



A comparison of the governance landscape of earthquake risk reduction in Nepal and the Indian State of Bihar



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ABSTRACT

On 25 April 2015, a Mw 7.8 earthquake struck central Nepal, killing more than 8700 people. An earthquake of this magnitude has long been anticipated in Nepal and the neighbouring northern Indian state of Bihar, which straddle the active Himalayan frontal fault system. Drawing on field research undertaken before the earthquake, this paper traces the progress made in earthquake risk reduction efforts at the national scale in Nepal and at the sub-national scale in Bihar. With their contrasting 'governance landscapes', we examine the political and institutional context and power relations among different stakeholder groups, as well as the interests and political will motivating earthquake risk reduction. Nepal is a post-conflict country, with a weak legislative and institutional setting for earthquake risk reduction, and a multitude of different stakeholders (government, multi and bi-lateral donors, UN organisations, and national and international NGOs) engaged in the disaster risk reduction process. Bihar, by comparison, has a strong, hierarchical, sub-national government system with minimal influence of non-government stakeholders in earthquake risk reduction. While Nepal appears to have progressed further in strengthening earthquake resilience, the institutional structures in Bihar are stronger and could potentially support more sustainable resilience building in the long-term. The role of individual 'champions' in both instances (in Nepal among a national NGO, donors and multilateral agencies, and in Bihar within the government) has been instrumental in shaping the earthquake risk reduction agenda and initiatives.

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1. Introduction

On 25 April 2015 a Mw 7.8 earthquake struck central Nepal (now called the Gorkha Earthquake), with its epicentre located 80 km northwest of the capital city Kathmandu in Lamjung District. This was followed, less than three weeks later, by a Mw 7.3 earthquake northeast of the capital in Dolakha District. In Nepal, more than 8700 people were killed and 20,000 injured in this earthquake sequence, with more than 500,000 homes destroyed [92]. In Bihar, on the Indian side of the border with Nepal, 60 people were killed and hundreds injured, with many districts in the north of the state affected [11].

An earthquake of this magnitude has long been anticipated in the Himalaya [5]. Loss estimation scenarios based on a repeat of the 1934 earthquake in modern day Kathmandu have suggested an order of magnitude higher death toll than resulted from the 25 April 2015 event [23,53]. In 1934 a similar number of people had died, with 20% of the building stock in the Kathmandu Valley destroyed and 40% damaged [23]. Eighty-one years later the

Kathmandu Valley was home to far more people living at much higher density. One might ask, why were the effects not as bad as had been anticipated by the scenarios? In part, there was luck. The earthquake had a smaller magnitude than the 1934 earthquake (M 7.8 versus 8.4), leading to lower intensities. The earthquake struck at noon on a Saturday. Schools were closed. Many people were out of doors. But there have also been several years of intensive work on preparedness and risk reduction which may have also been a factor.

This paper will not attempt to answer this question. Time and in-depth forensic studies will hopefully shed light on the factors that accounted for the damage and loss in Nepal in April 2015. Instead, drawing on field research undertaken before the earthquake, this paper explores the risk reduction efforts at the national scale in Nepal and at the sub-national scale in Bihar, with a particular focus on the role of governance and political will¹ in earthquake risk reduction. In so doing, the paper responds to a call

¹ It will emerge in context as we develop our argument below that we mean by 'political will' a determination or resolve on the part of senior officials and leadership in government and the opinion-forming elite in society to implement and enforce a policy. The sources and constraints on political will are many and varied. They include electoral pressure, the logic of party-political advantage, international (e.g. donor) influence, legal or bureaucratic requirement and material benefit [106].

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for more comparative studies examining the political processes that create both incentives and disincentives for DRR [101].

While weak governance and lack of political will are frequently cited as barriers to effective DRR [101,106], there remains a lack of evidence on the effectiveness of different governance systems for DRR [11,96]. This paper provides some of the evidence called for. Empirical studies suggest that important governance issues underlie the effectiveness of earthquake risk reduction practices, revealing, for example, that earthquake mortalities are greater in newer than older democracies [52] and that public sector corruption is positively correlated with earthquake deaths [27]. While critical structuralist accounts of the underlying causes of disasters exist (see, for example, [7], [36], [103] and [104]), little attention has been given to the specific processes behind these findings. For example, Williams notes that for the factors identified in econometric studies correlated with the number of people who die in disasters, there is a limited understanding of how the mechanisms and causal processes operate in practice. This paper aims to contribute to this understanding by adopting a more qualitative approach to unpack the mechanisms and processes underlying earthquake risk reduction initiatives within the broad 'governance landscape' of DRR.

The state or government is a prominent stakeholder within the DRR governance landscape. For Wilkinson, the government has five key roles:

- as providers of disaster risk reduction goods and services;
- as risk avoiders;
- as regulators of private sector activity;
- as promoters of collective action;
- as coordinators of multi-stakeholder activities.

In the context specifically of earthquake risk governance, Wilkinson's principles take concrete forms.

- Risk reduction through provision of seismic information, strengthening critical infrastructure including schools and health facilities, risk awareness training and preparedness, mapping of possible secondary hazards such as landslides;
- Risk avoidance through safe construction methods in new public buildings and facilitation of safe private sector construction (e.g. through training and financing arrangements);
- Private sector regulation through appropriate building codes and their enforcement;
- Promotion of collective action through decentralized programming at sub-national and local scales including community based disaster risk reduction;
- Coordination of multi-stakeholder activities including scientists, planning departments, building and urban management, local authorities, NGOs and humanitarian organizations.

This suite of actions constitutes a state-of-the-art menu for national and sub-national governments backed up by a great deal of engineering experience and research in natural and social sciences [56]. All these actions are considered feasible, even in low-income countries, although in some (as we will see in the case of Nepal), donors pay for the much of this activity. There is considerable evidence that these actions save lives, assets and losses to government and donors from the destruction of investments [108].

In our comparative treatment of risk governance in Nepal and Bihar, we define 'progress' or 'success' as effective function in one or more of these roles. This is clearly a minimalist definition of 'success'. As noted above, ideally one would be able to parse the risk-creating versus risk-reducing factors and show that 'effective functioning' in such roles did, in fact, prevent deaths and reduce

damage. It is too early, and, perhaps also a quixotic challenge to understand a complex event in so much detail. Time will tell. For now, however, we help to lay the foundation for better understanding by focusing on what we call the 'governance landscape'.

2. Understanding the 'governance landscape' for earthquake risk reduction

The framework for this research draws upon political economy analysis (PEA) which "is used by development agencies to enhance their understanding of the economic, political and social processes that drive or block policy reform" [17]. PEA examines the incentives, interests, institutions and power relations facing key stakeholders and "focuses on how power and resources are distributed and contested in different contexts and the implications for development outcomes" [20]. The Department for International Development [20] also suggest that PEA seeks to understand what drives political behaviour and how this shapes particular policies and programmes. It examines the interests and incentives facing different groups; the role that formal and informal institutions play; the role of external drivers; and the impact of values and ideas on political behaviour and public policy. Drawing on the key themes of PEA, we begin by setting out a framework for analysing what we call the 'governance landscape' for DRR. The framework considers both structure (systemic features of the 'governance landscape') and agency (the incentives and disincentives that shape the behaviour of actors) and the interactions between the two [28].

We use the term 'governance landscape' in this paper to refer to three specific aspects of DRR governance. First is what we call the 'stakeholder context' of DRR. This refers to the stakeholders involved in implementing DRR, the relationships among them, and the role of power in these relationships [59]. As noted elsewhere (e.g. [49]) DRR currently takes place within a broader neo-liberal agenda where the functions of the nation state are being redistributed 'upwards' to international institutions, 'downwards' to regional and local tiers of authority and 'outwards' to a range of non-state actors [12].

The sharing of power among stakeholders has undoubtedly generated a more complex and challenging governance landscape for executing any particular policy objective. Goodwin [34] argues that the policy world is now made up of diverse, overlapping and integrated networks often operating beyond effective control by formal structures of government (e.g. in the case of disaster risk reduction, the Hyogo Framework for Action – now the Sendai Framework for Action – and their associated global and regional platforms). Ojha et al. [65, p. 365] go as far as to suggest that the factor that "hinders effective governance in most situations is the prevalence of complex interplay of power and knowledge among diverse groups of actors with unequal command over resources to influence mutual interactions that underpin governance actions". This is also the view of the civil society and academic authors of the *South Asia Disaster Report 2012/13* [26], who specifically frame disaster risk as driven by use and misuse of economic power at global, regional and national scale, calling attention to the intimate link between 'development' (e.g. overseas direct investment) and disaster risk creation. A similar view is advanced in the [95] Global Assessment Report on Disaster Risk Reduction in which the UNISDR specifically single out movements of international finance capital as contributing to the creation of disaster risk. It is therefore useful to situate DRR in terms of this broader political context to fully explore the influence of multiple stakeholder groups.

The second aspect of the 'governance landscape' we refer to as the 'institutional context' or the specific 'apparatus' for enforcement of regulations and standards and the delivery of DRR

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