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Chapter 8: The Earthquake and Ideas Lying Around

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8.1 Ideas Lying Around

The aftermath of the Gorkha earthquake in terms of what the earthquake allowed to happen in Nepal is discussed in this chapter. I explore how the government utilised the earthquake sequence to propel ideas that were lying around in the background (Hyndman 2011). There were two 'ideas that were lying around' in April 2015. The first idea was the necessity to implement earthquake-resistant construction (ERC) by laws as well as urban planning in the rapidly urbanising country. The second idea lying around was the need to promulgate the long-debated constitution.

In *Dual Disasters*, detailing the 2004 Indian Ocean tsunami impact, Hyndman (2011, 116) suggests that Milton Friedman's crisis hypothesis proved to be correct, 'a crisis–actual or perceived–produces real change. When that crisis occurs, the actions that are taken depend on the ideas that are lying around' (Friedman and Friedman 2002, xiv). In Aceh, Indonesia, the tsunami solidified the peace process and strengthened political resolve to stop the conflict between the Free Aceh movement and the government.

I propose that implementation of urban planning and earthquake-resistant construction as well as the political implications of the constitution and the ensuing economic

blockade were as important as the earthquake for large segments of Nepal's residents. This can be seen from the impact on Bharatpur, a medium-sized Nepalese city not significantly devastated by the earthquake. I will explore what the earthquake allowed to happen through the lens of one of the largest and most rapidly urbanising cities located outside the 14 designated severely impacted districts of Nepal. The earthquake primarily impacted rural areas, with the exception of Kathmandu Valley. A total of 14 districts out of the 75 were designated severely impacted, and 31 districts were designated impacted districts. Chitwan district is in the latter group.

8.2 An Earthquake

I was in Bharatpur, Nepal, only 38 miles south of the 25 April epicenter, conducting my long-term research on urban disaster community resilience, when the earthquake began, when the ground shock. The following excerpts are from my Durham University, Department of Geography PhD researcher blog[1]:

> The earthquake started at 11:56 a.m. on the day of rest (Saturday), therefore there were few vehicles traveling, the shops were still closed and few people were out in Bharatpur. My research assistant and I were walking on New Road in the industrial area of town where the India bound trucks get serviced, where buses are made etc. It is a wide unpaved road near the river. The metal was shaking on the commercial building near me. I asked R what he thought was going on. He said, "earthquake". I felt faint and not stable on the ground, there was a yellow haze and it appeared as if waves were coming from the ground and the ground was shaking horizontally. It lasted around a minute and a half. I swayed but did not fall. …

[1] http://community.dur.ac.uk/geopad/2015/04/

> The city's infrastructure was intact and only a few buildings were damaged. The 6.7-magnitude aftershock on Sunday, April 26, was especially grim and felt almost as powerful as the Saturday earthquake. In the first 72 hours, we experienced 68 aftershocks. It was, quite simply, terrifying.

Within five to seven days after the earthquake, Bharatpur (in Chitwan district) was a transit point for people fleeing Kathmandu Valley by public transportation, primarily via bus. Due to the perception that Kathmandu Valley was dangerous; people were fleeing to temporarily live with extended families. According to the Sub-Metropolitan City of Bharatpur (SMCB) authorities, Bharatpur provided food and water to over 100,000 people who were traveling onward to south eastern and southwestern parts of Nepal.

According to the SMCB, the 12 May earthquake caused structural damage in the city: 100 buildings were totally destroyed and 300 buildings were partially collapsed. The SMCB staff struggled with the volume of requests for structural integrity assessments of earthquake damage. Subsequently, the SMCB trained 38 volunteer engineer consultants who assessed 3000 reported damaged buildings out of a building stock of 40,000.

I wrote an article for the *Natural Hazards Observer* in August 2015. This is the concluding paragraph:

> I will return to Bharatpur in late September 2015 to continue my [PhD] fieldwork. I look forward to learning how people and the government have

> incorporated the earthquake experience into their lives and professional work and if the experience will change more than natural hazards mitigation, preparation and response in Nepal. I wonder if there will be changes in the political sphere, the creation of a constitution and possible municipal elections.

I sought to learn how my National Society for Earthquake Technology – Nepal (NSET) colleagues, the Bharatpur residents and the key stakeholders for the doctoral research had incorporated the earthquake experience in their lives and how important the earthquake continued to be to them. Anthropologist Edward Simpson, in his book, *Political Biography of an Earthquake: Aftermath and Amnesia in Gujarat, India* (2013) describes how earthquakes are a special kind of a hazard that creates ruptures in physical, social, political and economic spheres and by which a new kind of a future can be imagined and created. He discovered that the 2001 Gujarat Earthquake radically changed Gujarat, India, in the ensuing decade, leading to the 'Gujarat model' for economic development. Likewise, the Gorkha earthquake is in the process of changing Nepal physically, politically, socially and economically.

8.3 Urban Transformation

The first idea lying around which the earthquake propelled is the combination of earthquake resistant construction and urban planning in the form of land use plans. Until very recently, Nepal was considered a rural country, albeit undergoing rapid transformation. The government, through the Ministry of Federal Affairs and Local Development (MFALD), is spearheading the transformation of Nepal from a rural country to an increasingly urban one.

In 1991, there were 33 municipalities, in 2001 there were 58 municipalities, including the metropolitan city of Kathmandu and four sub-metropolitan cities (Tanaka 2009, 144). Until April 2014, Nepal was a rural country where 86% of its population (IFAD 2014) lived in rural areas (led by village development committees). In May 2014, 72 additional municipalities were created in Nepal (total of 130). Six months passed before these new municipalities were trained on their roles and responsibilities, including how to implement the National Building Code. This training was provided by MFALD with financial support from the German government. In December 2014, an additional 61 municipalities were created and some of the existing cities were enlarged, resulting in a total of 191 municipalities. In early 2015, an additional 28 municipalities were created for a total of 219. These 90 newer municipalities have not been sufficiently trained by the government in their new responsibilities, partly due to the earthquake sequence and, subsequently, the constitution and the economic blockade. Nepal is now over 40% urban in population according to MFALD.

Bharatpur is the fifth largest city of Nepal and is located in central Terai, near the border with India. Bharatpur is very different from the rural hilly and mountainous regions devastated by the earthquake. It is also very different in ethnic and caste composition from the rest of the Terai due to the significant migration of high caste groups from the hills into Bharatpur in the past three decades. Bharatpur has changed rapidly, both demographically and physically since the early 2000s. Until November 2014, Bharatpur Municipality had 14 wards and a population of 144,000. In December 2014, it became a sub metropolitan city with 29 wards; its physical area increased by 50% and its population increased over 50% due to five amalgamated

villages in the southeast and southwest of the city. These villages brought their rural poverty and specific hazards (river flooding and wild animal attacks from the jungle) to the newly created SMCB. Five months later, the earthquake struck.

The change of status from a municipality to a sub-metropolitan city, the increase in population and size of the city as well as the local authority's increase in responsibilities post-earthquake are intertwined in Bharatpur. Bharatpur can be viewed as indicative of the emerging issues and changes taking place in many other enlarged or new municipalities in Nepal post-earthquake. It is at this level, the local authority and its relationship with residents, that the impact of the earthquake and what the earthquake allowed to take place can be seen and felt most intensively.

According to the new leader of the SMCB, the government representative in Bharatpur, there are five important challenges facing post-earthquake Bharatpur (in 2015): urbanisation, solid waste management, introduction of street lighting, formalising informal businesses and increasing the tax base, and implementing the National Building Code and strengthening building regulations. Disaster risk reduction (DRR) is on the list of challenges Bharatpur faces (at the bottom) in the form of the building code. From the perspective of the local authority, DRR is important, but only one of many other issues facing the rapidly urbanising city.

8.4 Earthquake-Resistant Construction in Nepal

As part of the reconstruction process post-earthquake, MFALD declared it would strictly enforce the National Building Code and earthquake-resistant construction of houses throughout the country. MFALD explained that the Department of Urban

Development and Building Construction had developed amendments to the building code. These building bylaws needed to be approved by each municipality. This momentum is a positive sign for Nepal. There is a window of opportunity (Birkmann et al. 2008) for improved practices related to earthquake-resistant construction to be developed and implemented before collective institutional memory of the earthquake fades into the background.

There appears to be an understanding in the national government that this earthquake was not 'the big one', which had been expected and on which disaster scenarios had been built. Fears that the next earthquake, whenever that will be, will lead to higher fatalities and more devastation than the Gorkha earthquake are reinforcing national efforts to focus on building earthquake-resistant infrastructure and resilient houses in the future. The government of Nepal, mobilised by the Gorkha earthquake, is requiring all local authorities to fully enforce urban planning measures, including the National Building Code and earthquake-resistant construction.

The local authorities are thrust in the midst of the government's efforts to decentralise responsibility for earthquake-resistant construction and urban planning. The Bharatpur local authority is acutely aware it will be held accountable in the future to the government, although it is struggling with insufficient human and financial resources to carry out its statutory responsibilities. Pelling (2012, 147) suggests disasters can weaken local authorities 'even further as their functions are overwhelmed'. There has not been any additional resources allocated after the change to sub-metropolitan city nor after the earthquake. Only additional responsibilities, in the form of development and disaster risk reduction initiatives have been given.

Before the April 2015 Gorkha earthquake, the SMCB was already attempting to implement the National Building Code (see Chap. 2). The local authority was training masons, building contractors, engineers and homeowners on ERC, with the technical support of NSET and financial support of the U.S. Agency for International Development (USAID). After the earthquake, the local authority's motivation and determination was intensified due to pressure from MFALD. In September 2015, the SMCB executive officer met with hundreds of representatives of the construction industry and government officials to discuss the government's ERC policy. The officer publicly declared that his sub-metropolitan city would begin implementing the National Building Code 'without flexibility'.

The earthquake sequence galvanised the SMCB to intensify its efforts to enforce earthquake-resistant bylaws and the full implementation of the building code related to construction of new housing and commercial buildings because the MFALD was pressuring local authorities throughout the country. The responsibility for ensuring new construction is earthquake resistant is also beginning to shift from the public sector to the private sector. Issues of accountability, ability, training and resources within the private sector and within the local authority to process this increased workload remain to be resolved.

8.5 Urban Planning in Nepal

Post-earthquake, urban planning and land use planning became more important for the new sub-metropolitan city due to pressure from the MFALD. A senior official leading urban planning for the sub-metropolitan city explained after the earthquake:

> Now that we have 29 wards, it is more complicated, the area of the SMC is too big. In the near future, there will be a SMC master plan with a land use plan. At the present time there is no demarcation of land use. People will be angry that agricultural land cannot be residential. It is all easy on paper but in the "field" [in reality] it is difficult to implement [for the local authority]. We will also be implementing the national building code and guidelines post earthquake.

He continued by stressing that the local authority does not have the financial resources to purchase land for infrastructure initiatives or the political power to lead urban planning. 'It is back to front', according to this key respondent from the SMCB; the urban local authority is following development led by residents rather than planning it. The local officials are overwhelmed with their increased responsibilities, lack of additional resources and lack of understanding how best to implement the government dictates.

The SMCB's mandated requirement to implement urban planning in the form of a land use plan that will govern space in the city is also being viewed by many residents as a potential hardship where they will have fewer mechanisms to informally influence the urban landscape. This is important to consider because in the recent past, residents through their neighbourhood groups, called Tole-level organisations (TLOs), have been reworking the urban physical infrastructure in informal ways, in a 'gray' space (Yiftachel 2009) created by the local authority.

The TLOs have allowed residents to influence and shape the city in an environment in which there has been no local elections since 1997. The informality of residents and the local authority, in relation to infrastructure investment (roads), has allowed the city to develop in the past decade, in spite of the local authority's limited financial resources. In the future, the collective social action, in the form of TLOs, may not be as powerful in some parts of the city if the land use plan is implemented. Mechanisms to influence the urban environment may need to be adjusted by residents.

The newly amalgamated rural wards will be particularly impacted by the new emphasis on urban planning and land use planning. Residents may not be able to sell agricultural land for house construction, and new housing construction is expected to be more tightly controlled. These changes will strengthen Bharatpur's resilience to earthquakes long term. In the short and medium term, these events create a perception of uncertainty for the local authority and residents because the mechanisms to informally influence their urban landscape appear to be curtailed.

Bankoff et al. (2015, 6) propose a disaster 'can be seen as simply as [an] agent of change in its broadest perspective capable of offering opportunities to push through needed policy solutions'. To what extent informality by residents for infrastructure provision will be eliminated or curtailed is unclear. It may involve a half solution; a new grey space may emerge, in which urban planning and earthquake-resistant construction implementation are broken down, frozen or modified.

Under no circumstances am I proposing that implementation of the National Building Code should not be adhered to; it is the cornerstone to building earthquake resilient

construction (Wisner et al. 2012; Bosher 2008). My point is that the earthquake allowed the government to take ideas that have been lying around (ERC and urban planning) and propel implementation, albeit without ensuring the local authorities had the resources and tools to guarantee success. The government is also not ensuring mechanisms are in place for residents to have their voices heard and needs met in this uncertain environment. It is here, at the local level, at the interface between the local authority and residents where implementation may stall.

8.6 Historical Perspective of Urban Planning Post-Earthquakes

The fact that the Nepal government is using the earthquake to propel implementation of urban planning and earthquake-resistant construction is not a novel occurrence. The rebuilding of Lisbon after the great earthquake of 1755 is one of the first historical examples. The Portuguese state became intimately involved in the recovery and reconstruction process (Clark 2011). The state developed integrated urban planning and seismic-resistant building codes, many of which continued to be standard practice until the 1920s.

In 1934, issues of urban planning and earthquake resistant construction were also discussed after the great earthquake of 15 January 1934. Major General Brahma Shumsher J. B. Rana, in his book *The Great Earthquake in Nepal, 1934 A.D.* (1935; translated into English in 2013 by Lall), meticulously detailed the recovery and reconstruction of Nepal. In relation to urban planning, he argued 'to increase the height of buildings where the streets are narrow is to invite a greater loss in an earthquake in the future' (1935 [2013], 87). He concluded the book (ibid., 97) by stating:

> Our knowledge had increased not only in the construction of houses and mansions but in laying towns too. Japan[2] has shown the way in this matter to the world. They have built better-looking, stronger and bigger cities in the place of those that were destroyed by earthquakes. They have built clean and wider streets in the place of narrow streets and lands where many lives are lost in earthquakes.

Major General Rana did not discuss why Japanese best practices were not utilised in Nepal's three cities of Kathmandu Valley (Patan, Kathmandu and Bhaktapur), although he does imply that cost may have played a role. The earthquake of 1988, which particularly impacted eastern Nepal, raised preparedness issues for Nepal as a whole (see Chap. 2).

8.7 Constitution Promulgated

Academic scholarship also shows that earthquakes have been utilised as opportunities for political and economic renewal, as a way to boost national pride and optimism. After the Great Hanshin-Awaji Earthquake of 1995 in Japan, Kobe was reconstructed in a 'Phoenix-like manner', with large infrastructure projects (Edgington 2010, 225).

After the Gujarat, India, 2001 earthquake, Simpson suggests there was competition to impose meaning from the earthquake 'it was the identity of India's recent past and the immediate future which was being fought over, and in this regard, the stakes were rather high' (2013, 5). The Indian government created the Gujarat model after the earthquake. The same can be said for Nepal and the government's desire to capitalise

[2] Japan had a devastating earthquake in 1923 from which the Nepali and Bihar State, India governments were learning best practices over a decade later.

on national optimism. Government officials were pleased that the Gorkha earthquake was not as devastating as had been expected and the initial response was managed well.

The constitution is the second idea lying around that the earthquake breathed life into and allowed to happen. The Nepal government, the constituent assembly, may have utilised the momentum created by a positive collective spirit after the Gorkha earthquake to attempt to transform the country by the promulgation of a new constitution. On 20 September 2015, the announcement of the constitution surprised most people domestically, including the Indian government, who had not expected Nepalese politicians to rally together to pass it (Figure 8.1).

Figure 8.1

Welcoming Nepal's new constitution 20 September 2015 in Bharatpur, Nepal (Source: Author's own)

After seven years of trying to pass a new constitution and the second elected constituent assembly tasked with this goal, the earthquake accelerated the process.

According to Amod Dixit, the founder and executive director of the NSET: ‘If there had not been an earthquake, the constitution would not have been passed. The earthquake made people and politicians run and take action; while before they could not even walk’.

The political leaders in Kathmandu were spurred to come to consensus on the constitution after the earthquake. The earthquake may have mobilised leaders who were relieved that the impact of the earthquake was not as devastating as had been expected. A political space was created where the previously quarrelling political parties agreed to pass the constitution and almost unanimously voted in favor of the constitution. This occurred in spite of protests and clashes on the Terai (flat plains bordering India) during the summer months of 2015. Some of the protests were violent, resulting in tens of people dying. This constitution has several shortcomings that the large Madhesi and Tharu ethnic communities of the Terai object to. Concerns regarding how federalism will be structured and how the country will be organised and governed remain.

I was in Nepal conducting fieldwork in the Bharatpur, when the constitution was passed. People were hopeful for the country, though shocked by the tensions and deaths in the Terai, which had occurred throughout the summer and into the autumn. To a greater extent than the earthquake, the constitution is the performative event for residents in Bharatpur. It highlights people’s desire for more than everyday systems. The passing of the constitution provided people with a forum to vocalise a desire for a better future; a future in which residents can aspire for more than coping and being resilient. People manage in everyday life; they show resilience and at times are able

to rework the urban reality to suit their needs and desires. The constitution raised an issue beyond the control of people–structures of government that can lead and manage the country for a better future.

The promulgation of the constitution had a powerful emotional impact on residents in Bharatpur. The people expressed their hopes and desire for the central government to lead the country and to create systems of government that will lead to stability and security for all of Nepal's residents. In the immediate aftermath of the passing of the constitution, many residents in Bharatpur were hopeful their country would emerge with proper governance systems in place, thus ensuring their nation would no longer be in transition. A businessman suggested, 'If the government is stable, it [the future] will be better. One or two people cannot change anything. We need the government'. This statement about the necessity for a stable government was repeatedly voiced in Bharatpur. Hope was raised and then dashed in the days, weeks and months after the constitution was promulgated.

8.8 Unofficial Economic Blockade

Nepal, a land-locked country, imports most of its goods from and via India. The passage of the Nepalese constitution spurred the devastating economic (unofficial) blockade on the Indian border crossings. The Indian government declared it was not safe for transportation vehicles to enter Nepal, resulting in economic turmoil throughout the country. The World Bank (2016, 1) stated, '2015 will be remembered as the year of twin shocks for Nepal' referring to the April-May earthquakes and the near complete disruption of external trade after the adoption of the new constitution in September. The World Bank continued: 'Nepal is not only a landlocked country, but

is also an India-locked country' (ibid., 3); 85% of all external trade comes via India into Nepal.

The blockade ultimately resulted in almost five months of being cut off from essential items. From late September, there were minimal imports of essential goods, such as cooking gas, food, medicine, petrol, kerosene and construction materials necessary to rebuild hundreds of thousands of homes destroyed by the earthquake. Very few people expected the blockade to last more than a few days, possibly a few weeks. Winter set in and temperatures plummeted. Trees from the forests were felled and utilised as fuel for heating and cooking.

This blockade of goods created crippling economic devastation and indirectly targeted businesses and ordinary people throughout the country. It is difficult to underscore the hardship. The economic blockade impacted many millions more people throughout the country than the earthquake.

The black market flourished in fuel and other essentials for months due to the unofficial blockade, money was made: some officials profited from the black market trade, but people throughout Nepal suffered. The ramifications will be felt for at least a decade. During the autumn, the Nepalese people, and especially the youth, had a target for their frustrations: India and, to a lesser extent, their own government and politicians.

Crisis situations are open to intensified exploitation and appropriation (Simpson 2013; Clark 2011; Klein 2008). Historically, India has influenced Nepalese affairs in a big

brother role, and Narendra Modi, India's prime minister, may have been surprised by Nepal's unwillingness to acquiesce to India's suggestions related to the constitution supporting the Madhesi and Tharu demands. India's actions after the constitution in the autumn of 2015 erased much of the tremendous good will created by India's rapid, timely and generous efforts post-earthquake. The silence of the international community in response to the economic blockade and the economic unraveling of their country also disappointed Nepal's citizens.

In February 2016, the international border crossings with India were quietly and fully reopened with no fanfare and trade resumed. It is unclear what political wrangling took place and why the tensions in the Terai were silenced and the blockade disappeared. It is unclear how the Nepalese government, the Madhesi political leaders who demand more rights for their group and the Indian government will resolve the political, economic and environmental resource debates that continue to linger.

An earthquake can be viewed as a crisis or a catastrophe 'resulting in dual or even multiple disasters at once' (Hyndman 2011, xi). The earthquake, the passing of the constitution and the economic blockade warrant consideration as chapters of one book. Clark (2011, 73) suggests that a 'disaster demands change, precisely because of its profound rupture with the past, because of the impossibility of recasting it into positivity, of redeeming it, or even of making sense of it'. In Nepal, during the course of 2015, changes were made, and it is unclear how they will be enacted.

8.9 Conclusion

The Gorkha earthquake of April 2015 took hold of two ideas that had been lying around and propelled them into being. How the earthquake changed the environment for people who were not directly impacted–those who did not lose their homes, their families and their livelihoods or those who were not displaced–warrants reflection. An earthquake changes everything (Simpson 2013) and everyone in some way. The local level is where the changes post-earthquake can be seen and felt most intensively. What the earthquake allowed to happen was explored through the lens of Bharatpur, a city not located in one of the designated earthquake-impacted districts of Nepal.

The earthquake allowed ideas to come to life. The first idea lying around that the earthquake propelled is the combination of earthquake-resistant construction and urban planning in the form of land use plans. The government pressured local authorities to implement the National Building Code and earthquake-resistant construction bylaws after the earthquake. The necessity to consider urban planning was also renewed. Responsibility for implementation has been firmly placed with local authorities. This has occurred in an environment in which two thirds of municipalities in Nepal were created in the 12 months before the earthquake and as of yet, they do not have the institutional, technical and financial capacity to meet this expectation. How municipalities will be able to cope is unclear.

The constitution is the second idea lying around that the earthquake propelled into action. The Nepalese government and the constituent assembly may have utilised the momentum created by a positive collective spirit after the Gorkha earthquake to attempt to transform the country by the creation of a new constitution. After seven years of debate, the constitution was promulgated in September 2015. Tensions

surrounding some aspects of the constitution continued, but people were hopeful. The unexpected unofficial economic blockade on Indian border crossings through which 85% of international trade enters Nepal, was devastating. This five month economic crisis prevented the basic goods and materials required for the reconstruction of earthquake-destroyed homes from arriving in Nepal during a cold winter. The economic blockade negatively impacted millions more people throughout the country than the earthquake. The impact from the Gorkha earthquake of 2015 will continue to unfold for years to come.

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