

Community, Resilience and Recovery: Building or Burning Bridges?

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There is a critical strand of literature suggesting that there are no 'natural' disasters (Abramovitz, 2001; Anderson and Woodrow, 1998; Clarke, 2008; Hinchliffe, 2004). There are only those that leave us – the people – more or less shaken and disturbed. There may be some substance to this; for example, how many readers recall the 7.8 magnitude earthquake centred in Fiordland in July 2009? Because it was so far away from a major centre and very few people suffered any consequences, the number is likely to be far fewer than those who remember (all too vividly) the relatively smaller 7.1 magnitude Canterbury quake of September 4th 2010 and the more recent 6.3 magnitude February 22nd 2011 event.

One implication of this construction of disasters is that seismic events, like those in Canterbury, are as much socio-political as they are geological. Yet, as this paper shows, the temptation in recovery is to tick boxes and rebuild rather than recover, and to focus on hard infrastructure rather than civic expertise and community involvement. In this paper I draw upon different models of community engagement and use Putnam's (1995) notion of 'social capital' to frame the argument that 'building bridges' after a disaster is a complex blend of engineering, communication and collaboration. I then present the results of a qualitative research project undertaken after the September 4th earthquake. This research helps to illustrate the important connections between technical rebuilding, social capital, recovery processes and overall urban resilience.

Community engagement and recovery

It is now well-established in the literature that communities have an important role to play in recovery processes following a 'natural' disaster (Norman, 2004; Hauser, Sherry and Swartz, 2008; Coles and Buckle, 2004; Jilali, 2002; Murphy, 2007; Waugh and Streib, 2006; Aldrich, 2011). As the Canterbury Civil Defence and Emergency Management Group Plan (2005-2010, section 9, p. 8) states:

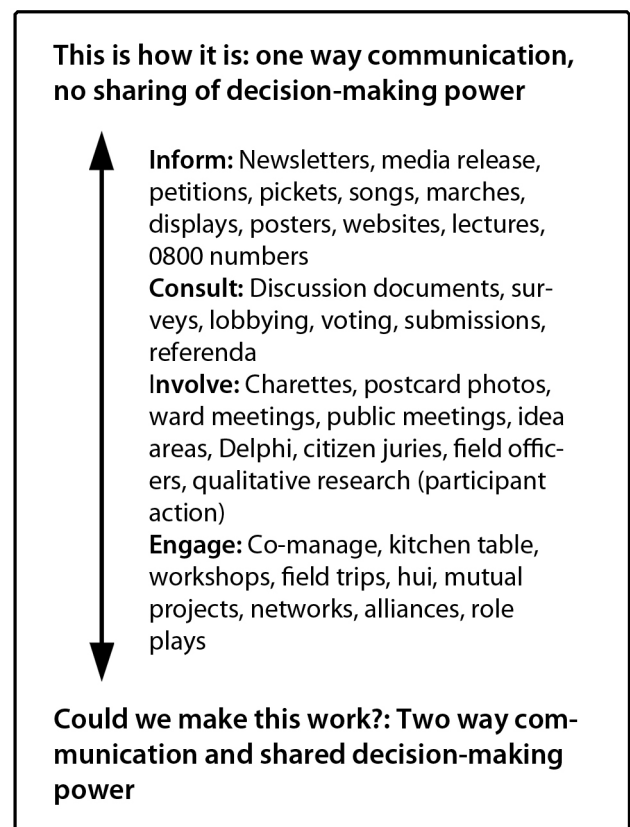
Community involvement is an important aspect of Recovery. It is the means whereby those directly affected by the event help rebuild their own facilities and services. Community involvement provides a framework for re-establishing the economic, social, emotional and physical well-being of the affected population. The benefit of using community resources is twofold. Firstly, local agencies know the community make-up and requirements better than any outside organisation. Secondly, affected people have an inherent need to rebuild. Using this resource wisely can lead to a stronger, more resilient and united community. (www.cdemcanterbury.govt.nz/cdem-group-plan-downloads.html)

Community involvement and engagement can take many forms, ranging from simple information provision at one extreme to co-management at the other. Different labels are given

to the various stages along this continuum (see, for example, the IAP2 spectrum of participation at www.iap2.org), however the names essentially reflect the extent to which a) communication can be seen as a two-way process and b) the way decision-making powers are shared between those with some official interest in recovery (such as the CCC, EQC (see Figure 1 which gives an overview of some methods I have seen used in the past in New Zealand and the Philippines) and community groups.

Community involvement after a disaster is complicated by the intensity, variety and scale of needs, and by the range of actors suddenly compelled to become involved in recovery processes. Local politics – usually a game for the 'usual suspects' – becomes a considerably more complex, heated and frustrating endeavour. This is exacerbated by lengthy timeframes, rumour and, of course, the trauma of the event itself. This raises questions about the nature of 'recovery' and what that might mean.

Figure 1. Participation and engagement.



Social capital, recovery and resilience

According to the CDEM Group Plan (2005-2010, section 9, p. 1):

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...recovery is a developmental and remedial process with the main objective of efficiently organising available resources to restore communities to the point where normal social and economic activities resume....[It is the] coordinated efforts and processes to effect the immediate, medium and long-term holistic regeneration of a community following a disaster (www.cdemcanterbury.govt.nz/cdem-group-plan-downloads).

Importantly, this definition does not privilege the repair and rebuilding of hard infrastructure over other community needs, some of which are amorphous and difficult to identify, much less address. Despite these difficulties, this recovery period can also be regarded as a time when a range of new opportunities are presented. Disasters throw open a new range of possibilities and it is often a time when civic consciousness is particularly strong (Shaw and Goda, 2004). There is a fine line between disasters and opportunity for, as Lorenz (2010, n.p.) has argued, sudden and dramatic change that 'only becomes a crisis when fundamental expectations addressed to the present or future are at stake, and a disaster ensues if and only if these expectations can no longer be fulfilled'. Conversely, change can be a positive force if it allows for developments that exceed our hopes and expectations. Napier's post-1931 earthquake Spanish mission or Art Deco style reconstruction (see John, 2006) is a good example of the way a strong recovery vision can turn disaster into success.

The extent to which these opportunities are developed depends on a range of factors, some of which are technical ability and expertise; however, there has recently been a resurgence of interest in Putnam's (1995) work on 'social capital' and the way it relates to recovery and resilience (Lorenz, 2010; Murphy, 2007; Walker and Salt, 2006; Newman, Beatley and Boyer, 2009; Pelling and High, 2005; Boettke et al, 2007). Putnam's work – where social capital is positively associated with civil society, networks, norms and trust – is based on the recognition of strong and weak social relationships. These relationships 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 (see Murphy, 2007, Walker and Salt, 2006; Pelling and High, 2005; Rydin and Holman, 2004). Establishing and maintaining these different types of social capital is important in terms of recovery, particularly in terms of knowledge transfer and, building trust and developing a common language across laypeople and experts (Rydin, 2006). Olsson et al. (2006) use the terms 'leaders' and 'shadow networks' instead of social capital but they are similar concepts. They argue that leaders (linking capital) are needed to prepare a system for change by devising alternatives, developing strategies, seizing opportunities and assembling shadow networks (bridging, bonding and bracing) that work across different scales. These shadow networks can play an important role in both preserving traditional understanding of one's environment and in providing socio-ecological feedback loops; that is, identifying and communicating problems before thresholds are breached (Folke, Carpenter, Elmqvist, Gunderson, Holling, and Walker, 2002).

It is this complex network of social capital that makes a city resilient. Resilience has three related definitions. The first supposes an ideal 'steady-state' or equilibrium to which a system 'bounces back' following a disturbance. The second relates to

the extent to which a system is able to self-organise. The third recognises a system may have multiple stable states and that being able to bounce back to normal might be less important – and even less ideal – than the ability to adapt to new conditions (i.e., its 'adaptive capacity'). The adaptive capacity of a socio-ecological system thus refers to our ability to cope with change by observing, learning and then modifying the way we interact with the world around us, over different geographic scales. When applied to a city after a disaster, one might say resilience is the ability to restore essential functions and use the opportunities presented to avoid future disasters.

Despite a general literary consensus that social capital is somehow important to a robust recovery and a resilient society, unresolved questions still swirl around why that should be, and how we might foster 'social capital' under times of stress. This research has looked for answers to these questions based on approximately 50 in-depth interviews with Christchurch residents, City Councillors and Community Board Members, MPs, and representatives from community groups, Citycare, the Earthquake Commission, engineering firms, the District Health Board and several small businesses. The interviews with residents were conducted between October 2010 and February 2011 and usually began with the interviewee's recollection of the first earthquake and followed with their assessment of the recovery process.¹

Results:

In an age of globalisation, increased mobility, and technology that enables people to be 'closer' to their chat room buddies than their neighbours, it has become rather commonplace to question the relevance of geography and, in particular, the utility of place-based communities. While the notion of 'community' does remain problematic, the Canterbury earthquake has shown that when the power is out, the computer no longer works and your cell phone battery is running low, geography matters. In the immediate aftermath of the earthquake, in the dark and the cold, neighbours played a vital role in framing the event – that is, making sense of it – and developing an initial, grassroots response. Street level caring and sharing took many forms: cooking breakfast and making cups of tea for others on their barbeque, dismantling trembling chimneys, securing homes and digging exit paths through the slushy, smelly mud volcanoes caused by liquefaction. But perhaps the greatest comfort came through the face-to-face sharing of information about where to get water, how to boil it, which food outlets were open, and the thing no-one wants to talk about, 'where to poo'.

Along with the more salubrious services – water, food, housing – sewers are a vital component of a well-functioning city and unfortunately, the earthquakes left many homes in certain parts of Christchurch without this basic provision. Restoring this important function may seem at first a technical matter, but several incidents show the pitfalls of seeing infrastructure in this way. One of these concerns the way functional sewer connections became part of the 'sticker scheme', issued under the Civil Defence Emergency Management Act, that determined whether a house was unsafe (red), safe but uninhabitable due to a lack of

¹ This research had approval from the Lincoln University Human Ethics Committee.

water or sewer connection (yellow), or fully functional (green). These stickers, while intended as a guide to a dwelling's state of (dis)repair, were subsequently used to inform rates rebates and financial grants. The accuracy of the stickers therefore had consequences that extended well beyond their original technical purpose.

The state, location, and carrying capacity of the sewers in badly affected suburbs also caused much confusion. There was constant adjustment and readjustment of functionality as some sewers were repaired only to cause a blockage elsewhere. Again, this seemingly technical matter – whether a particular section of sewer had ‘full’, ‘low’ or ‘no’ flow- caused a range of anxieties. As one interviewee told me:

They [the Christchurch City Council (CCC)] keep telling me I've got 'low' flow 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?

The full-, low- and no-flow scheme was also used to determine whether or not a portaloos would be provided. As one interviewee told me in an email dated November 5, 2010:

Yesterday a truck turned up outside quite a number of properties to remove “un-needed” Portaloos ... We phoned the CCC yesterday and again gave the names and numbers of those that needed them because they had no sewerage at all and those that didn't need them because they had a tank. But today I got a phone call from the CCC to make sure I still needed a Portaloos today. I said yes nothing had changed overnight. She then told me that I would be the only one in the street with one as no one else needed one. There was an ongoing discussion that involved quite a bit of anger and abruptness on my part I must confess – the outcome was that I had no authority to seek a Portaloos for my neighbours and they weren't on “the list” – although they were on the a “list” yesterday etc... I told my neighbour she better call to advise that she still needed a Portaloos. After a long discussion in which she was advised she wasn't on the list and so didn't need one the dreaded Portaloos truck appeared. Fearing the worst my neighbour rushed outside to save our dignity only to be told it was alright he was bringing one not taking one away. In fact he also brought me another one to sit beside my existing one. ... One for each cheek maybe?

One more conflict that belies the purely technical appearance of sewers centred on an apparently ‘ideal’ solution to the numerous blockages in the lines. Essentially the earthquake lowered the ground level and left some streets without a gravity feed to the main sewers. Rectifying this would take a long time and prove costly, so the CCC proffered an alternative; individual pressurised septic tanks. These did not necessarily meet people's ‘needs’, however. There was much confusion over the capacity of the tanks, concern as to how often they would be emptied and, although they were fairly unobtrusive to look at, people were also concerned that their house values would be adversely affected by this unorthodox and perhaps unreliable system. Again, though the tanks appeared to offer a sound technical solution, because they were embedded in wider social configurations of capital gains, household size and aesthetics,

the individual tanks were not a workable solution. As a result, a small scale protest group convened, liaised with the CCC and the pressurised tanks are now considered a ‘temporary’ solution. This raises interesting questions about the way disasters affect social capital and vice versa and the ways recovery, resilience and reconstruction are linked.

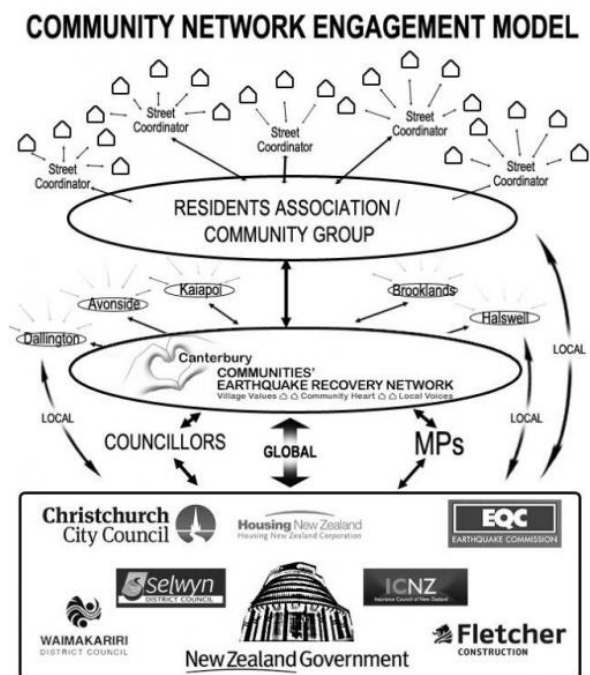
Community, Resilience and Recovery: Building Bridges Within and Between

These incidents all highlight the dangers of seeing recovery as a technical matter, and of confining the matter to one of rebuilding hard infrastructure. Hard infrastructure, as these examples show, is embedded in a social context; it is part of an intricate but vitally important web of social relations and expectations. Listening to the people living within that context is, therefore, a necessary part of understanding what will work in a social, if not technical, sense. So what have these events taught us about social capital, resilience and recovery?

Bonding capital:

‘Disasters’ rearrange, sometimes strengthen, but often undermine existing geography-based social networks. Although neighbours were often the first point of contact after the earthquake, many residents in badly-affected areas simply left. They could not or would not stay in their damaged homes and have not returned. Consequently, this has fractured once-strong communities and ruptured established social networks and routines. That said, some Christchurch citizens have done very well: as one example, after an initial ‘scramble’ the Canterbury Communities’ Earthquake Recovery Network (CanCERN) was formed and it has started to gain traction with various organisations like EQC, CCC and the Canterbury Earthquake Recovery Commission (CERC). It has, however, been a difficult road and has taken an enormous amount of volunteer hours to become as organised as they have. Their path could have been easier had more funding been provided earlier on, with resources made available to facilitate their attempts to self-organise.

Figure 2: CanCERN's community engagement model (courtesy CanCERN)



One idea that has worked well for CanCERN is a somewhat more elaborate version of the old 'phone tree' system (see Figure 2), but one that is based on 'street' geography. In this model, street coordinators communicate with both individual households and neighbourhood representatives, who then liaise with government and non-governmental organisations. This works well because some of the issues – like pockets of liquefaction or failed sewer laterals – connect neighbours, streets and neighbourhoods. Such issues are resolved more quickly and more effectively if they are 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 processes – can be heard. In the wake of a disaster, local authorities should do what they can to instigate this process of community-based recovery so that, when it is time to discuss rebuilding options, there is actually a body to 'engage' with. The alternative, as one CCC representative put it, is to 'try and herd cats'.

Bridging capital:

CanCERN's efforts have been undermined, to some extent, by the lack of clear leadership roles that typified the September to February period. As a recent Press release (<http://www.stuff.co.nz/the-press/lifestyle/mainlander/4621179/Whos-in-charge>) pointed out, CERC, EQC, Environment Canterbury and CCC all have important roles to play, however, it appears that these responsibilities were still being negotiated 5 months on, and are in the process of being renegotiated post-February. Exacerbating this is a lack of an established track record – a working relationship – between the community and the organisation with which residents are most familiar: the Christchurch City Council. The situation is somewhat different in Waimakariri District where some Residents' Association representatives have very good things to say about their council. But, as one representative pointed out 'we already had a good relationship with council before the earthquake, we're used to working with each other'. This relationship, and pre-existing communication paths and strategies have worked to their benefit.

This shows that building bridges in a - communication sense - is an essential part of recovery processes and something that should be undertaken as soon as possible after a disaster, before goodwill erodes. On a practical level, the repairing of hard infrastructure can present a good opportunity to test small scale co-managed projects where the public is invited to participate actively in re-building. As one example, about a month after the earthquake quite in-depth community discussions took place over the design and location of a replacement for the Medway Street bridge which had been 'munted' to use the 'technical term' (as Mayor Bob Parker told TVNZ reporters on the 25th Feb). Now, school term one has begun, but children can no longer walk across the bridge to get to school, so parents drive them the considerably longer distance in their cars, along roads that are still dusty, past houses that are still cracking on tenuous piles. Residents – initially quite happy to engage in discussions around the bridge's future – had become increasingly disillusioned with the 'recovery' process. The lesson here seems to be to see opportunities in the rubble and seize them in order to, literally, build bridges with 'the community'.

Conclusion:

Though there is a clear consensus in the literature that social capital plays an important role in processes of recovery, there is a paucity of detailed analyses addressing 'why', 'how', and 'how to foster it', particularly under stressful conditions. This research shows social capital is an important part of recovery, and contributes to resilience, because it helps generate a holistic set of satisfactory outcomes, that not only meets infrastructural needs, but also builds all-round urban capacity. A resilient city is not only able to recover from disasters but is able to actually seize the opportunities disasters present (and reduce risk from future events). This is less about technical repair and infrastructure (though this plays an important role) and more about the relationships between its parts, its people and its leaders. The Christchurch earthquakes have highlighted that value of cultivating relationships within and between as soon as possible. This study has shown that if these relationships do not exist, small scale test projects are useful ways of building bridges that then serve the greater project.

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