

# Early Disaster Recovery: A Guide for Communities

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## Abstract

*On September the 4<sup>th</sup> 2010 and February 22<sup>nd</sup> 2011 the Canterbury region of New Zealand was shaken by two massive earthquakes. This paper is set broadly within the civil defence and emergency management literature and informed by recent work on community participation and social capital in the building of resilient cities. Work in this area indicates a need to recognise both the formal institutional response to the earthquakes as well as the substantive role communities play in their own recovery. The range of factors that facilitate or hinder community involvement also needs to be better understood. This paper interrogates the assumption that recovery agencies and officials are both willing and able to engage communities who are themselves willing and able to be engaged in accordance with recovery best practice. Case studies of three community groups – CanCERN, Greening the Rubble and Gap Filler – illustrate some of the difficulties associated with becoming a community during the disaster recovery phase. Based on my own observations and experiences, combined with data from approximately 50 in-depth interviews with Christchurch residents and representatives from community groups, the Christchurch City Council, the Earthquake Commission and so on, this paper outlines some practical strategies emerging communities may use in the early disaster recovery phase that then strengthens their ability to ‘participate’ in the recovery process.*

**Keywords:** community development; community participation; urban resilience; social capital

## Introduction

On September 4<sup>th</sup> 2010, at 4.36 am, the Canterbury region was rocked by a large 7.1 magnitude earthquake. We later learned that there had been no casualties and that the damage was largely confined to particular areas of the city of Christchurch and parts of Kaiapoi in the neighbouring Waimakariri District. For the people living in those areas, life became a constant battle. In contrast, most of Christchurch city’s residents and the Christchurch City Council tried to move back to ‘business as usual’; they had almost succeeded when a ‘smaller’ though more devastating earthquake occurred almost directly under the city.<sup>1</sup> This time, 181 people were killed (most of them in the collapse of two large inner city buildings), and many more were injured. An as yet unconfirmed number of people have lost their homes though it is estimated to be between 8000-12000. Some of these (again, numbers are not yet known) will not be rebuilt because the land damage underneath them is so extensive.

This provides some background for a paper which presents the findings of an exploration of the strategies three particular community groups in Christchurch used in their collective response to the first of the major earthquake. Whilst the initial research project aimed to explore community-recovery authority relationships and interactions in broad terms, the project later crystallised around the formation and development of three community groups: the Canterbury Communities Earthquake Recovery Network (CanCERN) who advocate for the inclusion of communities in recovery processes, and Gap Filler and Greening the Rubble who both focus on temporary installations on sites made vacant by the earthquake. Greening the Rubble promotes bio-diversity through the development of pocket parks, whilst Gap Filler celebrates the development of places that serve ‘creative, people-centred purposes’ such as mobile cafes, movie theatres, and even a bowling alley.

<sup>1</sup> The peak ground acceleration of the second quake was 2.2 times that of gravity and was one of the highest recording taken anywhere. According to Professor Yeats, professor emeritus of geology at Oregon State University in Corvallis, this would have ‘flattened’ most world cities (<http://www.stuff.co.nz/national/christchurch-earthquake/4711189/Tuesday-quake-no-aftershock>).

<sup>2</sup> This term, like ‘engagement’, ‘participation’ and ‘empowerment’, is problematic and subject to extensive debate as to its meaning conceptually and in practice.

<sup>3</sup> See Aldrich, 2011 or French, 2011 for recent summaries of a general nature.

## Disaster recovery and community involvement

Much of the recovery literature recognises both difficulties and advantages associated with involving<sup>2</sup> the local community in disaster recovery efforts.<sup>3</sup> Kweit and Kweit (2004), for example, compared recovery processes in Grand Forks and East Grand Forks following severe floods in 1997. After the disaster, East Grand Forks engaged in extensive citizen participation initiatives and subsequently reported high levels of political stability and citizen satisfaction. In contrast, Grand Forks instigated a more top-down, bureaucratic approach and has since experienced changes to their government structure, a high turnover of elected and appointed officials, and more negative citizens' evaluations. Besides this, Etye (2004) argues that 'getting involved' after a disaster can be cathartic and notes that taking positive action can make victims feel empowered; this helps recovery. Other studies report on stalled recoveries that were facilitated, or resurrected, by a turn to citizen engagement and more deliberative democratic models (Coghlan, 2004; Coles and Buckle, 2004; Waugh and Streib, 2006; Murphy, 2007; Hauser, Sherry and Swartz, 2008; Wilson, 2009; Vallance, 2011). In such literature, the benefits of effective community engagement are variously represented as identifying workable solutions to the range of problems recovery presents, sharing and delegation of duties, securing community 'buy-in' to the process, and building trust. As Norman (2004, p. 40) has succinctly argued, 'While consensus may not be possible, recovery cannot succeed if the aims, priorities and processes do not have community support'.

Another strand of literature that addresses the role of the community in disaster recovery comes under the rubric of social capital, which is often referred to as the mix of 'strong and weak ties' that bind different elements of society both vertically and horizontally (Putnam, 1995; but also Manyena et al., 2011; Lorenz, 2010; Norris, 2008; Murphy, 2007; Walker and Salt, 2006; Pelling and High, 2005; Boettke et al, 2007). Social capital may be used to *bond* a group together; *bridge* groups with similar interests; *link* groups vertically in formal institutional arrangements; or *brace* between public and private sectors.

Social capital is thought to contribute to general resilience which is variously defined as the ability of a system to 'bounce back' from, 'cope with' or 'bounce

forward' from a disturbance (see Vallance, 2011; Cutter, Barnes and Berry, 2008; Norris, et al., 2008). Given the right conditions, such as having an enabling local government and/or adaptive capacity, some scholars are even optimistic about the ways a strong civil society with good social capital can turn a disaster into an opportunity (Solnit, 2009).

The problem at the core of this paper is that despite a broad consensus regarding the benefits of strong social capital<sup>4</sup> and community involvement, it is not always easy to follow engagement best practice in the post-disaster recovery scramble. Much of the scholarship outlining the benefits of public engagement seems to assume that the state will be both willing and able to accept post-disaster input from communities who are themselves willing and able to participate in the recovery process. My research here in Christchurch suggests recovery authorities here (including, but not limited to, the Earthquake Commission, Canterbury Earthquake Recovery Commission and the Christchurch City Council) struggled to connect adequately with affected communities for quite some time.

This is a controversial claim, though it is well-supported in interview data with both residents and representatives from recovery authorities. A Community Board representative told me she had encountered strong resistance to her idea of holding a local meeting a week after the first earthquake and was informed that the Council wouldn't pay out for the tea and coffee, nor help with the table and chairs. When she suggested driving around the affected areas with a megaphone to inform residents without electricity of what to do a City Councillor 'snapped' at her 'that is EQC's job'. It took until mid-November (*approximately 9 weeks*) for the first Christchurch City Council 'Community Meetings' to be held and even then, places were limited. This was quite a lengthy wait for residents desperate to understand what was going to happen to their homes. Numerous Letters to the Editor in *the Press* and on-line discussions, blogs and posts document a litany of complaints about poor information flows and a general lack of communication; the recovery effort was even described as a 'bureaucratic, spin-doctored disaster, [a] cock-up like New Orleans' Hurricane Katrina' (McCrone, 2011).

This struggle to engage adequately with the public after a disaster is not entirely without precedent in New Zealand: Using the IAP2 spectrum of participation<sup>5</sup> in an analysis of New Zealand's Ohura floods, for

<sup>4</sup> Though see Aldrich (2008) and Rydin and Holman (2004) for a critique.

<sup>5</sup> [www.iap2.org/associations/4748/files/IAP2%20Spectrum\\_vertical.pdf](http://www.iap2.org/associations/4748/files/IAP2%20Spectrum_vertical.pdf)

example, Ward, Becker and Johnston (2008) suggested the official state response barely moved beyond the 'consultation' stage. Consulting is some distance away from the deliberative and participatory models that are more likely to foster social capital and facilitate the development of holistic solutions (see, for example, Agyeman and Briony, 2003).

In their discussion of recovery lessons learned in Kobe and Northridge, Olshansky, Johnson and Topping (2006, p. 368-9) noted that citizen engagement is key but 'to work most effectively after disasters, community organizations should already be in place and have working relationships with the city [officials]. It is difficult to invent participatory processes in the intensity of a post-disaster situation'. This 'invention of participatory processes' is the primary concern of this paper, though it is addressed here largely from several communities' perspectives. It speaks to a comment Daryl Taylor<sup>6</sup> made about a difference between *engaging* communities and engaging *with* communities. The distinction is subtle but draws attention to pre-existing communities that can be engaged with, and emergent communities that may need to be engaged. It raises interesting questions about the actions community groups can take, or strategies they can use, to come together after a disaster, and then build and use social capital 'on the fly' so as to take advantage of the opportunities disaster recovery provides. This paper seeks to inform answers to these questions.

## Methodology

The findings outlined below are part of an evolving research project which, in more general terms, seeks to explore communities' attempts to create particular senses of place. This focus on the 'informal' aspects of urban management after disasters demands a suitable methodology, one that acknowledges dynamic complexity, relationality and contingency. Mindful of concerns about the conduct of research and the 'deadening' effect that orthodox research approaches visit upon that which should be most lively (Lorrimer, 2005), I adopted an iterative mix of qualitative research and analytic approaches which, following Wolch (2007, p. 382), involved getting out there and 'wading around in the muck'. From a very different research tradition, but offering similar advice (Seyfang and Smith, 2007; Escobar 2007) systems theorists have developed a particular 'orientation to enquiry' which aims to make

sense of a situation through experimental action. Research in this tradition expects that a range of opportunities to gather data will be presented over the course of the project, only some of which will be deliberate (e.g. formal interviews and focus groups). Other opportunities will be a spontaneous part of a process involving doing, learning through reflection, and 'being in it' (Burns, 2007). This orientation brings the benefits of enhanced understanding of the various components contributing to the issue at hand, and the ways in which they interact.

The contrived or deliberate research methods used here included observations of numerous public meetings, and 37 in-depth (usually on-site) interviews with individual residents and members of various community groups including, but not limited to, CanCERN, Greening the Rubble and Gap Filler. These data were augmented with semi-structured interviews with representatives from various recovery authorities, including Christchurch City Council (elected and non-elected), Environment Canterbury, the Earthquake Commission, the District Health Board, two insurance companies, Fletchers construction, and Citycare.

## Strategies for Communities

### Beware geography:

The social scientific literature is replete with problematic references to 'community' (for an overview, see Chamberlain, Vallance and Perkins, 2010) with a central concern being 'propinquity without community' and 'community without propinquity'. Yet, the earthquakes rather forcefully demonstrated the continued importance of geography and the prospects of geography-based communities. Suddenly, people with little in common had a collective problem that was, literally, very grounded. As but one example, the earthquake damaged or destroyed 100s of kilometres of sewers. Neighbours that may or may not have known each other before the earthquake were suddenly united in a rather intimate ways through these sewerage laterals that made flushing the toilet a very communal problem. As one interviewee told me:

They [the Christchurch City Council (CCC)] keep telling me I've got 'low' flow [flush] but that's not right...I've got 'no flow' really because when I flush it bubbles up in my neighbour's back yard...Now I'm not about to... take a dump on my neighbour's lawn am I?

<sup>6</sup> Member of the Kinglake Community Recovery Committee.

The earthquake's exposure of 'hidden' geographies like this led to the formation of CanCERN. This network was very explicitly based on particular geographies where *street* co-ordinators fed information through to a *neighbourhood* representative. The collective of neighbourhood representatives then met to discuss 'global' or region-wide issues, and negotiated on residents' behalf with government and non-governmental organisations. This initially worked well because some of the damage – like pockets of liquefaction or failed sewerage systems – could be resolved more quickly and more effectively when addressed holistically rather than on an individual household basis. It also manages to 'capture' people who might otherwise be left out (such as those without telephone or internet), and it provides a forum whereby all those people who suddenly have issues (and who may not be familiar with existing political processes, assuming they still exist) can be heard. Later, however, as residents left the area and became more dispersed, emails held the 'affected' community together.

Though geography is an obvious starting point for community formation, communities of interest also formed after the earthquake. Gap Filler and Greening the Rubble are held together by their enthusiasm for, respectively, people-arts-creativity and bio-diversity. They used facebook, websites, and other social media to good affect.

## Having dedicated people

CanCERN, Gap Filler and Greening the Rubble all developed a core team of people that initially drove the process. They spent huge amounts of time building support for their organisation, and they also had to invest 'days and days' developing an understanding of the wider situation, including entitlements, formal process of government and governance, regulations, funding opportunities, and legal requirements. There is an extraordinary range of unusual and often alarming issues to consider, many of which take time and energy to work through. It is not entirely unexpected, then, that some of the more durable and influential community groups can attribute their success, in part, to the fact that at least some of the leaders do not have full-time jobs (in a number of cases this is actually because their own or their employers' businesses were destroyed in the earthquake). This has allowed them the time to invest in this extended sense-making project.

## Connecting with existing organisations

In the immediate aftermath of a disaster there is a need for resources and information to flow but, unfortunately, many of the pre-disaster mechanisms for doing this may be inoperable or slow. The emergent community may need time to establish more enduring governance and financial structures, such as becoming an Incorporated Society or setting up their own charitable trusts. Under these circumstances, appropriate resourcing is really important but, even if a group or organisation can secure some financial aid, it can be difficult to find a suitable repository because donors are understandably reluctant to put money into personal bank accounts. Gapfiller, Greening the Rubble and CanCERN addressed this problem by connecting with pre-existing NGOs; Canterbury Arts and Heritage Trust, Living Streets Aotearoa, and Delta Community House. Using a Memorandum of Understanding, these NGOs acted as both a funding repository and (loosely) 'overseer' until long-term structural, governance and accountability issues could be resolved.

Pre-existing community groups, including Residents' Associations, Neighbourhood Support, and a diverse range of garden clubs, drama societies and the like have proved useful in terms of information provision, labour, and general encouragement.

## Finding a Patron

One of the possible steps towards establishing credibility and 'gaining access' to decision-making fora and processes is to find a patron. Church groups and other pre-existing civil society groups offer good prospects as they tend to have a philanthropic disposition. It helps if the patron has a high public profile, good relationships with the media and other networks, and is not controversial or overtly political.

## Connect in many ways

Social media, like facebook, and the internet more generally have given extra nuance to community-based recovery here in Christchurch. Some of the community initiatives I have followed over the course of this research are, at least to date, solely web-based. Other groups have shown the benefits of using various communication methods to access a range of potential members and diversity of media also allows the group to connect their messages with the means of delivery. Devastating or controversial news ('like your house is munted', for example) was thought to be best delivered face-to-face, whilst 'information' of a more factual nature

or less important updates (such as dates of meetings) could be broadcast through the mass media. Developing some expertise across a full range of media is part of a successful recovery communication strategy for both state and community groups.

#### **Identify easy victories and share the good news.**

Almost everyone interviewed for this research commented on the complexity and enormity of the recovery process. There was not only a huge range of problems, many of the issues were interconnected, and this gave the sense that the overall recovery was an intractable mess. Some of the more successful community groups dealt with this by identifying and seizing easy victories. Some examples were securing funding, finding a site, connecting with another organisation or key figure in the recovery effort, having the Christchurch City Council review an unpopular decision, having the Earthquake Commission review a procedure, and so on. It may have done little to address the overall 'earthquake problem', but these were achievements that consolidated membership, legitimised their approach, and helped in some way.

#### **Solid core**

Several of the more successful earthquake groups have a core of 3 - 5 people, a steering group, who others often look to for direction. To the best of my knowledge only two of these 'leaders' actually knew each other well prior to the earthquake. Others may have been acquaintances but, in most cases, no previous relationships of note existed. Nonetheless, over the last 6 months they have come together as a team which then guides the extended membership. This arrangement means they rarely act alone (thus they have become quite competent at collective decision-making) but they are still capable of moving quickly should the need arise. An observation is each of the three steering groups has both male and female members.

#### **Collaborate**

The enormity of recovery can be overwhelming for all involved and there is a risk that while waiting for the larger tasks to be completed the small issues are overlooked. In conditions of uncertainty, and when there is a lack of pre-existing links between the recovery authorities and the affected public, a good strategy may be to undertake a small project to build trust and develop a good functional relationship that will also work

for the larger recovery process. This is really important in light of observations (Ward, Becker, Johnston, 2008; Olshansky, Johnson and Topping, 2006) about the difficulties of inventing participatory processes in the aftermath of a disaster. The projects need not be huge, and may actually seem insignificant in the face of the overall recovery process, but these small projects might be a useful step; without them the larger undertaking may be compromised or even impossible. These collaborative projects may be the provision of a family fun day, or it may be the temporary repair of a bridge that enables children to walk to school more easily. Small projects demonstrate the effectiveness and trustworthiness of all involved and set the scene for later developments.

#### **Positive action**

Many of the groups observed during the course of this research emphasised a 'solutions-based' approach to their activities. A recurrent theme from the interviews and observations was the need to avoid being seen as 'a bunch of whingers' and instead offer positive strategies that were seen, at least by the residents, as desirable and achievable. This appears to be accord with some of the literature emerging from developing countries where some NGOs have moved from 'expose-oppose' or revolutionary strategies to 'expose-oppose-propose' models (Etemadi, 2004).

## **Conclusions**

This research provides some good (though contextual, situated and partial) strategies that communities and grassroots movements may use to develop and promote their cause in the post-disaster 'scramble'. Communities here in Christchurch were not always 'engaged'; indeed, at times over the course of this research they were not even adequately 'informed'<sup>7</sup> (IAP2's lowest order of participation). This raises the prospect of looking beyond the civil defence and emergency management literature to scholarship on, for example, insurgent/radical/informal planning for lessons about facilitating genuine community empowerment, and the pitfalls that may lie ahead for the Christchurch community organisations and citizens' initiatives studied here. Etemadi (2004), for example, in a summary of strategies adopted by NGOs in developing countries has verified the utility of many of the strategies described above. In addition, Etemadi warns against becoming beholden to a particular

<sup>7</sup> There are numerous examples but for brevity I cite the 'septic tanks affair' where residents were approached one by one and asked to give their consent to the installation of sewage holding tanks. Some were told that if they didn't sign they would be denying their neighbours a toilet. At least some people who signed were not aware the tanks would be permanent.

official, and suggests keeping officials at a distance during elections. Others have highlighted the dangers of focussing only on consensus-oriented, collaborative approaches that almost necessarily imply the dilution of one's ambitions (Rutherford, 2007; Swyngedouw; 2009). Hence, the development or preservation of a radical wing that preserves the original language, sentiments and intent of the community or grassroots movement may be necessary in extreme cases. Indeed, this may be a desirable step if the frequent observation (Clarke, 2008; Anderson and Woodrow, 1998; Coles and Buckle, 2004; Mitchell, 2004; Solnit, 2009) that disasters exacerbate existing inequalities holds true. We have seen the beginnings of more radical developments in Christchurch with two protest marches having taken place already, with more planned.

It is also important to note that some of the onus of participation lies with communities themselves. Participation at the IAP2's higher levels demand collective effort on their part. This suggests a need for communities themselves to do some work, to become citizens rather than 'residents', 'consumers' or 'clients', and get ready to be *engaged with*. That said, it is important to note that authorities can facilitate this process by providing funding and other resources.

In conclusion, this research shows that we cannot assume the state is willing or able to effectively engage a public who is also willing and able to participate. This suggests that in spite of a robust literature outlining the benefits of community engagement, and even in a country with established democratic traditions like New Zealand, the early disaster recovery phase challenges ideals of 'best practice'. While it is easy to blame the state for failing to live up to the best practice model, communities must also take some responsibility for becoming something the state can engage with. As I heard a Canterbury Earthquake Recovery Commission official telling a CanCERN representative, 'I'm glad you're here; if you didn't exist we would have to invent you'. This paper therefore outlines a number of strategies that provide a useful starting point for communities that might face a similar struggle to be heard in a post-disaster clamour, and a number of pointers for officials who would like to see their efforts move beyond token consultation to more empowering forms of engagement.

## References

- Agyeman, J. and Briony, A. (2003). The role of civic environmentalism in the pursuit of sustainable communities. *Journal of Environmental Planning and Management*, 46(3), 345 — 363.
- Aldrich, D. (2008). Strong civil society as a double-edged sword: Siting trailers in Post-Katrina New Orleans. *Political Research Quarterly* September, 61, 379-389
- Aldrich, D. (2011). The power of people: social capital's role in recovery from the 1995 Kobe earthquake *Natural Hazards*, 56(3), 595-611.
- Anderson, M. and Woodrow, P. (1998). *Rising From the Ashes: Development Strategies in Times of Disaster*. Lynne Rienner Publishers: Colorado.
- Boettke, P., Chamlee-Wright, E., Gordon, P., Ikeda, T., Leeson, P., & Sobel, R. (2007). The political, economic, and social aspects of Katrina. *Southern Economic Journal*, 74(2), 363-376.
- Burns, D. (2007). *Systemic Action Research. A Strategy for Whole System Change*. Bristol: The Policy Press.
- Chamberlain, P., Vallance, S., Perkins, H., & Dupuis, A. (2010). *Community commodified: Planning for a sense of community in residential subdivisions*. Paper presented at the Australasian Housing Researchers Conference, 17<sup>th</sup>-19<sup>th</sup> November.
- Coghlan, A. (2004, 12-13th July). *Recovery management in Australia: A community based approach*. Paper presented at the The New Zealand Recovery Symposium.
- Clarke, L. (2008). Worst-case thinking and official failure in Katrina. In Richardson, H., Gordon, P. and Moore, J. (Eds.). *Natural Disaster Analysis after Hurricane Katrina: Risk Assessment, Economic Impacts and Social Implications*. Pp. 84-92. Edward Elgar: Cheltenham, UK
- Cutter, S., Barnes, L., & Berry, M. (2008). A place-based model for understanding community resilience to natural disasters. *Global Environmental Change* 18(2008)598-606, 18, 598-606.
- Etemadi, F. (2004). The politics of engagement: Gains and challenges of the NGO coalition in Cebu City. *Environment and Urbanization*, 16(1), 79-94.
- Escobar, A. (2007). The 'ontological turn' in social theory. A commentary on 'Human geography without scale', by Sallie Marston, John Paul Jones II and Keith Woodward. *Transactions of the Institute of British Geographers*, 32, pp.106-111 2007
- Etye, A. (2004, 12-13th July). *Psychosocial aspects of recovery: Practical implications for disaster managers*. Paper presented at the The New Zealand Recovery Symposium.
- French, E. (2011). Enhancing the Legitimacy of Local Government Pandemic Influenza Planning through Transparency and Public Engagement. *Public Administration Review*, 71, 253-264.
- Hauser, E., Sherry, E. & Swartz, N. (2008). Risk, preparation and rescue. In H. Richardson, P. Gordon, & J. Moore (Eds.), *Natural disaster analysis after Hurricane Katrina: Risk assessment, economic impacts and social implications* (pp. 93-120), Cheltenham, UK, Edward Elgar.

- Kweit, M. and Kweit, R. (2004). Citizen participation and citizen evaluation in disaster recovery. *The American Review of Public Administration*, 34, 4, pp. 354-373
- Lorenz, D. (2010). The diversity of resilience: contributions from a social science perspective. *Natural Hazards*, online first.
- Lorimer, H. (2005). Cultural geography: the busyness of being 'more-than-representational'. *Progress in Human Geography*, 29, pp. 83–94
- Manyena, S., O'Brien, G., O'Keefe, P. & Rose, J. (2011). Disaster resilience: A bounce back or bounce forward ability? *Local Environment*, 16, pp. 417-424.
- McCrone, J. (2011). Over the Top? *The Press*. <http://www.stuff.co.nz/the-press/news/christchurch-earthquake-2011/4920414/Over-the-top>
- Ministry of Civil Defence and Emergency Management (2010). *Community Engagement Best Practice Guide* [BPG 4/10]. PO Box 5010, Wellington, New Zealand
- Mitchell, J. (2004). Reconceiving recovery. In Norman, S. (Ed.). *Proceedings of the New Zealand Recovery Symposium*, 12-13<sup>th</sup> July, 2004. Pp 47 – 68
- Murphy, B. (2007). Locating social capital in resilient community-level emergency management. *Natural Hazards*, 41, 297–315.
- Norman, S. (2004). Focus on recovery: A holistic framework. In S. Norman (Ed.). *Proceedings of the New Zealand Recovery Symposium*, 12-13<sup>th</sup> July, 2004. Napier, New Zealand. Ministry of Civil Defence and Emergency Management. Pp. 31 - 46
- Norris, F., Stevens, S., Pfefferbaum, B., Wyche, K., & Pfefferbaum, R. (2008). Community Resilience as a Metaphor, Theory, Set of Capacities, and Strategy for Disaster Readiness. *American Journal of Community Psychology*, 41, 127–150.
- Olshansky, R., Johnson, L., & Topping, K. (2006). Rebuilding communities following disaster: Lessons from Kobe and Los Angeles. *Built Environment*, 32(4), 354-375.
- Pelling, M., & High, C. (2005). Understanding adaptation: What can social capital offer assessments of adaptive capacity? *Global Environmental Change*, 15, 308–319.
- Putnam, R. (1995). Bowling alone: the strange disappearance of civic America. *Journal of Democracy*, 6, 65–78.
- Rutherford, S. (2007). Green governmentality: insights and opportunities in the study of nature's rule. *Progress in Human Geography*, 31(3), 291-307.
- Rydin, Y., & Holman, N. (2004). Re-evaluating the contribution of social capital in achieving sustainable development. *Local Environment*, 9(2), 117-132.
- Seyfang, G. and Smith, A. (2007). 'Grassroots innovations for sustainable development: Towards a new research and policy agenda'. *Environmental Politics*, 16, pp. 584 – 603.
- Solnit, R. (2009). *A Paradise Built in Hell: The Extraordinary Communities that Arise in Disaster*. Penguin Books, London.
- Swyngedouw, E. (2009). The antinomies of the postpolitical city: In search of a democratic politics of environmental production. *International Journal of Urban and Regional Research*, 33(601–620)
- Vallance, S. (in press). Communities and resilience: Burning or building bridges. *Lincoln Planning Review*
- Walker, B., & Salt, D. (2006). *Resilience Thinking: Sustaining Ecosystems and People in a Changing World*. Washington: Island Press.
- Ward, J., Becker, J. & Johnston, D. (2008). Community participation in recovery planning : A case study from the 1998 Ohura flood, *GNS Science Report* 2008.
- Waugh, W. and Streib, G. (2006). Collaboration and leadership for effective emergency management. *Public Administration Review*, 66, 131–140.
- Wilson, P. (2009). Deliberative Planning for Disaster Recovery: Re-membering New Orleans. *Journal of Public Deliberation*, 5, 1-25.
- Wolch, J. (2007). Green urban worlds. *Annals of the Association of American Geographers*, 97, pp. 373-384.

