

HELPING CHRISTCHURCH BUILD BACK BETTER

International research on building back better has much to offer towards successfully revitalising Christchurch City.

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The recent earthquakes in Canterbury make us reconsider how buildings are constructed and maintained, but the extent to which the new will be better than the old depends on decisions Christchurch recovery agencies make now.

The concept of 'build back better' has been extensively studied by researchers at The University of Auckland and Resilient Organisations and looks at ways in which Canterbury might rebuild. This concept's origins can be traced to the aftermath of the Indian Ocean Tsunami in 2004, which almost completely destroyed many communities.

Reconstruction after a disaster can often make those affected more vulnerable, and trading speed for quality when rebuilding can continue infrastructure weaknesses. Build back better is based on improving a community's physical, social, environmental and economic conditions during recovery. It requires the community, government agencies and construction industry to work collectively to improve the built environment by increasing community resilience and decreasing infrastructure vulnerability.

Building standards often modified

International research shows that often one of the first steps taken after a disaster is to revise building codes and regulations to improve structural integrity. The seismic hazard factor for Canterbury has been increased by 35% in the Building Code, which will require extra bracing and higher resistance foundations for homes. The standard NZS 3604 *Timber-framed buildings* has also been amended.

This is all very well in theory, but changes are sometimes unworkable in practice. Such revisions can unnecessarily hold up the recovery process, as seen across the Tasman. Revisions made to the Australian residential bushfire



Build back better aims to reduce infrastructure vulnerability.



Recovery begins with the demolition of unsafe buildings.

building standard AS3959 after the Victorian bushfires required new specialised construction materials and techniques, which resulted in higher costs and major delays.

In Christchurch it is estimated that the cost increase as a result of design modifications would be \$2,000–\$9,000 per property. As in previous disasters, these estimates are likely to be under-represented. It is therefore important to evaluate the full consequences and costs of design revisions before they are implemented.

Land use and town planning

A key aspect of reconstruction that may increase the vulnerability of communities is improper land-use planning. Developments allowed on land without proper hazard assessments are automatically exposed to higher risk.

The relocation process after disasters such as the tsunamis in the Indian Ocean and Samoa showed that, although communities often relocate or are moved to avoid one hazard – tsunami risk – the new areas may be susceptible to other hazards, such as frequent flooding and landslides. We must learn from these mistakes.

The greater Christchurch area has been divided into red, green, orange and white zones indicating the suitability of land for rebuilding based on the extent of land damage. Thorough assessments need to be done on all lands to establish hazard risk zones and land-use plans determined based on the results. The community should be involved in decision-making to ensure the risks of hazard-prone land are understood, mitigated and/or managed.

During the Australian bushfire recovery, town planning was addressed collectively. Community recovery committees worked to improve the functionality of the town layout and ensure communities fully understood future hazards. Christchurch has an opportunity to consider alternative town-planning ideas and create a new vision for the city.

Legislation bottlenecks

Often a lack of enforcement is enough to prevent a good recovery outcome. Excessive demand for permits and consents, coupled with the need to administer novel legislation and regulations, creates bottlenecks in the process.

Build back better requires appropriate and workable legislation and regulations to be implemented. The Canterbury Earthquake Recovery Act has been established to ensure statutory power to facilitate community participation in decision-making and allow focused, timely recovery.

Neighbouring councils can help increase the capacity of local councils as Christchurch rebuilds. Permit procedures and other regu-

lations must be fast-tracked, while maintaining the required design and construction standards – not an easy task for councils stretched beyond capacity.

Risk-based consenting pathways should help relieve the high demand, but accurate monitoring and evaluation is required to make sure the affected communities benefit. Following the Australian bushfires, exemptions of planning permits for buildings being constructed in the same location and fast-tracking building permits to start rebuilding sooner were strategies used.

Community empowerment

The local community has the best knowledge about their town and has its best interests at heart. Empowering the community is an essential component of building back better and helps them to recover faster, especially as they join together to discuss ways forward. Community consultation is encouraged in Christchurch with initiatives such as the 'share an idea' community expo and the Canterbury Earthquake Recovery Act.

But too much reliance on community decision-making without adequate facilitative support from government agencies can slow recovery. The Australian example shows that inadequate direction and governance from local councils meant that communities were making rebuild decisions beyond the scope of the funds available. The council also failed to take adequate account of the community's fragile mental state during the consultation process and how this affected their decision-making.

Stakeholder involvement

Post-disaster reconstruction and recovery environments have many stakeholders working closely together. A successful recovery operation requires a collaborative effort. The creation of a body like the Christchurch Earthquake Recovery Authority (CERA) to provide leadership and coordination is therefore useful.

Even with strong governance, there can still be insufficient coordination and communication between parties because of the chaotic environment. Stakeholders are unsure of their roles and responsibilities, and these overlap and change quickly as recovery progresses.

Holding regular stakeholder meetings helps facilitate communication and decreases the chance of miscommunication. Officials at the Victorian Bushfire Reconstruction and Recovery Authority in Australia all stated that having a reconstruction and recovery framework to follow would have been helpful in their work.

Social and economic recovery

Past disasters show that reconstruction activities tend to take precedence over social and economic recovery, especially as new buildings and infrastructure give an impression of progress. But in disaster-affected cities, people are unwilling to resettle in areas where there are no businesses and businesses are unwilling to start up where there are no customers.

Social and economic recovery is as important for build back better as reconstructing the damaged built environment. Employment opportunities, training and livelihood programmes need to be set up to aid economic regeneration of affected communities.

CERA must balance the social and economic recovery against reconstruction activities if it is to successfully revitalise Christchurch city. ■