

Bringing Natural Hazard and Disaster Management Planning Into Mainstream Urban and Regional Planning

A difficult journey

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In local history accounts of the founding of settlements and the establishment of towns, cities and regions there is a tendency for the physical environment to retreat as an actor or active force over time. It is as if the establishment of a city must lead ultimately to some kind of plateau or stable state in terms of threats from natural hazards. Environmental risks remain but they are thought of, and planned for, in terms of hostile intrusions that must be fought with temporary or permanent defences and they become subsumed into narratives of overcoming hence the historic and on-going use of the phrase “civil defence.” Also, disaster planning tends to fare badly in the context of day-to-day planning. Few politicians and citizens want to know about events that may displace “normal” planning altogether since normal planning is time-consuming, expensive and contentious enough without further complications over what might happen. Because of these marginalising tendencies, planning practices, the preparation of key urban planning documents and by corollary planning histories tend to bury natural disasters and disaster management as quickly as possible. In this paper I argue that despite some significant policy advances since 2002 these tendencies still compromise disaster management responsiveness and community resilience. This is the case even after the Canterbury earthquakes of 2010-2011 and a raft of new legislative amendments.

Keywords: urban planning; disaster planning; civil defence; marginality; Canterbury earthquakes

Introduction

In local history accounts of the founding of settlements and the establishment of towns, cities and regions there is a tendency for the physical environment to retreat as an actor or active force over time. It is as if the establishment of a city must lead ultimately to some kind of plateau or stable state in terms of threats from natural hazards. Environmental risks remain but they are thought of, and planned for, in terms of hostile intrusions that must be fought with temporary or permanent defences and they become subsumed into narratives of overcoming hence the historic and on-going use of the phrase “civil defence.” Also, disaster planning tends to fare badly in the context of day-to-day planning. Few politicians and citizens want to know about events that may displace “normal” planning altogether since normal planning is time-consuming, expensive and contentious enough without further complications over what might happen. Because of these marginalising tendencies, planning practices, the preparation of key urban planning documents and by corollary planning histories tend to bury natural disasters and disaster management as quickly as possible. In this paper I argue that despite some significant policy advances since 2002 these tendencies still compromise disaster management responsiveness and community resilience. This is the case even after the Canterbury earthquakes of 2010-2011 and a raft of new legislative amendments.

Hazard-blindness in settlement histories

Although environment and nature feature strongly in the histories of towns and cities, particularly those in Australasia and other parts of the “New World”, these have traditionally operated within paradigms borrowed from human geography, cultural geography and various social, economic and political theories, including Marxism and post-structuralism. Admittedly, urban history and planning history do not fit easily into particular disciplines or fields of knowledge and indeed this may be seen as a virtue rather than a shortcoming. Historical geography, human geography, urban geography, urban sociology, economic history, human ecology and environmental history all feed usefully into our understandings of how cities and urban settlements have evolved. Yet even post-colonial counter-narratives of settlement, which try to assert new cultural or new environmental influences as points of difference when considering the “how” and “why” of urbanisation and the planning practices that evolved therein, have tended to remain anchored within humanist discourses that deal principally with the surface features of new environments, typically confrontations between European settlers and new peoples, plants and animals.

While these new histories have done much to show up the often futile attempts at enforcing what Crosby (1986) refers to as “ecological imperialism” and the follies of attempting to make “neo-Europes” in the Antipodes the question of the wisdom of founding cities per se goes relatively unchallenged. And while Carter’s *Road to Botany Bay* (1987), for example, broke new ground in “spatial history” in revealing how people thought about the land they were attempting to discipline nature, nature as primary actor in urban history has rarely penetrated more polemical stories of lands half-won. Disasters and catastrophes, whether “natural” or human-induced, tend to be seen as obstacles to “progressivist” views of city-building rather than reasons to rethink settlement altogether.

In terms of the writing of more scholarly planning histories in New Zealand and Australia it must be acknowledged that the field itself is relatively young. This is particularly so since the emergence of

planning as a profession is usually traced only to the beginning of the twentieth century. Thus planning history and urban history can perhaps be excused for not engaging with or confronting the full force of some of the underlying environmental conditions that operate within Australia and New Zealand.

By contrast, others, including environmental historians, have seen fit to focus on such conditions directly. For example, Australia is a continent defined by fire regimes and cycles of severe water deficit. European settlers had almost no experience of persistent “droughtscapes” or “firescapes” as we might term them. This may explain why they managed to situate the largest urban populations within what Pyne (1992) has labelled a “fire flume.” Similarly, New Zealand is in essence an active tectonic laboratory and while early New Zealand surveyors such as Charles Torlesse often carted copies of Lyell’s *Geology* around with them as an ersatz new testament (Maling 1958) they and those who followed them as settlers knew nothing of living on seismically active landscapes. Earthquakes were something of a novelty. Nor did the planners and settlers of Australasia have great familiarity with living in a cyclonic circulatory system prior to arriving in the Southern Hemisphere but, as Pelling (2007: 25) illustrates by way of a “World hazard zones and urban centres” map, Northern Europe, for all its floods and the human carnage caused by relentless warfare over many millennia seems rather dull in terms of natural environmental turbulence while New Zealand seems like a cornucopia of hazard conditions. In light of this it is interesting that a comprehensive and scholarly work on environmental history in New Zealand published in 2002, contained no chapters or sections on natural hazards (Pawson and Brooking 2002).

In other words, while our colonial planning ancestors have thrust us into a strange and volatile set of circumstances our evolving planning history narratives still tend to hinge on questions about influences, designs and utopian ideas from Europe and North America and I myself have been a contributor in this regard (Montgomery 2006, 2008). It is as if the only hazards that mattered in the past in our conventional centre-to-periphery narratives were grounded in Malthusian thinking i.e., “What to do with surplus peoples?”, or they were geo-politically preoccupied i.e., Europe was inherently war-prone and the Antipodes appeared inherently peaceable so that, plus an abundance of natural resources, made these far-flung places very attractive for new settlements. Planning thus became a matter of doing a better job of providing housing, amenity and essential services compared to practices in the old country.

Through the past century we have of course learned much more about nature, natural hazards and the limits of human abilities to “tame” the natural world. This knowledge has developed by way of both disasters and catastrophes and the unhurried good habits i.e., theorising and testing, of normal science. Yet interestingly, many of the catastrophes and such highly scientific and empirically robust information seem to have had little influence on our planning institutions, practices and core planning documents. Part of the problem lies with the historical, and to some extent continuing, notion of “civil defence” as a separate and special type of planning.

“Civil defence” versus natural hazard and disaster planning

In the United Kingdom the origin of “civil defence” is often connected with concerns over possible aerial bombardment in the aftermath of World War I. The Air Raid Precautions (ARP) subcommittee was set up in 1924 in the Imperial Office and an ARP department established in the Home Office in

1935. That set the tone for later developments: staffing, planning and resourcing drew mainly from military defence sources. New Zealand more or less followed suit. Following the Murchison earthquake in 1929 and the Hawke's Bay earthquake in 1931 New Zealand established the Public Safety Conservation Act in 1932 but the prime motivation for this was fear of civil unrest resulting from the Depression (Ministry of Internal Affairs 1990 p.3). The Emergency Precautions Committee of 1936 and the Emergency Precautions Scheme of 1938, housed within the Department of Internal Affairs, came next and these were instituted because of priority fears about earthquakes, air-raids and poison-gas attacks. The prime preoccupation then switched rapidly to enemy attack for obvious reasons and the nascent agency tended to shift between the Ministry of Defence and the Department of Internal Affairs over the next decade depending upon perceived military threat. The change of name to the Ministry of Civil Defence in 1943 reflected reduced anxiety about imminent enemy invasion. However, the basic philosophy was that trained local civilian volunteers would provide the main defence and the training was military-based. Membership tended to ebb and flow depending on the action in other theatres of war.

In 1953 arrangements were substantially overhauled and I quote a commentary about this change at length:

This renewed interest appears to have been bought about by a perceived danger of nuclear attack. In both Britain and in the United States such perceptions had led to civil defence legislation, and in 1953 New Zealand followed suit. Although the Local Authorities Emergency Powers Act did contain provisions designed to deal with natural disasters, the nuclear threat was its primary concern.

Under the Act, local authorities were given powers 'at any time (whether during a period of emergency or otherwise)' to set up committees or emergency posts, and to arrange for the rescue of the injured, the removal of debris and the satisfaction of accommodation and welfare needs. Apart from loans which might be provided by the Local Authorities Loans Board, there was to be no financial assistance from the central government.

The legislation contained other weaknesses. There was no requirement for local authorities to set up civil defence organisations, unless during an emergency the Minister of Internal Affairs issued written instructions. Further, there was no legal provision for the requisitioning of essential supplies, there were no sanctions to enforce compliance with local authority directives, and no mention was made of compensation for death or injury suffered while carrying out emergency work. (Ministry of Civil Defence, 1990: 5)

At the same time the Government reserved the right to have its own overriding national plan when required so in 1954 a Government Action in a Major Emergency (GAME) plan was added. I have quoted at length above and added this note because it reflects a fundamental condition that has changed little over the past sixty years: delegation of responsibility to local authorities with insufficient resourcing, ill-defined liability protection, lack of standardisation for local body compliance and the threat of central government intervention at short notice. That an official and putatively general purpose *Civil Defence Handbook*, published by the Government in 1968, could still be entirely about defence against armed foreign attack illustrates the slow pace of development.

There have of course been legislative overhauls, notably in 1959 when the Ministry of Civil Defence was established and in 1983 when a new Civil Defence Act was passed which added regional councils and other agencies as participating and authorised organisations such as the Fire Service and New Zealand Police and which sought to reorient planning away from Cold War thinking only. In 1999 a new Ministry of Civil Defence and Emergency Management (MCDEM) was created and in 2002 the Civil Defence and Emergency Management Act (CDEMA) was passed. This saw the establishment of mandatory regional Group Plans for the sixteen local government regions in the country, and the lessons provided by a number of disasters such as the Inangahua earthquake and the *Wahine* storm both of which occurred in 1968, and the Abbotsford Slip of 1979 produced their own amendments to regulation and practice. Yet despite such refinements the Canterbury earthquakes of 2010-2011 brought some of the issues of fifty years before back to the fore.

The Canterbury Earthquakes 2010-2011

The first magnitude 7.1 earthquake, on September 4, 2010 was alarming and damaging but in some respects straightforward. There were no fatalities and despite widespread liquefaction in the suburbs which irreparably damaged a number of houses and damage to the central city which shook several of the older buildings to the point of no return it was possible for a Local State of Emergency only to be imposed and this lasted just a few days. New legislation was drafted to assist with recovery and a Minister appointed but the process of recovery and reconstruction was to be left in the hands of the respective city and district councils. The mood was upbeat:

Christchurch City Council Media Release 16 September 2010: The state of emergency has been lifted from the Christchurch City Council Area.

“We are now moving from a state of emergency to a state of urgency,” says Christchurch Mayor Bob Parker. “We will be operating under the new powers brought in under the Canterbury Earthquake Response and Recovery Bill, but transferring from a civil defence situation and back closer to business as usual.”

“This doesn’t change the fact that many people are still facing great difficulties, and resolving these issues will continue to be a focus as we rebuild our region. As mayors we have jointly dedicated ourselves to finding as many lasting solutions as possible.” (Christchurch City Council 2010)

Even so, there were problems with Civil Defence arrangements. Some suburbs were left without Area Co-ordinators and Welfare Centres as staff, many of them keyholders, were mistakenly redirected to less damaged locations. Communications between agencies were poor.

The 6.3 magnitude aftershock which struck on February 22, 2011 made the previous event seem almost insignificant. 185 people perished in collapsed buildings or from falling masonry or rocks. Hundreds of central city buildings were so badly damaged that urgent make-safe or demolition work had to be carried out. Thousands of suburban homes were written off thanks to liquefaction and lateral spreading. The official emergency response was clearly overwhelmed. The pre-determined Civil Defence headquarters were uninhabitable. There was confusion about whether local Civil Defence arrangements stayed in place when things escalated to National Emergency level. There

was hostility and rivalry between Canterbury Regional Council Civil Defence personnel and Christchurch City Council Civil Defence staff which forced the National Controller to fly down from Wellington to intervene against standard protocol. There were problems over who had authority to requisition supplies, resources and facilities. Damaged buildings that were not necessarily threats to life were summarily pulled down on the orders of people who lacked the proper or authority. Damaged buildings that were threats to life but which had been signed off as safe to occupy after September 2010 by sometimes inexperienced and inappropriately briefed officials led to catastrophic consequences in the major aftershock of February 22nd 2011. There were chronic shortages of suitably qualified building and structural engineers.

A comprehensive review of the official national emergency response period (22 February to 30 April 2011) was conducted in 2012 which elaborated on the points above (McLean et al, 2012). The review produced a list of 108 recommendations which the Government responded to later in the year with a *Corrective Action Plan* (Minister of Civil Defence 2012). The Government accepted some, but not all, of these recommendations, notably rejecting key recommendations that “territorial local authorities no longer have power to control the response to emergencies, but that they still retain the power to declare them” and that the Ministry of Civil Defence and Emergency Management be moved from the Department of Internal Affairs to the Department of Prime Minister and Cabinet (McLean et al p.202).

There was an understandable reluctance to take such radical steps at this time. The Canterbury Earthquakes Royal Commission, established in March 2011 to examine issues relating to the built environment in the central business district, including the Canterbury Television Building, the Pyne Gould Corporation Building and others and to make recommendations regarding building codes and other matters, had just released its final reports (Canterbury Earthquakes Royal Commission 2012). A Coronial Inquest into the 185 deaths was still in process and several internal and external reviews of key agencies were producing their own findings (Ministry of Civil Defence and Emergency Management 2012, New Zealand Fire Service 2011, Pilling 2012).

Furthermore, central Government was already busier than it would have preferred. A new Crown entity, the Canterbury Earthquake Recovery Authority (CERA) had been created in 2011 and CERA had become involved in central city recovery and created another new entity, the Central Christchurch Development Unit (CCDU), which was tasked with producing a Christchurch Central Recovery Plan (CERA 2012). This was in spite of the fact that not long before the Christchurch City Council had produced its own Central City Plan after an extensive public consultation exercise known as “Share an Idea” (Christchurch City Council 2011). Many saw the CERA/CCDU Plan as a political move to force major “anchor projects” and more business-friendly redevelopment on the city than the citizens, Mayor, Councillors and staff had envisaged or desired. CERA also set about producing a Canterbury Earthquake Recovery Strategy in 2011-2012 (CERA 2012) and began work on a Land Use Recovery Plan in the same year (CERA 2012a).

More controversially the Government was immersed in complex land zoning decisions and buy-out negotiations with more than 5000 individual residential property owners. This involved the “red-zoning” for an indefinite period of substantial parts of the eastern suburbs of the city as land too prone to liquefaction and lateral spreading to permit residential housing and red-zoning of areas of the southern hill suburbs as too dangerous for occupation due to on-going rockfall risk. Central

Government has insisted, and continues to insist, that when the technology becomes available to remediate the land most of it will be returned to residential housing. But the move has begged the question as to whether this in fact retrospective natural hazard land-use planning or “planned retreat” by another name.

At the community level and, as I have described elsewhere, another problem with the Civil Defence response was the interface with so-called spontaneous volunteers (Montgomery 2013). Sector Posts that were supposed to open did not. Designated Welfare Centres were opened, only to be arbitrarily closed again and then re-opened after protests from other agencies. Impromptu welfare centres or tent cities were created at schools and church halls in hard-hit locations without due recognition or assistance from Civil Defence for several days. Since many of these spontaneous self-help initiatives were run without trained Civil Defence volunteers, and, conversely a number of trained volunteers found themselves by-passed or not activated by the Regional Civil Defence Group, it became clear that the residual command and control philosophy of the organisation that had survived since the 1930s was too inflexible to deal with the reality of sporadic and uneven but otherwise widespread and overwhelming events. And rather than energise Civil Defence and Emergency Management in the region the earthquakes seem to have caused a slow-down in the review of the Group Plan which was due for review by 2010 and has increased rather than decreased its pre-existing opacity to the public.¹

Recent advances in natural hazard and disaster management planning

Despite the controversy, delays and political and institutional fall-out that almost invariably follow catastrophic events such as those described above some concrete actions can be expected. Building codes and building regulations usually change to reflect natural hazards and risks and it has been typical in New Zealand and elsewhere for key building safety changes to come about directly after disasters such as storms, floods, fires, landslides and earthquakes. This was evident in the wake of earlier earthquakes in San Francisco in 1906 and Napier in 1931. In recent times the 1989 Loma Prieta, 1994 Northridge and 1995 Kobe earthquakes have led to regulatory changes, albeit with considerable delay in the case of strengthening requirements for so-called “soft story” buildings in San Francisco which came into force only in 2013 (Los Angeles Times, 2013). The lessons from such events have on occasions been written up in within dedicated urban and regional planning discourses (Olshansky 2002, Olshansky et al. 2005). The catastrophic bushfires in Victoria in 2009 led to Royal Commission investigations and reports which produced no less than twenty-five planning, building and land-use recommendations (recommendation nos. 37-62), most of them aimed at local authorities (2009 Victoria Bushfires Royal Commission 2010; 31-36). And although there is still much debate about what practical lessons have been learned in the wake of Hurricane Katrina in New Orleans in 2005 (Olshansky and Johnson 2010) there has been a swift, comprehensive and ambitious response to the effects of Hurricane Sandy on a number of states on the United States East Coast in 2012 in terms of proposed new government housing regulations (Hurricane Sandy Taskforce, 2013)

In terms of fundamental changes to core planning legislation, or mainstreaming what has often been marginal to planning, the process rarely moves rapidly. To return briefly to the New Zealand historical context it will be recalled that the Local Authorities Emergency Powers Act was passed in 1953. This was the year in which the first Town and Country Planning Act was passed following review of the Town Planning Act of 1926. There was no mention of natural hazards in the new

statute. A later review and overhaul which led to the Town and Country Planning Act 1977 introduced some modest references to natural hazard planning. For example, under Section 8 (a) of the Act District Schemes had to avoid or mitigate the effects of “earthquake, geothermal and volcanic activity, flooding, erosion, landslip, subsidence, silting, and wind” while Regional Schemes under 4 (c) required the following from regional planning authorities:

“General identification of areas to be excluded from future urban development, including land of high productive capability, land subject to hazards such as flooding and earth movement, land with high aesthetic or recreational value, and land to separate and to enhance the appearance and setting of cities and towns” (Town and Country Planning Act 1977)

It should be noted that at this time most major land and resource developments in New Zealand were still being carried out by central government which meant that there was not as great a degree of discretion and responsibility as the wording suggests.

A much more radical and decentralising overhaul of planning legislation was carried out in the late 1980s resulting in the Resource Management Act (RMA) of 1991. While the Act introduced new concepts and principles such as sustainability, stewardship, amenity values, intrinsic values of ecosystems and recognised customary activities it did not identify natural hazard management as a priority and it was not included under “Matters of National Importance” in Section 6, nor were natural hazards referred to in Section 7 “Other Matters.” There were express clauses in the RMA, notably Section 30 and Section 31, that referred to planning for natural hazards and some tentative steps were taken via newly-instituted Regional Policy Statements that could include natural hazard clauses (Canterbury Regional Council 1992) but the interfaces with normal planning processes were typically minimal and often uneven as others have shown (Becker and Johnston 2002).

Nevertheless, from the early 2000s, and perhaps buoyed by the new CDEM Act, a flurry of research and policy guidance around natural hazards planning took place in New Zealand, including the creation of the Joint Centre for Disaster Research, established in 2006, and the Natural Hazards Research Platform in 2009 led by the Institute of Geological and Nuclear Sciences (GNS).² A steady flow of physical science, social science and policy-linked reports emerged from these sources including some that specifically addressed planning legislation and policies (Becker and Johnston 2000; Becker et al. 2008; Glavovic et al. 2010) and community response resilience (Becker et al. 2011). Other publications emerged, ranging from wide-ranging symposium proceedings (Norman 2004) and popular natural history books (Te Ara Encyclopedia of New Zealand 2007) to investigations on fault line setbacks near Wellington by the Parliamentary Commissioner for the Environment (Parliamentary Commissioner for the Environment 2001) and regional hazard histories (Johnston and Pearce 2007).

The Government produced its own National Civil Defence Emergency Management Strategy 2003-2006 (MCDEM 2004), a follow-up version in 2007 (MCDEM 2008), a National Civil Defence Plan (MCDEM 2005) and a “Hazardscape” report (ODESC 2007). In terms of collective scholarship regarding disaster planning *Disaster Resilience: an integrated approach* (Paton and Johnston 2006) seems like a high water mark for advice to central and local government in New Zealand and elsewhere. No doubt some of the impetus came from the Boxing Day Tsunami in the Indian Ocean in 2004 and Hurricane Katrina in 2005.

Responses from the Planning Profession

With such activity one might expect that urban and regional planners themselves would have lost no time in coming to grips with natural hazards. However, uptake appears to have been slow both here and in Australia. King (2006: 289-290) observes that as of 2005 the Planning Institute of Australia had little to say about the role of planners in natural hazard mitigation and emergency management. The more comprehensive overviews of Australian planning history in recent years contain little if any reference to natural hazards (Freestone 2010) and the 1997 Australian Town and Country Planning Association's "Charter for Planning," which contains a long list of principles, duties and obligations, makes no reference to hazard mitigation (Freestone 2009: 363-367). Very recently has the Australian situation appears to have changed. The Planning Institute of Australia adopted a new policy in 2013 entitled "Planning Matters: Shaping the World Today for Tomorrow." One of the core activities is quoted as follows: "Planning helps identify hazards and reduce risks; it also identifies and protects" (Planning Institute of Australia 2013).

The New Zealand Planning Institute (NZPI) has yet to embrace this view. Neither the NZPI Code of Ethics nor its 2013-2016 Strategic Plan makes any mention of natural hazards or reducing risks.³ The *New Zealand Planning Quarterly* is the principal outlet for planning ideas in the profession and academia and in such a small country it is expecting too much to demand a periodical on emergency management or disaster and trauma studies such as those to be found in Australia. *Planning Quarterly* has a patchy record on natural hazards. It ran special sections on disasters and hazards in March 1998, natural hazards in September 2005 and "planning for natural hazards" in September 2008 plus it has included occasional articles across various years but the authors of such articles tend to come from the same pool i.e., the (Crown Research) Institute of Geological and Nuclear Sciences (GNS) or the Joint Centre for Disaster Research which is partnered with GNS than the ordinary planning fraternity.

Signs of change in core New Zealand planning documents

In October 2011 the Government convened a Technical Advisory Group to report on Resource Management Act Principles and natural hazards in particular. This produced the following section in a subsequent report (NB. Although bullet points are used in the official report the items are numbered here for the purpose of discussion):

Natural hazards:

1. A provision requiring decision-makers to recognise and provide for issues around natural hazard risks should be incorporated in s.6 of the RMA – the wording of the provision to be, "managing the significant risks associated with natural hazards."
2. Retain the RMA definition of natural hazards. Further work should be undertaken on alignment of the definition across all relevant legislation, in particular to take account of the differing "return periods" for natural hazards.

3. Amend provisions specifying matters to be considered in preparing RPS and plans to specifically refer to CDEM Group management plans as a matter which must be considered.
4. Regional councils should have the lead function of managing all the effects of natural hazards. Territorial authorities are to retain their current function in regard to natural hazards.
5. There should be one combined regional and district natural hazards plan.
6. This plan should be required to be operative within three years of enactment of the empowering legislation.
7. Require local authorities to make information about natural hazards available to all other local authorities within their region. This requirement should be drafted to expressly override any constraints arising from other legislation on information sharing, including the Privacy Act 1993 and the Local Government Official Information and Meetings Act 1987.
8. Section 106 be amended to expressly include liquefaction and lateral spreading, along with any other consequences of the events included in the definition of “natural hazard” in s.2.
9. Section 106 be amended to reflect the risk associated with any natural hazard, rather than the likelihood of the event.
10. Section 106 be amended so that the consent authority must refuse consent if there will be a significant increase in the risk associated with any natural hazard.
11. That the potential to extend the scope of s.106 to include land use consents issued by regional councils be investigated.
12. That the Government promulgate a NPS [National Policy Statement] or NES [National Environmental Standards] on the management of natural hazards. (Ministry for the Environment 2012: 13)

In turn this led to a more formalised reform package, announced in August 2013, which has sought to embed some of the recommendations above. For example, with reference to point 1 above, natural hazards has been added as a new clause in Section 6. “Matters of National Importance” (Ministry for the Environment 2013). Regarding points 5 and 6, which would seem to mark a substantive change to natural hazards planning compared to the past, there is no mention in the proposed reforms of combined regional and district natural hazards plan. Similarly, with regard to point 12 there has been nothing specific set out in the reform package about a NPS or NES about natural hazards, merely generic proposals to streamline the creation of such policy instruments.

There have, however, been some immediate responses at the regional and local level, particularly with regard to points 4 and 7. For example, the Canterbury Regional Council has revised and recently

released its Regional Policy Statement. There are several references to natural hazards across a number of issues and a separate Natural Hazards Chapter (11) which includes a new policy on earthquake hazards, Policy 11.3.3 – Earthquake hazards which states:

New subdivision, use and development of land on or close to an active earthquake fault trace, or in areas susceptible to liquefaction and lateral spreading, shall be managed in order to avoid or mitigate the adverse effects of fault rupture, liquefaction and lateral spreading. (Canterbury Regional Council 2013: 116)

This new section has, of course, been crafted in light of the Canterbury earthquakes but it also sets out in detail new working relationships and obligations between the regional council and territorial local authorities over earthquake hazards signalling a determination to take a co-operative approach with the regional council acting as a key information source for local authorities for hazard identification, land-use and subdivision policies and rule-setting and it is expected that local authorities will feed back any critical new information to the regional council on fault rupture, lateral spreading and liquefaction. For its part when Christchurch City Council, the largest territorial authority in the Canterbury region, announced in August 2013 the start of its District Plan review which is slated to take a fast-tracked three-year period and a new structure to the Plan is anticipated that divides the Plan into two sections, Recovery and Non-recovery (Christchurch City Council 2013). Natural Hazards will apparently form a separate Chapter in the Recovery Section.

Yet much of the “devil”, so to speak, lies within core regulatory sections and clauses of RMA such as Section 106 referred to above under points 9, 10 and 11. Local and regional authorities will be anxious to if that section is indeed strengthened to allow them to refuse resource consents on the grounds of risk from natural hazards when the reform package is passed into law in 2014. In that sense it may be easier politically for Government to commit only to a NPS on Natural Hazards, especially in an election year, as to date such “statements” have tended to function more at the aspirational than operational level.

Conclusion: From historic marginality to future centrality?

The initiatives and changes outlined in the section above are encouraging signs that natural hazard planning is moving from the margins to the mainstream in New Zealand planning. Whether this would have happened without the Canterbury Earthquakes is perhaps a moot point. The report *Natural Hazards 2012*, compiled by a number of experts via from New Zealand research institutions via the GNS Natural Hazards Platform, provides a useful summary of how the Canterbury earthquakes, especially the findings of the Canterbury Earthquakes Royal Commission, are helping to reshape policy and standards across institutions and mechanisms such as the Ministry of Building, Innovation and Employment, the Building Code and the Building System Improvement Programme (Pinal et al. 2012: 6-7). Even more recently, the National Institute of Water and Atmospheric Research (NIWA) published a report commissioned by the West Coast Regional Council on offshore marine earthquake hazards which shows a substantially-increased risk of seismic and tsunami risk for the upper half of the West Coast which is already extremely vulnerable to the high-risk Alpine Fault that runs through much of the South Island (NIWA 2013).

Presumably, this and other research currently under way will assist in shaping land-use policies in the future in regions and cities around the country but it will not translate immediately into hazard mitigation in land-use planning. It is also important to remember that there is a tendency for people and institutions to forget risks once enough time has passed. Confusion about who controls what is another impediment. Despite the progress described above in New Zealand about planning for natural hazards, civil defence and emergency management remains awkwardly disposed across both central government and regional councils and territorial authorities. Similarly, local communities find it hard to find the appropriate interfaces with civil defence as an entity or “storefront”.

The Ministry of Civil Defence and Emergency Management is a small unit of central government nested within the Department of Internal Affairs. Regional Civil Defence Groups are comprised of the Regional Council and the Territorial Local Authorities within a region which in the case of Canterbury means at least ten organisations that have some role in emergency management. Yet the publicity and public awareness campaigns and information tend to come from central government. Furthermore, many of the functions and roles of emergency management within regional and local authorities are piggy-backed on conventional day-to-day roles. This creates potential conflicts in terms of priorities. Immediate “peace-time” planning needs tend to displace disaster planning and taxpayers and ratepayers often seem apathetic when asked to pay for and participate in emergency practice scenarios.

Interestingly, an announcement was made in November 2013 by Government that the Ministry is to be moved from the Department of Internal Affairs to the Office of the Prime Minister and Cabinet in 2014 in line with the aforementioned key recommendation, initially rejected, from McLean et al. (2012). While this is an indication that Government now takes civil defence more seriously it has yet to follow the other key recommendation: to remove the control of civil defence emergencies from local government. So, the current opacity around civil defence organisation and community engagement at the local operational or day-to-day level in Canterbury, for example, seems destined to stay that way for the time being. Civil defence will still have to ride on the back of day-to-day council functions.

Added to that, the reality of natural disaster events is such that no amount of formal planning activity nor any sophisticated command and control structures will be able to fully cope with what unfolds. Much of the response burden will fall on the capacities of local communities and spontaneous and trained volunteers. The National Research Council (2012: 39) argues that “Disaster management is a holistic function that cannot be successful if it does not engage the full fabric of the community.” The authors quote William Waugh, an emergency management expert, as follows:

We have a long history of volunteerism in emergency management in the United States and should always expect that volunteers will be a significant segment of our disaster response operations. Most fire departments today are still volunteer organisations. Most search and rescue is done by neighbours, family members and friends. Faith-based and secular community groups increasingly have their own disaster relief organisations and the capabilities of those organisations are increasing rapidly. The point is that we have a system in place for dealing with large and small disasters that is heavily reliant upon local resources and local capacities. (Waugh 2007 cited in National Research Council 2012: 40)

With that in mind it is clear that more needs to be one integrate hazard planning into “business as usual” urban and regional planning and to raise hazard awareness in public contexts. Urban historians and planning historians can assist in this process by giving greater emphasis in their writing to natural hazards, disasters and environmental risks and their roles in city and regional histories. At least then the record of wise or imprudent planning and land-use choices will be better collected and may help to support difficult but sensible planning decisions, such as planned retreat, in the future.

¹ The website in particular seems to have been struck by paralysis there being no media releases available at the time of writing this paper: <http://www.cdemcanterbury.govt.nz/media-releases/> [accessed 5 September 2013]. The CDEM Canterbury Facebook page functions principally to post alerts or warnings <https://www.facebook.com/CanterburyEM> [accessed 5 September 2013]

² For Joint Centre for Disaster Research see: http://www.massey.ac.nz/massey/learning/departments/school-of-psychology/research/disaster-research/disaster-research_home.cfm [accessed 5 September 2013]. For Natural Hazards Research Platform see <http://www.naturalhazards.org.nz/> [accessed 6 September 2013].

³ See http://www.planning.org.nz/Category?Action=View&Category_id=375 [accessed 3 September 2013] and http://www.planning.org.nz/Folder?Action=View%20File&Folder_id=262&File=2013-2016-Strategic-Plan.pdf [accessed 3 September 2013].

References

- 2009 Victoria Bushfires Royal Commission (2010) *Final Report Summary*, Melbourne, Government Printer for the State of Victoria,
http://www.royalcommission.vic.gov.au/finaldocuments/summary/PF/VBRC_Summary_PF.pdf
 [accessed 6 September 2013]
- Becker J, Johnston D (2002) “Planning for earthquake hazards in New Zealand: a study of four regions”, *Australian Journal of Emergency Management*, 2-8
- Becker J and Johnston D (2000) *Planning and Policy for Earthquake Hazards in New Zealand*, Lower Hutt, Institute of Geological and Nuclear Sciences Limited.
- Becker J, Johnson D, Daly M, Paton D, Mamula-Seadon L, Petersen J, Hughes M, Williams S (2011) *Building Community Resilience to Disasters: a practical guide for the emergency management sector*, GNS Science Report 2011/09.
- Becker J, Saunders W, Hopkins L, Wright K and Kerr J (2008) *Pre-event recovery planning for land-use in New Zealand: an updated methodology*, GNS Science Report 2008/11.
- Canterbury Civil Defence and Emergency Management Group (2005) *Canterbury Civil Defence and Emergency Management Group Plan 2005-2010*, Christchurch, Canterbury Civil Defence and Emergency Management Group.
- Canterbury Earthquake Recovery Authority (2011) *Christchurch Central Recovery Plan*, <https://ccdu.govt.nz/sites/ccdu.govt.nz/files/documents/christchurch-central-recovery-plan.pdf>
 [accessed 5 September 2013]

Canterbury Earthquake Recovery Authority (2012) *Recovery Strategy for Greater Christchurch*, <http://cera.govt.nz/sites/cera.govt.nz/files/common/recovery-strategy-for-greater-christchurch.pdf> [accessed 5 September 2013]

Canterbury Earthquake Recovery Authority (2012a) *Draft Land Use Recovery Plan*

<http://cera.govt.nz/sites/cera.govt.nz/files/common/draft-land-use-recovery-plan-2013-07-06.pdf> [accessed 5 September 2013]

Canterbury Earthquakes Royal Commission (2012) *Reports Volumes 1-7*. [Accessible via: <http://canterbury.royalcommission.govt.nz/Commission-Reports>]

Canterbury Regional Council (1992) *Managing Natural Hazards in Canterbury: towards a Regional Policy Statement*, Christchurch, Canterbury Regional Council.

Canterbury Regional Council (2013) *Canterbury Regional Policy Statement*

<http://ecan.govt.nz/publications/Plans/canterbury-regional-policy-statement.pdf> [accessed September 5 2013]

Carter p (1987) *The Road to Botany Bay: an essay in spatial history*, London, Faber and Faber.

Christchurch City Council (2010) State of Emergency Status Media Release 16 September <http://www.ccc.govt.nz/thecouncil/newsmedia/mediareleases/2010/201009161.aspx> [accessed 6 September 2013]

Christchurch City Council (2011) Draft *Central City Plan for Ministerial approval December 2011*, <http://resources.ccc.govt.nz/files/CentralCityDecember2011/CentralCityTechnicalAppendices/CentralCityPlanTechnicalAppendicesA-D.pdf> [accessed 5 September 2013]

Christchurch City Council (2013) District Plan Review

<http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/districtplanning/districtplanreview/index.aspx> (accessed 4 September 2013)

Cole L and Connell N, editors (2012) *Local Planning for Terror and Disaster: From Bioterrorism to Earthquakes*, Hoboken, John Wiley and Sons.

Crosby, A. (1986) *Ecological Imperialism: The Biological Expansion of Europe*, Cambridge: Cambridge University Press.

Freestone R (2010) *Urban Nation: Australia's Planning Heritage*, Collingwood, CSIRO Publishing.

Freestone R, editor (2009) *Cities, Citizens and Environmental Reform: Histories of Australian Town Planning Associations*, Sydney, Sydney University Press.

Glavovic B, Saunders W, Becker J (2010) "Realising the potential of land-use planning to reduce hazard risks in New Zealand", *Australasian Journal of Disaster and Trauma Studies*. 2010(1).

Hannigan J (2012) *Disasters without Borders: the international politics of natural disasters*, Cambridge, Polity Press.

Johnson D and Pearse L, editors, (2007) *Hazards in Hawke's Bay*, Hawke's Bay Regional Council.

King D (2006) "Planning for Hazard Resilient Communities", Paton D and Johnston D, editors, *Disaster Resilience: An Integrated Approach*, Springfield, Charles C Thomas, pp. 288-304.

Kusumasari B, Quamrul A and Siddiqui K (2010) "Resource capability for local government in managing disaster", *Disaster Prevention Management* **19** No. 4 438-451.

Los Angeles Times (2013) "Sweeping earthquake safety rules imposed in San Francisco", April 18 <http://articles.latimes.com/2013/apr/18/local/la-me-ln-san-francisco-soft-story-retrofit-20130418> [accessed 5 September 2013]

Maling P (editor) (1958) *The Torlesse Papers*, Christchurch, Caxton Press.

McLean I, Oughton D, Ellis S, Wakelin B, Rubin C. (2012) *Review of the Civil Defence Emergency Management Response to the 22 February Christchurch Earthquake*, Wellington, Ministry of Civil Defence and Emergency Management.

Minister of Civil Defence (2012) *Corrective Action Plan - following the Review of the Civil Defence Emergency Management Response to the 22 February 2011 Christchurch Earthquake*, Wellington.

Ministry of Civil Defence (1990) *Civil Defence in New Zealand: a short history*.

Ministry of Civil Defence (2004) *Resilient New Zealand: National Civil Defence Emergency Management Strategy 2003-2006*, Wellington.

Ministry of Civil Defence (2008) *National Civil Defence Emergency Management Strategy 2007-2010*, Wellington.

Ministry of Civil Defence and Emergency Management (2012) *CDEM Capability Assessment Report Parts 1 and 2*, Wellington, Ministry of Civil Defence and Emergency Management.

Ministry for the Environment (2012) *Report of the Minister for the Environment's Resource Management Act 1991 Principles Technical Advisory Group*, <http://www.mfe.govt.nz/publications/rma/tag-rma-section6-7/tag-rma-section6-7.pdf> [accessed 5 September 2013]

Ministry for the Environment (2013) *Resource Management Summary Reform Proposals*

<http://www.mfe.govt.nz/publications/rma/resource-management-summary-reform-proposals.pdf> [accessed 5 September 2013]

Montgomery R (2006) "Circling the Square: the role of 19th century maps in a contemporary planning debate," Miller C. and Roche M (editors) *Past Matters; Proceedings of the 8th Australasian*

Urban History/Planning History Conference, Massey University, Wellington, 9-11 February 2006. pp. 359-372.

Montgomery R (2008) "Diffident cities: town design as a collaborative process in the planned company settlements of South Australia and New Zealand in the mid-nineteenth century", *Planning Perspectives* **23** 1 (April), 241-248.

Montgomery R (In Press Dec 2013) "Filling the Gaps from the Christchurch Earthquakes 2010-2013: Greening the Rubble and the Mt Pleasant Community Response Plan as two local initiatives", Shaw R, Neef A (editors) *Risk and Conflicts: Local Responses to Natural Disasters, Community, Environment and Disaster Risk Management v.14*, Bingley, Emerald Group Publishing Limited.

National Institute of Water and Atmospheric Research (2013)

<http://www.niwa.co.nz/news/scientists-assess-earthquake-potential-of-faults-close-to-west-coast> [accessed 6 September 2013]

National Research Council (2012) *Building Community Disaster Resilience Through Private-Public Collaboration*, Washington, National Academies Press.

New Zealand Fire Service (2011) *New Zealand Fire Service Chief Executive & National Commander's inquiry into the fire service operational response to the February 2011 earthquake in Christchurch*, Wellington, New Zealand Fire Service.

New Zealand Government. "MCDEM shift will strengthen emergency management and resilience", media release 19 November 2013, <http://www.beehive.govt.nz/release/mcdem-shift-will-strengthen-emergency-management-and-resilience> [Accessed 3 December 2013].

New Zealand Ministry of Civil Defence (1968) *Civil Defence Handbook General Information*, Wellington, Department of Internal Affairs.

Norman S, editor (2004) *Proceedings of the New Zealand Recovery Symposium, 12-13 July 2004*, Wellington, Ministry of Civil Defence and Emergency Management.

Office of the Minister of Civil Defence (2012) (To Chair Cabinet Committee on Canterbury Earthquake Recovery) *Review of Civil Defence Emergency Management Response to the 22 February Christchurch Earthquake*.

Office of the Parliamentary Commissioner for the Environment (2001) *Building on the Edge: the use and development of land on or close to fault lines*, Wellington.

Officials' Committee for Domestic and External Security Coordination (ODESC), Department of the Prime Minister and Cabinet (2007) *National Hazardscape Report*, Wellington.

Oliver-Smith A and Hoffman B, editors (1999) *The Angry Planet: Disaster in Anthropological Perspective*, New York, Routledge.

Olshansky R (2002) "Planning for Disasters", *Journal of the American Planning Association*, **68** No.4 453-454.

Olshansky R and Johnson L (2010) *Clear as Mud: Planning for the Rebuilding of New Orleans*, Chicago, American Planning Association.

Olshansky R, Johnson L, Topping K (2005) *Opportunity in Chaos: Rebuilding after the 1994 Northridge and 1995 Kobe Earthquakes*, Urbana-Champaign and San Francisco, University of Illinois and Laurie Johnson Consulting.

Pawson E, Brooking T (editors) (2002) *Environmental Histories of New Zealand*, Melbourne, Oxford University Press.

Pelling M (2007) *The Vulnerability of Cities: Natural Disasters and Social Resilience*, London, Earthscan.

Pilling S (2012) *Independent Review following the New Zealand Fire Service Chief Executive & National Commander's inquiry of the fire service operational response to the February 2011 earthquake in Christchurch*, Wellington, New Zealand Fire Service.

Pinal C, Davies B, Berryman K (editors) (2013) *Natural Hazards 2012*, Lower Hutt, GNS Science, GNS Science miscellaneous series 51. 46p.

Planning Institute of Australia (2013) *Planning Matters: Shaping the World Today for Tomorrow* <http://www.planning.org.au/documents/item/4902> [accessed 3 September 2013]

Platt R (1998) "Planning and Land Use Adjustments in Historical Perspective", Burby R, editor, *Cooperating with Nature: Confronting Natural Hazards with Land-Use Planning for Sustainable Communities*, Washington, Joseph Henry Press, pp. 29-56.

Preddey G (1981) *Future Contingencies: 1. Natural Disasters*, Wellington, Commission for the Future.

Pyne, S. (1992) *The Burning Bush: A Fire History of Australia*. Sydney: Allen and Unwin.

Stehr S (2006) "The Political Economy of Urban Disaster Assistance", *Urban Affairs Review*, **41**: 492 DOI: 10.1177/1078087405284887 (Accessed 26 August 2013)

Town and Country Planning Act (1977)

Te Ara the Encyclopedia of New Zealand (2007) *Life on the Edge: New Zealand's Natural Hazards and Disasters*, Auckland, David Bateman Ltd.

Waugh, W. L. 2007. Testimony before the Subcommittee on Economic Development, Public Buildings, and Emergency Management, House Committee on Transportation and Infrastructure. September 11. Available at republicans.transportation.house.gov/Media/File/Testimony/EDPB/9-11-07-Waugh.pdf [accessed March 12, 2010 – link no longer active]

