

Nepal earthquake reconstruction won't succeed until the vulnerability of survivors is addressed

November 24 2017, by Jason Von Meding



More than 600,000 buildings were fully damaged in the 2015 earthquake in Nepal. Credit: Jason von Meding, Author provided

In April 2015 the Gorkha earthquake brought Nepal's vulnerability sharply into focus. Alongside [massive damage](#) to the built environment, the [terrible impact on the people of Nepal](#) sent shockwaves around the world.

Despite good intentions to rebuild Nepal [to be more resilient](#), 30 months on little progress has been made. Of more than 400,000 homes that were earmarked for reconstruction, only [12% have been rebuilt](#). Little of the [US\\$4.4 billion in aid pledged](#) for reconstruction has been disbursed.

The Nepali government instituted a [reconstruction program](#) in October 2015 that identifies beneficiaries and entitles them to three instalments of compensation. The payments are dependent on progress and [building code compliance](#). Those who [do not own land are locked out](#) of reconstruction support.

Nepal has [robust building codes](#), developed over recent years. Serious efforts to implement the codes predate the Gorkha earthquake.

Unfortunately, despite such efforts, there are still more than five million existing buildings standing after the earthquake that are not to code. Many of these are "informal" and built by traditional masons. There is also a large stock of old, dilapidated buildings. These buildings will be a particular risk in Nepal when future earthquakes strike.

Widespread [retrofitting](#) would protect lives and property in the future. Strictly speaking, all new buildings must meet the code – something difficult to monitor and enforce. Forcing people into compliance also has drawbacks: it can lead people to bypass it by unlawful means, and can be particularly onerous for the poor.

Nepal needs a strategy for "safe building" that is acutely aware of the [resource inequalities](#) and other social impediments that block progress on code compliance.

Housing typology and quality in Nepal

Of the more than 600,000 buildings that were fully damaged by the

earthquake, most predated building codes and were [built from stone and mud](#). The death toll of around 9,000 was lower than may have been expected, considering the number of buildings destroyed. By contrast, the [2010 Haiti earthquake](#) is estimated to have claimed more than 300,000 lives while fewer than 300,000 buildings were fully damaged.

[Traditional building knowledge](#) is clearly a valuable asset in determining how to save lives in an earthquake – but technical advances have been made that must now be integrated during reconstruction. The five million buildings that survived the earthquake [require urgent retrofitting](#).

In Nepal, 80% of human settlement is often referred to as "informal". These are households that are not in compliance with building norms and planning regulations. This can be a [measure of marginalisation](#) and can bring spatial segregation and discriminatory treatment.

In addition, [Nepal is rapidly urbanising](#). The temptation in urban areas is to build higher, but in a country like Nepal this could have fatal consequences in an earthquake. Local engineers fear mass casualties if heavy, reinforced concrete structures (as are being widely built) collapse in the future.

Why has reconstruction stalled?

The [government housing grant](#) is available in three instalments on the basis of progress; Rs50,000 (US\$477) upon signing an agreement; Rs150,000 (US\$1,437) after completion up to plinth level; and Rs100,000 (US\$958) upon completion of the structure.

More than 400,000 households entered into an agreement, but so far only 12% have completed the program.

The [National Reconstruction Authority](#) (NRA) undertook a lengthy

consultation period in the name of building back better. Development of a building code compliance process and a catalogue on rural housing took 18 months to produce and disseminate.

By the time guidance was finally available, many beneficiaries had spent the first instalment on other priorities – many of those affected struggle to provide for the basic needs of their families.

Due to the remoteness of many [reconstruction](#) properties in the mountainous terrain, [checking for compliance](#) is a major challenge. In addition to the delays in establishing a suitable mechanism, the NRA has been unable to provide enough technical experts in remote, rural areas to implement their own policy.

Safe, affordable and high quality construction is possible

Safe building is inherently difficult in a developing country like Nepal. For many people, putting food on the table is [a daily struggle](#). Investing in earthquake-resistant housing measures is simply not within reach.

In such situations, people are forced to accept acute risk in the course of just surviving. This includes living in buildings that might fall down at any time. In Nepal, people have continued with life since the 2015 [earthquake](#) and have reoccupied dangerous premises.

Beyond simply improving the effectiveness of building [code](#) enforcement, it's important we don't neglect social and economic aspects of the dilemma in Nepal. While affordability is critical, quality is achievable by adapting Indigenous building techniques. If safe building is valued, people would voluntarily comply with codes and regulations.

The potential for change will be wasted if we fail to understand and address the [chronic vulnerability](#) of people recovering from this disaster. Not everyone has the same access to opportunities and resources – so better codes and regulations only go so far.

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