

Building Resilience Through Post-Disaster Community Projects: Responses to the 2010 and 2011 Christchurch Earthquakes and 2011 Tōhoku Tsunami

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Abstract

The 2010 and 2011 earthquakes in Christchurch, New Zealand resulted in severe damage and human injury, and an unfolding process of social and economic disruption across the city and region. The 2011 Tōhoku North-Eastern Japan Earthquake and Tsunami caused unparalleled destruction and loss of life. Japan and New Zealand have taken distinct cultural approaches to environmental disasters and resilience. However, both events prompted significant community responses, from which we can learn a lot about recovery, reconstruction and resilience processes. The current paper provides an overview of the two disasters, their contexts and key issues, and analyses community-driven projects. The governmental response in driving recovery and reconstruction in both cases has often marginalised community engagement in decision-making processes. There is nonetheless widespread evidence of locally driven, dynamic approaches to community and environmental needs, as illustrated by the examples discussed herein. The paper concludes with a set of lessons for community resilience before discussing implications, including challenges to top-down planning.

Keywords: *community resilience; earthquake recovery; community-driven projects; Christchurch; Tōhoku*

Introduction: The Story of Two Disasters

In 2010 and 2011, New Zealand and Japan were particularly affected by environmental disasters, the impacts of which have been ongoing. The Christchurch earthquake sequence was causing human loss and damage throughout the city and Canterbury region (Pawson, 2016; Potter, Becker, Johnston & Rossiter, 2014). The communities of north-eastern Japan experienced an unparalleled combination of earthquake and tsunami events (Shaw, 2015). The current paper aims to examine post-disaster community-driven projects in both places. This includes a focus on the relevance of these projects to *resilience* which, according to Berke and Campanella (2006) and Cutter et al. (2008), is fundamental in shaping recovery and reconstruction processes. In the terms of this research paper, resilience refers to the capacity of communities to recover and thrive during and after a disaster or sudden change. After a discussion of each event, and the contexts in which they occurred, questions are posed to shape an analysis of the relationship between community-driven projects and top-down reconstruction planning.

The 2010 and 2011 Christchurch Earthquakes

The Christchurch Earthquakes began on 4 September 2010 with a Mw 7.1 event. This was followed by a sequence of strong shakes that prolonged and interrupted recovery processes. The most severe, on the 22 February 2011 (magnitude Mw 6.3), caused 185 deaths, significant injury, and unparalleled damage across the Canterbury region (Potter et al., 2014). Urban infrastructure, housing and commercial buildings, and large areas of land were severely affected by ground movement or consequent liquefaction, flooding, rock fall, and cliff-face failure. Approximately 75 percent of all homes in Christchurch suffered some degree of damage, where 7.5 percent collapsed or required demolition in this city of 366,000 people (Dionisio, Kingham, Banwell, & Neville, 2015; Parker & Steenkamp, 2012). The Eastern suburbs were the most affected with severe road and ground infrastructure

damage. Approximately 7,700 homes located on both sides of the Avon River were later demolished due to the impacts of liquefaction and lateral spread close to the riverbanks. These properties were acquired by the New Zealand government, with compensation for the owners, as it is unlikely that the land will be suitable for rebuilding (Canterbury Earthquake Recovery Authority, 2011). Many people have had to move elsewhere as a result, dislocating families and disrupting social connections in the Eastern suburb communities (Dionisio et al., 2015). Many other homeowners throughout the city have been facing prolonged negotiations with insurers for home repairs.

Initially, there was widespread public engagement and volunteer activity during and after the major events, showing capacities and self-organisation for timely action to support people in the most damaged areas of the city (Dionisio et al., 2015; Mamula-Seadon & McLean, 2015; Pawson, 2016). However, community resilience has since been compromised by delayed housing reconstruction due to the complexity of insurance claims. Additionally, there has been little alignment and synergy between community-led initiatives and government-led decision-making (Dionisio et al., 2015; Kingham, Dionisio, & Newman, 2015; Swaffield, 2013).

The 2011 North-Eastern Japan Earthquake and Tsunami

On 11 March 2011, Japan suffered the most extensive environmental disaster in its modern history with a large tsunami caused by a Mw 9.0 megathrust earthquake (Shaw, 2015). The tsunami affected twelve prefectures from Hokkaido to Chiba, along 500 kilometres of coastline (Puppim de Oliveira & Fra.Paleo, 2016). The tsunami wave reached 10 to 15 metres above sea level in some areas (Stimpson, 2011) and triggered multiple additional hazards including landslides, fires, and the Fukushima nuclear accident. It was responsible for about 18,600 deaths, with 6,150 people injured and 2,650 missing (Ranghieri & Ishiwatari, 2014). About 470,000 people had to evacuate as the result of 121,803 homes being destroyed across the Tōhoku region (Murao, 2015).

Japan and the North-Eastern region of Honshu Island demonstrated significant resilience through support campaigns such as *Ganbaro Nippon* and *Ganbaro Tōhoku*, meaning Try Your Best Japan, Tōhoku, and the Kizuna project which had a critical role in connecting volunteering, civil society, and social media with affected

communities in the region (Shaw, 2015). A strong national movement to assist generated an upsurge of public engagement across the country. However, complications posed by the subsequent nuclear crisis, the regional scale of the disaster, and declining populations in remote towns and cities affected has prolonged the recovery process, compared to recovery from other recent disasters in Japan. Furthermore, central and regional governments have led recovery and reconstruction planning with few local opportunities for public participation. Consequently, the local knowledge held by communities has been largely excluded from decision-making (Puppim De Oliveira & Fra.Paleo, 2016; Shaw, 2015).

Contexts and Questions

These two event clusters occurred in very different political and cultural contexts, in which nature, community and the possibilities for collective action are understood in quite distinct ways. These differences arose despite a number of similarities between the two countries. Both sit astride tectonic plate boundaries around the edge of the Pacific, the so-called Pacific Rim of Fire. They share active, mountainous landscapes as a result. Both are also island countries, with the majority of their populations and urban facilities focused on the coastlines. They are both modern states, the product of industrial capitalism, which in turn is reflected in very high levels of urbanization, energy intensive economic activities and huge investment in fixed types of infrastructure, both above and below ground. Both countries are also strikingly different to how they were a century or two ago. Japan has since become one of the world's most industrialized, and New Zealand has since developed intensive industrial agriculture (Pawson & Brooking, 2013; Totman, 2014).

There are also big differences. One is of scale: The Japanese economy dwarfs that of New Zealand and its population, at nearly 130 million, is thirty times larger. Consequently, Japan has a lot of cities and very extensive coastal development. By contrast, the New Zealand population is concentrated in a very small number of urban centres. This brings a different profile of vulnerability to significant natural events. In Japan, many urban areas are earthquake prone or open to the effects of tsunami. In New Zealand, most earthquakes affect rural or remote areas but when an urban centre is impacted, it has a disproportionate effect on the

national economy and society. A further difference is that Japanese industrialization has been dependent on fossil fuels and heavy investment in nuclear power from the 1950s to the 1980s, in which “the longer-term costs of nuclear-fuel use have never been honestly confronted” (Totman, 2005, p. 564). New Zealand however has a strong anti-nuclear tradition and most of its electricity generating capacity is from low-risk, renewable sources.

Japanese society has long understood, and furthermore valued, a certain impermanence, celebrating the fleeting beauty of seasonal change as well as respecting the unpredictable movements of nature (Sorensen, 2002). This has resulted in lightweight housing construction, and even permanent material structures are frequently replaced in a never-ending cycle of renewal. Although New Zealand’s housing stock is also wooden-framed, this reflects resource availability when brick, stone and steel are commonly regarded as *permanent materials* in a recently colonised landscape where people stand against nature (Pawson & Brooking, 2013). High levels of home insurance are a norm to protect such assets, and are reinforced by a form of socialised risk cover provided by the New Zealand state. If insurance has less penetration in Japan, there is still an expectation that the state will intervene in large-scale disasters as the most effective source of action. In both countries, it has other reasons to do so, not least to protect assets, to minimise further risk to life and livelihoods, and to enhance recovery through what has been called disaster capitalism (Pawson, 2016). These approaches nonetheless leave various questions, which are explored in the remainder of this article:

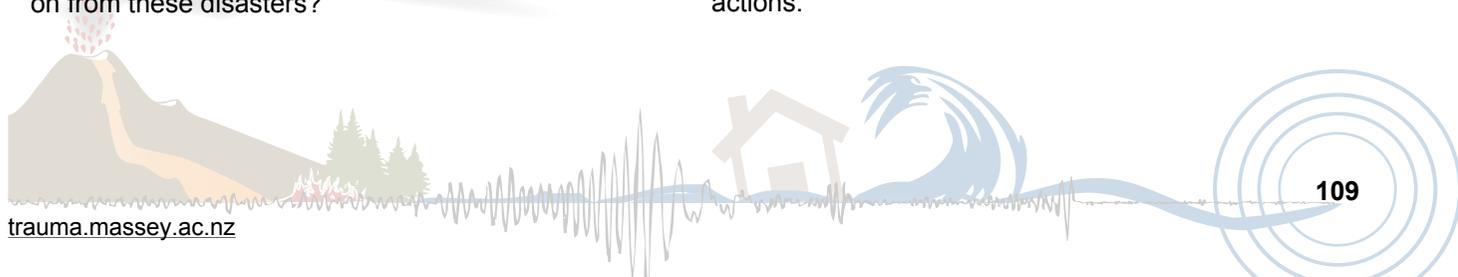
- In what ways do the actions of the state, through its involvement in centralised recovery planning, condition the expression of community action and resilience after disaster?
- What forms can post-disaster community-driven projects take as a result, and how have these been shaped in the two case study areas?
- How then might spaces for community action be enlarged or enabled?
- What has been achieved by a combination of centralised and community-driven actions five years on from these disasters?

Community-Driven Rebuilding in Christchurch and North-Eastern Japan

Public participation is vital for embedding local knowledge and community narratives within decision-making processes for urban development (Burby, 2003; Innes, 1996). Trust and hope for the future can be fostered through participation, engagement and empowerment of communities in the processes of transforming their livelihoods (Brody, Godschalk & Burby, 2003; Glackin & Dionisio, 2016). This involvement of communities in urban planning enhances the quality of plans and the chances of successful implementation (Burke, 1979). Public participation and engagement are equally fundamental for social resilience (Berkes & Ross, 2012).

Response and recovery stages both in Christchurch and Tōhoku have shown strong community participation, engagement, and initiative. Public experience of the Christchurch Earthquakes, initially at least, gave new meaning to civil society, for example through the actions of local organisations, volunteerism and marae, which are communal places that serve as meeting and support centres of Māori communities (Johnson & Mamula-Seadon, 2014). These actions were fundamental in helping people cope with repetitive disturbances caused by the shakes, and in providing care and connecting people in the recovery (Mamula-Seadon & McLean, 2015; Vallance, 2011). In Tōhoku, volunteerism, local organisations, and community leaders also had an important role in the disaster response, providing help and support for the restoration of livelihoods. Later, scholars and professionals also played a role in the recovery, by connecting with communities to build empowerment.

To answer the questions outlined in section 2 above, the following sections focus on examining several community-driven projects in Christchurch and Tōhoku after the disasters. They include an analysis of connections between community action and government-led planning, the types of community-actions in both places, and what has been achieved by the combination of centralised and community-driven actions.



Projects and interventions in Christchurch

The Christchurch rebuild has featured two divergent processes in the transformation of the city. One process has been exemplified by a centralised governmental authority, the Canterbury Earthquake Recovery Authority (CERA), established under legislation for a fixed term of five years. CERA primarily focused on the physical rebuild. There has also been a community-driven debate about the transitional potential of the city and community aspirations (Kingham et al., 2016; Wesener, 2015). This debate was initiated by a consultation campaign promoted by the Christchurch City Council (CCC) in May 2011, called Share an Idea, which collected about 106,000 responses concerning the future of the city. Despite the latter efforts, CERA's Central City Recovery Plan (CCRP) did not include public consultation or engagement actions (Bennett, 2014, Kingham et al., 2016). Instead, this plan argued that Share an Idea outcomes had already been interpreted by planning experts while creating the CCRP.

The community debate emerging in the city after the 2010 and 2011 earthquakes has nonetheless been expressed through a substantial number of projects and interventions focusing on temporary uses of vacant spaces, following the widespread demolition of downtown buildings (Wesener, 2015). A number of these projects have been undertaken by resident communities or community champions, to address local post-disaster needs (Vallance & Carlton, 2015). Others have been initiated by small groups of like-minded people with a community drive to attain broader social objectives and improve the quality of life in Christchurch (Wesener, 2015). The development of many projects has been advanced with the support of volunteerism initiatives, for example: the Student Volunteer Army, established after the first earthquake to coordinate on-street help from thousands of university students; and sponsorship by local stakeholders such as the CCC. These types of initiatives have been critical for community resilience because they have provided opportunities for people to self-organise disaster responses, while building social interconnections (Cretney, 2015).

Greening the Rubble Trust is another good example, initiated in late 2010 to create temporary gardens and small parks in spaces vacated after the earthquakes. This trust brings people with skills in landscape architecture, ecology, health, and project management together. It operates through sponsorships and donations, volunteer work, cooperation with landowners,

and through collaborating with local organisations and public authorities (Greening the Rubble Trust, 2016). In building and maintaining temporary green spaces throughout the city, the Greening the Rubble Trust has had a significant role in adding environmental and social value to several central city and suburban sites throughout Christchurch.

In 2013, in collaboration with the state Department of Conservation (DoC), Greening the Rubble developed the Nature Play Park, *Papatākarō Ao Tūroa*, shown in figure 1. The park was developed to enhance recreation in the city centre (Greening the Rubble Trust, 2016). The park, which was put in place for a period of three years, had a number of water features and offered an interactive experience to visitors through diverse landscape environments (DoC, 2013; Life in Vacant Spaces, 2016). This intervention is a good example of Greening the Rubble's work, drawing on vigorous community and stakeholder engagement to deliver a new social and natural amenity in Christchurch (DoC, 2013). However, CERA only consented to the temporary existence of such projects, without integration with the CCRP Blueprint, and did not promote similar collaborative partnerships.



Figure 1. Nature Play Park (*Papatākarō Ao Tūroa*), 203 Hereford Street, Central Christchurch, with surviving buildings behind, April 2016.¹

A second example is the Gap Filler Trust. This is a creative-led urban regeneration initiative focusing on “temporary projects, events, installations and amenities” (Gap Filler Trust, 2016, para 1). It was also founded shortly after the first Christchurch Earthquake. This group of artists, scholars and activists has had a pioneering role in defining transitional space through

¹ This photo and all other photos appearing in the current paper were produced by the first author.

its focus on imaginative social and cultural activities that reinvent urban conviviality (Gap Filler Trust, 2016; Wesener, 2015). In collaboration with other community groups, Gap Filler pioneered the utilisation of transitional spaces through the emphasis given to the ephemeral, short-term, transitory and temporary features of each intervention (Bowring & Swaffield, 2013; Wesener, 2015). Initial projects included: the Pallet Pavilion which was a short-term venue for cultural and social events; and small projects throughout the city, such as a painted piano for public use, the Dance-o-Mat, and an old refrigerator transformed into a public book exchange point.

In 2013, the Gap Filler Trust inaugurated The Commons, shown in figure 2, in the vacant centre of the city. This was a community hub for collaborative work on different projects and public events (Gap Filler Trust, 2016). The site belongs to the CCC, and currently lodges food trucks, several community groups, and space for other initiatives. The role of The Commons is to empower and involve local communities, citizens, and stakeholders in the continuous transformation of the city (Gap Filler Trust, 2016). It has been a focus of new connections between local government and local groups, supporting educational, recreational, and cultural activities that enhance street life and public engagement in Christchurch.

In recognition of the value created by these initiatives, for the social life of the city, and in reconnecting residents and visitors with the city centre, the CCC and a wide variety of local stakeholders offered support and sponsorship to Gap Filler initiatives, including The Commons. However, the CCRP Blueprint does not

integrate any of these open spaces as they are currently being used, nor does it dedicate alternative land for their continuation.

The project Life in Vacant Spaces (LiVS) began in 2012, to address a need to link temporary urban users with landowners. Successful initiatives from the Greening the Rubble and Gap Filler trusts had raised awareness of the economic and social opportunities of using vacant open spaces for communal uses. As a result, other community groups and local businesses had expressed an interest in developing similar interventions. The LiVS team integrates people with a diverse set of skills to create a facilitation platform between community groups and landowners, while assisting the development and implementation of projects in vacant open spaces (LiVS, 2016).

Over the past four years, LiVS has facilitated the creation of a number of events, temporary spaces, and small businesses in Christchurch, enhancing urban life and connectedness between communities, local authorities, and landowners. Additionally, LiVS performs an important role in the organisation and dissemination of local events with educational, recreational, artistic and communitarian purposes. In collaboration with the CCC, LiVS has been a key facilitator for the creation of new transitional projects on vacant land throughout the city centre. However, once the rebuild is advanced, there will be less vacant land available, compromising the active continuation of LiVS initiatives in the city.

Projects and Interventions in North-Eastern Japan

The rebuild in Tōhoku also features two distinct dynamics separating centralised planning from the community-driven debate. Soon after the tsunami, the Japanese government announced a plan to build sea walls in the most affected prefectures. While central government and some local governments remain confident that such walls can protect villages and towns, communities argue that they will have negative impacts on local marine ecology and scenery, while obstructing the connection between fishing villages and the sea. Also, many sea walls failed to protect land, property, and lives across Tōhoku in the 2011 Tsunami event. Some communities are more hopeful about using the rubble to raise the level of the ground, improving evacuation routes, and restricting the land use around harbours to fishery activities and public amenities, while reallocating housing to higher ground.



Figure 2. The Commons and their emblematic arcades, 70 Kilmore Street, Central Christchurch, April 2016.

In contrast to the engineering-led approach embraced by the government, a new debate emerged in Japan after the 2011 Tsunami. This debate was focused on community empowerment and the need to reinforce the socio-cultural landscape of Tōhoku. Local communities and stakeholders, scholars, and professionals have been leading projects which focus on the day-to-day needs of communities. Their contributions have illustrated the strength of this community-focused debate. Resulting initiatives have advanced with the support of nationwide sponsors, volunteerism, and pro bono support.

These initiatives include *Imagining Shibitachi* which was a project that ran until 2013 to assist the community to imagine the reconstruction of their village, after the 2011 Tsunami, as shown in figure 3. *Imagining Shibitachi* was driven by scholars from three different universities, forming a research team with expertise in urban design, architecture, history, and disaster risk management. Shibitachi is a small village of about 800 inhabitants, so it was feasible to consult the entire community about their vision for the future. Through a series of workshops and semi-structured focus groups with the community and one-on-one interviews with key informants, it was possible to identify the main aspirations of the residents, and to determine reconstruction scenarios.



Figure 3. Shibitachi Harbour, June 2011.

Shibitachi and other communities in the Karakuwa Peninsula have a long history of oyster farming in the Oshimaseto Strait and fishing for bonito in open sea in the Pacific Ocean. Opposed to the construction of a 10 metre high sea wall in Shibitachi, the community's main motivation in leading this project was to envision reconstruction scenarios promoting a more accessible relationship between local livelihoods and the sea.

The project outcomes comprised a plan for evacuation routes across Shibitachi and a series of diagrams and artist impressions, maps, and plans illustrating the main reconstruction scenarios envisioned by the community. These scenarios are shown in figure 4. The *Imagining Shibitachi* project was important because it promoted an evidence-based debate between the community and local government, supporting the community's opposition to the sea wall while providing alternative reconstruction scenarios. To the present day, the Shibitachi community continues to use the outcomes of this project to negotiate with the local government.

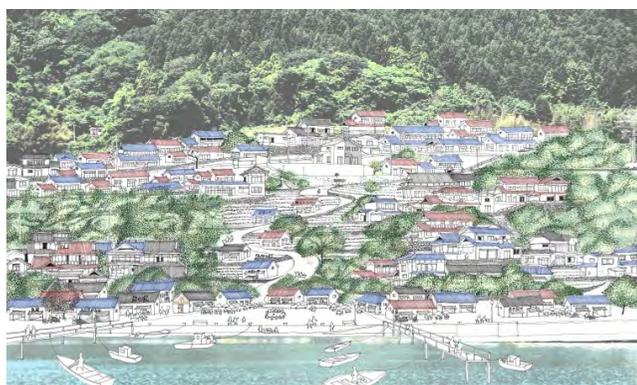


Figure 4. The future Shibitachi Harbour imagined by the community, March 2012.

The project *Home-for-All, Minna No Ie*, was initiated shortly after the 2011 Tōhoku Tsunami to help affected communities recover and rebuild. It is a non-profit organisation for the architectural design and construction of small community houses, undertaken by architects and builders together with the communities who have lived in temporary housing since the tsunami. All interventions comprise small buildings, up to 60 square metres, that can be built rapidly without consent requirements, providing common space where people can feel at home and reconnect with others. This approach has been fundamental to support communities during recovery, and many *Home-for-All* projects have emerged in different cities and towns across Tōhoku. The *Home-for-All* for Rikuzentakata is an outstanding exemplar of the initiative. According to Delicado & Marcos (2012), the construction of this building involved a strong collaboration between architects, local stakeholders, builders, community and volunteers. The structural wooden pillars of the building were provided from a local cedar forest that resisted salt exposure in the tsunami (*Home-for-All*, 2012). The cedar pillars, their resilience and strength to sustain the community house,

represent the community of Rikuzentakata, emerging stronger and more connected after the tsunami.

The positive experiences achieved through the project Home-for-All have been inspiring other projects to support the daily life of affected communities, as encouragement for recovery and rebuilding. Tōhoku Small Projects is also a design-led initiative. It started in late 2012 in collaboration with Home-for-All and focused on the construction of small public buildings such as community shelters, recreation centres, and firefighting centres. These construction projects are helpful because they bring people together in the design and construction of small community facilities, inspiring them to reconnect and thrive in the recovery process. Despite the scarce support offered by governments to such initiatives, local stakeholders and landowners seem likely to maintain the buildings throughout the rebuilding, until new public facilities are available.

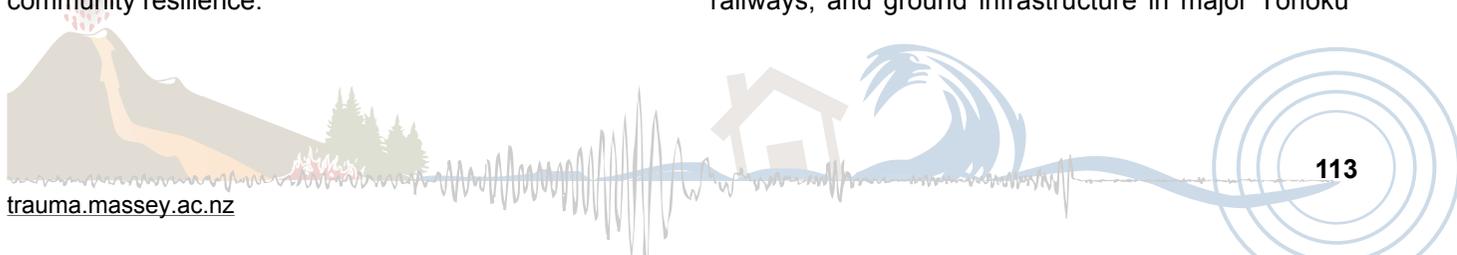
The project Tōhoku Planning Forum, TPFsquare or TPF2, was initiated in 2012 by a group of scholars and professionals who aimed to debate, map, and connect community-driven initiatives in the affected areas of North-Eastern Japan (TPF2, 2016). In a similar way to LiVS in Christchurch, the TPF2 has provided a platform to support the revitalisation of Tōhoku by linking organisations, communities, and projects across the region. The TPF2 currently offers project developers the opportunity to connect with a wide network of community-driven projects to leverage the impact of combined interventions. To this end, the TPF2 includes forums to facilitate multidisciplinary debates between organisations, sponsors, stakeholders, communities, and projects in Tōhoku together with wider international networks. This promotes the exchange of lessons and encouraging collaborations. In four years, the TPF2 facilitated new links between 170 organisations, community groups, NGOs, not-for-profits, and the academic community (TPF2, 2016). While documenting the progress of Tōhoku's revitalisation, this initiative has also been relevant for expanding debate and reflection about community-driven initiatives, allowing the continuous review of projects and encouraging the reinforcement of community capabilities as part of community resilience.

Lessons from Community-Driven Rebuilding Projects

The previous section outlined widespread evidence of community-based post-recovery activity in both Christchurch and Tōhoku. These examples seem to support a proposition from Solnit (2009), that new communities of action emerge in the wake of disaster, and new bonds of social capital are created as people self-organise to meet immediate needs. However it has also been observed that there is little alignment between such initiatives and the centralised forms of emergency response and rebuild planning favoured by the state. The Japanese government's preference for constructing tsunami defence walls, rather than drawing on local environmental knowledge of safe building sites and practices, is matched by the New Zealand government's blueprint for the downtown rebuild of Christchurch. Both examples appear to override any genuine form of ongoing public involvement.

As modern urban living has become more complex, and cities have become both more corporatised and more bureaucratised, there has been a narrowing of spaces for community action. Professionalised bureaucracy can even attempt to constrict community-based action during and following disaster events. For example, the efforts of the nascent Student Volunteer Army in Christchurch were initially side-lined by CCC staff after the September 2010 earthquake, for fear of legal or safety repercussions. Communities in North-Eastern Japan likewise faced challenges in the wake of the tsunami because official organisations were interlinked through intricate contractual relations, without authority to proceed in a more autonomous and timely manner (Shaw, 2015). Official responses also appear to have equated recovery with investment in fixed structures in a way that, bizarrely, creates "an illusion that keeps deferring the future. They push change over the horizon to some future time when the big things are fixed and the little things will follow" (Westbury, 2015, p. 70). That smaller, more locally driven, initiatives may of themselves contribute to, or even lead the planning process, seems outside a frame of reference that understands recovery as serving the interests of financial capital as much as or more than the interests of people.

This is not to decry the benefits of top-down recovery. These benefits are evident in Japan, where roads, railways, and ground infrastructure in major Tōhoku



cities were restored within a year. Engineered and often technological solutions were promptly developed and implemented, adding to the reputation of the Japanese as fast, smart, and efficient builders. However at the same time, it appears that “local knowledge has been overlooked in land use planning and risk governance” (Puppim de Oliveira & Fra.Paleo, 2016, p. 1). Five years after the 2011 Tsunami, the real challenging issues, such as the nuclear crisis, the reallocation of housing throughout the region, and the relation between the sea and waterfront land-use, remain government-led with little or no opportunity for public participation or community engagement.

In Christchurch, when an architectural forum sought to evaluate recovery at the five-year mark, there were some considerable differences of opinion. A prominent member of the official CCRP Blueprint team described how building activity “is underway on nine” of the thirteen inner city blocks of the replanned CBD, observing without irony that “Given the almost complete demolition of the CBD [which was called for by the blueprint] this is an extraordinary achievement” (cited in Marshall 2016, p. 38). A colleague from another practice reportedly agreed that “Yes, the city is being rebuilt, and at quite an astounding pace now” (cited in Marshall, 2016, p.40) but he also questioned if it is the place that the public envisioned during the CCC Share an Idea forums. The same architect stated that “we will achieve a city that is up to date in terms of earthquake resistance, the latest building codes and maximum bang for the buck for building owners ... will we still be on the New York Times list of 16 cities to be watched over the next few years? Somehow I don't think so ...” (Sheppard, 2016, p. 40).

This warning alludes to the importance of recognising the contribution of transitional activities such as Greening the Rubble and Gap Filler, Home-for-All and smaller projects in Tōhoku, alongside mechanisms designed to facilitate community-based contributions, such as LiVS and the TPF2. This is how the hackneyed phrase “building back smarter” should capture not just the desire to rebuild infrastructure. It must also make space for community and stakeholder engagement, as a conduit for community resilience through the creation, development, and implementation of post-disaster community projects. Permanence does not need to be a prerequisite for generating value (Westbury, 2015), just as being transitional is not only about filling empty urban spaces until something better comes along. Rather it

is important to recognise that places are always in the process of transformation. People can experience the fleeting, the ephemeral, the ever changing as vibrant and lively. On the other hand, when planning is done to, rather than with, the community, it does little to promote well-being (Blundell, 2015).

The resilience of cities will therefore be enhanced by the capacity to adapt urban planning mechanisms to encourage, enable, and validate community-led initiatives. The community bonds emerging after disasters and the obliteration of built form resulting from such events provide openings for more inclusive planning and organisational structures. The post-disaster experiences of both Christchurch and Tōhoku indicate that there are real opportunities to consider more dynamic approaches to land-use, taking account of the needs of both people and nature. The rupturing of the landscape, as Pickles (2016, p. 169) observed, “has shown that being open to continual change is the best way forward.” In the case of the Christchurch Earthquakes, there has been some official recognition of this through the replacement of CERA, after the conclusion of its five year term, with several new agencies. One of these agencies, Regenerate Christchurch (2016), is responsible to the central government and to the CCC for working with communities and business organisations to enhance further recovery. In Japan, the reconciliation of the two dynamics of centralised planning and local development has rested with particular local governments, and continues to depend on their commitment to this cause.

Conclusion

This paper has discussed the manner in which resilience has been fostered through community-driven projects in the wake of the 2010 and 2011 Christchurch Earthquakes and the 2011 North-Eastern Japan Tsunami. It has aimed to record the forms that these projects have taken and the ways they have contributed to recovery. Several years on from both disasters, much remains to be done in terms of formal rebuilding, social and environmental revitalisation. We have argued that this cannot be the preserve of formal, top-down approaches alone. The persistence of community-driven initiatives shows how this is the case, despite the fact that often centralised planning and community actions have followed parallel rather than integrated tracks. The findings of this research support the need for a better alignment and synergy between

communities and governments, providing evidence for urban planners, policy makers, and decision-makers about how community-led interventions can enhance the life, recovery and self-empowerment of communities.

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