity for participants to summarise current initiatives relevant to the SSDR-practice gap;
- Identified priority issues and future actions; and
- Explored the merits of new initiatives to develop and extend the SSDR-EM practice dialogue.

As a point of departure, participants introduced themselves (see Appendix 1 for a list of participants) and briefly highlighted their expectations, which included:

- The desire to discuss common interests and share knowledge between and amongst EM policy-makers and practitioners, and SSD researchers and funding organisations;
- Improving collaboration among academics and between researchers and practitioners – something that was seen to be especially important given the small scale of the country;
- Exploring how to ‘get science’ translated into practical application;
- Finding out how to make research available to practitioners and making it more publicly accessible so that there is better uptake, including making research available to key decision-makers;
- Exploring how to get real-world social data incorporated into the research models;
- Discussing how agencies and ‘users’ can draw on SSDR to inform operations.

- Better understanding the EM sector;
- Reflecting on how people can be encouraged to prepare better for emergencies and discussing how the CDEM sector can assume a more effective leadership role in EM;
- As one participant put it, “It is not just about translating research INTO practice, it’s about research IN practice. It is about INTEGRATION. It is not so much a linear process as a circular one, back and forth between practitioners and researchers and the community”;
- As another participant said, “Making the connection between research and practice is harder than you think. We need to make better connections between those who are doing the research, those who are being researched and those who use the research findings”; and
- More generally, there was a desire to better understand the meaning of **resilience** – and what it means for communities to be able to adapt to changing environments and circumstances.

SUMMARY OF CURRENT SSDR RESEARCH

The workshop format was informal and participants gave succinct overview of the activities that they were currently involved in, prompted by the following questions about activities over the past year:

1. What **Social Science Disaster Research (SSDR)** have you initiated / funded / undertaken / drawn upon?
2. What **issues or gaps in knowledge** have emerged which need to be addressed by future SSDR?
3. What **actions has your organization taken** to close the SSDR-practice gap – including strategic, communication, funding and research actions?
4. What **practical steps will or could your organization take in 2009** to strengthen future SSDR-practice collaboration?

Participants' specific responses to these questions are provided in Appendix 2.

Participant feedback underscored the wide array of activities and many exciting initiatives underway by organizations in different parts of the country. Whereas the 2007 workshop tended to highlight the many challenges and shortcomings in communication between and even amongst EM practitioners and SSD researchers, this workshop revealed that there are many existing opportunities for linking research and practice within and between these groups. However, many of these opportunities are not well known to the EM sector and SSD researchers, or occur in relative isolation of each other. Participants pointed out that this workshop plays a valuable role in enabling people who might otherwise not meet to network with others and to get a succinct overview of the activities that are underway.

Participants outlined an array of activities and initiatives that ranged from internal organizational initiatives to larger multi-agency collaborative programmes on various aspects of EM practice and SSDR. The general themes of these projects include the following:

- Community resilience: a wide range of initiatives;
- Resilient organisations;
- Behavioural and psychological aspects of hazards and disaster;
- Natural hazards planning;
- Early warning systems and preparing communities for hazard events;
- Operational aspects of EM;
- The role of leadership in emergencies;
- NIWA's 'riskscape' programme; and
- Adapting to climate variability and change.

More generally, it was encouraging to hear that there has been a significant increase in the number of students undertaking postgraduate research in hazards and EM. This will flow on to the whole EM sector, filling positions with people who have a good research base. Research findings are being integrated into university curricula. There has also been encouraging integration of physical and social sciences in a number of programmes. And there is anecdotal evidence that there has been unprecedented use of social science in the EM policy arena over the last year.

Several organizations and individual researchers made presentations of their activities, including:

MCDEM

MCDEM were represented by Richard Smith, Jo Horrocks and Ljubica Mamula-Seadon at the 2008 workshop. There have been significant developments in MCDEM over the last year as new staff have initiated various programmes and activities. Among the highlights relating to closing the EM-SSDR gap has been work on:

- Selling the 'risk reduction' message;
- Exploring with researchers how to get various disciplines to collaborate to inform EM policy and practice;
- Updating the EM collection of reference materials (library service); and
- Focusing attention on how to build community resilience in the 'real world'. There has been a lot of research on identifying community resilience indicators, but we need to start looking beyond

just the community, to issues such infrastructure, government, building science, economy, and the environment.

In subsequent discussions, a range of questions and issues were raised, including:

- Whether MCDEM had any thoughts about bringing together students and academics to encourage them do research that will address gaps in the knowledge? In other words, MCDEM could outline its priorities and provide incentives for students to work on specific issues;
- Promoting disaster research in different disciplines, e.g., Health, psychology, the elderly. Making available research funding is key to starting new SSDR that meets priorities;
- Undertaking a critical stock-take or review of existing SSDR so that we can clearly outline what we know and what we don't know. We could then identify gaps in knowledge and prioritise future research in an informed manner and in a way that enables researchers to collaborate in a more meaningful way, including researchers and practitioners from non-EM fields who have valuable insights for EM; and
- Communicating the EM message more effectively so that we can stimulate research interest. And if we know what the priorities are, then we can ensure that future research is strategic and relevant.

Kestrel Group

A presentation was made by **Michelle Daly** (Kestrel Group) and colleagues about the insights gained from **Exercise Ruaumoko**, held earlier in 2008. The collaboration between EM policy-makers and practitioners and researchers is a good example of the linkages and synergies that already exist and need further strengthening. Among the insights gained are the following:

- The exercise helped to build a picture of how individuals behave in the face of slow-onset disasters and raised questions about how we can develop a 'sense of positive outcome expectancy' – so that people can learn how they can make a difference. We need to put power and responsibility in the hands of each individual, because the way people see it now, they want a 'superman' to lead them through disaster. People are more confident with younger, male leaders: 'Supermen'. They don't trust the 'scientist' in the exercise who couldn't give direct answers.
- Focus groups revealed that people have little understanding about volcanoes in Auckland and how they may erupt. They couldn't conceive of a 'slow' disaster. All envisaged a 'big bang' quickly destroying all of Auckland, despite Herald supplements prior to the focus groups.
- Reaction to the scenario was alarming to those working on disaster evacuation planning for Auckland because people simply wanted to leave as quickly as possible.

Follow-up questions and discussions were wide ranging:

- If all the focus groups were conducted in English, are they a reliable reflection of ethnic diversity in the region? Different cultures experience/prepare for disaster in different ways, does this survey/exercise take this into account? The focus groups ethnically diverse but more can be done to understand different perceptions and views.
- The findings suggest that traditional public education efforts don't always work, e.g., supplements in the Herald weren't read by the people in the focus groups.
- A critical question demanding translation of research to practice is: "How can we change public perception in a region that has never had a disaster, and enable the public to respond to an event?
- Participants discussed the need to adopt "a whole of government approach" to EM and it was suggested that the '**transition towns**' project offered a good model and opportunity. Transition towns focus on what communities are already doing to combat peak oil / climate change etc. This may be a way to get EM into communities and make it a part of everyday life for people by 'piggybacking' low-frequency more 'distant' threats such as volcanic eruptions onto the more high-visibility issues, 'immediate' fears and high-frequency threats that worry people. The discussion underscored the need to think holistically about community resilience / social marketing / transition towns / EM etc. And the need to measure the unintended consequences of actions; and to continually reflect on what we are doing.
- Community and organisational resilience and leadership are topics of particular importance. People in positions of influence need to lead and / or drive EM initiatives, otherwise the whole-of-government approaches fall down. Presentations and conferences are needed to keep things moving and drive things through. A key problem in EM is getting practitioners to sit in rooms with CEOs. Having a 'pushy' leader is however not a solution. The challenge is to provide useful EM information to CEOs and key decision-makers so that they become better informed and enabled to make better decisions. We need to link EM to other related priority issues so that EM becomes an integral part of strategic thinking and decision-making.
- There are many surveys being undertaken. It is important to ensure that the 'right' questions are being asked. Perhaps we need to more thoughtful deliberation of what the right questions are before surveys are initiated, otherwise the result is irrelevant research.
- Doing the right science and 'getting the science right' is a challenging undertaking; especially given that the research application and reporting timeframe doesn't fit into the three year political cycles which tend to change priorities for funding.

NIWA

Presented by Stefan Reese:

1. **RiskScape: a multihazard loss modelling tool (ongoing):** The aim of this programme is to research, develop and enhance a multi-hazards risk modelling system. The model will be capable

of providing increasingly accurate and region-specific estimates of losses and personal impacts (casualties, injuries and people disrupted) from the action of different natural hazards. The resulting RiskScape Decision Support Tool will provide the basis for sound risk-management decisions across a range of natural hazard impacts, optimising community efforts to increase resilience. E.g. integrated assessment of human fragility based on social and economic vulnerability indices and including a response factor that accounts for warning time and ability to evacuate for each specific hazard.

2. **Flood alert scheme / community response plan in Northland (ongoing):** In order to be prepared for flood events a local community response plan has been developed for Kaitaia. GNS and NIWA have supported this process through a community preparedness survey. A second follow-up survey is due fairly soon to find out if the plan and the recent floods in 2007 have had any influence on the awareness and preparedness of the public.
3. **Coastal adaptation to climate change (ongoing):** The overall aim of this project is to create the necessary information and tools to enable adaptation by central and local government and communities to the impacts of climate-induced change on the coastal environment. A key outcome of this research will be more informed proactive communities and councils developing local adaptation strategies to climate change and the inclusion of these strategies in regional and community coastal planning documents. The proposed research will determine the decision-making processes that maximise the adaptation response of coastal New Zealanders to climate change. E.g. develop a range of indicators to evaluate and monitor the uptake and performance of adaptation strategies.
4. **Development of a generic framework for coastal vulnerability assessment at multiple spatial and temporal scales (proposed):** This international project aims to combine the most modern techniques in interdisciplinary risk research (remote sensing, GIS-based assessments, economic and social modelling) to develop an integrated, generic framework for coastal vulnerability assessment that includes a cross-scale approach, which generates lasting impacts on risk management and disaster resilience. Suggestions include: development of a cross-scale vulnerability indicator framework; identifying indicators for social, economic and ecological vulnerability and resilience; testing the applicability of remote sensing as a tool in risk and vulnerability assessment.
5. **Talking about disaster: guide for standard messages (ongoing):** The lack of a national consistent guide how to prepare for a disaster and respond to an emergency event prompted the MCDEM to develop a guideline document for standard messages. GNS and NIWA, with input from all key players, have developed a first draft which is designed to assist those who provide disaster safety information to the general public. Its target audience includes emergency managers, meteorologists, teachers, disaster (natural and human-caused) educators, public affairs/public relations personnel, mitigation specialists, media personnel, and communicators. The guideline document *New Zealand Talking About Disasters: Guide for Standard Messages* is envisaged as a 'living document' presented in the format that will allow for continuous improvements, as experience and practice dictate.

6. **Reducing impacts of climate change on the urban and built environment / infrastructure**

(ongoing): This project aims to help central and local government to identify opportunities and reduce impacts of climate change on urban and built environment through development of a science based risk assessment process and identification of adaptation options. The project combines scientific engineering, planning, socioeconomic and technical expertise to strengthen the capability of local and central government to build resilience to the expected impacts of climate change. This work involves close collaboration with our partner councils to ensure we focus strongly on end-user needs and practical solutions.

There was also discussion about the possibility of utilising the New Zealand census, which is taken every five years, as a means of obtaining information on disaster preparedness and perceptions in relation to other variables measured by the census. The reply was that while the idea has merit, it is not currently on the agenda as it is very difficult to get new questions included in the New Zealand census.

The Joint Centre for Disaster Research (GNS Science/Massey University)

Bruce Glavovic holds the EQC Fellowship in Natural Hazards Planning at Massey University. Research focuses on understanding how to build sustainable and resilient communities, with a particular focus on disaster recovery experiences and how coastal communities can adapt to climate change. Current projects include:

- A critical analysis of the **challenges and opportunities facing coastal communities in adapting to climate change**. Forthcoming book entitled *Climate Change and the Coast: Building Resilient Communities*, co-authored by Bruce Glavovic, Robert Kay, Michael Kelly & Alibhe Travers, to be published by Taylor and Francis in 2009. The book will provide practical guidance on assessing vulnerability and adapting to climate change for coastal communities around the globe;
- A critical review of the **planning hazard-resilient communities** literature, focused on sustainable livelihoods, risk, vulnerability, adaptive capacity, resilience, collaborative planning, governance and complex systems;
- An investigation to bridge the **social science-policy gap in the fields of civil defence emergency management and natural hazards planning in New Zealand**;
- Lessons learned from **post-disaster recovery planning experiences** in the aftermath of the:
 - a. 2005 hurricane season in the USA Gulf of Mexico coast, with a focus on New Orleans
 - b. 2004 Indian Ocean Tsunami, with a focus on Indonesia and the Maldives
 - c. 2004 Manawatu Floods and 2007 Northland floods in New Zealand;
- Assessing **the role of planning in debris disposal after a disaster**; and
- A comparative analysis of international experience in **building sustainable, hazard-resilient coastal communities**, with a particular focus on sustainability, adaptive capacity, collaborative

planning, coastal governance, and poverty-environment linkages. Case studies include experience in New Zealand, South Africa, Brazil, the USA, Indonesia and the Maldives.

The key focus of much of this research is how to improve governance to reduce vulnerability, and improve resilience and adaptive capacity. Understanding the synergies, and roles and responsibilities of key role players, including the research and practitioner communities and general public is key to this research. Undertaking research on emerging policy initiatives e.g., sea level rise would open up valuable insights about the opportunities and barriers to developing more robust policies.

There is a compelling need to undertake a critical review of the state of SSDR knowledge and understanding so that gaps can be identified and a strategy developed to focus future research on real priorities. Such a review needs to be undertaken in a collaborative manner by SSD researchers and key stakeholders from the EM policy and practice communities.

David Johnston is the Director of the Massey University-GNS Science Joint Centre for Disaster Research (JCDR). The JCDR is engaged in a wide range of research programmes and projects and works collaboratively with many SSD researchers through formal and informal arrangements. Key themes include:

- Planning and policy work – land use planning;
- Community resilience (with case studies in Hawke's Bay and Canterbury); and
- Emergency management – Ruapehu; tsunami warning systems; school preparedness and impact of school closures on communities; getting information to key decision-makers; CDEM group decision-making; disaster recovery – impact of information when events occur; post-event data capture and analysis of impacts in events around world.

David referred participants to JCDR website and newsletters for more details about the activities of the JCDR (see <http://disasters.massey.ac.nz/>; <http://disasters.massey.ac.nz/news.htm#updates>)

Victoria University

John McClure's research has a focus on factors that affect preparation for hazards, especially earthquakes. This includes a consideration of factors that help reduce fatalism (the belief that preparation is not worth doing or makes no difference) about preparing for earthquakes.

- Project 1 looked at communications that led people to attribute outcomes in earthquakes to preparedness rather than solely to earthquake magnitude [McClure et al., BASP 2001];
- Project 2 examined the effects of different media messages that led people to attribute outcomes in earthquakes to preparedness rather than solely to earthquake magnitude [Cowan et al., AJSP 2002];

- Project 3 examined the effects of providing people with information about building design (well-designed versus poorly-designed buildings) in relation to their attribution of outcomes [McClure et al., AJSP 2007].
- Project 4, funded by an EQC subcontract, examined whether giving businesses hazard information accompanied by an action plan led to higher uptake of two earthquake preparedness actions [a survival action and a damage mitigation action], in comparison to hazard information alone without an action plan;
- Project 5 examined why people more readily adopt survival actions such as getting an emergency kit, rather than actions that mitigate damage (and which will also enhance survival after an earthquake). [Spittal, McClure et al., in press, E&B]. Questions remain over the reasons for this difference – is it due to perceived costs or to the judgment that risks of personal harm are more important than risks to property? The authors have applied for an EGC grant to further this research.
- Project 6, 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 those for high frequency events. This research compares views on the importance of taking out insurance for high and low frequency events.
- Project 7, funded by a GNS subcontract, is examining the effects of framing disaster preparedness messages positively versus negatively on intentions to prepare. As an example, the same message can be framed positively as “if you prepare you are likely to suffer less harm”, or negatively as “if you don’t prepare you are likely to suffer more harm”.

WORKSHOP DISCUSSIONS

After the overview of various initiatives underway or planned, participants had a series of one-on-one conversations prompted by the following questions:

1. How can you better use research, (if you are a practitioner or policy staff member)?
2. How can you help practitioners and policy staff use research more effectively, (if you are a researcher)?
3. How can you keep in touch through both informal and formal channels?
4. How do you keep up to date with developments and issues that it would be useful to know about?
5. What works now and what needs to be improved?

The following **key issues** were highlighted:

- Participants recognised that there is **much we don't know** about fundamental concepts such as community resilience and how to make this a reality in real communities. Social Science Disaster Research (SSDR) therefore remains an essential and integral part of effective Emergency Management (EM). However the **SSDR-EM practice gap** remains a serious obstacle.
- Careful consideration needs to be given to **defining SSDR priorities**. It is unlikely that all research could be coordinated by a government agency(s) or by researchers pursuing their own interests. Clearly there is a **need for better coordination of research and for more effective dissemination of research findings**. This question of strategic priorities is especially significant given that long term strategic priorities can get lost in the relatively short term political cycle that leads to 'new' priorities. It was agreed that there is a need to **conduct a coordinated and collaborative review of SSDR** so as to identify 'what we know and don't know' and to define strategic priorities for future SSDR.
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findings into practice that will not be easily overcome. Nonetheless practical steps can be taken to close the SSDR-EM practice gap, including the following recommendations:

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 - d. *Investigate the establishment of a Steering Group to advance these recommendations.*

ACKNOWLEDGEMENTS

The conveners acknowledge and thank the sponsors of this workshop: the Earthquake Commission Ministry of Civil Defence & Emergency Management, and GNS Science. We thank Hilary Bryan for her facilitation of the workshop, and also thank the student helpers Morgan Dryburgh, Rosie Chittenden and Tom Wilson for their help.

APPENDIX ONE: LIST OF PARTICIPANTS

Participant	Organisation
David Allen	Private consultant
Julia Becker	GNS Science
Hilary Bryan	The Training Practice
Petra Bürgelt	Massey University
Rosie Chittenden	Massey University
Maureen Coomer	GNS Science
Michele Daly	Kestrel Group
Morgan Dryburgh	Massey University
Steve Glassey	EM Institute
Bruce Glavovic	Massey University
Jo Horrocks	MCDEM
Sarb Johal	Ministry of Health
David Johnston	Massey University/GNS
Steve Lamb	OPUS
Ljubica Mamula-Seardon	MCDEM
Sara McBride	MCDEM
John McClure	Victoria University
Jon Mitchell	MCDEM
Dean Myburg	Resilient Organisations
Bruce Parkes	Auckland CD Resilience
Stefan Reese	NIWA
Wendy Saunders	GNS Science

Paul Schneider	DOC
Kate Smith	OPUS
Richard Smith	MCDEM
Willie Smith	University of Auckland
Ben Stallworthy	Auckland CDEM Group
Tony Taylor	Victoria University
Shona van Zijl de Jong	NIWA
Tom Wilson	University of Canterbury
Neville Wright	MoRST
Chris Romann	Massey University

APPENDIX TWO: INFORMATION SUBMITTED BY PARTICIPANTS

Dr Sarb Johal
Clinical Psychologist
Risk and Assurance
Ministry of Health

1. What **social science disaster research (SSDR)** have you initiated / funded / undertaken / drawn upon?

Initiated and funded Pandemic Assumptions Project with MCDEM undertaken by JCDR Group - final report due in Dec 2008. Undertook literature review of psychosocial impacts of quarantine, in-house. Used to provide health sector guidance and publish recommendations in peer-reviewed journal. Drew upon literature to understand and provide guidance on best practice for psychosocial support for emergency events. Developed toolkit and foundations training course, piloted in Australia and to be run in NZ Q1 2009.

2. What **issues or gaps in knowledge** have emerged which need to be addressed by future SSDR?

What are the emerging challenges and synergies of increasing emergency preparedness in a global economic slowdown? How do people prepare for different types of emergencies when there are some many competing for their attention?

3. What **actions has your organization taken** to close the SSDR-practice gap – including strategic, communication, funding and research actions?

Funding and commissioning of projects, though this is likely to be more difficult in times to come. Working more closely with research institutions.

4. What **practical steps will or could your organization take in 2009** to strengthen future SSDR-practice collaboration?

Participate more fully in research seminar type events. Understand cross-agency research requirements and joint commissioning.

Steve Glassey
Campus Manager
EMINZ

1. What **social science disaster research (SSDR)** have you initiated / funded / undertaken / drawn upon?

We have only undertaken research as part of our Diploma scoping and having staff undertake basic research as part of the Massey GDipEM.

2. What **issues or gaps in knowledge** have emerged which need to be addressed by future SSDR?

Strategic HR status of the NZ emergency management environment (ie retention, retirement, salary), domestic animal management in disasters, EOC technologies/processes.

3. What **actions has your organization taken** to close the SSDR-practice gap – including strategic, communication, funding and research actions?

We have entered a collaborative agreement with Massey Uni to promote educational pathways in EM, encourage staff to register with the DIA information centre (EM alerts), encourage staff to undertake GNS workshops etc.

4. What **practical steps will or could your organization take in 2009** to strengthen future SSDR-practice collaboration?

Continue our collaborative approach on international ventures with Massey, and extend our network to include AUT and EMTC.

John McClure
Victoria University

1. What **social science disaster research (SSDR)** have you initiated / funded / undertaken / drawn upon?

Completed projects

I am researching factors that affect preparation for hazards, especially earthquakes. The research focuses on factors that help reduce fatalism about preparing for earthquakes i.e., the belief that preparation is not worth doing or makes no difference.

Project 1 looked at communications that lead people to attribute outcomes in earthquakes to preparedness and rather than solely earthquake magnitude [McClure et al., BASP 2001]. Project 2 examined the effects of different news media messages that lead people to attribute outcomes in

earthquakes to preparedness and rather than solely earthquake magnitude. [Cowan et al., AJSP 2002]

Project 3 examined the effects of information showing that buildings that collapsed had poorer designs than buildings that were resilient [McClure et al., AJSP 2007]. Phase examined how damage attributions are affected by messages showing rates of damage to well-designed buildings in contrast with instances of damage to well-designed buildings that buildings that collapsed had poorer designs than buildings that were resilient. [McClure et al., JASP 2007]

Project 4 (funded by an EQC subcontract) examined whether giving businesses hazard information accompanied by an action plan leads to higher uptake of 2 earthquake preparedness actions [one a survival action and one a damage mitigating action] than hazard information without an action plan.

Current and future projects

Project 5 is examining why people tend to take many more survival actions like getting an emergency kit than damage mitigation actions that mitigate damage (and which 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 e.g., business or housing losses? We have applied for an EQC grant to further this research.

Project 6 (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 those for high frequency events. This research compares judgments of the importance of taking out insurance for high and low frequency events.

Project 7 (funded by a GNS subcontract) is examining whether framing a message positively or negatively has stronger effects on intentions to prepare for earthquakes. e.g., 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".

2. What issues or gaps in knowledge have emerged which need to be addressed by future SSDR?

1. Why people take some actions [e.g. actions to mitigate damage] much less than others [e.g. getting emergency kits].

2. What forms of motivation can be used to enhance preparedness e.g. 'warrant of fitness' for homes available when house is for sale; insurance incentives.

3. What actions has your organization taken to close the SSDR-practice gap – including strategic, communication, funding and research actions?

I have taken workshops run by GNS, and seminars for the Massey/JCDR summer school.

5. What **practical steps will or could your organization take in 2009** to strengthen future SSDR-practice collaboration?

As per point 3.

**Dr Stefan Reese, Dr Shona van Zijl de Jong
NIWA
301 Evans Bay Parade, Hataitai
Wellington**

1. What **social science disaster research (SSDR)** have you initiated / funded / undertaken / drawn upon?

RiskScape – A multi hazard loss modeling tool (ongoing)

The aim of this programme is to research, develop and enhance a multi-hazards risk modelling system. The model will be capable of providing increasingly accurate and region-specific estimates of losses and personal impacts (casualties, injuries and people disrupted) from the action of different natural hazards. The resulting RiskScape Decision Support Tool will provide the basis for sound risk-management decisions across a range of natural hazard impacts, optimising community efforts to increase resilience.

E.g. integrated assessment of human fragility based on social and economic vulnerability indices and including a response factor that accounts for warning time and ability to evacuate for each specific hazard

Flood alert scheme / community response plan in Northland (ongoing)

In order to be prepared for flood events a local community response plan has been developed for Kaitaia. GNS and NIWA have supported this process through a community preparedness survey. A second follow up survey is due fairly soon to find out if the plan and the recent floods in 2007 have had any influence on the awareness and preparedness of the public.

E.g. community surveys on preparedness, perception and response

Coastal Adaptation to Climate Change (ongoing)

The overall aim of this project is to create the necessary information and tools to enable adaptation by central and local government and communities to the impacts of climate-induced change on the coastal environment. A key outcome of this research will be more informed proactive communities and councils developing local adaptation strategies to climate change and the inclusion of these strategies in regional and community coastal planning documents. The proposed research will determine the decision-making processes that maximise the adaptation response of coastal New Zealanders to climate change.

E.g. develop a range of indicators to evaluate and monitor the uptake and performance of adaptation strategies

Development of a generic framework for coastal vulnerability assessment at multiple spatial and temporal scales (proposed)

This international project aims to combine the most modern techniques in interdisciplinary risk research (remote sensing, GIS-based assessments, economic and social modelling) to develop an integrated, generic framework for coastal vulnerability assessment that includes a cross-scale approach, which generates lasting impacts on risk management and disaster resilience.

E.g. Developing a cross-scale vulnerability indicator framework; identifying Indicators for social, economic and ecological vulnerability and resilience; testing the applicability of remote sensing as a tool in risk and vulnerability assessment

Talking About Disaster: Guide for Standard Messages (ongoing)

The lack of a national consistent guide how to prepare for a disaster and respond to an emergency event prompted the Ministry of Civil Defence & Emergency Management to develop a guide for standard messages. GNS and NIWA with input from all key players have developed a first draft which is designed to assist those who provide disaster safety information to the general public. Its target audience includes emergency managers, meteorologists, teachers, disaster (natural and human caused) educators, public affairs / public relations personnel, mitigation specialists, media personnel, and communicators. The New Zealand Talking About Disasters: Guide for Standard Messages is envisaged as a 'living document' presented in the format that will allow for continuous improvements, as experience and practice require.

Reducing impacts of climate change on the urban and built environment / infrastructure (ongoing)

This project aims to help central and local government to identify opportunities and reduce impacts of climate change on urban and built environment through development of a science based risk assessment process and identification of adaptation options. The project combines scientific engineering, planning, (socio-) economic and technical expertise to strengthen the capability of local and central government to build resilience to the expected impacts of climate change. This work involves close collaboration with our partner councils to ensure we focus strongly on end-user needs and practical solutions.

2. What issues or gaps in knowledge have emerged which need to be addressed by future SSDR?

Some of the gaps have been known for a while but haven't been addressed properly. We have identified the following topics as key areas for future SSR:

- a. Awareness ≠ preparedness, there is a general misconception about the term awareness; our research has clearly shown that awareness not necessarily results in better preparedness. Is it simply not enough to provide hazard maps.

- b. Only minority prepared, great faith in existing defence measures; strengthening of defence always first priority; the general public is not aware of their self-responsibility
- c. Little support from authorities during recovery period, focus on disaster relief
- d. The only way to change people's behavior and get them prepared is to interact with locals and authorities.

3. What actions has your organization taken to close the SSDR-practice gap – including strategic, communication, funding and research actions.

Most of the identified gaps refer to a paradigm shift, away from a reactive approach towards resilience / preparedness, which can only be addressed through long-term activities and require respective commitment for local and central governments.

4. What practical steps will or could your organization take in 2009 to strengthen future SSDR-practice collaboration?

All ongoing and proposed projects have a strong practical focus and rely on close collaboration with end-users. However, there seems to be a lack of projects/ initiatives that engage with the public.

Auckland Region CDEM Group Community Resilience Programme

Progress since Dec 2007:

1. What social science disaster research (SSDR) have you initiated / funded / undertaken / drawn upon?

Commissioned by the Auckland Region Civil Defence and Emergency Management Group, research built on earlier work that:

- Focused 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 is now focusing on measures of organisational resilience. This is being achieved by working collaboratively with the Resilient Organisations Research Programme at the University of Canterbury. A pilot project, developed as part of a PhD study, is currently being validated and a web-based self-questionnaire on organisational resilience will be conducted with Auckland businesses in the first quarter of 2009.

2. What issues or gaps in knowledge have emerged which need to be addressed by future SSDR?

During Exercise Ruamoko a focus group, independently recruited by a research firm, met three times during the exercise. They were provided with current information about the volcanic activity and the information being provided by Civil Defence. Each group had a mix of gender, ethnicity, age, income spread and location relative to the eruption site.

Focus group findings include:

- A lack of understanding of the Auckland Volcanic Field and its associated risks;
- An understanding of disasters anchored in a sudden impact/ earthquake event;
- An intention to evacuate at a time and direction contrary to the Auckland CDEM evacuation plan; and
- A lack of confidence in viewed Civil Defence leaders and their messages.

Emergency Management practitioners look to SSDR for information on appropriate public information messages and processes that enable the Auckland community to better understand the hazards and risks they face and the appropriate responses to hazardous events.

3. What actions has your organization taken to close the SSDR-practice gap – including strategic, communication, funding and research actions?

- a. The Auckland Region CDEM Group has aligned its resilience and public education work streams because earlier work (based on Douglas Paton's model) identified that 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 and how much of a difference this can make, it will increase their family's chances of recovering.
- b. We continue to work with MCDEM with their whole of government (national and local) approach to building community resilience and to identify practical examples of how SSDR has been applied in practice.
- c. As part of looking to how grass roots community movements can contribute to building community resilience, we have begun to identify and understand how the Transition Town movement could be used to develop community resilience. From an Eco Show workshop on Transition Towns held in October 2007 there are now 50 towns and suburbs across the country currently involved in Transition connecting people in their communities.
- d. Each transition group networks with their local community on a coordinated range of projects designed to transition from high energy to low energy lifestyles in a positive and creative manner. Many are being encouraged and supported by their Local Authority.
- e. Transition groups believe they can positively affect their environment and are open to working with their civil defence group in their community to promote self sufficiency in a civil defence

emergency. They offer emergency management practitioners an effective public education conduit to their communities.

4. What **practical steps will or could your organization take in 2009** to strengthen future SSDR-practice collaboration?

- a. A second generation Civil Defence Group Plan for the period 2010 – 2015 will be prepared during the 2009 – 10 year. The Plan preparation process will identify critical issues where the current knowledge is inadequate to commit to a 5 year programme of work. This process will establish a clear direction for where we are headed.
 - b. We will look to strengthen our collaboration with SSDR practitioners to both use current and commission new research to increase our understanding in these critical areas.
 - c. We are raising the profile of the work of the CDEM Group in the area of resilience with other departments within the councils in the Auckland region by establishing a workshop for people from the community development teams to share knowledge and experience.
 - d. We continue to work closely with the Auckland Engineering Lifelines Group and Volcanic Impact Study Group to support the DEtermining VOLcanic Risk in Auckland (DEVORA) research programme on the Auckland Volcanic Field.
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