

The Toyota Foundation Research Grant Program 2015  
D15-R-0590 “The role of volunteers in long-term disaster recovery: facilitating co-production for resilient communities”

Project Representative: Deborah Blackman  
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### **Executive Summary**

While risks of natural disasters are continuing to increase, community disaster resilience and preparedness have never been more important. Despite increasing awareness of the importance of designing long-term disaster recovery initiatives, many interventions are not as effective as were anticipated. This research project aimed to investigate the potential of the volunteering community in facilitating and managing co-production with government services to improve long-term disaster recovery. A case study of Christchurch, New Zealand, where earthquakes in 2010 and 2011 seriously affected the local community and damaged infrastructure, provided the empirically contents for the research. The project had three specific objectives:

Objective 1: To determine the potential for co-production to improve long-term disaster recovery. Our premise was that the effective use of co-production could increase citizen support for new policy initiatives if they are involved with their planning.

Objective 2: To examine the potential of the volunteering community for effective co-production of recovery.

Objective 3: To investigate post-disaster social capital development and its role in co-production and long-term recovery.

The project commenced with a literature review to identify gaps in the area of disaster recovery research. We found little empirical research that focused on the facilitation of effective co-production and the role of key community actors. Also, whereas it is well recognized that social capital plays an important role in co-production the type of social capital that matters most for this process was not sufficiently investigated in the literature. We proceeded on the assumption that bridging social capital was the most critical form of social capital for long-term recovery because it enables the sharing of knowledge across weakly-knit communities and fosters social interactions, thereby enabling the creation of innovative interventions. This approach helped identify sites for fieldwork and design questions for stakeholder interviews.

In February 2017, the team conducted a first round of fieldwork and stakeholder interviews. Fieldwork involved visits to re-construction sites in the CBD and in the ‘Red Zone’ where pre-disaster communities had been torn apart and social capital lost. The 45 participants were representatives from community groups, the national recovery agency, local councils, business and immigrant communities and volunteer groups (including: City Council, Regenerate Christchurch, Canterbury District Health Board, Christchurch Heritage Limited, Canterbury Employers’ Chamber of Commerce, Gap Filler, Volunteer Army, Farmy Army).

Analysis of the interview data using the NVIVO qualitative analysis package revealed structural themes in sustainable community development within the context of long-term

recovery. Interviews revealed several challenges that may have hindered post-disaster community resilience: 1) lack of communication between government and local community; 2) lack of leadership; 3) a demotivated and disenfranchised local community; 4) a tokenistic approach by the local government; 5) no clear framework (coordination) among diverse groups; and 6) a lack of trust between central government, local government and community members. These findings suggest that co-production, bridging social capital and linking social capital were conspicuously absent in the recovery process and, therefore, contributed little to improving long-term recovery. In Christchurch, communities appeared poorly linked to the government and were not able to draw on it in their time of need.

Nevertheless, several long-term recovery storylines emerged from interviews, which highlighted the potential and importance of community co-production leveraged by bridging social capital. For instance, planning discussions about the redevelopment of the 'Red Zone' could be facilitated through a cross-community workshop which might lead to better long-term outcomes.

In December 2017, a community workshop was held in Christchurch, with 13 participants from a range of social and community organisations (YWCA Christchurch, Social Equity & Wellbeing Network (SEWN), Sustainable Otautahi Christchurch (SOC), Volunteering Canterbury, Wainoni/Avonside Community Services Trust, Christchurch Multicultural Council). The findings from the previous round of interviews were presented and discussed. In particular, workshop moderators steered the discussion towards two themes: a) dealing with challenges and community volunteering and b) the role of volunteering organisations in long-term recovery. Drawing from the workshop's key contributions, the project team further analysed the interview data to refine and update the findings. The key outcomes from this workshop were: (a) a need to clarify what is really meant by the terms 'voluntary' and 'volunteer', especially as they become a core part of the longer-term recovery process and (b) a recognition of the different support systems needed for longer term recovery and that there is a different set of skills required to lead at this stage.

A workshop to discuss project findings was organised in April 2018 in Canberra, Australia involving eight academics and practitioners from Australia and New Zealand. At the workshop, we discussed:

- a) Community within a complex system: who are the actors and who are the co-producing agents? and
- b) Social capital: is it bridging but not bonding, how do volunteer organisations contribute, and a future research agenda.

Workshop sessions were shared through social media. Suggestions for future research into long-term recovery were made with respect to various fields of research: social capital, community, context, disaster policy/planning/governance, health and well-being, leadership, system, definition of long-term recovery and co-production. The team will work to further refine the research topic for future projects. The project was completed as scheduled and the team is working on the dissemination of outcomes. Through this research project, the team has established a good working relationship with researchers at University of Canterbury, the local university in Christchurch.

As of the completion time of the project (30 April 2018), the team has published one conference paper (presented at the SBE16, International High-Performance Built Environments Conference, 17-18 November, 2016, Sydney, Australia)<sup>1</sup> and one journal paper<sup>2</sup>. The team is currently working on the publication of a special issue in an international leading journal focusing on long-term disaster recovery, heterogeneities of co-production and social capital.

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<sup>1</sup> Kim, C, Nakanishi, H, Blackman, D, Freyens, B and Benson, A 2016 “The effect of social capital on community co-production: Towards community-oriented development in post-disaster recovery”, International High- Performance Built Environment Conference – A Sustainable Built Environment Conference 2016 Series (SBE16), iHBE 2016, Sydney, Australia, November 17-18, 2016.

<sup>2</sup> Blackman, D, Nakanishi, H and Benson, A 2017 “Disaster resilience as a complex problem: why linearity is not applicable for long-term recovery”, *Technological Forecasting & Social Change*, vol.121, pp.89-98.

## Full Report

### 1. Introduction

While risks of natural disasters are continuing to increase, community disaster resilience and preparedness have never been more important. Despite increasing awareness of the importance of designing long-term disaster recovery initiatives, many interventions are not as effective as were anticipated.

This research project aimed to investigate the potential of the volunteering community in facilitating and managing co-production with government services to improve long-term disaster recovery. A case study of Christchurch, New Zealand, where earthquakes in 2010 and 2011 seriously affected the local community and damaged infrastructure, provided the empirically contents for the research. The project had three specific objectives:

Objective 1: To determine the potential for co-production to improve long-term disaster recovery. Our premise was that the effective use of co-production could increase citizen support for new policy initiatives if they are involved with their planning.

Objective 2: To examine the potential of the volunteering community for effective co-production of recovery.

Objective 3: To investigate post-disaster social capital development and its role in co-production and long-term recovery.

The research team consisted of Professor Deborah Blackman (University of New South Wales, Canberra, Australia, Public Sector Management), Dr Angela Benson (University of Brighton, UK, Volunteering), Dr Hitomi Nakanishi (University of Canberra, Australia, Urban Planning) and Dr Ben Freyens (University of Canberra, Australia, Economics). This multi-disciplinary team brought a range of disciplinary knowledge and methodological skills and extant working relationships that enabled the sound delivery of the project. We had a casual assistant, Mr Chris Kim who is a PhD candidate studying the relationship between co-production and long-term recovery in the context of urban planning.

### 2. Project Timeline

The project started in May 2016 and completed by the end of April 2018. The timeline is shown in the Table 1.

Table 1. Project timeline

(Yr./Mth.)	Schedule
2016/5	Phase 1: Refine theoretical understanding of co-production
6	Phase 1: Refine theoretical understanding of co-production
7	Phase 1: Refine theoretical understanding of co-production
8	Phase 1: Interview and survey design
9	Phase 1: Interview and survey design
10	Phase 1: Interview and survey design

11	Phase 2: Interview (online)
12	Phase 2: Interview (online)
2017/1	Phase 2: Interview (online)
2	Phase 2: Fieldwork and interview (face-to-face)
3	Phase 3: Data analysis
4	Phase 3: Data analysis
5	Phase 3: Data analysis
6	Phase 3: Data analysis
7	Phase 4: Refine the findings
8	Phase 4: Refine the findings
9	Phase 4: Refine the findings
10	Phase 4: Preparation for the workshop in Christchurch
11	Phase 5: Preparation for the workshop in Christchurch
12	Phase 5: Further discussion with volunteers (workshop)
2018/1	Phase 5: Further data analysis
2	Phase 5: Further data analysis
3	Phase 5: Further data analysis
4	Phase 5: Dissemination of project outcomes, workshop in Canberra

### 3. Literature Review

#### 3.1 Method

The literature review aimed to capture and specify any conjoined understanding of concepts in long-term disaster recovery, volunteering and co-production in existing literature. A systematic review of key themes in the relevant literature has been conducted. Using Summon™, a search engine of scholarly articles, the team conducted the search of academic peer-reviewed journal articles, books, and conference proceedings. Key words used for the search were: “co-production”, “bonding social capital”, “bridging social capital”, “community”, “volunteering organizations”, and “disaster recovery.” In total, 128 peer-reviewed journal articles were found as relevant articles for review. The abstracts of these publications were reviewed, to determine whether they discussed the six key themes sufficiently and extensively. Following this preselection process, 32 articles were found to conceptualize community

disaster resilience as an overarching idea incorporating social capital and other themes including volunteering organizations and co-production. Only five studies implicitly explored such aspects as synergy and cooperative action, thereby providing a potential conceptual association between bridging social capital and co-production. To account for any conceptual discussions of co-production and social capital, another Summon™ search was conducted on “coproduction”, “social capital”, “synergy” and “community” yielding 190 papers, 33 of which were found to be suitable.

### 3.2 Findings of the Literature Review

The review of these articles demonstrated the need to clarify the concept of co-production strictly applicable to the context of disaster recovery. We identified key attributes of co-production that are conceptually associated with bridging social capital, which is regarded as a key input into long-term recovery. In the literature: co-production is often reinforced by the extent to which community members are voluntarily and reciprocally interactive across community boundaries and how, as a result, they produce a synergistic outcome contributing to regenerating their community. Therefore, the practice of community co-production depends on the reinforcement of inter-group social interaction. However, we found little empirical research that focused on the facilitation of effective co-production and the role of key community actors. Also, whereas it is well recognized that social capital plays an important role in co-production the type of social capital that matters most for this process was not sufficiently investigated in the literature. We proceeded on the assumption that bridging social capital was the most critical form of social capital for long-term recovery because it enables the sharing of knowledge across weakly-knit communities and fosters social interactions, thereby enabling the creation of innovative interventions. This approach helped identify sites for fieldwork and design questions for stakeholder interviews.

The literature review also enabled the team to define terms used in the project. The Table 2 below summarises the definition of each term.

Table 2. Definition of terms

Term	Definition
Bridging Social Capital	A type of social capital which community members can utilize to derive own benefits and group benefits. Bridging capital is accumulated within a local community by frequent, heterogeneous and horizontal interaction among various actors, including non-community actors.
Bonding Social Capital	A type of primitive social capital which community members can utilize to derive own and group benefits. Bonding capital is accumulated by frequent, homogeneous and horizontal social interaction among individuals of a single group ('the community').
Community Disaster Resilience	Capacity of the community to adapt to environmental changes after disasters and to recover faster and better from acute natural or economic shocks.
Community-oriented disaster recovery	Disaster recovery driven by community-based initiatives. This requires community's active involvement in recovery after they experience shocks of disasters, involving decision making process, monitoring, and inherently sharing responsibility as well as ownership of the recovery process.

Community co-production	Collaborative action of various actors in order to achieve a synergistic effect on a common objective, where potential benefits are distributed to the entire community
Sense of Community	Individual's psychological sense of interpersonal connection to her/his community group. The sense of community promotes members to engage voluntarily in activities likely to create cohesion and cooperation so as to achieve their common goal

In considering long-term disaster recovery, we suggest that there is a transition phase between short-term relief and rehabilitation and long-term recovery (Figure 1). Social capital and co-production are supposed to play a critical role in facilitating the transition effectively.

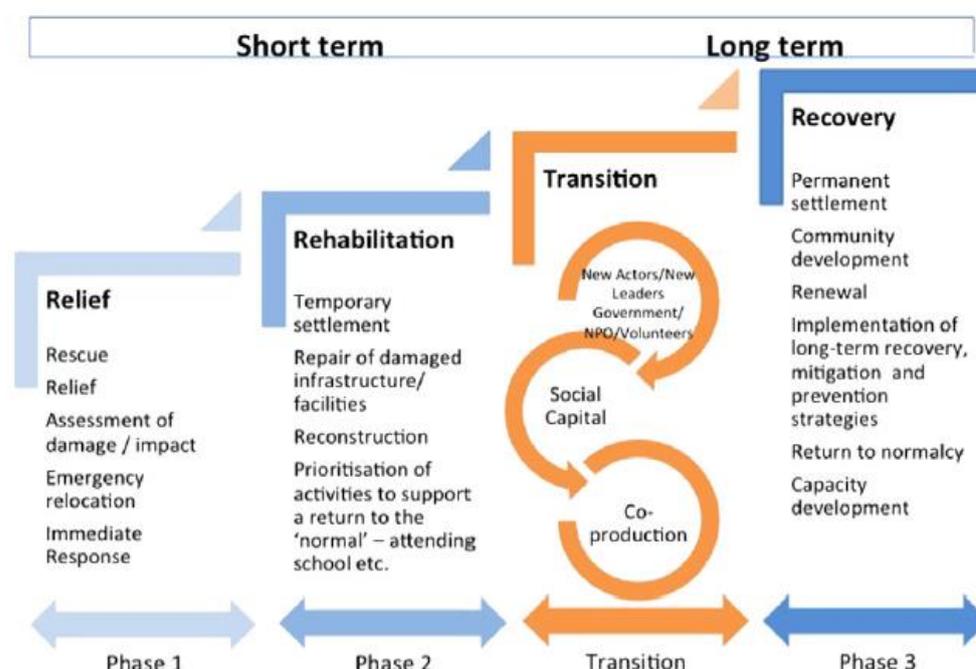


Figure 1. Transition from short – to long- term recovery and important elements

#### 4. Fieldwork and Stakeholder Interview

Fieldwork and stakeholder interview in Christchurch, New Zealand were conducted in February 2017. The fieldwork and interviews were initially scheduled in November 2016. However, the Kaikoura earthquake happened in the week that the team was planning to travel to Christchurch. For safety reasons, the team postponed the travel to February - March 2017. The team rearranged the interviews - some were conducted using Skype in November and December 2016 instead of face-to-face.

##### 4.1 Fieldwork

The team visited seriously affected areas including the CBD, Lyttleton and the Red Zone A community group leader guided us to the Red Zone area and explained how residents relocated to other areas and answered our questions on community social capital and relationship between residents post-disaster. The team had ample evidence that the CBD had

just started to be redeveloped. Damaged buildings had finally been demolished after 5+ years of inaction and the development of new buildings and repair of roads was still ongoing. In Lyttleton, the reinforced buildings had remained as is and we did not see remarkable change. Photos are attached below. Based on the discussion with residents and stakeholders, we understand that the recovery (especially the demolition of collapsed buildings in the CBD) is perceived as proceeding very slowly and makes residents anxious about the future of the city. This affected the trust to authorities responsible for the recovery.



Photo 1. High Street, Christchurch City

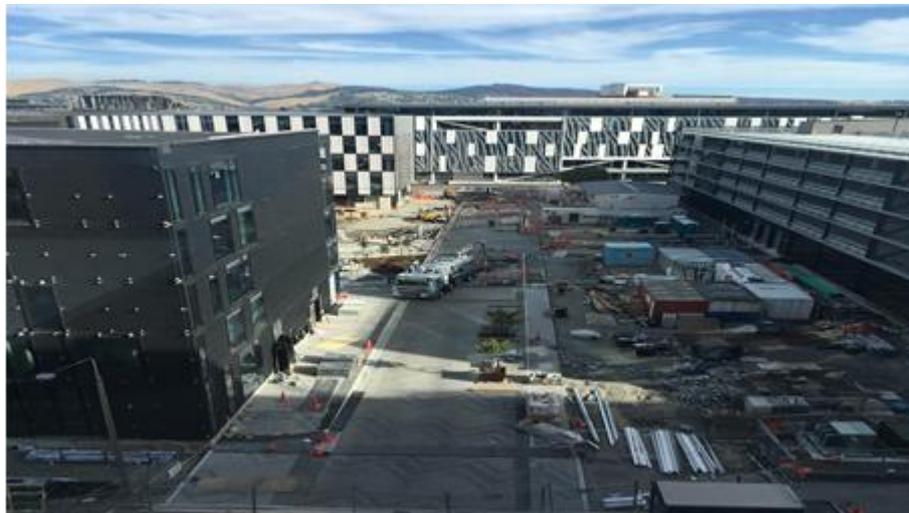


Photo 2. Hereford Street, view from Christchurch City Council



Photo 3. Canterbury Street, Lyttelton, Christchurch



Photo 4. Red Zone, Christchurch

#### 4.2 Stakeholder interview

In total, 45 people participated in the stakeholder interviews. Participants represented community groups, the national recovery agency, local councils, business and immigrant communities and volunteer groups (including: City Council, Regenerate Christchurch, Canterbury District Health Board, Christchurch Heritage Limited, Canterbury Employers' Chamber of Commerce, Gap Filler, Volunteer Army, Farmy Army). Interview participants' organisation and interview dates can be found in Appendix A.

Interviews asked participants about the current state of recovery, recent recovery activities that the interviewee(s) had been involved in or had observed as a community member of Christchurch, his/her role in the recovery process (or related activities) from the 2010 and

2011 earthquakes, what had been success and hindrance factors to the current state of disaster recovery and what factors led to successful collaborations across and between organizations/individuals when developing recovery plans and development. Finally, we also asked participants their views on pre-existing networks and long-term recovery (a record of the questions is available in Appendix B).

All interviews were recorded and transcribed for analysis.

## 5. Data Analysis

The analysis of transcribed interview data was organised by using NVivo, a qualitative data analysis package. The analysis revealed structural themes in sustainable community development within the context of long-term recovery. revealed several challenges that may have hindered post-disaster community resilience: 1) lack of communication between government and local community; 2) lack of leadership; 3) a demotivated and disenfranchised local community; 4) a tokenistic approach by the local government; 5) no clear framework (coordination) among diverse groups; and 6) a lack of trust between central government, local government and community members. These findings suggest that co-production and bridging social capital were conspicuously absent in the recovery process and, therefore, contributed little to improving long-term recovery. Nevertheless, several long-term recovery storylines emerged from interviews, which highlighted the potential and importance of community co-production leveraged by bridging social capital. For instance, planning discussions about the redevelopment of the 'Red Zone' could be facilitated through a cross-community workshop which might lead to better long-term outcomes.

## 6. Community workshop (Christchurch, December 2018)

To share the initial finding with the community and volunteering society in Christchurch, we held a workshop in December 2017. Thirteen participants attended, representing a range of social and community organisations (YWCA Christchurch, Social Equity & Wellbeing Network (SEWN), Sustainable Otautahi Christchurch (SOC), Volunteering Canterbury, Wainoni/Avonside Community Services Trust, Christchurch Multicultural Council) (see Appendix C). The findings from the previous round of interviews were presented and discussed (see Appendix D for presentation). In particular, workshop moderators steered the discussion towards two themes: a) dealing with challenges and community volunteering and b) the role of volunteering organisations in long-term recovery. The photos of the workshop are attached below.



Photo 5. Workshop in Christchurch (December, 2017)

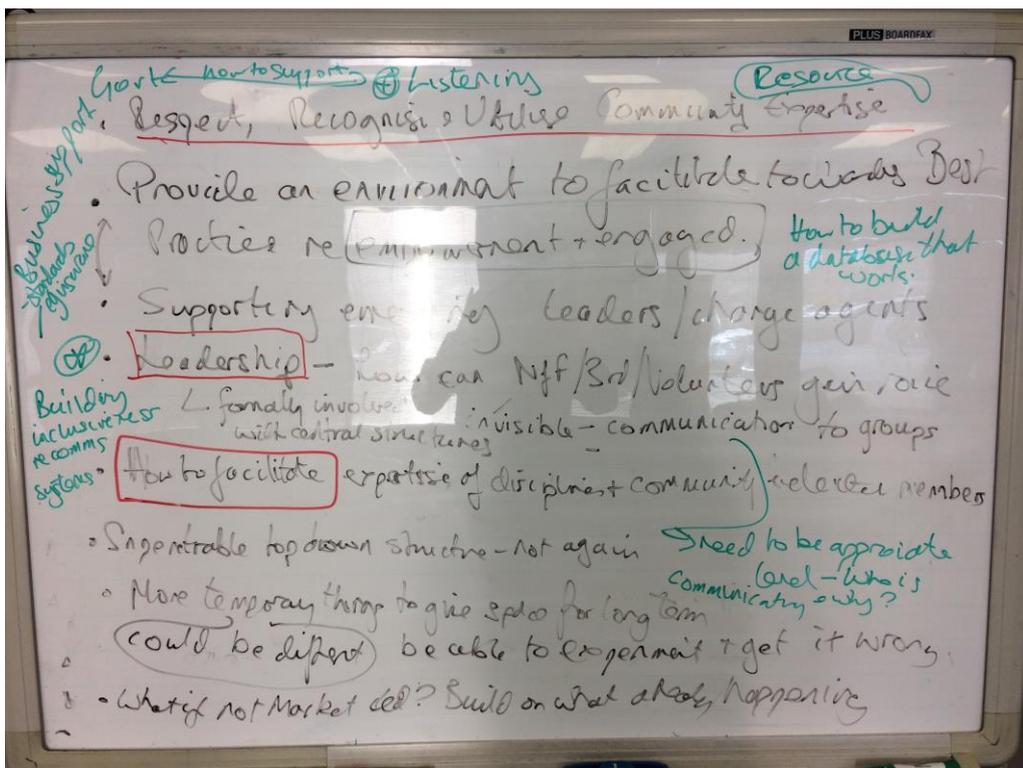


Photo 6. Discussion board at the workshop in Christchurch (December, 2017)

7. Workshop on project findings (Canberra, April 2018)

The team further analysed the interview data to refine and updated the findings. We found that bridging social capital plays a critical role in promoting co-production which is a key element of long-term recovery. Stakeholders need to be involved at early stages of the recovery process so that organic/positive social interaction can be supported. The role of volunteer

groups is critical in supporting this process, through community events, informal meeting at café/pop-up sites and sharing ideas and views on the recovery process. It is clear that planning for co-production during long-term recovery needs to be happening during the rehabilitation phase rather than waiting until longer-term transition occurs.

A workshop to discuss these findings was held in April 2018 in Canberra, Australia. Eight academics and practitioners from Australia and New Zealand, including the Community Co-ordinator, Wainoni/Avonside Community Services Trust, Christchurch attended the workshop (see Appendix E for the agenda). At the workshop, we discussed:

- a) Community within a complex system: who are the actors and who are the co-producing agents? And;
- b) Social capital: is it bridging but not bonding, how do volunteer organisations contribute, and a future research agenda.

The participants shared challenges, gap in research in the context of long-term recovery and co-production. The research agenda was shared by sticky-notes and further discussed.

A photo of the workshop is attached below.

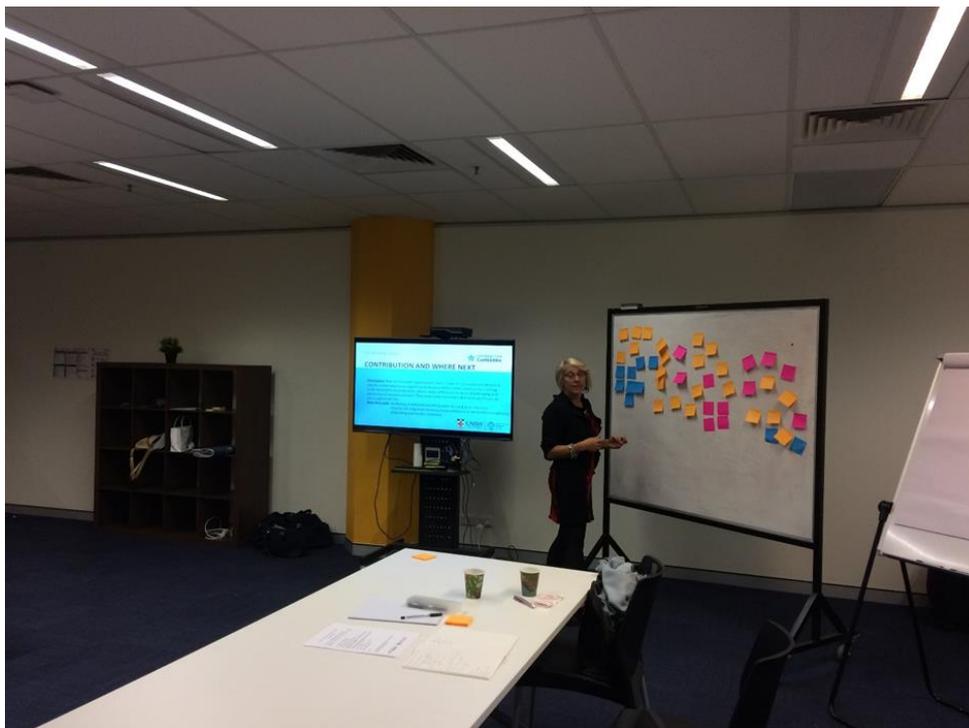


Photo 7. Presenting the next research agenda – workshop in Canberra (April, 2018)

## 8. Suggestions for future research

As an outcome of the workshop in Canberra, a future research agenda was discussed. Suggestions for future research into long-term recovery were made with respect to various fields of research which are listed below.

### **Social Capital**

- How do different levels of social capital interact to make communities stronger (community, firm, individual)
- What is the trajectory of bridging social capital development during recovery?
- How do communities transition from bonding to bridging social capital or from bridging to bonding social capital?
- Are there different types of bridging social capital?

### **Community**

- People movement – how this affects community engagement and social capital?
- Are pre-disaster resilient communities better able to care and recover? If so what are the previous ‘capitals’, not only social capital but financial capital etc.?
- From an evolutionary perspective, how does business or the community adapt to changes (variation)?
- What are the roles of inner capabilities and resources (stock) in achieving resilience?
- What does long-term recovery readiness look like?
- The importance of entrepreneurial resilience and the role of bottom-up individuals/volunteer groups in the design and implementation of top down plans
- What are the differences between community co-production and collective co-production?
- How does a sense of place contribute to the recovery process?
- What are the bottlenecks in resources such as people, skills, or equipment.
- The need to train professionally-qualified people for disaster recovery planning / assistance

### **Context**

- How to do a proper cross-case/context analysis to learn about long-term recovery/resilience in different situations?
- The role of context in long-term recovery planning
- To what extent does the nature of the disaster and the community context influence recovery?

### **Disaster Policy/Planning/Governance**

- How can we focus on the emotional aspects of resilience in disaster policy and planning?
- The roles of the disaster response model, of economic inclusion, of safety/security considerations
- What would a governance ‘ideal’ look like and why?

- Do we need to challenge / revisit conventional recovery models and find how these models can be updated?
- Examining theories and real experiences of recovery strategies and gaps between these.
- Funding – how to assess the effectiveness and efficiency of disaster funding from a short- vs. long- term perspective?
- What kind of governance structure/framework do we need to promote long-term recovery?
- What are the roles of individuals and timing of actions in disaster recovery life cycle?
- What is considered to be governments' duty and what is the community's role?
- We need to integrate sustainability considerations into any disaster recovery framework
- What role does resilience play in the recovery process?
- Who are the actors in the recovery process and what are their roles?
- Who are the winners and who are the losers in planning and governing recovery process?
- What outcomes are valued by different actors and under which principles are conflicts between actors managed?
- What models of governance are more effective in the recovery process?
- What can we learn from other disasters?

### **Health and Well-being**

- Multi-disciplinary study of health and well-being underpinning an over-arching clinical/neuroscience framework
- the need to integrate services across the health-care continuum
- the multiple effects of investment in health and well-being through post-traumatic community programs
- Prevention versus treatment in long-term well-being recovery systems
- Investigating the connection between physical recovery and mental recovery
- Focusing on vulnerable people – the elderly, the mentally ill, the disabled and children
- How can we manage the assistance/claims system to better support people at the outset

### **Leadership**

- The role of leadership in galvanising the community in difficult times
- How do we identify key leaders in community long-term recovery/resilience? (or encourage their emergence?)

- How does leadership emerge and evolve at different stages of the recovery process and in different contexts

### **System**

- How can we assess the effectiveness and efficiency of a disaster management system where stakeholders' success is measured through competitive funding allocation?

- How can we map the system elements in the context of long-term recovery to develop a coherent long-term recovery system map

### **Definition**

- How to define long-term recovery or resilience; is it recovery to a previous status or a transformation to a new status based on opportunities in the process of recovery?

### **Co-production**

- How to encourage stakeholder collaboration for 'real' co-production of recovery?

- The role of trust and facilitators in overcoming barriers to recovery

- Who are the co-producers and what roles do they play in the recovery process?

The team will work further to refine these research topics in future projects.

## **9. Conclusion**

The project was completed as scheduled and the team is working on the dissemination of outcomes. This project enabled the team to establish a sound relationship with stakeholders in Christchurch. Also we build a collaborative research relationship with the University of Canterbury, the local university in Christchurch and the University of Queensland where there is a team focusing on long-term disaster recovery. The team is currently working on the publication of a special issue in an international leading journal focusing on long-term disaster recovery, heterogeneities of co-production and social capital. We are also planning to do a comparative study with the cases of Japan and Queensland, Australia.

As of the completion time of the project (30 April 2018), the team has published one conference paper (presented at the SBE16, International High-Performance Built Environments Conference, 17-18 November, 2016, Sydney, Australia) and one journal paper (published in *Technological Forecasting & Social Change*, vol. 121, pp. 89-98. 2017).

## Appendix

### Appendix A Interview participants' organisation and interview dates

Interviewee's Group	Interviewee's Organization	Date of Interview
Academics	<i>ANZSOG (former)</i>	14/11/2016
Citizens	<i>CanCERN (Canterbury Communities Earthquake Recovery Network)</i>	16/11/2016
	<i>Greening The Red Zone</i>	22/11/2016
	<i>CanCERN (Canterbury Communities Earthquake Recovery Network)</i>	1/12/2016
		27/2/2017
	<i>Breakthrough Services (former CanCERN)</i>	12/11/2016
		1/3/2017
	<i>OVTRK (One Voice – Te Reo Kotahi)</i>	24/11/2016
		24/11/2016
		4/3/2017
	<i>Gap Filler</i>	1/12/2016
	<i>Student Army/WeVisit</i>	28/2/2017
	<i>Earthquake Response &amp; Recovery (Te Rūnanga o Ngāi Tahu)</i>	10/3/2017
	<i>Renew Brighton</i>	9/3/2017
	<i>GapFiller</i>	2/3/2017
<i>Farmy Army</i>	6/3/2017	
<i>Committee for Canterbury</i>	7/3/2017	
Government: Recovery Agency (Central Government Initiative)	<i>RegenerateChristchurch</i>	22/11/2016
		8/3/2017
	<i>University &amp; Recovery Agency</i>	25/11/2016
		2/3/2017
Government: Local Government	<i>City Council (Councillor, Waimairi Ward)</i>	23/11/2016
		27/2/2017
	<i>City Council (Former Councillor)</i>	24/11/2016
	<i>City Council (Councillor, Burwood Ward)</i>	25/11/2016
		6/3/2017
	<i>City Council (Asset Policy Engineer)</i>	10/3/2017
	<i>City Council (Councillor, Costal Ward)</i>	1/3/2017
	<i>Christchurch Multicultural Council (President)</i>	29/11/2016
<i>City Council (Councillor, Linwood Ward)</i>	6/3/2017	

	<i>Christchurch City Council/ Mt Herbert Community Board (Lyttelton) (Community Officer)</i>	9/3/2017
	<i>Canterbury District Health Board</i>	6/3/2017
	<i>Canterbury District Health Board/ Christchurch Heritage Limited</i>	2/3/2017

## Appendix B Interview Questions

Part1: To gain an understanding of their perspective in terms of timings, state of readiness etc.

1. Can you describe the current state of recovery in Christchurch as you see it?

Part2: To gain an overview of their experience to date

2. Can you tell me about recent recovery activities you have been involved in or you have observed as a community member of Christchurch?

3. (If the interviewee has been involved in) What has been your role in the recovery process or related activities from earthquake in 2010 and 2011 particularly?

Part3. To gain some thoughts about the process before leading into more specific aspects

4. In your view, what has helped the most of the current state of disaster recovery? What has hindered the most?

Part4. To lead into a more specific question (Social capital)

5. Reflecting on your experience in recovery activities, can you describe which organizations you worked with and what your experiences have been in terms of developing effective outcomes?

6. In your view, what are the factors that lead to successful working across and between organizations/individuals when developing recovery plans and development?

6.1. Are there key enabling or undermining factors?

6.2. People suggest that the pre-existing networks are key elements of success. What would be your views on that?

Part5. To consider their views on what happened and also to then learn what they think should happen – should raise issues about co-production

7. Can you explain how all different organizations, including local community groups, have been involved in the recovery process? Do you think this has been done effectively?

8. People often say that collaboration can make the whole community greater than the sum of the parts. Like two plus two become more than five. What would be your thoughts on that, reflecting the current disaster recovery?

Part6. To gain an understanding of their sense of community

9. Can you tell me how you feel about Christchurch now? Do you feel more connected to Christchurch as you are involve in recovery activities? Why?

Part7. To gain their views on long-term disaster recovery

10. Regarding how you/your organization supports/supported long-term disaster recovery, what would you like to have done differently and why, particularly for thinking about the future? What would be needed for that?

11. Is there anything else we need to know regarding the recovery and your views on successful community development of Christchurch?

12. Is there anybody else we should talk? Can you please pass on our details?

Appendix C Community workshop (Christchurch) participants' organisation

	Organisation
1	YWCA Christchurch
2	Social Equity & Wellbeing Network (SEWN)
3	Speak Up Kororotia
4	Sustainable Otautahi Christchurch (SOC)
5	Sustainable Otautahi Christchurch (SOC)
6	Gap Filler
7	Avon Otakaro Network
8	<i>Volunteering Canterbury</i>
9	Volunteering Canterbury
10	Wainoni/Avonside Community Services Trust
11	Christchurch Multicultural Council
12	University of Canterbury
13	University of Canterbury

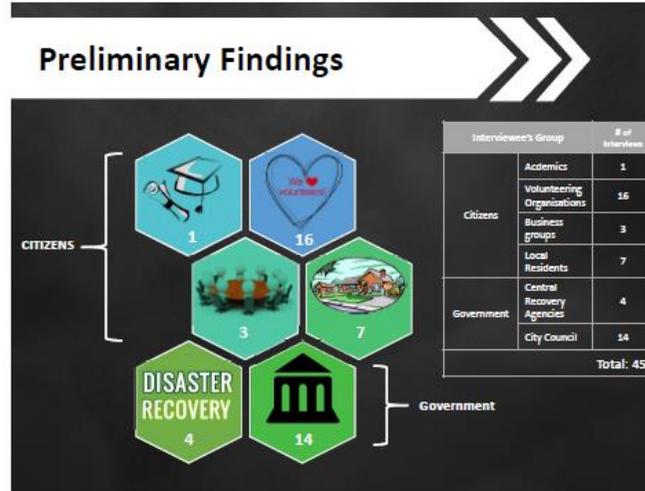
Appendix D Presentation at the community workshop (Christchurch)



**COMMUNITY WORKSHOP**

**Potential of Volunteering Community for Sustainable Long-term Recovery**

Friday, December 1, 2017, 1:30 pm to 4:30 pm  
CHRISTCHURCH COMMUNITY HOUSE  
Meeting Room 1



**Preliminary Findings**

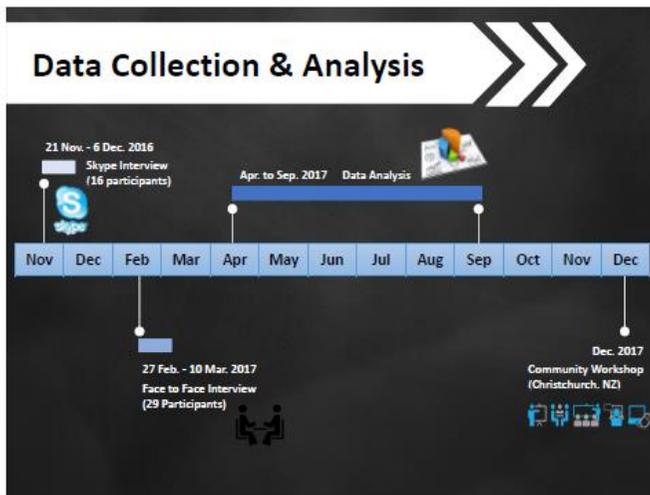
**CITIZENS**

- 1 (Academics)
- 16 (Volunteering Organisations)
- 3 (Business Groups)
- 7 (Local Residents)

**Government**

- 4 (Central Recovery Agencies)
- 14 (City Council)

Interviewee's Group	# of Interview
Academics	1
Volunteering Organisations	16
Business Groups	3
Local Residents	7
Central Recovery Agencies	4
City Council	14
<b>Total:</b>	<b>45</b>



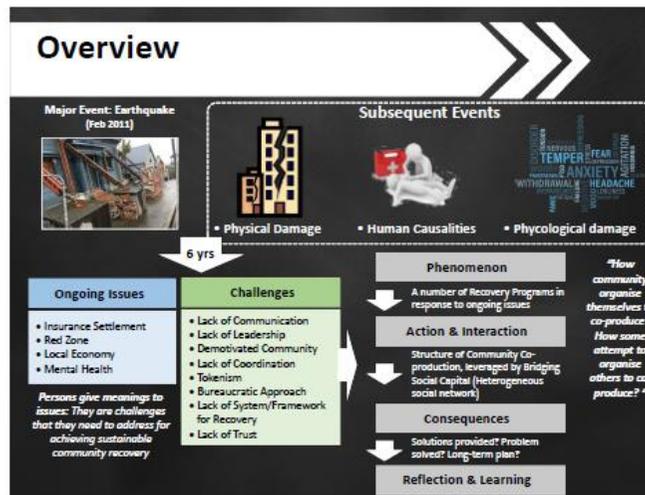
**Data Collection & Analysis**

21 Nov. - 6 Dec. 2016  
Skype Interview (16 participants)

Apr. to Sep. 2017  
Data Analysis

27 Feb. - 10 Mar. 2017  
Face to Face Interview (29 Participants)

Dec. 2017  
Community Workshop (Christchurch, NZ)



**Overview**

Major Event: Earthquake (Feb 2011)

Subsequent Events

- Physical Damage
- Human Casualties
- Psychological damage

6 yrs

**Ongoing Issues**

- Insurance Settlement
- Red Zone
- Local Economy
- Mental Health

**Challenges**

- Lack of Communication
- Lack of Leadership
- Demotivated Community
- Lack of Coordination
- Tokenism
- Bureaucratic Approach
- Lack of System/Framework for Recovery
- Lack of Trust

**Phenomenon**

A number of Recovery Programs in response to ongoing issues

**Action & Interaction**

Structure of Community Co-production, leveraged by Bridging Social Capital (heterogeneous social networks)

**Consequences**

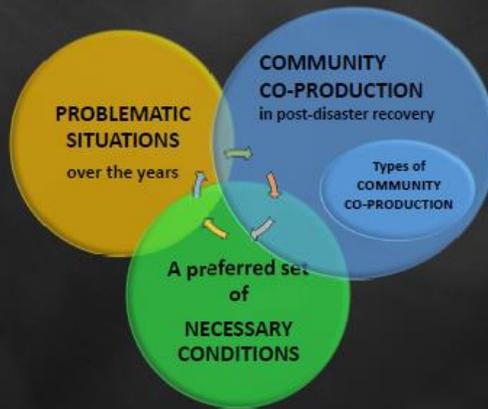
Solutions provided? Problem solved? Long-term plan?

**Reflection & Learning**

*"How community organise themselves to co-produce? How some attempt to organise others to co-produce?"*

*Persons give meanings to issues: They are challenges that they need to address for achieving sustainable community recovery*

## Themes



## Discussion ONE

Dealing with Challenges and Community Volunteering

Facilitators :

Deboarh Blackman & Hitomi Nakanishi

*How community members and volunteering organisations would need to manage to work together with a range of various groups for an effective long-term recovery in the future?*

## Discussion TWO

Role of Volunteering Organisations in long-term Recovery

Facilitators :

Hitomi Nakanishi & Bennoit Freyens

*What is the role of volunteering organisations in supporting both the community and long-term disaster recovery?*

Appendix E Workshop agenda

Venue: Canberra Innovation Network Event Room, floor 5, 1 Moore Street, Canberra, ACT 2601

***Developing co-production for resilient communities***

8.45am Attendees arrive, coffee & tea

9.00am Welcome and introduction

9.05-9.30am Project overview and findings

9.30-10.00am Discussion: community as a complex system. Who are the actors and who are co-producing?

10.00-11.00am Discussion: social capital: is it bridging but not bonding? How volunteer organisations contribute?

11-11.30am Morning tea

11.30am-12.30pm Discussion: where next?

12.30pm Concluding Remarks