

## **Challenges to community resilience in a post-natural disaster context:**

observations and reflections on the Christchurch earthquakes of 2010 and 2011

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### **Abstract**

Nearly four years after the 2010 and 2011 Christchurch earthquakes which rocked the city and its community to their foundations, reconstruction remains inconsistent and patch-work at best. This paper will examine reasons for the delayed reconstruction of the central city and surrounding suburban areas, and the psychological scars its inhabitants continue to endure over issues of insurance and the lack of governmental commitment toward the reconstruction process. The authors will utilize the results of personal interviews as well as observations drawn from their visit to the city in September 2014.

**Key words:** Christchurch earthquakes, resilience, well-being, community reconstruction

## Introduction and Background

Located on the central East Coast of the South Island, expanding out from the sea, the urban sprawl of Christchurch makes up New Zealand's second most populous urban area and has a population of around 400,000. The city was founded by the colonial British to reflect their homeland, and is based around the Avon River that flows through the city in a not dissimilar fashion to London, which was built along the banks of the Thames. The heart of the city is the historic Anglican Cathedral, located on Christchurch Cathedral Square, which is surrounded by the main commercial business district and other retailers. Renowned the world over for its historic churches and gardens, as well as the laid-back lifestyles of its residents, Christchurch was one of the most popular tourist destinations in New Zealand and was the gateway to the South Island. This was the situation before two large earthquakes, followed by thousands of aftershocks, struck in 2010 and 2011, which tore the heart out of the city – a tragedy unseen on such a scale in New Zealand since the Napier Earthquake of 1931 (Cubrinovski, Bradley & Wotherspoon, 2011).

It was in this context that Ritchie and Short (hereafter referred to as 'the authors') traveled to Christchurch in the summer of 2014, marking almost three and half years since the more destructive of the earthquakes, with the intention of surveying first hand the damage and the extent of the reconstruction, as well as interviewing residents who personally witnessed the tragedy and several scholars at the Psychology Department of the University of Canterbury who hosted us during our stay. This paper recounts their experiences in Christchurch, as well as observations drawn from interviews regarding reconstruction, future planning and community ties between the people of the city as they continue to tackle the challenge of rebuilding their community almost four years on. In addition, they address the resilience of the local community as it faces the consequences of a major natural disaster and examine the direction that residents are hoping the city will take regarding future rebuilding and planning.

## The 2010 and 2011 Earthquakes

On September 4<sup>th</sup> 2010, a severe magnitude 7.1 earthquake occurred in Darfield, nearly 40 kilometres from Christchurch City. Although there were no deaths despite its close proximity to the city and the relative shallow depth of 12 kilometres, widespread damage was caused to both the immediate area as well as further afield from the city itself, which suffered severely, due to falling masonry and chimneys from its many old colonial-style structures, many of which had not been reinforced for seismic events (Ingham, & Griffith, 2011). Considering the extent of the damage, it was remarkable that there was no loss of life, this likely due to the fact that the quake was some distance from the centre of the city. Following the Darfield Quake, the surrounding area experienced

thousands of aftershocks that served to keep residents on edge for a long period of time.

Less than six months later on February 22<sup>nd</sup> 2011, a second magnitude 6.3 earthquake struck the city almost directly, this time during the busy lunchtime period on a weekday. Although this was later actually determined to have been an aftershock of the previous year's Darfield Quake, it caused far more widespread damage to the city and surrounding areas due to its shallow depth of just five kilometres, as well as its epicenter being just ten kilometres to the south-east of the central city. Due to the central location of this second quake and the fact that it struck during the busy lunchtime period, tragically some 185 people lost their lives. The scale of the second quake was such that virtually the entire city east of the large greenbelt recreational area of Hagley Park suffered severe damage, with several reinforced concrete buildings suffering damage as well as two buildings collapsing completely. Most of the fatalities (115 out of the 185) occurred in just one building, the Canterbury Television Building (Giorgini, Pampanin, Carr, & Cubrinovski, 2013). The victims included 28 Japanese students who died as the upper floors fell into the lower ones as the building concertinaed in on itself ("CTV Building", 2011). Upon later investigation, the cause of the collapse of the Canterbury Television Building was found to be shoddy design, which hastened its collapse during the quake. In general though, it is recognised that New Zealand has very good building codes due to the fact that the country lies within a major earthquake zone, located on the southern end of the infamous Pacific Ring of Fire (Gledhill, Ristau, Reyners, Fry, & Holden, 2011).

### **On Shaky Geological Ground**

The first thing that one notices when arriving in Christchurch is the range of mountains that lie to the west of the city, the Southern Alps. From these mountains run numerous rivers east towards the sea, and it was upon this soft, silt sediment that the city was first established. The city itself has a very high water table, averaging less than three metres in depth, with the majority of the city to the east of the Central Business District (CBD) having a water table of less than one metre (Giorgini, Pampanin et al, 2013). As a result, the extent and severity of liquefaction which occurred in the city during the February 22<sup>nd</sup> quake was greater than that of the preceding September 4<sup>th</sup> Darfield quake. A severe degree of liquefaction and lateral spreading affected commercial structures in the CBD, although it was most severe in residential areas located to the east of the CBD as a result of stronger ground shaking due to the proximity to the causative fault, a high water table approximately one metre from the surface, and soils with composition and states of high susceptibility and potential for liquefaction (Giorgini, Pampanin et al, 2013). Liquefaction and lateral spreading is estimated to have severely compromised up to 15,000 residential structures, the majority of which otherwise sustained only minor to moderate damage directly due to inertial loading from ground shaking. Liquefaction also had a profoundly detrimental effect on lifelines and

other infrastructure, particularly bridge structures and underground services. Due to the large high-frequency ground motion that occurred in the Port Hills area, there were numerous rock falls and landslides which resulted in several fatalities, and rendered several residential areas uninhabitable (Giorgini, Pampanin et al, 2013).

### **The Aftermath and Response**

The response to the second quake was greatly influenced by the fact that it represented one in a series which had begun with the Darfield event on September 4<sup>th</sup>, 2010. Although technically an aftershock of the previous event, the overall scale of the damage caused by the second earthquake was enormous for a country the size of New Zealand. Almost the entire city of Christchurch was affected with the Central Business District having to be sealed off by members of the armed forces as a state of emergency was declared immediately after the disaster. A 'red zone' was created with the entire central city cordoned off for a total of 857 days, marking the longest peacetime deployment of troops in New Zealand history. At its peak, 1800 personnel were brought in to patrol the city centre in order to ensure that looting and other undesirable activities were kept at bay in the aftermath of the crisis (Blackhouse, 2013).

Overall aggregate damage to property was staggering: at least 100,000 homes suffered damage, with at least 10,000 of those deemed in need of complete rebuilding. As one moves east from the centre of the city towards the sea, the more evident the damage becomes, with entire suburbs still in the position of struggling with inadequate housing almost four years since the disaster. In the immediate aftermath of the quake, internal emergency services, as well as lifeline and welfare services responded rapidly and cooperated well together, in spite of the complex and overwhelming scale of the event, as an independent review later established (McLean, Oughton, Ellis, Wakelin & Rubin, 2012, p.12). Additionally, international disaster assistance and aid was swift to arrive from Australia and other countries (McLean, Oughton et al., 2012, p.18). Local ad hoc relief responses also sprung up, with community groups, local churches and the police assisting those most in need. Among these groups, perhaps one of the most notable was a student-based support initiative set up by the University of Canterbury, aptly named the Student Volunteer Army.

Originally instigated by Sam Johnson, a student at the University of Canterbury, who saw a need and wanted to assist in the relief effort in whatever way possible, in a short time the Student Volunteer Army (SVA) grew from a few members who contacted each other via Facebook to a fully-fledged volunteer force of 2,500 students who helped with cleaning up homes and businesses damaged by liquefaction in the weeks and months following the September 2010 quake ("Christchurch and the Student Volunteer Army", 2011). When the second quake struck five months later the SVA was already in a position to respond, and within a short time had gathered

11,000 students who worked alongside governmental Civil Defence teams in various locations throughout the city with the massive cleanup operation. In total it is estimated that members of the SVA put in a total of 75,000 volunteer hours, and cleaned up 360,000 tons of mud caused by liquefaction. During the cleanup operation, the members also placed a strong focus on addressing the well-being of residents, offering hot meals, clean water and emergency guidance (“About Us”, n.d.).

Since the 2010 and 2011 disasters in Christchurch, the SVA has developed into a fully-fledged organisation which is governed by an elected committee, and which has expanded its activities into other clean-up operations outside the country. In cooperation with students from Waseda University in Tokyo, it has contributed towards the relief efforts that took place in the Tohoku region of Japan following the Great East Japan Earthquake of March 2011. In general, this activity seems to have taken place on something of a smaller scale, likely due to the fact that the University of Canterbury is located very close to the centre of Christchurch, where the bulk of the SVA students were based, giving them more of a vested interest in clean-up operations. In short, the mobilisation of volunteers in the New Zealand case was probably easier to facilitate due to the shorter distances involved.

## Observations

During the authors’ visit to Christchurch and the surrounding area during the early spring of 2014, they made a number of observations which were felt worthy of sharing in the following *narrative form*, many of which may warrant further study and analysis. Prior to leaving Japan, by means of mutual acquaintances, they arranged a series of interviews with faculty members of the Psychology Department at the University of Canterbury, as well as residents of the city who had witnessed the quakes first hand. The following section is written in the first person plural, i.e. - ‘we’.

We arrived in Christchurch on September 1<sup>st</sup> 2014 and spent the following three days exploring the city, interviewing our subjects and generally observing the state of reconstruction.

We stayed in a small hotel on a motel strip located a few kilometres west of the Central Business District. On the first day, as we arrived in Christchurch our immediate reaction was one of a sense of normality since around the airport and its vicinity there was virtually no evidence of an earthquake having taken place there. What we found instead was an almost eerie sense of a “business as usual” atmosphere. This sense of normality continued during the first morning as we explored the western side of the city on foot across the large patch of greenery that is Hagley Park which divides the city into east and west sides.

Following lunch on the first afternoon we began to see signs of the damage caused by the

February 2011 earthquake as we exited Hagely Park and headed into the central part of the city and into the former “red zone”. At this point we were faced with remnants of what could be described as a former war-zone, or perhaps akin to severe inner city decay, as can be observed in some of the rust-belt cities of the United States. On entering the central city, through which the River Avon flows, we observed row upon row of fenced-off, dilapidated buildings which were interspersed with numerous empty lots which were all abandoned. What struck us most at this point was the profound silence that there was on this Sunday afternoon, since one would expect that an area such as this within a major metropolitan centre would have been bustling with residents and tourists at such a time of the day. The entire area of Christchurch Cathedral Square, which had formerly been both the spiritual and literal heart of the city, was all but abandoned even three and a half years on from the quakes.

Christchurch’s famous cathedral was standing in ruins; the tramcar which Ritchie remembered as having run right through the central city was still in operation, but was running on only part of its former route. Interestingly, there were a few tourists on board this tramcar, although the overriding atmosphere was quiet and solemn as we moved slowly through the silent, empty streets, which had piles of rubble, broken, fenced-off buildings and evidence of devastation on all sides. There were some small signs of activity with a few pedestrians walking around, but by no means to the extent that one would have expected, three and half years since the disaster. The central question which came to mind during this exploration was ‘what has happened to the reconstruction of the city?’ since there was little evidence of this taking place. We noticed a few large cranes standing amongst the ruined buildings, as well as a few passing cars which were not stopping but rather using the area as a thoroughfare on the way to the city’s eastern suburbs. In effect, the whole of central Christchurch seemed almost devoid of the kind of commercial or leisure activities which one might expect to find in a city of 400,000 people on a fine Sunday afternoon.

The following day, Short traveled by bus right through the heart of Christchurch and all the way to the coast. This bus journey began in the Riccarton area on the west side of the city, very near to our hotel, which appeared largely undamaged. The bus passed through the Central Business District which we had visited on the previous day and then continued on to the eastern suburbs. Generally speaking, the further east the bus went through the city, the worse the state of the damage became. On its way through the CBD, the bus stopped at the central bus station, and it seemed that reconstruction in this area had hardly progressed at all. In a similar fashion to the area surrounding the rubble of the cathedral, the roads were very uneven with several sections closed off for road construction or just blocked, long lines of metal fencing closed off many damaged or empty lots, and what rebuilding of shops and businesses that was underway seemed to be going on in an ad hoc, haphazard fashion.

Leaving the CBD, the bus then passed through the Linwood area of commercial businesses and light industry on its way to the residential areas of Aranui and New Brighton beside the sea. In Linwood it was clear that some reconstruction had progressed as there were some smart new buildings and businesses which appeared to be operating normally, but in this area there were also several fenced-off lots lying empty or containing partly-damaged buildings. As the bus passed into the residential districts nearer to the sea once again it drove down several roads which were very uneven, some of which were in the process of being repaired. The houses on either side of the road were of quite a small size and were of one or two storeys. About 60% of these appeared undamaged; however, a large number were boarded up or fenced-off clearly with no-one living in them. These boarded-up houses were not confined to specific areas but were interspersed with houses that were being lived in. There were also houses that were set back from the main road, which may have formerly been reached by side roads or cul-de-sacs, but which were now standing on their own. Short surmised that these houses had likely been surrounded by other dwellings prior to the quakes, but these had probably suffered severe damage and had thus subsequently been demolished. In addition, there were some small commercial zones such as local shopping centres and public buildings like community centres, some of which showed signs of damage and some which did not or had been repaired. In the former case these buildings were also fenced-off. Therefore the overall impression in this residential area of Christchurch was similar to that observed in the CBD: a community that had suffered severe earthquake damage which had by no means come to terms with the enormous reconstruction challenges three and a half years after the disaster.

## Interviews

On September 1<sup>st</sup> 2014 the authors interviewed Mr. Jonathan 'Jono' Ross, a graphic designer whose business was located virtually next door to the Canterbury Television Building which collapsed in the February 2011 quake at the tragic cost of so many lives. In this interview, Mr. Ross addressed three topics: i) the general business environment in the city of Christchurch prior to the quake and a number of commercial trends which were accelerated by the disaster; ii) his own and his colleagues' personal experiences of the disaster and its aftermath; and iii) his predictions and hopes about the reconstruction and future regeneration of Christchurch.

In the first part of the interview Mr. Ross described the general situation in Christchurch prior to the earthquakes of 2010 and 2011. He explained that Christchurch had traditionally been the gateway to the South Island of New Zealand, especially to its rich leisure environment, it had been the South Island's most populous region, and had been famous for its many traditional buildings and beautiful environment with many parks. Christchurch had historically been famous throughout

the country as 'the Garden City'. However, from a business point of view, he stressed that the centre of the city had been in a state of decline for some time since many of the large businesses which had formerly owned premises in the Central Business District had relocated either to the cities of Auckland or Wellington, or had moved outside the country to Australia, Singapore or other countries. Furthermore, within the city itself there had been a parallel process of 'hollowing out' of commercial activity whereby many shops had relocated to large shopping malls in the outer suburbs such as in the western Riccarton area, and other small businesses had similarly moved to new business parks which had grown up in the outskirts, such as in the vicinity of the airport.

Therefore the overall situation in the CBD prior to the earthquakes was one of a still highly attractive urban environment centred around the cathedral and many other traditional, colonial-style buildings which were in walking distance of the city's parks, riverside and botanical gardens, but which was in a relative state of decline from a business point of view. With regard to the centre of the city therefore, the principal consequences of particularly the second of the earthquakes were to greatly accelerate the process of commercial decline, at the same time as almost entirely robbing the city of its beautiful architectural heart. Over and above the terrible loss of life which occurred on February 22<sup>nd</sup> 2011, Mr. Ross viewed this situation as an additional tragedy. (These reflections bore out many of the authors' observations which had emanated from their explorations of the city on foot and by bus during the preceding days.)

In the aftermath of February 2011, with the central city 'red zone' in a state of lock down for such a protracted period, it was clear that any business owners who had premises in that area would be unable to carry out any commercial activity there at all. This was the condition that Mr. Ross and his colleagues found themselves in. He described the great level of shock and fear he experienced when the earthquake struck, which was then magnified when he got outside and saw that the Canterbury Television Building had collapsed, almost certainly claiming many lives. Over the succeeding days, although the people in his building had fortunately escaped without serious injury, a grave state of psychological shock was compounded by the frequent aftershocks and the realisation that his business would likely be unable to function for an indefinite period. In the months following the disaster, as Mr. Ross's residence had not suffered severe damage, he and his colleagues were able to continue some business activity from home and were also able to draw upon emergency support provided by the New Zealand government which meant that he was not forced to lay off some of his employees. Therefore due to these circumstances his business was able to continue in some form while various reconstruction activities were taking place within the city, and then ultimately later in the year he was able to relocate to new premises and resume more normal business activity.

However, Mr. Ross stressed that he had been more fortunate than many people in Christchurch



for a number of reasons. Firstly, he and his colleagues had been able to remove their laptops from the building as they escaped which subsequently enabled them to continue business in another location. Many other business people in the CBD had either lost everything in their premises due to earthquake damage or had been unable to reenter these premises for several months as they had been located within the 'red zone'. Secondly, Mr. Ross's residence suffered some damage but remained livable; therefore he was able to carry out some business activity there while he and his partner tackled the challenge of repairing their house. In contrast, large numbers of Christchurch residents, especially those living in the eastern suburbs, were left with severely damaged homes, many of which were clearly unlivable. As a consequence, they found themselves effectively homeless and dependent on friends, relatives and emergency government support. In this very severe situation it was obvious that they could not resume normal economic activity and as a result a large number of people took the decision to leave the Christchurch area entirely.

A third factor in Mr. Ross's favour was his physiological state in the aftermath of the 2011 earthquake. In addition to being physically unhurt and having the advantage of possessing some financial resources which he could draw upon to repair his house, in general he was in a fit psychological state to tackle this and continue his business at the same time. In the succeeding months he described experiencing a number of flashbacks of the disaster which caused undoubted psychological distress; however, this did not occur on a level which was severely debilitating. Moreover, he was subsequently able to leave Christchurch for a period of time to take a foreign trip which further aided his recovery. In contrast, a large number of people in the city found themselves suffering from severe psychological distress caused by shock and post-traumatic stress disorder (PTSD). In many of these cases such circumstances were compounded by the frequent occurrence of aftershocks, coupled with serious concerns about damaged houses and loss of employment.

Considering all of these factors, Mr. Ross described how the Christchurch earthquakes represented major tragedies that occurred on a number of levels.

In the final part of the interview he described his hopes for the future regeneration of the city. One of the significant factors that has slowed the pace of reconstruction up until the present date in Christchurch has been disagreement between home and business owners and insurance companies over compensation. This has developed into a major problem and a large number of cases remain outstanding which has caused considerable distress to the city's residents. However, in Mr. Ross's opinion it is hoped that the majority of these cases should be settled within the next year and so, in the event that no additional serious seismic events occur, the city as a whole should then be able to move to a stage where it can start to re-establish itself as a major national centre. At present, there are large-scale government plans to facilitate this, including strategies for the

regeneration of the Central Business District especially in the area around the cathedral, and also the construction of new facilities which can attract business people and tourists from across the country and from overseas. One example of this is the Convention Centre Precinct project which will be located within the central city ("Convention Centre Precinct", n.d.). Mr. Ross stressed that historically the people of Christchurch have shown themselves to be resilient and that there exists a strong desire within the city to recover from the disasters of 2010 and 2011.

For the second interview, the authors visited the Psychology Department of the University of Canterbury. There they meet three faculty members, Dr. Sanna Malinen, Dr. Katharina Naswall and Dr. Joana Kuntz, whose research focuses on resilience and well-being in the community, with a particular focus on employee well-being and some of the initiatives that employers can take to ensure staff are psychologically well following disasters. During the interview the three scholars briefly introduced their research, discussed the progress and direction of reconstruction and outlined the concept of well-being and how the people of Christchurch are coping since the disaster. They also addressed issues regarding insurance and the widening gap between the rich and poor of the city, as well as the east-west gap, as also laid out by Mr. Ross, above.

All three scholars were in the city at the time of the earthquakes and as was common for others in their field, their research focuses and paths were heavily influenced by the disasters and their aftermath. Dr. Naswall described it as accidental action research, which was quite a move away from their usual quantitative research methodology. Much of their research now focuses on companies which are engaging in the process of improving the well-being of staff. Well-being was simply defined as "feeling all right." Dr. Kuntz described a government backed campaign run by the New Zealand Mental Health Foundation that set up some guidelines for well-being (based upon a similar initiative set up in New York after 9/11) that encourages people to introduce one of five simple actions into their lives at any time. From their homepage these steps are: **connect, give, take notice, keep learning and be active**. (They also have a series of posters available for download). They mentioned that this initiative is significant, since in the rest of New Zealand the disaster has almost been forgotten and people are asking why the people of Christchurch are still "griping about the earthquakes" ("Wellbeing", n.d.).

They stressed that the concept of long-term well-being is not going to disappear, since people in the city and region remain stressed and fatigued, even three and a half years following the disaster. They mentioned that although there are numerous local projects that have been introduced to improve well-being of people in the region, they consider that it is organisations that should support the wellness of their employees since over time this will be of positive benefit to both the organisation and the region as a whole. They view resilience in terms of not just placing the onus on the employee, but rather the role the whole company has to play. For them, people

are neither resilient nor non-resilient, but rather are able to exhibit and develop resilient behaviours, depending on support avenues. Dr. Malinen opined thus: "One does not just go home and develop one's own resilience and bring it back to the workplace, but the responsibility also rests on the organisation to create the conditions and provide the resources to manage and to stimulate those resilient behaviors. The reality is that many people are still struggling with their daily lives and are having severe difficulties, in particular with insurance and housing issues, but also mental health. In certain organisations that have subsidiaries elsewhere around New Zealand, there is a huge gap between employee mental health in the Canterbury regional offices and employees in the rest of the country". Some of the three scholars' research is now looking into using the organisation as a vehicle for well-being beyond its boundaries in order that employees will be able to go home and feel well, outside of the company as well as inside.

Regarding the state of the rebuild, they explained that the main focus seems to be on the central city area, while residents remain largely in the dark regarding the rebuilding or repairs to their homes. They described meeting with residents and discussing the state of their homes and how the residents had little idea as to whether they will be rebuilt or repaired. Indeed at the time of the interview, the Earthquake Commission (hereafter EQC)<sup>(1)</sup> repairs had reached around the half-way point; however, the main problem with EQC is that the organisation had been overwhelmed by the scale of the disasters and there hadn't been sufficient money to cover the rebuild, including residents' houses. Even for those people who had private insurance, the procedure was firstly the government assesses the extent of the damage and then depending on whether the insurance companies accept these evaluations compensation payments are made. However, in these circumstances negotiations can drag on for a long time, sometimes for years. Additionally, even when insurance payments are forthcoming, EQC only covers the cost of repairs or rebuilding up to the standard the building was in *before* the quakes and not its current market value. Since the earthquakes, building standards have risen, with the introduction of new building codes and these are not factored in; this means that many people will likely receive payments substantially lower than what they may have expected.

The scholars next described how things are on the move in Christchurch. With the initial response and aftermath now having come to a close, the latest battle ground is with insurance companies (as Mr. Ross also eluded to), with many cases dragging on interminably, something that was described as being extremely frustrating for residents who just want to get back to a sense of normality. One of the fears felt by many is that when the expected large earthquake eventually hits Wellington, the capital city will then become the new priority for reconstruction since it is the centre of government. The fear is that EQC payments to Christchurch will be reduced or even curtailed, since the funding all comes from the one source.

Another issue that came up during the interviews was regarding the rebuild itself and the debate about whether to redevelop the city centre or focus elsewhere. Indeed, a lot of businesses are not seeking to be among the first to locate back to the CBD since future profit is not guaranteed there. There is also something of a disconnect between how the city centre should be rebuilt and the voices of the local community, many of whom are feeling ignored. Even though there was a consultation process put in place in 2011 about how the city should be rebuilt, there is a feeling among some residents that decisions have been made by those “higher up”, and that the whole process was therefore more lip-service. The rebuild is slowly progressing, with private developers developing certain parts, including the opening of bars and restaurants; however, the problem remains that many businesses have already moved west and may not even want to relocate into the city centre, even if they were encouraged to do so.

Within Christchurch there has been a clear widening of the gap between the rich and poor, which has become known as the east and west problem. The west (which generally suffered little damage) has continued to develop, while the eastern suburbs have largely stagnated. Even now there are still some people apparently living in tents, since in the New Zealand context of disaster relief, no temporary accommodation is offered by the government – people are left to their own devices and have to resort to finding their own alternative accommodation at high rent or move in with family or friends. For many families, who lack the financial resources, there is simply not the option of moving, or walking away from mortgages. Meanwhile, those with the financial means have other options, such as moving house or rebuilding using their own private funding.

Some of the volunteer movements that sprung up in the aftermath of the quakes were also mentioned, particularly the Student Volunteer Army, which was organized at the University of Canterbury. The scholars provided additional information about the SVA, and described how the movement has undergone a transformation and is now focusing on engaging young people within their communities, and in particular volunteering their time. Many of these volunteer opportunities are being posted online to which students are able to respond, depending on their areas of interest or expertise. In one particular campaign, students were asked to give four hours of their time, and in return, a free concert was put on for those who completed their promised volunteer activities.

Finally, there have been observations that the Christchurch middle-class (as in the rest of New Zealand) is under attack. In addition to the stress caused by the earthquakes, it is felt that the city has become a very expensive place to live in. One of the issues with community cohesion in Christchurch is that after a while it becomes difficult to retain a positive frame of mind, when one still does not know the state of property repairs or lacks access to information in general which is psychologically draining. However, one positive factor is that with the rebuild well underway, the job market is very strong in the city, and as a result some of the economic spin-offs, such as

restaurants catering to the influx of workers, are back to pre-quake levels. It is clear that there are so many challenges that lie ahead, but as Mr. Ross also intimated, people have shown themselves to be very resilient and have been reaching out in various ways and helping those in need, ranging from donations of a little extra cash from businesses to employees, to people sharing shower facilities within their homes – giving a little help where there is a need.

## Conclusion

The Christchurch earthquakes, particularly the second shallower and more centrally located one devastated the city and to a large extent brought the community to its knees. Through their observations over a few days in September 2014, the authors were struck by two stark contrasts: one was the sense of normality on the west side of the city, around Hagley Park, and almost a sense of despair and hopelessness which was found east of the Central Business District, through the eastern residential areas toward the coast. Through interviews with scholars at the University of Canterbury and the business owner Mr. Ross, it became clear that there is still a great deal to be done, not only regarding the rebuilding phase, which has been painfully slow and inadequate in some areas, but also in terms of regenerating community resilience and well-being. As conditions stand, the authors realised that if residents possess the financial means, they are able to relocate or rebuild their lives to a large extent. However, those living in the traditionally poorer eastern suburbs still have to deal with insurance claims (including with the EQC) as well as other bureaucratic problems as they try to rebuild their lives with little support, except from ad hoc community-driven support groups. These factors have worsened the pre-quake trend of commercial activity moving out of the CBD and the economic divide between the residents of the east and west sides of the city.

Through the interviews with Mr. Ross and the scholars at the University of Canterbury the authors also identified some encouraging signs. Both stressed the traditional resilience of the people of the Christchurch area who, despite the severe difficulties, have displayed the determination to regenerate their unique city. This is continuing in a variety of ways, including small-scale community redevelopment, and plans for the large-scale commercial redevelopment of the CBD. In addition, interpersonal links between different communities in the city have strengthened, which has enhanced general well-being and given many people a more positive outlook for the future. This has been particularly visible in specific organisations identified by the University of Canterbury scholars which they have termed “resorgs”, meaning resilient organisations.

On the basis of their research activities to date, the authors plan to further their examination of specific manifestations of resilient communities and “resorgs” in the Christchurch context such as the Student Volunteer Army. It is hoped that this will shed light on similar phenomena in the

devastated areas of the Tohoku region and identify means by which lessons learned from the New Zealand context can be utilized and applied to the reconstruction of communities that were devastated by the earthquake and tsunami of March 2011.

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- (1) The Earthquake Commission was set up by the New Zealand Government in 1945 to provide natural disaster insurance for residential property. It administers the Natural Disaster Fund and funds research and education on natural disasters. The fund provides automatic insurance for residential properties. (Refer to <http://www.eqc.govt.nz/> for more information).