



**Enabling Older People with Tools for Resilient
Communities: The *Flood Experience Tool***

**Bev James , Public Policy & Research
and
Kay Saville-Smith, CRESA**

August 2014

ACKNOWLEDGEMENTS

This work was undertaken as a component of the Ministry of Business, Innovation and Employment public good science funded research programme *Community Resilience and Good Ageing: Doing Better in Bad Times*.

In developing the Flood Experience Tool, we thank the Lancaster University Hull floods researchers for the opportunity to draw on their Flood Snakes and Ladders training resource. In particular, we thank Rebecca Whittle for her constructive comments on an earlier version of the Flood Experience Tool.

The Flood Experience Tool is based on the real stories of older people who have experienced floods in Tasman, Nelson and Marlborough. We are most grateful for their contributions to the development of this tool. We would also like to thank and acknowledge the feedback of over 100 people and the many organisations who helped test the tool.

CRESA, its contributors, employees and Directors make every effort to ensure the accuracy of content and validity of interpretation of its reports. Much of the data used to compile these reports and contributing to our interpretation is supplied by others. We shall not be liable for any loss or damage sustained by any person using this report whatever the cause of such loss or damage.

CONTENTS

1	INTRODUCTION	1
2	OVERVIEW OF THE <i>FLOOD EXPERIENCE TOOL</i>	1
2.1	The Toolkit	3
2.2	How the Tool Works	3
3	WHY WAS THE <i>FLOOD EXPERIENCE TOOL</i> DEVELOPED?	4
4	THE EVIDENCE BASE FOR THE <i>FLOOD EXPERIENCE TOOL</i>	6
4.1	Interviews and Focus Groups	6
4.2	Councils' Emergency Based Management and Positive Ageing Documents	8
4.3	How the Findings Informed the Tool Development	9
5	TESTING THE TOOL	9
5.1	The Tool Testers	10
5.2	The Test Process	10
5.3	Overall Response to the Tool	11
5.4	Suggested Improvements	12
5.5	Concerns	13
6	LEARNINGS	13
6.1	Adding To, Reflecting On, and Triangulating Research Findings	14
6.2	Involving Key Groups in Tool Development	15
6.3	How the Tool Can Be Used	17
7	SUMMARY AND CONCLUSIONS	17
	REFERENCES	20

FIGURES

Figure 6.1	Proposed Test Participants	16
------------	----------------------------	----

1. INTRODUCTION

It has become axiomatic that understanding communities and the people that live in them is critical to planning for adverse natural events and promoting resilient households and communities. Research is critical to understanding, but researchers have often found it difficult to transform research findings into practical tools that can be used by individuals, households, communities and agencies to address the vulnerabilities that make it more difficult for people and their communities to reduce the impacts of and recover from adverse natural events. Equally, the agencies and businesses that serve communities in good times as well as the organisations charged with disaster planning, preparedness and recovery have repeatedly struggled to respond to the needs of diverse communities. They have also struggled to harness the skills and resources of communities, particularly those of older people.

This is an international experience¹ but a very local challenge. In New Zealand, the hazards planning, policy and response sector has suggested that it is the development and use of research-grounded, practical tools that are key to addressing the tendency for communities only to pay attention to hazards when they directly experience an event or face a tangible threat. It is the development of practical, research-informed tools that can be used within and by communities that also allow planners and agencies to better understand the social dimensions of hazards, social vulnerabilities and build community resilience.²

If tools are to be effective and meet those functions, they must be able to bring very different people, agencies and communities together and provide ways in which they can better understand and respond, not only to adverse natural events while they are happening, but also in the long recovery period. This requires a much more iterative, engaged and collaborative approach to research, to tool development and, indeed, to building community resilience.

This paper describes the development of the *Flood Experience Tool*, an interactive planning tool focused on the flood experiences of older residents in New Zealand and designed to be used by the myriad of people, organisations and agencies that are concerned with the wellbeing of their communities in good times and bad.

2. OVERVIEW OF THE *FLOOD EXPERIENCE TOOL*

The *Flood Experience Tool* is interactive, taking participants through a range of real flood experiences of older people living independently in the community and the issues they face. It shows the impacts of flood events and the supports needed for recovery, which can last for an extended period over months or even years.

¹ Greenberg, 2014.

² Glavovic, Saunders and Becker 2010.

The tool is targeted to organisations that have, or potentially have, important roles in helping communities recover from adverse natural events. Some of those organisations have established civil defence or emergency management responsibilities, but others with no specific emergency response role often find themselves at the forefront of responses and recovery.³ Organisations that can use the tool include government agencies, emergency services, community organisations, services for older people, councils, housing providers, insurers, utilities providers and building and construction.

The tool asks participants to take on the persona of older people whose flood experiences are expressed through an interactive journey. Participants must make decisions - the outcomes can be positive or negative - and they are exposed to the chaotic processes and responses to which older people in real flood situations found themselves exposed. Participants are, consequently, actively drawn into the flood experiences of older people living independently in the community and the stresses and barriers faced during and, more particularly, after the event. The tool expresses what older people themselves said about the impacts of flood events as well as the supports older people identified as important to their recovery within their recovering communities. Those periods of recovery can last for an extended period over months or even years.

By using this tool and being exposed to the experiences of older people and their voices, the *Flood Experience Tool* provides an opportunity to reflect on current processes and practices. It can help organisations and communities identify ways that policy, planning and operational responses and recovery can align themselves more effectively with older people's needs. It highlights the secondary impacts caused by poor organisational responses which too often emerge after adverse natural events. Where people encounter poor treatment from the organisations that are supposed to help with response and recovery, that experience often emerges as more stressful than the event itself.⁴ This tool helps organisations look ahead and plan for the 'what-if' scenarios.

The *Flood Experience* uses a simple game format. In the early testing phase it was initially referred to as a game, but this is no longer the case. It is a tool. The game format is not intended to imply that experiencing a flood is a game, or to belittle the physical, financial and emotional impacts that people affected by floods face. During the sessions for testing the tool, there was considerable discomfort with the term 'game' because it is seen as making light of a serious topic. One person wrote in their feedback: "Losing one's home is not a 'game'. Please find another name". It was from testers' suggestions for alternative names that the *Flood Experience Tool* got its name.

³ For example, Age Concern Canterbury after the Canterbury earthquakes in 2010 and 2011.

⁴ Whittle et al, 2010.

2.1 The Toolkit

The tool consists of several components that are easily downloaded from the research website www.resilience.goodhomes.nz

There are three PowerPoint files:

- The Flood Experience PowerPoint file.
- Flood Experience Introductory Slide PowerPoint file
- Flood Experience Squares to print out. These squares are laid on the floor or a large table.

The tool is accompanied by the Facilitator's Guidelines, which explains the things the facilitator needs to know to use the tool successfully. The Guidelines provide information on how to plan and run a session and operate the PowerPoints. The Guidelines also include suggestions for worksheets and topics to facilitate discussion afterwards. Also contained in the Guidelines is a list of civil defence and emergency planning resources.

2.2 How the Tool Works

Generally the tool is used with 3-4 teams so as to involve everyone as much as possible in the exercise.

Thirty Flood Experience Squares are laid out in a snake pattern. Each team/participant throws a dice and goes backwards or forwards on the squares, depending on the number they throw. The aim is to reach the end (square 30).

To start the exercise, the first team throws the dice and moves onto the appropriate square. There are two types of squares. Some simply are numbered, e.g. 1, 2, 8, 15, etc. When a participant lands on a numbered square, the Flood Experience PowerPoint is operated to show the appropriate quote for that square.

While over half of the squares are numbered, there are also "action squares" – the ones with themes on and a sequence of numbers. When a team lands on an action square, they must choose a number. These choices may move the team forwards or backwards. The action squares reveal a range of scenarios about what happens during and after a flood including:

- Immediate response.
- Where to live now?
- The clean-up.
- Repairs.
- Getting back to normal?
- Insurance.
- Utilities and infrastructure.
- Help and support.
- Re-build?
- A year (or more) later.

During the exercise, participants encounter different scenarios based on real stories from interviews with older residents. The scenarios cover being without water, power or access to their properties. There are examples of being evacuated, while other quotes recount the months of living in temporary accommodation. There are stories about dealing with clean-up and repairs, the help they received and gave and how they coped with the long-term impacts of the floods.

The Guidelines suggest that after the exercise is completed, the facilitator leads a group discussion on the impacts of floods (or other adverse natural events) on older people, what their own organisation can learn from the exercise, and how those learnings could be applied to emergency planning, response and recovery in their own community.

3. WHY WAS THE *FLOOD EXPERIENCE TOOL* DEVELOPED?

The *Flood Experience Tool* has been developed within the public good funded research programme *Community Resilience and Good Ageing: Doing Better in Bad Times*.⁵ The tool was not initially an expected output for that programme. However, data collected in the first year of research, combined with the experience of international colleagues, showed a need for a tool that would:

- Enable older people dealing with their own and their communities' recovery; and
- Prompt community organisations, businesses and agencies as well as emergency services to be more responsive to older people's recovery and the recovery of their communities and reduce secondary impacts.

The two-year research programme *Community Resilience and Good Ageing: Doing Better in Bad Times* focused on the ability of older people to age well, even when challenged by adverse natural events. The research responds to two fundamental features of New Zealand society: structural ageing and frequent exposure to natural hazard events. New Zealand's ageing population means that community resilience depends on older people's resilience. Like many other developed countries,⁶ New Zealand's older population is growing. In the 2013 census, 14.3% of the population was aged 65 years and older, up from 12.3% in 2006. The median age is now 38 years. Some regions have a particularly high proportion of older residents; three areas focused on in this research have the highest proportions of population aged 65 years and over: Marlborough (20.5 %), Tasman (17.9%) and Nelson (17.5%).⁷

⁵ <http://resilience.goodhomes.co.nz/>

⁶ Most European nations, Great Britain, Australia, Canada, Japan and the United States of America have ageing populations.

⁷ <http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/qstats-about-national-highlights-mr.aspx>

New Zealand is highly exposed to storms, floods, bushfires, land erosion and coastal surges as well as earthquakes and volcanic eruptions.⁸ Flooding is the ‘number 1’ hazard in New Zealand in terms of frequency,⁹ and prior to the 2010 and 2011 Canterbury earthquakes, the most costly. The incidence of severe weather is likely to increase and heighten the vulnerability of areas already prone to flooding, and damage may be amplified by changing land use. Expectations are that flooding and other extreme weather events will increase, because of significant climate changes.¹⁰ New Zealand’s dispersed, exposed settlement pattern across the country with attenuated transport, energy, social and health infrastructures makes response difficult and service restoration can take weeks rather than days.

With insured costs of over NZ\$174 million, the year 2013 was one of the most expensive years for weather-related insurance costs since records began in 1968.¹¹ By 2050, 1 million of NZ’s 1.35 million older people will live in ‘at risk’ settlements.¹² New Zealand settlements concentrate in risk areas and the sun-belt areas where older people show a pre-disposition to retire. Coasts, where a high and increasing percentage of population and infrastructure are concentrated (including many retirement villages), are particularly vulnerable to hazards such as storm surges.

Older people can be particularly vulnerable to adverse natural events. They are in New Zealand¹³, as in many other places in the world,¹⁴ over-represented in vulnerable places. They are also vulnerable physiologically.¹⁵ Adverse natural events can tip older people from living independently into higher dependency.¹⁶ Consequently, the aims of *Community Resilience and Good Ageing: Doing Better in Bad Times* research was to provide evidence and tools to older people themselves, agencies and communities that would help to:

- Reduce the risk of older people taking up costly, high dependency care or being displaced from their communities as a result of adverse events;
- Realise the potential of older people to actively support community responses and restoration during and subsequent to adverse events; and
- Retain the social and economic contribution older people make to communities when they age in place and experience positive ageing despite adverse events.

⁸ McKercher and Pearson, 2001; Ministry for the Environment, 2008; Walton, et al 2004.

⁹ McSaveney, 2011; McKerchar and Pearson 2001.

¹⁰ Office of the Chief Science Advisor, 2013.

¹¹ Insurance Council of New Zealand, 2014.

¹² Wright et al 2011; Smart and McKerchar 2010; Walton et al 2004.

¹³ James and Saville-Smith, 2014a.

¹⁴ See for example, Greenberg 2014.

¹⁵ Gray-Graves et al 2010; Fernandez et al 2002.

¹⁶ Cornell et al 2012; Whittle 2010; Greenberg 2014; Saville-Smith and Fraser 2013.

The extensive research in which older people were actively engaged provided the evidence base for the tool's components. The initial structure and shape of the tool was informed by the Flood Snakes and Ladders training resource developed by researchers at Lancaster University.¹⁷ That resource was based on the experiences of people affected by the Hull floods of 2007 and the aftermath. The Hull tool uses a simple game format – based on Snakes and Ladders – where participants throw a dice and go backwards or forwards on squares, depending on the number they throw. The snakes and ladders format simulates the unpredictable nature and 'ups and downs' of the recovery experience. While this New Zealand tool has been informed by the Hull model, it has been developed somewhat differently. It is based on evidence from our research conducted in Tasman, Nelson and Marlborough with people aged 60 and over who have directly experienced a flood.

Nevertheless, the assistance of the Lancaster University researchers has been invaluable and reflects the participatory model developed in research on the effects of the 2007 Hull Floods. Instead of relying on academic reports and presentations to convey the real impacts of floods, researchers developed Flood Snakes and Ladders as a dynamic training tool to help agencies gain a much greater insight into the impacts of flooding as seen through residents' eyes, and how agency roles and responsibilities could profoundly influence the path of residents' recovery.¹⁸

4. THE EVIDENCE BASE FOR THE FLOOD EXPERIENCE TOOL

Community Resilience and Good Ageing: Doing Better in Bad Times has employed multiple methods including surveys of older people experiencing an adverse natural event, hazard risk mapping, dwelling resilience research, case studies with older people in Tasman, Nelson and Marlborough districts affected by flooding, and analysis of councils' emergency management documents and positive ageing documents. The tool's evidence base draws on two particular components of the research programme. The first is qualitative in-depth interviews and focus groups with older people about their experiences of floods. The second is analysis of the extent to which councils' emergency management documents and positive ageing documents provide an integrated approach to supporting older people in adverse natural events.

4.1 Interviews and Focus Groups

In-depth interviews were conducted with people aged 60 and older directly affected by floods in Tasman, Nelson and Marlborough districts. In all, 23 interviews were carried out with 28 people (including five couples). In addition, 11 focus groups were conducted with older people, some who had been directly affected by floods, and others who were living in areas vulnerable to flooding or other extreme weather events.

¹⁷ See http://www.lancaster.ac.uk/lec/sites/cswm/Hull%20Floods%20Project/HFP_%20FSL.php

¹⁸ http://www.lancaster.ac.uk/lec/sites/cswm/Hull%20Floods%20Project/HFP_%20FSL.php

The interviews and focus groups explored the issues, needs and problems older people face in floods and extreme weather events, and how those could be better addressed through emergency planning and managing response and recovery processes.¹⁹ Participants identified a number of issues that may be better planned for and managed. These are outlined below in relation to preparation, immediate response and recovery.

Preparation

- Participants identified a lack of information about emergency preparation tailored to older people's needs. For example: preparation tips specifically for older, frail or disabled residents, and information about what to do for pets.
- Channels for providing information to older people need careful consideration – not everyone has access to the internet and that must be addressed in communications planning.
- Insurance is a fundamental aspect of individual, household and community resilience. Sometimes older people need information and help with determining their insurance requirements, especially with the new 'sum insured' system.
- Participants wanted better recognition and use of older residents' capabilities, skills and knowledge in emergency planning.

Immediate response

- Some older people are anxious about being left to cope alone and feel there is a lack of immediate emergency response. Agencies may need to consider how to best respond to and address these concerns.
- A special focus is needed on the most vulnerable older people. Those with chronic health conditions or disabilities are likely to be the most vulnerable and to need additional help. Their ability to deal with things and make decisions could be diminished. Those with disabilities may need special attention if evacuation is required, both in the manner of evacuation and provision of emergency shelter or temporary accommodation.
- Older people and many others in the community asked: How are isolated older residents to be reached and supported, especially those who do not have family close by, or who are not linked in to social networks?
- Relocation can be particularly distressing for older people. It may not only disrupt existing social supports, but also incur additional financial stresses. What is needed to manage relocation well for older residents?
- How can residents' access into and out of flood-affected areas where roads and infrastructure are damaged be appropriately and sensitively managed and disruption minimised?

¹⁹ James and Saville-Smith, 2014b.

Recovery

- Older people spoke of agencies' lack of understanding of their feelings of loss, because of damage to their home, section and gardens. Some also spoke of the loss of enjoyment of their natural environment, because of flood impacts. They considered there is a need for organisations to show greater sensitivity and empathy in their dealings with residents.
- A challenge for organisations is to have the appropriate personnel with the right skills (including people skills) to work with those affected by adverse natural events.
- Are organisations coordinated in their provision of advice and information to residents? Participants gave examples of receiving contradictory messages from different organisations. Organisations may need to think about which organisations they should link up with, get information from, and refer older people to.
- When is the best time to provide help? What is the most effective help and support? Timeliness and appropriateness of help are particularly important for older people who have limited time, and perhaps limited capacity because of their age, to deal with set-backs.
- Participants reported stress and health impacts, which can last a considerable time. They identified a need for more information and support for older people to manage emotional and psychological impacts.
- An adverse natural event can result in additional financial burdens, particularly distressing for older people on low and fixed incomes. What assistance is available to manage financial stresses? How can organisations help older people experiencing financial stresses?
- Examples were given of a lack of timely information during recovery about what is happening with infrastructure repairs and flood works. What information can be given about infrastructure repairs?

4.2 Councils' Emergency Management and Positive Ageing Documents

Councils are key place-based agencies with responsibility for local communities and the populations that live in them. Their planning for positive ageing, and the extent to which positive ageing and older people are recognised in emergency planning are important elements of community resilience.

Fifty-two civil defence and emergency management (CDEM) plans and documents, and 34 positive ageing documents were located and analysed. The extent of coordination and integration between councils' emergency management documents and positive ageing documents was analysed.²⁰ That analysis considered two questions:

²⁰ James and Saville-Smith, 2014a.

- To what extent are older people’s specific needs and circumstances integrated with natural hazards policies, preparation and planning in communities?
- To what extent are older people engaged in planning for resilience in the face of adverse natural events?

That analysis suggests that older people’s specific needs and circumstances are not well integrated with CDEM policies, preparation and planning. If there is any focus on older people at all, it tends to be concentrated only on aged-care residential facilities, yet the very large majority of the older population live independently in their own homes in the community.

There is also a tendency to focus on older people as a homogeneous group that is, simply because of age, expected to be vulnerable in adverse natural events, rather than contributors to community resilience. There was little evidence that older people are routinely involved in planning for emergency events and resilient communities. Very few of the documents considered the potential for using older people’s skills, local knowledge of hazards and vulnerable areas, possible previous experience of adverse natural events, and coping mechanisms through life experience that give them some resilience.

4.3 How the Findings Informed the Tool Development

The tool was developed as a response to the near invisibility of older people in CDEM documents and the diverse and attenuated recovery experiences of older people. Their stories, gathered from interviews and focus groups, form the basis of the tool. Both negative and positive recollections have been included. Through an interactive approach, the tool aims to link real flood experiences with learning for policy, planning and practice.

5. TESTING THE TOOL

There were several objectives for the tool testing. These were to:

- Consider the range of potential users of the tool.
- Test the usefulness of the tool for potential users.
- Identify various ways that the tool could be used.
- Check the relevance and the accuracy of the scenarios presented in the tool.
- Explore the potential for applying the tool to different types of adverse natural event planning and response.

Prior to testing, a prototype tool was developed. This was based on the evidence from the research and used the format of the Hull Flood Snakes and Ladders model. This initial step included several internal tests with members of the research team. The next step was to test the prototype tool with a much wider group.

5.1 The Tool Testers

Recruiting tool testers was done through a mix of targeted and general invitations. Lists of organisations were compiled to target older people's service providers, emergency management organisations, councils and community organisations. Those organisations were then contacted and invited to a test session. Other channels used to recruit testers included the research programme's national reference group and older people's forums in Nelson, Tasman and Marlborough.²¹

The prototype was tested in 10 sessions with over 100 people in Marlborough, Nelson, Tasman, Wellington and Christchurch. Those areas included the case study areas (Marlborough, Nelson, Tasman). Wellington was chosen as some service provider interviews and older people's focus groups were held there. Government agencies, councils and peak bodies were targeted for inclusion in test sessions. Christchurch was included for two reasons. First, some interviews with older people's service providers had been conducted in Christchurch to learn from their experiences of the Canterbury earthquakes. Second, a test session was seen as an opportunity to receive feedback and expert knowledge about preparation, response and recovery that Christchurch people and organisations have built up over the last few years in response to earthquakes. The session provided comparative feedback on whether the tool could be used in planning for different types of adverse events.

Organisations that were involved in testing the prototype tool included the Ministry of Health, Ministry of Social Development, Commission for Financial Literacy and Retirement Income, NZ Council of Christian Social Services, Age Concern, Red Cross, St John, Citizens Advice, Grey Power, insurers, home support services, community organisations, church-based services for older people, health services, housing services, older people's organisations, councils and neighbourhood support groups. Comments were also sought from selected organisations with an interest in emergency management including the Insurance Council, EQC and council emergency response personnel.

5.2 The Test Process

In the test sessions, the background of the tool's development and the way the tool works were explained. Testers then tried out the tool. Tests ranged from 30 minutes to almost an hour in some sessions, depending on how immersed teams got in the exercise.

After the test ended, 5-10 minutes was allocated for each team to talk among themselves about what happened in their role as an older person and write down their reactions. Then the whole group compared experiences and reflected on what the recovery process was like for the different teams. This was also the time for participants to discuss what their own organisation could learn, and application to their own community.

²¹ These forums consist of a wide range of local providers of services for older people.

Finally, the participants gave feedback on the tool itself. Information was sought on the tool's content and format, its usefulness and relevance, and how it could be applied by organisations.

5.3 Overall Response to the Tool

The overall response was that the tool is a useful way of raising awareness and increasing understanding of the difficulties residents face in a flood and its aftermath, and particularly the potential barriers to recovery experienced by older people.

Many testers considered that the interactive format is a good way of engaging people and initiating discussion about emergency planning and response. Many of the real-life examples in the tool resonated with those testing it. They could see the potential for using the tool to develop and apply ideas in their own organisations. Comments from testers included:

“Use it as part of community response plans, a great tool, it generates a lot of conversation”.

“Use it to develop a preparedness plan – use as a business planning tool to think what you need to do to avoid poor decisions if there's a disaster”.

“Useful in that it can alert us to the road blocks that affect people ... The tool would help to design processes to have in place before a disaster”.

“Organisations could relate to other people's experiences, have more empathy and take that into account when deciding what to do”.

“A thought provoking piece of learning and potentially a very powerful tool”.

Some older people who had directly experienced flooding tested the tool. They were positive about targeting the tool to organisations. They considered the tool was relevant and accurate in reflecting their experience:

“Glad lessons are being recorded and exposed to others”.

“Any information on this is valuable to be spread about. Good for awareness raising”.

“A lot of the comments were very apt”.

While most of the test sessions solely focused on giving feedback to improve the prototype tool, a few sessions went further as participants wanted to use the exercise for awareness raising or training. One older person's organisation used the test to reflect on and generate suggestions about how to improve older people's household preparedness. Prompted by the interest among test session participants, the following month the organisation invited the local emergency services officer to speak to its members about emergency preparedness. In a second example, a community service provider invited the researcher to run a training session for them, using the tool. They used the session to reflect on how their organisation would respond to older people

seeking information from them after an adverse natural event. A third example was a neighbourhood support group, which used the test session as a catalyst for moving forward with their local civil defence plan.

5.4 Suggested Improvements

A number of improvements to the prototype were made, based on suggestions from the test sessions. During the test period some minor changes were made in response to suggestions that were easily implemented, but the tool was essentially the same one used throughout the period.

Most changes were made after the tests were completed. Some changes were simply done. For example, some of the scenarios presented on the squares were ambiguous, and were revised so that they were more clearly understood. It was also made clear in the Facilitator's Guidelines that the tool includes many different stories, and they are not run sequentially. Also, participants do not get to see all the stories that are contained in the tool.

There were suggestions about adding more quotes to illustrate a wider range of experiences. Two areas in particular were added on the advice of participants: experiences of frail or disabled older people; and the emotional and psychological impacts of floods experienced by older residents.

Several testers wanted the tool to include information and suggestions about what organisations can do. We decided against this, because the purpose of the tool is for each organisation to develop solutions in response to its own role and involvement with older residents in its own community. The tool raises issues and provides discussion questions to help organisations think about their own part in preparation, response and recovery, and about the solutions they can implement. The Facilitator's Guidelines was expanded to include a list of resources for emergency preparation and planning that organisations can use.

Some testers also wanted the tool to include information on what individuals can do to increase their personal preparedness for emergencies. However, the tool is not targeted to individuals – its focus is on improving organisational responses. A considerable amount of information and advice about individual and household preparedness is already available, and this is referred to in the list of resources for emergency preparation and planning contained in the Facilitator's Guidelines. Some organisations that use the tool may wish to add their own preparedness resources and identify how they can improve the effectiveness of information dissemination about emergency preparedness to older residents in their own communities.

5.5 Concerns

Two areas of concern were expressed about the tool:

- A belief that the tool is not suitable to be used by and with older people.
- The tool seems too negative.

Most testers clearly understood that the main target audience for the tool is organisations. However, a few (under 65s) thought that the tool was aimed at preparing older people for emergencies, and that this was inappropriate because it would make them anxious and set up a (false) expectation that they can easily prepare for a disaster. This view was clearly at odds with the views expressed by older people who were involved in testing and using the tool; some of those had experienced floods, or were involved in organisations that could be expected to take on a response or recovery role in an adverse natural event. Those older participants were very clear about how they wanted to use the tool in their own communities; for example to improve organisational responses of service providers, help local civil defence networks improve their responsiveness to older residents, or for assisting older householders to prepare.

In response to those concerns, the Facilitator's Guidelines explain the purpose and audiences for the tools. It also notes that some people using the tool will have experienced a flood, both personally and in their organisational role. Those running a session with the tool need to be aware that the tool might trigger personal and emotional responses and plan for how to manage that sensitively.

With regard to the negative aspects of the tool, many testers felt that the scenarios were very realistic in that they conveyed the damaging impacts of floods and the frustrations and stresses experienced. The Facilitator's Guidelines explains that overall, there are about the same number of squares that depict scenarios with negative aspects, as there are squares that show positive aspects. It also explains that in the research, while some reported very negative experiences, others reported that although they encountered problems and setbacks, some positive things also happened to them, such as gaining new skills and confidence, a service being particularly responsive, helping others, or being helped by neighbours and family.

6. LEARNINGS

Three main learnings emerged from testing the tool. These were concerned with:

- Adding to, reflecting on and triangulating research findings.
- A method for involving users and older people in tool development.
- How the tool can be used.

6.1 Adding To, Reflecting On, and Triangulating Research Findings

Tool testing not only tested the tool. It was also an opportunity to reflect on the research findings and develop further insights about flood experiences and flood recovery with a variety of audiences. In this way, the tests provided sources of different information to check the findings, a form of triangulation.²² The organisations and individuals involved in the tool testing provided their own knowledge and experiences to comment on the research findings that were used in compiling the stories in the tool.

The stories generated a lot of comments about the issues facing flood-affected older people. Some of the older people who had directly experienced floods and those who had worked with older flood-affected residents commented on the relevance and accuracy of many of the scenarios depicted.

The scenarios that most resonated with testers were about:

- Older people expecting to get immediate help from emergency management agencies and feeling abandoned.
- Personnel lacking the right people skills for dealing with residents.
- Whether help being offered by organisations was timely and delivered what was needed.
- Older people's concerns about the safety of their pets and their lack of knowledge about their responsibilities towards pets in an emergency.
- The inability of some older people to manage and organise clean-up and repairs, and their reluctance to ask for help.
- Problems residents had in accessing their properties and the stress this generated for them.
- The range of positive and negative experiences with insurers and EQC, and the particular stresses older people can experience in dealing with insurers.
- The importance of older people being given information and support that enables them to get prepared, have confidence that they can help themselves, and make their own decisions and take control themselves (if they are able to).
- The importance of neighbours and communities helping one another.
- The resilience, capability and life experience of older people.

Some testers noted that, while the purpose of the tool is to improve responses for older people affected by adverse natural events, some of the older people's stories are similar to those of younger age groups caught up in floods. They referred to some quotes which did not 'seem' to portray a 'typical' older person or an expected vulnerable experience. When asked for their views, most of the testers considered that it is a strength of the tool to show some experiences and reactions that could apply across different ages, particularly where older people are shown as active and resilient.

²² Patton 1987.

However, testers also pointed out that some older people have particular needs and vulnerabilities, because of their age, frailty, health or household circumstances. The specific vulnerabilities that they identified included:

- Older residents having limited time, financial and other resources, to deal with setbacks.
- Older people experiencing distress associated with having to leave their home, even for a short time, as well as permanent relocation.
- The importance of advising older people to have a store of their medication.
- The invisibility of some older people living alone, without family nearby or who are not linked into local services or networks.
- Age-related frailty or disability that makes it very challenging to do physical work or manage the myriad aspects of recovery.
- On-going health, emotional and psychological impacts of being traumatised, which may be very debilitating for older residents.

6.2 Involving Key Groups in Tool Development

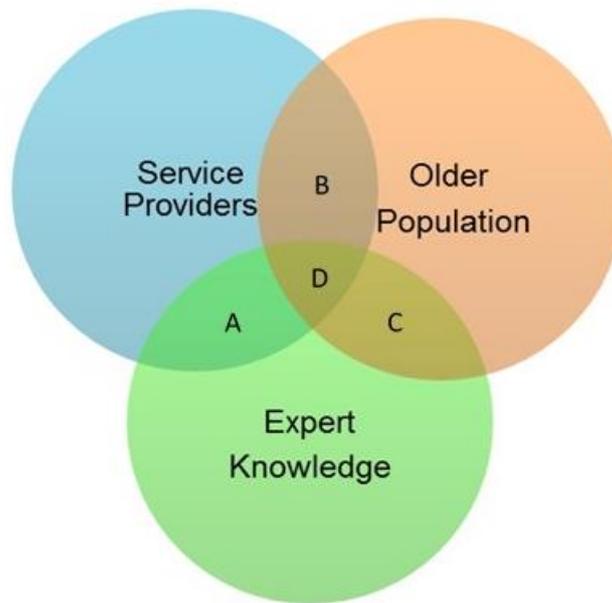
The tool development fitted well with the participatory nature of the research and the transformational science approaches which embrace co-production. These also provided the basis for subsequent testing. The tool's potential users were identified. They covered a range of organisations with existing or potential roles in preparation, planning, response and recovery from an adverse natural event. These organisations include government agencies, emergency services, community organisations, local neighbourhood groups of older people, services for older people, councils, housing providers, and insurers. It was also very important to involve older people in testing as that group was the focus of the research and they could comment on the relevance and accuracy of the scenarios in the tool.

We wanted to ensure the tests included:

- Providers of services that may be involved in responding to older people and helping them recover from an adverse natural event.
- People with practitioner or technical knowledge and expertise, such as:
 - Provision of older people's services
 - Emergency management
 - Vulnerabilities of the older population in adverse natural events.
- Older people themselves who bring their lived experience, knowledge of adverse natural events and what would help older people to recover well.

Figure 6.1 below depicts the three broad groupings that the tests aimed to include.

Figure 6.1: Proposed Test Participants



Reviewing the organisations and individuals that participated in the tests, most of the organisations were both service providers and had some type of expert knowledge ('A' in the above diagram). This confirmed that the potential users of the tool were involved in the tests.

While a mix of ages was involved in the tests, it was expected that most would be under 65 years, because of the organisations targeted. However, due to the focus and membership of some of the organisations which deliver services or provide support or advocacy for older people, and the active involvement of older people particularly in a volunteer capacity in community organisations, a number of participants identified themselves as being in the 65+ age group. Two organisations that were not service providers but consisted of older people participated, as did a number of older individuals who did not represent any organisation (these fitted into the 'older population' circle in the above diagram). At least one older individual offered both lived experience of floods and expert knowledge ('C'). Four older individuals offered expert knowledge and were involved in service provision of some sort, as either paid workers or volunteers ('D'). Over 20 older people brought to the tests their experiences as older people, as well as involvement in a service provider (B).

There were also a few organisations and individuals that were not service providers, but had relevant expert knowledge (the 'expert knowledge' circle).

6.3 How the Tool Can Be Used

The tool testing resulted in greater understanding and clarification about the variety of potential users of the tool and ways that it could be used, including:

- Training for organisations with roles in response and recovery to help staff understand the stress that a flood causes people. Examples given included call centre workers, counsellors, councils, EQC, insurers and businesses supplying products or services for flood-affected residents.
- To assist local civil defence and neighbourhood support groups to develop emergency management plans for their areas.
- A business planning tool for organisations with older clients, customers or tenants.
- As a team building exercise for community organisations working with older people to develop greater understanding and awareness of older people's needs and vulnerabilities in an adverse natural event.

While the tool focuses on floods, some testers suggested that the tool could be applied to understanding and planning for other adverse natural events too:

The impact of a disaster is the same, no matter what the type of event it is, the messages are the same, the need for community responses, using community networks etc is the same, so the tool is applicable to other types of events.

While we have used the flood scenario, think about how these experiences and impacts could be applied to other events.

7. SUMMARY AND CONCLUSIONS

The Flood Experience Tool was developed using research on the experiences of older people affected by floods to help agencies involved in disaster planning, response and recovery to more effectively address the needs and vulnerabilities of older residents. The tool highlights the need to address the 'secondary impacts' caused by poor organisational responses.

The tool supports the concept of older people's active involvement in building their own and their community's resilience. It provides a way for organisations to consider involving older residents more in planning for emergency events and resilient communities. Our research has shown that older people's specific needs and circumstances are not well integrated with emergency management policies, preparation and planning. Moreover, older people's skills and local knowledge could be better recognised and used in emergency preparation and planning.

Qualitative research underpinning the tool development identified a range of issues, needs and problems older people face in floods. These formed the basis of the scenarios presented in the tool and touched on such issues as:

- Older householders' anxieties about coping with the immediate impacts of the event, as well as clean-up and repairs.
- Older people with chronic health conditions or disabilities, who are isolated, or lacking in support needing additional help.
- Difficulties with the intricacies of insurance processes.
- Problems and stresses associated with having to spend extended periods out of the home, or having to be relocated.
- Difficulties residents have in accessing flood-affected areas and properties where roads and infrastructure are damaged.
- Agencies' lack of empathy and understanding of older residents' feelings of loss, because of damage to their home, section or garden.
- A need for personnel to have the appropriate skills (including people skills) to work with older residents affected by adverse natural events.
- A lack of organisational coordination in the provision of advice and information to residents.
- A need for organisations to ensure that help is timely and appropriate.
- A need for more information and support for older people to manage emotional and psychological impacts.
- Older people needing help to manage financial stresses.
- Provision of timely information to residents about infrastructure repairs and flood works.

Tool testing was an opportunity to reflect on these research findings and develop further insights about flood experiences and flood recovery with a variety of audiences. Participants in test sessions generally supported the research findings.

Test sessions provided an opportunity to refine a participatory method of tool development that involves potential users and older people sharing their experiences and knowledge to improve the usefulness and applicability of the tool. The key groups involved covered:

- Providers of services that may be involved in responding to older people and helping them recover from an adverse natural event.
- People with practitioner or technical knowledge and expertise, such as:
 - Provision of older people's services
 - Emergency management
 - Vulnerabilities of the older population in adverse natural events.
- Older people themselves who bring their lived experience, knowledge of adverse natural events and what would help older people to recover well.

Finally, the tool testing extended the original assumptions about how the tool could be used. With its dynamic, interactive approach, the tool can be used to raise organisational awareness about older people's specific vulnerabilities and needs. The tool can help organisations develop emergency management plans that are more responsive to older residents and encourage organisations to involve older residents much more in

planning. Organisations with older clients, tenants or customers could use the tool to improve their business continuity planning. Testers also commented that the tool could be used to examine and improve organisational responses for all ages, and it could be applied to different types of adverse natural event.

REFERENCES

- Cornell, V. Cusack, L and P. Arbon, 2012, 'Older people and disaster preparedness: a literature review' *Australian Journal of Emergency Management* 27(3) July 2012.
- Fernandez, L., Byard, D., Lin, C., Benson, S., and J. Barbera, 2002, 'Frail Elderly as Disaster Victims: Emergency Management Strategies' *Prehospital Disaster Medicine* 17.
- Glavovic, B., Saunders, W., and J. Becker, 2010, 'Realising the potential of land-use planning to reduce hazard risks in New Zealand'. *Australasian Journal of Disaster and Trauma Studies*.
- Gray-Graves, A., Whisnant Turner, K., and J. Swan, 2010, 'Sustainability of Seniors: Disaster Risk Reduction Management' *Journal of Aging in Emerging Economies* 2(2).
- Greenberg, M., 2014, *Protecting Seniors Against Environmental Disasters. From Hazards and Vulnerability to Prevention and Resilience* Routledge, London and New York.
- Insurance Council of New Zealand, 2014, '2013 second most expensive year on record for insured weather damage' [<http://icnz.org.nz/2013-second-most-expensive-year-on-record-for-insured-weather-damage/#more-4673>]
- James, B. and K. Saville-Smith, 2014a, *Council Planning and Policies: Positive Ageing and Planning for Adverse Natural Events*, Centre for Research, Evaluation and Social Assessment, Wellington.
[<http://resilience.goodhomes.co.nz/resources/downloads/PositiveAgeing%20and%20Emergency%20Planning%20Councils%20Final.pdf>]
- James, B., and K. Saville-Smith, 2014b, "*We had our retirement all worked out, and then ...*" *Learnings from Older People's Flood Experiences*. Centre for Research, Evaluation and Social Assessment, Wellington.
- Lancaster University, 2011, *Flood Snakes and Ladders Facilitator's Notes* Lancaster University, SECR and Cabinet Office.
- McKercher, A., and C. Pearson, 2001, *Factors Causing Flooding to be New Zealand's Number One Hazard*, NIWA, Wellington.
- McSaveney, E., 2011, *Floods Te Ara – the Encyclopedia of New Zealand*, updated 24 Sept 2011 <http://www.TeAra.govt.nz/en/floods>
- Ministry for the Environment, 2008, *Meeting the Challenge of Future Flooding in New Zealand*, Ministry for the Environment, Wellington.
- Office of the Chief Science Advisor, 2013, *New Zealand's Changing Climate and Oceans: the impact of human activity and implications for the future* Office of the Prime Minister's Science Advisory Committee, Auckland.
- Patton, M., 1987, *How to Use Qualitative Methods in Evaluation*, Sage Publications, California.

- Saville-Smith, K., and R. Fraser, 2013, *Older People's Experience of Adverse Natural Events: Preliminary Findings from the National Surveys Centre for Research, Evaluation and Social Assessment*, Wellington
[<http://resilience.goodhomes.co.nz/resources/downloads/final%20draft%20preliminary%20report%2028%20jan%202014.pdf>]
- Smart, G.M. and A. McKerchar, 2010, 'More flood disasters in New Zealand' *Journal of Hydrology (NZ)* 49(2): 69-78.
- Walton, M., Kelman, I., Johnston, D., and G. Leonard, 2004, *Economic impacts on New Zealand of climate change-related extreme events: Focus on freshwater floods*, NZIER, Wellington.
- Whittle R. *et al.* 2010, *After the Rain – learning the lessons from flood recovery in Hull*, final project report for Flood, Vulnerability and Urban Resilience: a real-time study of local recovery following the floods of June 2007 in Hull. Lancaster University, Lancaster UK.
- Wright, K., Reese, S., Matcham, I., and M. Daly, 2011, 'To Build or Not to Build; that is the Question... Using the RiskScape Model to Support land use planning for natural hazards' *Winds of Change, Wellington, NZPI Conference 2011*, Wellington NZ.