

NATURAL DISASTERS AND GOVERNANCE SYSTEMS: THE SOCIOTECHNICAL
FOUNDATIONS OF POST-DISASTER GOVERNANCE REFORMS IN NEPAL

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University of Pittsburgh, 2018

How do governance systems survive the shock of large-scale natural disasters and adapt to changed post-disaster environment in low-income, fragile states? Through what mechanisms do such extreme events contribute to changes in the governance system? Scholars of political economy and public policy and management seldom explore these questions; more often than not, they focus on how conflict and post-conflict rebuilding processes contribute to state building or governance reforms. Scholars of disaster policy and management often examine specific changes in disaster policy arenas and post-disaster administrative reorganization within the sphere of disaster governance. Drawing on both avenues of scholarship, this dissertation focuses on how catastrophic natural disasters produce a window of opportunity for enacting drastic changes in governance institutions. In so doing, the dissertation argues that increased levels of social trust that emerges to overcome the hardships produced by the destructive forces of nature and to fight against the challenges of post-disaster crises can create pressure and responsibility for leaders to swiftly enact governance reforms. As massive amounts of resources are mobilized for post-disaster relief and reconstruction, leading actors of the governance system are motivated to make the best use of such resources in improving their autonomy and influence. Because natural disasters, just like market shocks and policy changes, have distributional consequences, those actors that have the greatest organizational capacity or preparation prior to the disaster in managing information benefit the

most from the window of opportunity. Taken together, elevated levels of social trust against real and perceived threats, improved levels of resource capacity, and increased levels of organizational capacity to collect, use and exchange information interact together to facilitate reforms in the governance system. The dissertation utilizes the case of the 2015 earthquakes and post-earthquake governance reforms in Nepal as a crucial case study to assess this theory. Using multimethod research design and multiple sources of evidence including field observations and expert interviews, the dissertation shows how the earthquakes created a window of opportunity for governance reform, and, through the theorized mechanisms of change, contributed to enhanced level of governance capacity in Nepal.

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PREFACE

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1.0 INTRODUCTION

1.1. Research Question

How do catastrophic natural disasters affect the dynamics of continuity and change in governance systems in low-income, fragile states? This dissertation research examines this question and proposes that natural disasters trigger new forms of cooperation and conflict in a disaster-stricken society, leading to changes in rules, structures, and behaviors of the governance system. I derive several hypotheses from this proposition with specific assumptions and mechanisms of change. In my theoretical model, catastrophic natural disasters affect the dynamics of governance reform directly and indirectly via changes in resource capacity, social trust, and organizational capacity. The conceptual model utilized in this dissertation also incorporates the role of initial conditions on the magnitude of disaster impact, interaction effects of resource capacity, social trust, and organizational capacity on governance reforms, and feedback effects. This conceptual model was developed based on various strands of scholarship in disaster governance, political systems, and public policy and administration.

The reason I focus on resource capacity, social trust, and organizational capacity of governance systems as critical mechanisms of change is because a thorough review of social and policy sciences literatures shows that large-scale, unexpected events create a juncture or a window of opportunity for drastic change (Kingdon 1995; Mahoney 2000). Following such events, new forms of cooperation and conflict can shift the system to a new state as the sociotechnical foundations - resources, trust, and organizational capacity - are realigned and reconfigured to support alternative paradigms (Birkland 1998; Pelling and Dill 2010).

I assess my theoretical propositions with mixed methods research design and multiple sources of evidence from Nepal, which was struck by catastrophic earthquakes in April and May

of 2015. The 2015 earthquakes in Nepal provide a unique opportunity to test my theory of post-disaster governance reform for three main reasons. First, I justify selection on the outcome variable to appreciate the full complexity of the problem of governance reform in Nepal as a low-income, fragile state that has been grappling with fundamental problems of social order. Second, considering selection on the explanatory variable, the 2015 earthquakes in Nepal illustrate the importance of understanding multiple, recurring hazards as opposed to simplistic notions of one-off shocks. The third justification for my case selection is the fact that no prior research has provided a systematic empirical analysis of how catastrophic disasters affect governance in Nepal from a systems perspective. Taken together, this dissertation will contribute to our theoretical and practical understanding of how natural disasters impact governance reform in complex, yet fragile governance systems as opposed to many other studies focusing on electoral outcomes after disasters in established democratic systems.

1.2. Rationale

Large-scale, rapid-onset natural disasters are of fundamental importance for governance systems. While the impact of natural disasters on human life and property is mediated by the capacity of governance systems, disasters also have considerably affected the origins and evolution of governance systems. Despite the importance of the topic, not much work has been done on it, especially in the context of low-income, fragile states. This gap provides an opportunity for this dissertation research to contribute to understanding the relationship between natural disasters and governance systems in such settings.

What is the current state of our collective knowledge about the ways in which governance systems lessen or amplify the effects of physical forces of nature? What kind of governance

institutions, public policies and administrative processes ensure the design and implementation of more robust public infrastructure and private buildings and less complacent political culture within which all actors in society engage in investments in reducing disaster risk and vulnerability? While some studies found that wealthier countries, democratic regimes, decentralized governance systems, and societies with lower inequality suffer less damage and loss from disasters compared to poorer countries, authoritarian regimes, centralized governance systems, and societies with higher inequality (Albala-Bertrand 1993; Horwich 2000; Kahn 2005; Toya and Skidmore 2007; Smith and Flores 2010; Skidmore and Toya 2013), there is a need to go beyond such dichotomies because of nonlinear relationships, system interdependencies and heterogeneous effects (Kellenberg and Mobarak 2008; Raschky 2008).¹ For instance, while some scholars blame federalism for the losses of Hurricane Katrina (Congleton 2006), others point out the benefits of federalism (Skidmore and Toya 2013) and that we should consider both in assessing the factors mediating the impact of natural disasters (Derthick 2007; Landy 2008). Therefore, there is a need for improving collective understanding of how governance systems and interdependent actors within such systems exchange information and resources in making their public and private lives more robust and resilient and less vulnerable to the exogenous shocks of nature (Comfort 2007). It is especially critical to do this work in the context of low-income, fragile states where international actors also play significant roles in ameliorating the potential impacts of disasters filling the gap in existing domestic capacity.

It is also important to understand the ways in which catastrophic natural disasters contribute to origins and evolution of governance systems. In the process of disaster relief and

¹ In addition, there is a comparative political economy literature that focuses on political institutions to explain the divergent state capacities in responding to large-scale crises, including earthquakes and pandemics (Acemoglu and Johnson 2007; Kurtz 2013).

recovery as well as risk reduction and resilience building, governments expand their authority over society with respect to regulation, taxation, and service provision. Despite the importance of the subject, not much work has been done. Much of the work in state building literature focuses on the impact of crises such as external wars and internal conflicts and political response to such crises in the form of expanded power to regulate, tax and provide public goods and services in explaining the origins and expansion of the state authority (Skowronek 1982; Knight 1992; Skocpol 1995; Doner 2009; Pollack 2009; Slater 2010).

There are two recent exceptions to this; first, the work of Dauber (2013) has traced the origins and evolution of the American welfare state back to disaster relief in 18th and 19th century United States. Dauber (2013) has shown that the constitutional and moral logics of bailing out innocent victims of disasters has provided the basis for social security programs such as unemployment compensation and retirement pensions. Second, Roberts (2013) systematically examines how disasters have affected the American state through political, bureaucratic, and popular expectations mechanisms. This dissertation research will contribute to this discussion of social responsibility by studying the ways in which disaster governance activities contribute to the origins and evolution of governance systems in a setting that involves collaboration with international actors.

As a hard-to-predict, exogenous shock, natural disasters test governance systems and allow scholars to better understand the dynamics of cooperation and conflict. Because large-scale, rapid-onset natural disasters open a temporary window for renegotiation of the accepted social contract among participating groups, it is critical to study the conditions under which the disaster-initiated process of contentious politics leads to a path-dependent trajectory of consolidation of the existing governance system versus creating a critical juncture and shifting

the system to a new state (Pelling and Dill 2010; Wood and Wright 2016). In addition, it is also important to study the effects of natural disasters on governance because such natural disasters affect overall socioeconomic development of the country both in short term and the long term (Skidmore and Toya 2002; Stromberg 2007; Cuaresma et al. 2008).

1.3. Policy Significance

Governments, international agencies, and private organizations spend large amounts of resources in designing and implementing institutions and policies aimed at responding and recovering from disasters. Substantial resources are lost to natural disasters and more resources are spent to recover from the losses. It is critical to advance our knowledge and understanding of the ways in which policies and practices reduce the negative impact of natural disasters and how such policies and practices strengthen governance capacity and mold the evolution of the governance systems. These issues are gaining more importance as natural hazards are increasing because of global warming and climate change (Ahrens and Rudolph 2006; Helmer and Hilhorst 2006).

Moreover, it is important for policymakers and practitioners to better understand the dynamics of cooperation and conflict that are induced by natural disasters. Gaps in governance capacity with respect to 1) regulations governing building codes and engineering standards; 2) intergovernmental relations between national and local agencies, which compromised the co-lead cluster system as lack of information and resource exchange got hampered; 3) efforts to address social, economic and political inequality across communities affecting social trust; and 4) autonomy from external influences and constraints produced collective action problems such as riots, gasoline crisis and delays in the reconstruction process. Insights from this inquiry will contribute to a better understanding of how such post-disaster crises can be avoided or mitigated.

As disaster relief and reconstruction can have fundamental consequences for the capacity of the governance system in Nepal, it is vital for international and Nepalese policymakers and technocrats to have an enhanced understanding of how disaster aid should be designed and implemented, given multiple constraints. As Nepalese leaders harnessed the disaster-induced social trust and cooperation to build a more inclusive and adaptive governance system in the aftermath of the earthquakes, they encountered challenges related to resource capacity, social trust, and information collection and use. The study of these challenges will yield insights that Nepalese policymakers can use as they attempt to improve their governance system.

1.4. Overview of Chapters

Chapter 2 reviews major theoretical frameworks often utilized in social and policy sciences to understand continuity and change in governance systems. In so doing, it forms a framework to guide this dissertation inquiry. Drawing on existing theories in social and policy sciences, the chapter develops a conceptual model of post-disaster governance reform and derives theoretical propositions to assess using the case of 2015 earthquakes and post-earthquake governance reforms in Nepal.

Chapter 3 provides a description of research design, data sources, research methods, and analytic techniques used in this dissertation to trace the logics of action in post-disaster governance reforms in Nepal.

Chapter 4 introduces the case of Nepal comparing it to other low-income, fragile states. To contextualize the research question within the case of Nepal, the chapter provides description of how the governance system of Nepal has evolved over time, the context of disasters and

disaster policy and management in Nepal, and the challenges that the governance system of Nepal experienced following the 2015 earthquakes.

Chapter 5 provides an analysis of the disaster governance system of Nepal by identifying the main actors, salient issues, and gaps in governance of the disaster response system. Using GDELT knowledge graph data and expert interviews, the chapter shows that the scale of the 2015 earthquakes overwhelmed Nepal's disaster response network, and the large number of external actors that responded to Nepal's appeals to assistance contributed to the perception and fear of loss of control as many foreign military and civilian actors dominated the scene. Massive mobilization of resources in the disaster relief phase, as well as perception of loss of control in managing one's own internal affairs such as Search and Rescue (SAR) and management of displaced populations provide an important background for subsequent chapters.

Chapter 6 presents an analysis of how the 2015 earthquakes the resource capacity of Nepal's governance system. In so doing, it uses donations data that document mobilization of resources by Nepal as well as its development partners in the UN system and multilateral development organizations. The chapter also uses financial statistics provided in government and nongovernmental organization reports as well as expert interview data to show how the fiscal, economic, and human resource capacity of Nepal compares before and after the earthquakes. Incentives to command these resources and show that the increased resource capacity has increased the capacity of Nepal's governance system are especially evident in the ways in which Nepal has been able to conduct its foreign economic and diplomatic relations.

Chapter 7 analyzes how the 2015 earthquakes affected the governance reforms and adaptation of Nepal's governance system to the post-disaster situation. Coupled with increased levels of fear of loss of control on the part of governance actors, the increased level of social

trust allowed the nation's leaders to quickly adopt a new constitution. As the post-constitutional border crisis disrupted reconstruction activities, this further contributed to the salience of social trust, national unity, and calls for increased governance capacity and autonomy in managing Nepal's relations with foreign nations. In so doing, the chapter uses Citizen Feedback Surveys from earthquake affected districts of Nepal and qualitative data from expert interviews in Nepal.

Chapter 8 uses the knowledge graph data from GDELT and expert interviews to show that increased levels of interorganizational connectivity among actors of Nepal's governance system and their increased capacity for information collection, exchange, and use following the 2015 earthquakes have contributed to enhanced governance capacity in Nepal. The chapter also shows that actors with greater pre-disaster organizational capacity had greater opportunity to increase their capacity in the post-disaster governance system of Nepal due to higher levels of resources and changes in the governance system that solidified their rights and privileges.

Chapter 9 provides a summary of findings and discusses their contributions to knowledge creation and implications for policy and practice. Pointing out its limitations, the chapter provides recommendations for future research in advancing our understanding of how large-scale natural disaster affect governance systems in low-income, fragile states in Nepal and other parts of the world.

2.0. THEORETICAL FRAMEWORK AND CONCEPTUAL MODEL

This chapter reviews major theoretical approaches utilized in studying governance challenges in social and policy sciences. In so doing the chapter weaves together a meta-theoretical framework that will then guide the researcher in establishing boundaries around the research problem and refining the scope of the policy issues. This framework will then lay out the ontological and epistemological foundations upon which a conceptual model of post-disaster governance reform can be systematically built and empirically assessed.

2.1. Review of Relevant Theoretical Frameworks

2.1.1. Social Construction of Institutions

Because policies and institutions are socially constructed (Searle 2005), any study of post-disaster governance reforms should consider perceptions, ideas, mental models, and informal norms and practices in addition to formal rules governing the behavior of actors that are motivated to optimize their economic resources and political influence (Denzau and North 1994; Ostrom 2005). Contentious political economy of post-disaster relief and reconstruction policy design and implementation are shaped by social norms and expectations about who deserves such support, who is entitled to such rights, and what governments should provide (Ingram, Schneider, and DeLeon 2007; Roberts 2013).

Social norms and expectations are overlaid with external influence of norms of inclusive minority rights and sociotechnical modernization of the system. As external multilateral development institutions in developing countries push for codifying informal rules guiding property relations (De Soto 2003) and for enhancing informational capabilities of the governance system to read, record, and manage its populace (Scott 1998), the researcher needs to take into

account how such projects are shaping the post-earthquake reconstruction and the process of policy and management capacity building as a result. While such sociotechnical modernization would benefit low-income, fragile state to a great extent, inattention to cultural sensitivities might amplify vulnerabilities and produce pushback against external influence. Perceptions of national security vulnerabilities and fear of national disintegration due to natural and external forces can then contribute to increased awareness, push for autonomy, and capacity building leading to governance reforms (Doner, Ritchie, and Slater 2005).

Post-disaster changes in the governance system, when studied through the lens of socially constructed institutions and policies, require the researcher to trace the logics of action before and after the disaster to identify the extent to which long-operant institutions persist and which ones continue on shifted paths due to the critical juncture (Mahoney 2000). It is important to account for initial conditions of the system so that the magnitude of the impact of the earthquakes and relief and recovery processes on governance changes are not over-identified. The critical question for the researcher is to identify what aspects of long-operant institutions need to be changed to lower risk of loss and damage from natural disasters and concomitant manmade crises and what aspects need to be continued and strengthened especially because they have contributed to communal resilience for centuries. Exploration of continuity and change in such systems necessitate research methods that acquire information from collective deliberations about the meanings of patterns in social constructions.

2.1.2. Institutional Analysis and Development (IAD)

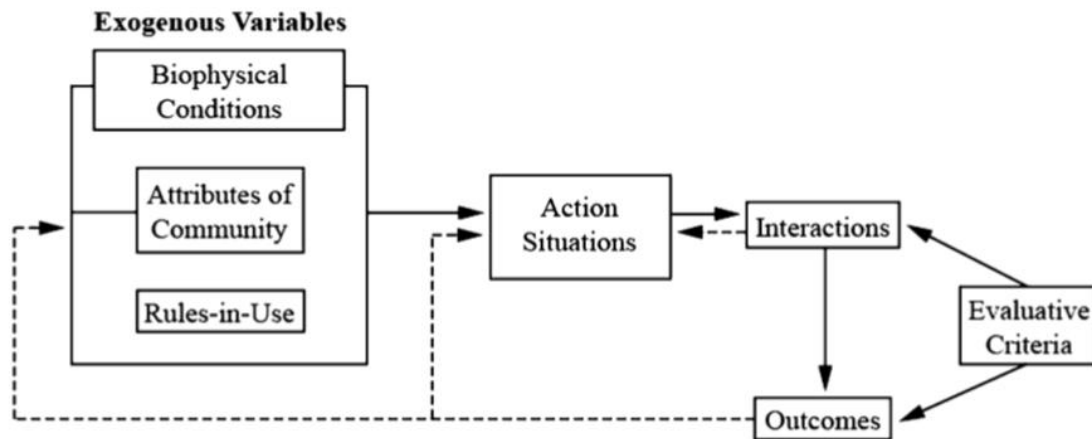
A study of change in formal and informal norms of governance systems can best be approached by utilizing the Institutional Analysis and Development (IAD) framework (Ostrom 2005). The

IAD framework includes useful analytic techniques that guide the researcher in identifying the most salient action situations and participants that contribute to reconfiguration of formal and informal practices within a given action arena of the governance system. Because a governance system is of polycentric nature whereby authority to design and implement policies is distributed across government levels and sectors, the IAD framework facilitates the study of main actors, their dynamic preferences of policy issues, and emergence of institutional change from distributed local knowledge, self-monitoring and dispute resolution at multiple levels. In short, the analytic techniques and strategies developed within the IAD framework help the researcher in decomposing a complex system into important smaller parts so that one can study how these parts and their interactions produce important socioeconomic and political phenomena (McGinnis 2011).

The essential components of the IAD framework provided in Figure 1 below. Even exogenous factors such as biophysical conditions are not truly exogenous in a sense that outcomes affect them through feedback loops. While the sheer force of nature in earthquakes are truly exogenous, the magnitude and location of destruction it causes is socially determined (Cutter et al. 2013). Attributes of community are the initial conditions of the system that include social trust, cooperation and competition that affect the trajectory of change after the system experienced a shock. The rules-in-use in the processes of relief and reconstruction enable and constrain action and interaction of participants of the governance system. Action situations constitute salient subsystems where main actors are interacting to exchange information, resources, and trust to affect effectiveness and sustainability of the governance system in accomplishing its expected outcomes. As actors evaluate the exogenous factors, their actions, interactions and alternatives, and outcomes, they affect all these stages by dynamically altering

the system. Learning loops and feedback affect both the system and its initial conditions as well as the exogenous factors (McGinnis 2011).

Figure 1. Institutional Analysis and Development (IAD) Framework



Source: Ostrom (2010, 646) as provided in McGinnis (2011, 172).

The IAD framework has high compatibility with the strategic action field theory of social change as well as network perspectives of structural change in governance systems. These two theoretical approaches will be reviewed in the subsequent sections of this chapter and provide important guiding principles for analysis in this dissertation research.

2.1.3. Strategic Action Fields (SAF)

Formal and informal rules that operate governance systems, while created by human actions, also constrain these very human actions. Therefore, any policy-relevant theory of social change must resolve the agency-structure debate; the extent to which individuals, groups or organizations have agency versus the system that structures the actions of these actors to produce the intended

outcomes. As the IAD model masterfully does, the strategic action fields (SAF) also attempt to create a unified theory of social change that can resolve the structure-agency debate. The SAF theory is proposed by organization theory scholar Neil Fligstein and social movements scholar Doug McAdam. They suggest that by identifying and studying strategic action fields as fundamental units of collective action at the meso-level, we can better account for changes in governance systems (Fligstein and McAdam 2011). The author's understanding of how government systems exist and operate are consistent with the social-constructivist view of institutions and the IAD framework whereby social systems are made up of nested subsystems and rules-in-use patterns of participant actions at multiple levels of logic, organizational sector and subsystem. Further, they propose to zoom in on what Ostrom (2005) calls 'action arenas' or 'action situations' whereby the most salient actors interact strategically according to the rules-in-use to affect change. SAFs in Nepal's governance system would be disaster relief and reconstruction fields and the constitutional reform field.

According to Fligstein and McAdam (2011, 2), the theory of strategic action fields consists of the following components: 1) Strategic action fields; 2) Incumbents, challengers, and governance units; 3) Social skill; 4) The broader field environment; 5) Exogenous shocks, field ruptures, and the onset of contention; 6) Episodes of contention; 7) Settlement. Incumbents are dominant actors that make the rules and run the strategic action field for their advantage. They dominate governance units that are used to regulate SAFs. Challengers are actors that have lower influence in the field but aspire to challenge the incumbents to gain dominance in the field. Operating within the broader field of environment, these actors use social skills (cognitive, empathetic, and communicative) to make the most out of window of opportunities that emerge from exogenous shocks or field ruptures (Goldstone and Useem 2012) - which can be thought of

as manmade crises that often follow natural disasters. Such windows of opportunity trigger episodes of contention, after which influence within the field is redistributed and settled.

However, over time some parts of the field can be more settled, and others unsettled, recognizing the importance of accounting for continuity and change in governance systems at the same time.

2.1.4. Network Paradigm

The network paradigm and the set of tools that it offers are compatible with the IAD and SAF frameworks reviewed above. Both frameworks incorporate the basic premises of the network approach to social systems: systems are made up of organizations that interact with each other at multiple levels to affect micro, meso, and macro level outcomes in the system due to the salience of relationships among the actors in addition to their attributes (Carrington, Scott, and Wasserman 2005). Networks are made up of subnetworks, clusters, cliques, or communities. (Alter and Hage 1993). Many individuals, groups, or organizations operate within one or more of these subnetwork communities within the governance system. Concepts such as communication and collaboration among various actors within governance networks and subnetworks provide important contributions to our understanding of governance reforms.

The idea that relationships are salient as much as the attributes requires different methods of issue identification, description, and inference while the outcomes that social scientists care about are the same. Social network analysis tools and techniques allow the researcher to measure influence or centrality in the network, density and the complexity of the network, and cohesiveness of the network (Wasserman and Faust 1994). Ideas, behavior, information, viruses, resources, and so on spread across networked entities to produce the outcomes under examination by research scientists (Borgatti et al. 2009).

In the context of disaster relief and recovery, inquiries into interorganizational networks that make response systems can help evaluate the extent to which actors coordinate among themselves to support specific roles and functions in the absence of a clear command structure due to the uncertainty created by the disaster. Gaps in communication and cooperation across first responder networks can be identified and studied using social network analysis (Comfort and Kapucu 2006).

The network approach to governance studies and social network analysis tools are used in this dissertation to identify dominant actors in the system, their resources, social trust and organizational capacity to collect, exchange and use information. The perspective and tools are useful in studying social systems that undergo change that can be characterized by power law patterns and distributions.

2.1.5. Complex Adaptive Systems (CAS)

Governance systems are human-constructed, complex adaptive systems whereby the system adapts to changing conditions due to interdependent and interacting factors that also include initial conditions and feedback effects (Katz and Kahn 1996; Miller and Page 2007). The complex adaptive systems approach is especially useful to studies that examine a comprehensive set of factors that affect a specific outcome in the system using mixed-methods and multiple sources of evidence (Yin 2013). This contrast with traditional statistical studies that employ multiple cases to explain an outcome using only one or two factors.

Viewing governance as a complex adaptive system that is perturbed by the disasters and shifted to a new state allows one to study the various ways in which actors, resources, information and trust work together to affect changes in governance capacity. Exogenous shocks

such as large-scale earthquakes overwhelm the structure of the system that is used to maintain its routine functions. That is why the system will depend on emergent modes of organization among its participants due to expected failures in established command and network structures. Moreover, the dynamic uncertainty that is introduced by the earthquakes also require the complex adaptive system approach. The magnitude of shock's impact on organizational structures and the degree of uncertainty calls for flexibility that invites the study of both dominant structures and emerging phenomena. This can yield important insights regarding how the system can be reformed to optimize its adaptive capacity (Comfort 2002).

The CAS system is compatible with the approaches reviewed above and provide a useful framework of thought and analysis. The CAS approach includes several components: external environment, initial conditions, exogenous shock, interdependent factors, and feedback effects.

a) External Environment

A complex adaptive system operates to better adapt to its external environment and to sustain itself in that environment. At the same time the system has a role in changing its environment, at least by providing feedback. The external environment of a system imposes task requirements and dependencies on the system (Seybolt 2009). In low-income, fragile governance systems, the system's external environment is the geopolitical system within which it finds itself. The task imposed, both domestically and internationally, on the system is to adapt the rules and norms of the system to its changing environment. The external geopolitical environment can be defined as power relations over influence/control of resources, interests, and identities among actors in the global and regional international system (Flint 2012).

Governance reform in developing countries is a highly complex and challenging task, given the fact that both domestic and international actors that play a role in the system had to reach an agreement with respect to the distribution of rights and obligations of the system. A high level of dependency on regional powers with respect to economic imports, investments, and national security while also operating by norms demanded by the UN, World Bank, and International Monetary Fund in return for development grants and loans make it more challenging for the system to adopt reforms with which its components are fully aligned. At times of high uncertainty and risk due to large-scale disasters and humanitarian crises, it is even more challenging for the system to use its hierarchical ordering mechanisms to respond to task requirements and dependencies. In such environments, hierarchies need to be coupled with markets and networks to make the system more flexible in responding to dynamic circumstance (Powell 2003).

External actors with economic and security interests can compete to provide disaster relief and recovery assistance to increase their influence and the disaster-stricken country's dependency. Former rival countries can use the disaster as an opportunity for diplomatic rapprochement (Comfort 2000; Kelman 2006).

b) Initial Conditions

Initial conditions are in a sense lagged variables in a traditional statistical model. When changes occur in its external environment, adaptation of the system depends on its state or phase before the change in its environment. Initial capacity of government agencies with respect to lowering disaster risk and societal vulnerability, designing and implementing robust engineering standards, setting up collaborative networks that engage in sharing resources and information

through interoperable technologies and conducting joint exercises and simulations of response and recovery activities has considerable impact on the magnitude of loss and damage that natural disasters inflict (Raschky 2008). Initial capacity of the civil society organizations and the degree of trust, shared understanding of risk and vulnerability as opposed to social polarization, inequality, conflict, and complacency in disaster preparations can have a major effect on the magnitude of disaster impact (Tierney 2006; Wang and Kapucu 2007; Comfort et al. 2009). Initial geopolitical environment and international actors also affect the magnitude of disaster impact. Especially when the capacity of the state and society is low, international actors come in to provide financial, technological and institutional assistance. While such assistance increases initial state capacity, it can also produce moral hazard and dependency by crowding out local efforts and initiatives (Cohen and Werker 2008). In addition, not all international assistance is designed to help the host government as many aid projects are intended to further the economic and security interests of the donors (Drury et al. 2005).

Disasters provide an excellent test of performance for governments, citizens, and organizations (Schneider 1990; Goodsell 2002). If the governance system is working effectively, then the system survives the test by mitigating the impact of the shock and by adapting to the changing environment and inputs emanating from the shock. However, in an analysis of county-level presidential election results from 1988 to 2004, Healey and Malhotra (2009) argue that in the context of disaster mitigation, voters fail to reward politicians for preventative spending that ultimately minimizes public welfare losses, instead rewarding politicians for disaster relief and recovery spending. Reeves (2010) finds evidence that presidents are more likely to provide federal disaster assistance to electorally important swing states.

Institutional vulnerability and complacency/entropy increase the loss and damage from natural disasters (Comfort et al. 2009). Results from an empirical investigation of large scale natural disasters between 1984 and 2004 show that countries with better institutions experience less victims and lower economic losses from natural disasters. In addition, the results suggest a non-linear relationship between economic development and economic disaster losses (Raschky 2008). Administrative systems such as federalism also affect disaster impact. Bureaucratic organization and framework (like FEMA before and after homeland security) also affect disaster impact (Congleton 2006; Kapucu et. al 2011).

International assistance with disaster risk reduction potentially lowers disaster impact. However, in the presence of international disaster assistance and aid dependency, national governments have an incentive to underinvest in risk reduction and disaster preparedness activities (Cohen and Werker 2008). Economic dependency to international agencies and global and regional powers can potentially set up a negative trajectory for disaster impact. In addition, international aid and disaster assistance is also driven by domestic political and foreign policy considerations of donor states (Drury et al. 2005), which might not necessarily overlap with the objectives of the governance system in the disaster-stricken country. Clientelism, patronage, and corruption lead to greater disaster damage. Human vulnerability, inequality, and complacency amplifies the disaster damage (Fuchs et al., 2007). Higher education means less disaster impact (Toya and Skidmore 2007).

c) Exogenous Shocks

A sudden-onset exogenous shock such as a large-scale natural disaster can significantly affect the system and its external environment, triggering a complex learning and adaptation process in

the process of responding to such a shock. Such an exogenous shock can have a distributive consequence in a sense that it can empower some actors and reduce the influence of other actors within the system. The same can occur within the external environment of the system. In the former case, the sheer forces of nature can wipe out or displace political leaders and their agents and supporters, thereby directly affecting governance change. Natural disasters wipe out physical infrastructure, towns and villages or block access to them and displace populations from one jurisdiction to another, directly altering demographic balance and affecting election outcomes. In addition, the idea of a natural disaster triggering governance change, if widely accepted in society, can make governance change inevitable. In the latter case, changes in the influence of external actors can dynamically shift task requirements and resource dependencies that are imposed upon the system from its environment, or it might allow the system to improve its response in better resisting such external requirements.

d) Interdependent Factors

Critical factors such as resource capacity, social trust, and organizational capacity of the governance system with respect to information collection, analysis and dissemination interact together to produce adaptation and learning that will shift the system to a new normalcy after responding to the shock. Disasters lower organizational capacity of the governance system producing opportunity for new leaders to emerge from within and without to remedy the shortcoming of the state and initiate political change (Pelling and Dill 2010). Disaster victims and their friends, family and supporters can affect governance change by retrospective voting and/or protesting due to increased inequality, uneven grievances, relative deprivation, and attribution of blame to government (Gurr 1993; Gasper and Reeves 2011). Individuals and

communities unaffected by the disaster can also take opposite action by furthering social conflict and political change. As disasters weaken governance capacity, mobilize the civil society, and increase the influence of external geopolitical actors, the resulting contentious politics accelerates political change (Regan and Norton 2005; McAdam et al. 2008). The state might respond by increasing repression against the mobilized civil society groups (Wood and Wright 2016). External actors can escalate the contentious domestic politics, as political change is a result of two-level games (Putnam 1988). These factors are covered in the next section of this chapter in the context of conceptual model of post-disaster governance.

e) Feedback Effects

Systems adapt to their changing environments to accomplish their goals and functions due to feedback effects. Adaptation occurs when the system learns from its outputs and outcomes. Changes in the governance structures and processes produce a feedback to its environment and interacting components. This makes the system dynamic as opposed to traditional statistical models that cannot incorporate endogeneity in the same model to explain an evolving outcome. The impact of future exogenous shocks will be shaped by the extent to which feedback and learning happen. Feedback effects work through individual, collective learning, improved standard operating procedures, and organizational memory (March and Simon 1958; March and Olsen 1976; Argyris 1993).

2.2. A Conceptual Model of Post-Disaster Governance Reform

2.2.1. Definitions

Catastrophic natural disasters are large-scale, naturally-triggered, rapid-onset, focusing events that result in substantial damage to human capital, physical infrastructure, and social organization (Birkland 1998; Wood & Wright 2016). They are typically earthquakes, hurricanes, tsunamis, cyclones, wildfire, floods, and tornadoes. Such catastrophes usually create additional, interacting disasters or crises such as aftershocks, landslides, food and energy shortages, and pandemics that create additional destruction, challenges, and complexities (Pelling and Dill 2010; Wood and Wright 2016). While natural disasters are exogenous to social systems and hard to predict the precise location and timing of their activation, the damage they cause in social systems is jointly determined by natural and social forces. In addition to the laws of earth sciences, a host of socioeconomic and political factors mitigate or worsen the magnitude of misery that befalls human settlements (Cutter et al. 2003, 2008). Thus, when tracing the effects of catastrophic earthquakes on social systems, the researcher focuses not only on the natural shock and its magnitude and spatiotemporal distribution but also on the resulting damage that was mediated by disaster policy and management, distributive politics, market forces, scientific and technological development, and structural inequalities.

Natural disasters are a type of crisis attributable to "nature, fate, or God" (Jennings 1999), meaning that they are exogenous shocks affecting social systems. Natural disasters are "non-routine events in which societies or their larger subsystems (e.g., regions, communities) are socially disrupted and physically harmed" (Kreps 1989, 219). Natural disasters are a subset of extreme events or crises, which are defined as unexpected, urgent, and uncertain events (Rosenthal et al. 2001). In addition, disasters are deeply and inherently political occasions (Drury

and Olson 1998).

Governance reforms are changes in the structural rules, norms, and institutions of a governance system that are designed to increase adaptive capacity of the system. Adaptive capacity improves as governance systems grow in diversity and complexity, shifting from single-loop social learning to double-loop and triple-loop learning (Pahl-Wostl 2009). The political science literature refers to such transformational governance reforms as state building, political order, or institutional development (Brautigam et al. 2008). This dissertation prefers the governance theory to theories of the state and political systems because not only state institutions and political actors but also business firms, NGOs, civil society organizations, and international actors play crucial roles in the governance of a country in the 21st century (Ansell and Gash 2008).

Governance reform signifies a shift for the governance system from one state to another due to changes in its environments, inputs, structures, operators, constraints, and performance. Such changes can be observed in written rules, norms, practices as well as events that signify cooperation and conflict among actors (Almond 1956; Easton 1957; Comfort 1985; Ostrom 1990; Holland 2006). Governance systems are a set of interdependent and interacting actors (individuals, groups and organizations) with varying roles and functions, decision rules, practices and norms that simultaneously enable and constrain political action and have a certain level of structure and stability (with shifting equilibria) (Almond 1956; Easton 1957; Mantzavinos et al. 2004). The basic characteristic of modern political systems is that they include states that have a monopoly of physical coercion over a defined territory and population (Weber 1947; Tilly 1975). However, the role that non-state actors play has increased considerably over the years (Peters and Pierre 1998).

I define governance capacity as the ability of the governance system to provide core public services such as protection and regulation of behaviors and interactions among actors. This includes not only fiscal, but also legal, informational, cognitive, discursive, and symbolic infrastructure of the state to penetrate society (Weber 1948; Gellner 1983; Mann 1984; Scott 1998; Bourdieu and Farage 1994; Kurtz 2013). Much of these properties of governance capacity are interlinked and networked, and usually amount to more than the sum of its parts (Castells 1996). As such, governance capacity can be observed from the relational/network properties of political actors who exchange legal, financial, administrative, informational, and cultural resources using complexity theory and network science tools (Ruhl and Katz 2015). Scholars also use the term networked or collaborative governance capacity in this regard (Peters and Pierre 1998; Agranoff and McGuire 2001; Ansell and Gash 2008).

Non-state actors such as business corporations and civil society organizations also play important roles in the governance system. I define civil society to capture non-state actors, organizations and citizens, and their networked relationships, with varying levels of access to the material and cultural rights and resources in society (Bratton 1989; Edwards and Foley 1998; Fukuyama 2001; Gibson 2001). Depending on the level of social trust, fault lines for polarization and conflict, and patron-client relations and dependencies of civil society actors on political actors, and civil society organizations have varying levels of mobilizational capacity for organizing action and contentious politics (Fligstein and McAdam 2012).

2.2.2. Natural Disasters, Post-Disaster Crises, and Windows of Opportunity

Catastrophic natural disasters oftentimes produce temporary breaks in governance systems, opening space for renegotiation of the social contract with consequences for distribution of

economic resources and political rights (Pelling & Dill 2010). A large-scale natural disaster is often followed by other natural and human-induced crises. Such crisis events include not only aftershocks and landslides following earthquakes, but also food crises that can result from post-quake liquefaction and drought. Outbreaks of communicable diseases such as cholera can also create serious post-disaster crises (Pelling and Dill 2010; Wood and Wright 2016).

When conceptualizing the impact of natural disasters on changes in structures and adaptive capacity of governance systems, a researcher needs to consider not only the natural shock itself, but also the subsequent aftershocks that can be both natural or manmade. This is where natural disaster and post-disaster manmade crises interact with initial conditions of vulnerability and social risk that can have significant impact on changes in governance systems. Another critical component is the societal response to the disaster and its subsequent crisis because expectations and processes of relief and reconstruction can redefine governance institutions and contribute to institutional decay, system entropy or institutional capacity building depending on how the society responds to nature's shocks and subsequent manmade crises. In this sense, natural disasters not so much directly affect governance systems (except when earthquakes and/or post-quake pandemics kill high level political leaders) but indirectly affect governance system by producing changes in mechanisms or logics of social action.

2.2.3. Mechanisms of Change

Much of the literature in multidisciplinary fields of disaster research and environmental change deals with understanding disaster vulnerability (Cutter et al. 2003; Ribot 1995; Adger 2006), disaster resiliency (Tompkins & Adger 2004; Cutter et al. 2009), post-disaster recovery outcomes (Horwich 2000), and the dynamics and interdependencies between natural and human

systems (Liu et al. 2007). These studies have proven useful for the development of this dissertation's concepts and measures regarding natural disasters and their linkage with social systems and outcomes. As the focus of this project is on governance systems, Pahl-Wostl's (2009) conceptual framework for explaining changes in adaptive capacity of governance regimes and Pelling and Dill's (2010) systems theory-based explanation of adaptive change in sociopolitical regimes have been very beneficial.

Natural disasters and post-disaster relief and reconstruction processes affect governance reforms through the processes of social mobilization and contentious politics that involve changes in resource capacity, social trust, and organizational capacity. Political leaders have an opportunity to work hard and renew public trust and legitimacy of their leadership, while opposition members and emergent leaders have an opportunity to blame the government for damages and ineffective disaster response and rise to power as the natural disasters create high national and international spotlight (Pelling & Dill 2010). Temporary increases in social trust due to a common calamity creates a momentum for national unity and bold action (Toya & Skidmore 2014). However, such unity can be short-lived due to myriad issues that the country needs to address to implement reconstruction activities. This has the potential to create contentious politics leading to structural changes in the governance system (McAdam et al. 2008). Moreover, disaster losses and damages have the potential to create a window of opportunity for constitutional reform whereby dominant elites rapidly move to pass new laws without much consultation with opposition and the public in an environment that had been characterized as highly politicized prior to the earthquakes. The stakes are higher as newly available resources for post-disaster reconstruction spending increase political competition and struggle for government office (ICG 2016).

As conflicts are resolved through governance reforms, increased informational capacity of the governance system, renewed social capital and social learning gained from overcoming complex issues of disaster politics can enhance adaptive capacity of the governance system (Pahl-Wostl 2009). Such complex processes of change can be systematically traced by using network data on public, private and international actors that forge adaptive governance by exchanging information and resources with one another in accordance with institutional rules and trust-based norms at multiple levels of operation (Comfort 1999).

Many scholars observe that disaster research lacks a political analysis (for instance, Davis and Seitz 1982; Olson 2000) although “natural disasters occur in a political space” (Cohen and Werker 2008). Olson (2000) identifies there are two reasons attributable to such a void: traditional disaster studies-related fields (i.e. geography and sociology) underemphasize the role of politics; and many scholars and practitioners’ shared belief that “there shouldn’t be a politics of disaster.” Therefore, given such a scarcity of research, envisioning a clear relationship between natural disasters and governance reforms is a challenge. Despite the scarcity, a good number of scholars, based on their empirical findings, discuss the influence of catastrophic natural disasters on the contours of not only environmental but also social-political governance. For instance, Pelling and Dill (2006, 2-6), based on their exhaustive review of the existing literature, posit that there are at least seven social and political consequences of catastrophic natural disasters: “Disasters often hit politically peripheral regions hardest catalyzing regional political tension”; “disasters are a product of development policies and can open to scrutiny dominant political and institutional systems”; “existing inequalities can be exacerbated by post-disaster governmental manipulation”; “the way in which the state and other actors act in response and recovery is largely predicated on the kind of political relationships that existed between

sectors before the crisis”; “regimes are likely to interpret spontaneous collective actions by non-government actors in the aftermath of a disaster as a threat and respond with repression”; “in the aftermath of disaster, political leaders may regain or even enhance their popular legitimacy”; and “the repositioning of political actors in the aftermath of a disaster unfolds at multiple scales.”

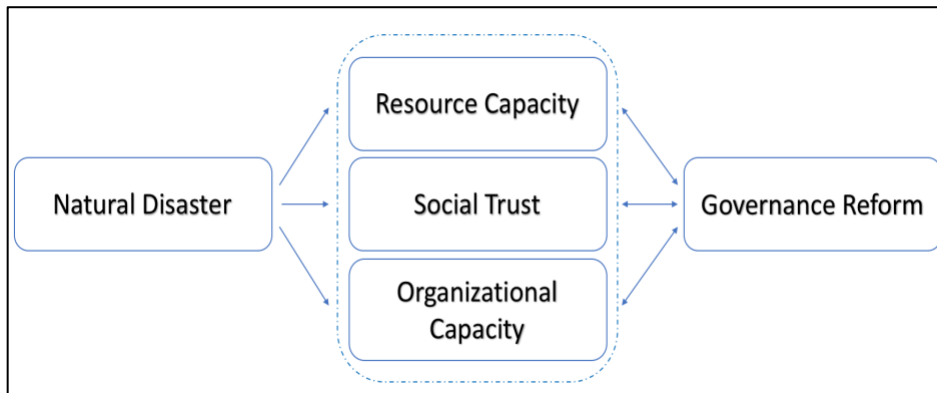
Although some of their hypotheses may not bear direct relevance to the case of Nepal, it is evident that natural disasters serve as catalysts of political actions and this is especially true in the case of catastrophic ones. A seminal work probing the relationship between natural disasters and political systems is Abney and Hill (1966)’s, in which they highlight the impact of Hurricane Betsy on elections in New Orleans. The two key takeaways of their study recurring throughout the subsequent literature are that disasters are symbolic and powerful in political discourse, and culture and administration are critical in shaping post-disaster social and political outcomes. Birkland (1997 and 2006) construes disasters as ‘focusing events’ that raise the question of governmentality in terms of political and technical failures, and he also reports that policy change is most likely following exceptionally large disasters. In a similar vein, Tompkins (2005) finds that reconstruction following rapid-onset disasters can be viewed as an opportunity for policy and/or organizational reform. Also, perhaps the most anecdotal case of post-disaster political and policy change is the Chilean case of earthquake in 1939: It is widely believed that the event accelerated the country’s economic policy (towards an import substitution model of development) (Albala-Bertrand 1993).

Although it is well-documented that catastrophic natural disasters have a triggering effect on governance reforms, the related literature still lacks details of mechanism through which social, economic, and political governance reforms become a function of catastrophic natural disasters. In other words, scholars have thus far paid less attention to social and technical factors

that either moderate or mediate the relationship between catastrophic natural disasters and social, economic, and political governance reforms. It is thus the author’s aim to provide a plausible explanation to the mechanism of governance reforms initially triggered by catastrophic natural disasters and subsequently facilitated by sociotechnical factors that can be broadly grouped into three: Resource capacity, social trust, and organizational capacity. As there is a wealth of literature on the connection of natural disasters and sociotechnical factors as well as governance reform initiatives either benefitted from or thwarted by sociotechnical changes, it would not be a conceptual stretch to argue that natural disasters first influence sociotechnical dimensions of a society and in turn such dimensions have an effect on governance reforms.

Figure 2 below provides a sketch of a conceptual model that includes mechanisms of change that logically connect natural disaster with governance reforms. Dashed lines around the three mechanisms of change denote that they are interdependent and moderate each other’s effect in the process of adaptation of the governance system. Two-way linkages between the three mechanisms of change indicate that there are positive feedback effects because as governance reforms adapt the system to the new environment and it affects resource capacity, social trust, and organizational capacity.

Figure 2. A Conceptual Model of Post-Disaster Governance Reform



a) Resource Capacity

Scholars of political science, international development, and organization theory consider resource capacity as a necessary but not sufficient condition for effective functioning of governance systems. Because non-tax revenue such as foreign assistance or petroleum sale receipts is not conducive to developing accountable governance systems, scholars and policymakers of state building and international development have recently redirected their focus on assisting low-income states such as Nepal to improve their resource capacity with respect to tax revenue generation (Moore 2007; Brautigam et al. 2008; OECD 2016). Moreover, scholars of international political economy who use cross-national panel data often rely on fiscal capacity measures (in addition to rule of law measures) to measure state or governance capacity, which is associated with a host of outcomes including levels of economic development and social peace (Fauvelle-Aymar 1999; Lieberman 2002; Besley and Persson 2009). This choice of measurement is justified due to economic and sociological historians claim that collection of tax revenue in return for protection from wars was the fundamental governance function historically (Tilly 1975). Scholars of state failure in Africa have also used this idea to suggest that as the Cold War ended and outside revenue halted from American and Soviet sponsors, many regimes and states collapsed due to lack of resource capacity (Bates 2008).

Scholars of tax revenue in developing countries in their turn have focused on understanding how tax revenue is mobilized from the economy. Tax revenue partially depends on the amount of natural and human resources available in a given economy as well as technical, organizational, physical and social capital that is available. As human resources generate income through production and technological advancement, which then allows further extraction of

natural and agricultural resources and provision of services. Taxing greater economic activity with better organizational and informational capabilities can then provide the necessary revenue, a part of which is then invested in the development and maintenance of the economy and governance system (Bird et al. 2006; Gupta 2007).

Finally, in post-disaster environment, large amounts of resources are mobilized to redress the damage and destruction induced by natural disasters. In this process, total societal response and assistance from external actors can increase the resource capacity of the governance system (Horwich 2000). As sociologists and organization theorists have maintained, resource mobilization provides an important role in creating organizational capacity and succeeding in social movements and organizing (Jenkins 1983).

Proposition I: Catastrophic natural disasters affect changes in the governance system through changes in resource capacity.

b) Social Trust

It is commonly held that social trust, along with social norms, participation, and network relations, constitutes social capital. In his study of social capital and social trust, Putnam (2001) defines social capital as trustworthiness and reciprocity that emerges from social ties among individuals. In a similar vein, Fukuyama (1996) defines trust as honest and cooperative (expected) behavior among community members that share a common social norm and social capital as a capacity that results from prevalence of trust in the society or communities.

However, Woolcock (1998) does not treat social trust as part of the definition of social capital but a close consequence of it. Therefore, social trust can be thought of as a proxy for social capital. As the intent of this review is not to critique the concept of social trust, I use social trust

interchangeably with social capital in this dissertation in agreement with Woolcock (1998) for whom social trust is a reliable proxy of social capital.

Dynes (2002) published a seminal paper on utilizing the concept of social capital to disaster-related issues (especially disaster response). However, as noted by Aldrich (2012), even though there is a large volume of scholarship on disasters and a large body of research on social capital, the two fields have not been integrated well into governance reform and decision-making studies. Aldrich's observation does not necessarily mean there has not been any flow of individual studies probing the relationship between natural disasters and social capital. In fact, there is some empirical literature exploring the relationship between natural disasters and social capital and social trust. Although some scholars venture to cast doubt on the idea of disasters building social trust (for example Uslaner 2016) and suggest the exact opposite, equally many scholars present findings in support of the idea. Putnam (2002) finds that every measure of social capital as well as trust in government increased in a dramatic manner after the events of 9/11 in the United States. Dussailant and Guzman (2014) present evidence that social trust has increased in areas affected by the 2010 earthquake in Chile. Chang (2010) finds that social cohesion increased with hazard severity in the case of the 2005 flood in Carlisle, United Kingdom. Calo-Blanco and his colleagues (2017), based on their analysis of the Chilean cases, argue that social cohesion increases after a natural disaster but slowly subsides as environmental conditions stabilize. Cassar and her colleagues (2017) find that the 2004 tsunami in Thailand led to substantial and long-lasting increases in prosocial behavior. Last but not least, Toya and Skidmore (2014) present panel data evidence that suggests exposure to natural disasters brings about a potential spillover benefit of increased social trust.

As for the role of social trust on governance reforms, there is abundant theoretical and empirical literature stimulated by Putnam's methods for measuring social capital. For example, social capital is positively associated with successful urban regeneration (Saegert and Winkel 1998), neighborhood stability (Teinkin and Rohe 1998), and general health indicators (Kawachi et al. 1997). Such findings are indicative of there being a positive relationship between social capital and positive changes in government and a society. Seeking additional empirics in support of the view that an increase in social trust has a positive influence on governance reforms, Heinemann and Tanz (2008) find in their analysis of institutional reforms in a cross-section of countries that social trust creates an environment conducive to governance reforms. Bjørnskov (2010) also finds that the trust-governance association is a positive one and there is a causal influence of social trust on structural governance reforms (especially economic-judicial governance reforms). Gregory (1999), another scholar suggesting the relevance of social capital to governance reforms, uses New Zealand as an example of such a relationship. Lastly, perhaps OECD's report (2013) provides a good summary of the relationship between social trust and governance reforms. OECD (2013) acknowledges that social trust and public trust in government is as important an input to public sector reforms ranging from specific policies and programs to broader reforms in governance institutions as a fruitful outcome of it, thus creating a virtuous cycle of trust and governance.

Proposition II: Catastrophic natural disasters affect changes in the governance system through changes in social trust.

c) Organizational Capacity

Building governance capacity through constitutional and legal reform in developing countries requires development of not only human resource capacity, but also social and technical organizational capacity focused on principles of sound management, good governance, conducive organizational culture, and effective communication (Grindle 1997, 26-27).

Organizational capacity in the disaster literature can be understood as all available strengths and resources that allow an organization to reduce or manage disaster risk and improve disaster resilience (UNISDR 2017). Moreover, capacity resides at three levels: in individuals, in organizations, and in the system and its environment within which individuals and organizations operate that is also referred to as societal or institutional level (UNISDR 2017). As this research studies changes in a post-disaster governance system, it focuses on organizational capacity from a systemwide perspective because it is the interactions of organizations, their stakeholders and partners that make up their organizational capacity within the governance system.

As per the disaster literature, organizational capacity can be divided into two types of capacities: coping capacity and adaptive capacity (Parsons et al. 2016). Both coping and adaptive capacities are products of social processes (Berkes 2007; Wisner et al. 2004) that generate and maintain the ability to anticipate and overcome unpredictable shocks and adverse conditions (Parsons et al. 2016). Coping capacity is a set of characteristics of a society (and its institutions) that enables the society to prepare for a disaster, absorb the shock, and recover from disaster impact (Parsons et al. 2016) whereas adaptive capacity is associated with the decision-making process to adapt to current or future change through learning, adaptation, and transformation in an incremental and deliberative manner (Nelson et al. 2007; Parsons et al. 2016). Such an adaptive capacity is important as, per Pelling and Dill (2006), natural disasters are the products

of “maladaptation between interlocking socio-environmental relations at local, national, international, and supranational levels.” Coping capacity and adaptive capacity are different in a sense that the former emphasizes the community capacities in anticipating and responding to natural disasters whereas the latter focuses on facilitating “adaptation by governance, institutional, management, and social arrangements and processes” (Parsons et al. 2016; also see Birkmann et al. 2013, Gupta et al. 2010, and Keys et al. 2014). Moreover, coping capacity can be divided into themes of social character, economic capital, infrastructure and planning, emergency services, community capital and information and engagement while adaptive capacity can be divided into themes of governance, policy and leadership and social and community engagement (Parsons et al. 2016).

Although organizational capacity residing at all levels (i.e. individual, organizational, and societal), whether that be coping or adaptive, is well-described in abstract terms by disaster scholars (and climate change scholars), they have been continuously challenged to identify generic and practical antecedents, determinants, and outcomes of capacity (Cohen et al. 2016; Hagelsteen and Becker 2013). What further complicates the challenge is that the two types of capacity can be conflicting rather than complementary: Some scholars argue that coping capacity is effective for short-term only and it thus should be either transformed into longer term adaptive capacity or at least some balance between short-term and long-term capacity needs should be sought in order to enhance resilience and sustainability (Berman et al. 2012; Ingram et al. 2006). Also, few scholars report that there is lack of empirical studies elucidating the mechanism of how natural disasters damage organizational capacity. Although there is no direct reference to how natural disasters affect organizational capacity, given that economic development is one of the four primary sets of adaptive capacity (the other three being social capital, information and

communication, and community competence; Norris et al. 2008), the relationship between natural disasters and economic development deserves scrutiny. Surprisingly, many macroeconomic findings suggest that the impact of some natural disasters are beneficial to the national economy although the average growth effects of natural disasters are negative (Barone and Mocetti 2014; Cavallo and Noy 2011; Fomby et al. 2009; Loayza et al. 2012). Barone and Mocetti (2014) suggest that such outlying cases are produced by “a disruptive creation mechanism” through which technical efficiency can be promoted. Therefore, given that economic development is one of the four primary sets of adaptive capacity, one could argue that natural disasters can bring a natural-disaster-hit society opportunity to organizational capacity building.

With respect to the influence of organizational capacity on governance reforms, many scholars report that capacity building is critical to the success of governance reforms in the aftermath of natural disaster. In fact, successfully building organizational capacity (especially adaptive capacity) ex post natural disaster is synonymous to successfully governing for resilience that can be characterized by “polycentric and multilayered institutions, participation and collaboration, self-organization and networks, and learning and innovation” (Djalante et al. 2011). This is especially true if one defines governance as “the intentional shaping of the flow of events so as to realize desired public goods” (Parker and Braithwaite 2003 as quoted in Djalante et al. 2011) rather than as political control or statecraft. Even if governance is understood as political control or statecraft, successful organizational capacity building ex post natural disaster is important as state capacity is a key component in governing recurring natural disasters (Lin 2015). Also, among many others, Brinkerhoff (2005) discusses the importance of organizational capacity in rebuilding governance in weak states. Lastly, as vividly illustrated by Engle and

Lemos (2010), governance and institutions are critical to successful adaptive capacity building and resilience.

Because organizational capacity is conceptualized as an interactive and networked capacity of governance actors that are linked with their clients, stakeholders, partners and their environment and operate at multiple levels and sectors (Comfort 1999), this dissertation focuses on informational capacity as the most critical dimension of organizational capacity. Theories of complexity, organization and management sciences have conceptualized that information collection (El Louadi 1998), information processing (Wang 2002), and information exchange (Scott 1990) are critical interdependent factors of organizational structure and performance (Galbraith 1973; Rapert and Wren 1998). This conceptualization is aligned well with sociological theories of organizational capacity in network societies (Stinchcombe 1990; Castells 1996) and sociotechnical systems of informational capacity that allows the system to read, record and manage people and goods for effective governance (Scott 1998) and facilitates rapid cognition, communication, coordination, and control in high-risk and high-uncertainty environments (Comfort 2007). As natural disasters impose a challenging task on the system, there is a high demand for the system to collect, analyze and exchange information. It is possible that post-disaster acquisition of new informational capacities of organizations and governance systems can have spillover effects as organizations try to minimize disaster risk in other parts of the country or meet information needs in other policy arenas, for technological innovations often spillover through people and geographies over time (Feldman 1999).

Proposition III: Catastrophic natural disasters affect changes in the governance system through changes in organizational capacity.

2.2.4. Summary of the Conceptual Model

Drawing on existing theories in social and policy sciences, this chapter developed a conceptual model that identifies three interdependent factors that help explain post-disaster governance reform in low-income, fragile states such as Nepal. Three theoretical propositions were derived from this model. First, catastrophic natural disasters are followed by extraordinary levels of resource mobilization with a window of opportunity to redefine material and sociotechnical foundations of the governance system. Second, parallel to resource mobilization, individuals, families, groups, and organizations respond to catastrophic events by initially increased levels of social trust and philanthropy which subsides after a few weeks and months following the disaster, as actors transition from response to recovery phases of disaster management. Heightened levels of awareness, social trust, and social capital and learning create a window of opportunity for dominant actors of the governance system to reach unity and agreement to quickly enact major changes in the rules of the governance system. Finally, catastrophic natural disasters provide an opportunity to increase organizational capacity of the system with respect to information collection, exchange, analysis, and use. While disaster response requires rapid collection and exchange of information in dynamic systems for saving lives and mitigating further risk, recovery and reconstruction also requires dynamic data collection and exchange systems due to requirements for monitoring and guiding the process of reconstruction to achieve expected results.

3.0 RESEARCH DESIGN, METHODS AND DATA

3.1. Research Design

The dissertation uses pre-post research design with multiple data sources and analytic techniques. A pre-post, within-case analysis in the short-term and in the medium-term will be conducted. The objective is to identify, describe, and explain how the 2015 earthquakes have affected governance reforms and outcomes in Nepal. To identify the effects of the earthquakes I compare the governance system and its components and environment pre- and post-earthquakes. The timeframe for comparison is two years before and two years after the earthquakes for medium term effects and three months before and after the earthquakes for short-term effects.

I use a case study research design because it allows an in-depth examination of complex policy problems that result from interactions of actors at multiple levels with varying levels of access to information and resources (Yin 2013; Gerring 2004). The study of the 2015 earthquakes and their impact on governance reforms and outcomes is a most-likely, “crucial case” for the theoretical model developed in this dissertation because the case fits the model closely (Eckstein 1975; Gerring 2007). A single case study that is designed and implemented with the knowledge of other cases has potential to not only improve understanding of the case and theory generation in the field, but also produce comparative insights to advance theory in social and policy sciences (Brady and Collier 2010; Waldner 2012). Case study research design fits well with complex adaptive systems approach to the study of governance systems as the former provides the necessary platform for identifying and tracing how changes in a system’s environment, inputs, structures, operators, and constraints affect its adaptive capacity, behavior and performance (Holland 1996, 2012; Comfort 1999).

Case study research uses both quantitative and qualitative data. Within case analysis and process tracing techniques allow inferences by carefully considering rich qualitative information (including causal process observations) about the earthquakes and their impact on governance as well as the underlying mechanisms of change that connect one another in a sequential causal graph (George & Bennett 2005; Collier 2011; Waldner 2012; Bennett & Checkel 2015). I use analytic techniques of network sciences with quantitative data about organizations and their interactions to make inferences about the structure and processes of a system by incorporating measures of connections among units and the effects they have on governance reforms (Wasserman and Faust 1994; Jackson and Watts 2002).

Insights gleaned from network analysis of quantitative data will be complemented by qualitative analysis using the theoretical framework reviewed in Chapter 3 and the conceptual model developed in Chapter 4, which allow me to understand how changes in resource capacity, social trust, and organizational capacity drive collective action for governance reforms (Ostrom 2005; Fligstein and McAdam 2012). I will complement the insights gleaned from qualitative analysis with a citizen survey that measures public opinion regarding social trust toward organizations that have participated in disaster response and recovery activities in Nepal.

3.2. Data Sources and Analytic Techniques

Qualitative sources of data include previously published scholarly work, publicly available governmental and non-governmental agency reports, UN ReliefWeb and UNOCHA situation reports, Nepalese laws, policies and regulations, news reports, and notes from my field trip and interviews with experts in Nepal. I conducted pre-dissertation field trips to reconstruction sites within Kathmandu as well as outside of Kathmandu in the mountainous district of

Sindhupalchok and interviewed a dozen experts in March 2016. In April 2018, I undertook a second trip and conducted semi-structured interviews with experts representing over 37 organizations to validate my conceptual model and to discover potential new mechanisms of social action.

Publicly available quantitative sources of data include donations data from the Prime Minister’s Disaster Relief Fund web portal, dyadic events and knowledge graph data from the Global Data on Events, Locations and Tone (GDELT) available on GDELT’s website, and a citizen feedback survey in earthquake affected areas available on Open Nepal’s data portal.

Table 1 below lists all data sources used in this dissertation along with timeframe and description.

Table 1. Data Sources Used in the Dissertation Project

Data Source	Timeframe	Description
GDELT Global Knowledge Graph	Apr 2013- Jul 2017	Interorganizational network data that is extracted with co-occurrence algorithms that map organizational entities, their interactions, and themes (topics of discussion) from global and national media reports. It is used to demonstrate the sociotechnical foundations – information exchange and interorganizational cooperation – of the adaptive governance in Nepal.
Donations data	May 2015- Jul 2017	Combined from UNOCHA’s financial tracking system and the Nepalese Prime Minister’s Disaster Relief Fund website. It is used to show how drastic rise in economic resources for government spending can alter incentives for political actors and trigger a series of events that culminate in transformations in the governance system.
Citizen Feedback Surveys	Jun 2015- Nov 2015	Four rounds of citizen perception surveys on relief and reconstruction activities in earthquake affected districts coordinated by international donor agencies and deployed by youth volunteers. This data is used for analysis of social trust, which is important for adaptive capacity of governance systems.
Expert interviews and field observations	Mar 2016, Apr 2018	1) March 2016 pre-dissertation field observations and conversations with experts in Kathmandu, Lalitpur, Bakhtapur, and Sindhupalchok to explore disaster policy and management challenges; 2) April 2018 field observations and 35 interviews with experts representing 37 distinct organizations that have important roles in Nepal’s governance system in Kathmandu, Lalitpur, Bhaktapur, and Kavre.

Secondary qualitative data	All years	Qualitative data from reports published by Nepal's government agencies, academics, UN organizations, nonprofits, think tanks, national and global news media to trace the processes that link natural disasters to governance reforms in Nepal.
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The subsections below describe each of the data sources, measurement issues, and analytic techniques used to assess the conceptual model and theoretical propositions developed in this dissertation.

3.2.1. GDELT Global Knowledge Graph (GKG) Database

a) Database Description²

The GDELT Global Knowledge Graph (GKG) database catalogues world events and their latent dimensions, geographic characteristics, and network structures, providing an automated collection of content analysis data for network analysis and media contextualization. The GKG algorithm captures a massive-scale network that connect all events, their thematic and geographic contexts, what actors are involved in them, and how the world is feeling about them every single day as of April 1, 2013. The GKG database provides a wealth of information about organizations that are being discussed in the global and national news outlets (including TV news transcripts, online blogs, and social media) as having active roles in the governance system and networks of Nepal from April 1, 2013 to the present day.

The GKG database includes two data streams. The first one is the daily Counts data, which includes records of numbers that are used in news reports to count objects such as the number of protesters, the number of people killed, the number of displaced persons, etc. This

² This section is based on documentation available at <https://www.gdeltproject.org/data.html#documentation>.

allows tracking daily the number of people killed or affected, for instance in natural disasters, accidents, or epidemics, in the world. The second data stream captures the daily Graph data that contains a massive-scale network of inter-connected events, counts, actors (persons and organizations), locations (countries and states/provinces), themes (topics), tones (emotions), and sources (URLs).

Each GKG record is a unique pairing of a set of names (events, counts, actors, locations, themes, and tones) and a set of news articles in which the set of names appears. Every morning the GDEL T GKG engine processes each news article from the day before and groups the articles that contain the same sets of names. The output format of the Graph file is essentially a list, which contains unique sets of names along with the articles in which they appear each day separated by several delimiters. The same sets of names have the same identifiers and thus were de-duplicated based on their name set ID. The date of a GKG record indicates the date in which the unique sets of names are discussed in news media articles. Even though the sets of names that co-occur or appear together in the same sets of articles, no straightforward relatedness is implied or suggested; however, the relationships that emerge in multiple co-occurring sets can be inferred to exhibit properties of semantic or structural relatedness. In other words, the GDEL T GKG database is based on co-occurrences of names, not on any kind of deeper structural understanding of their individual or organizational relatedness.

The list of entities or organizations and locations in the GKG database are compiled using the algorithm developed by Leetaru (2012) and are delimited by semicolons. The list of organizations includes corporations, international governmental and nongovernmental organizations, and any other local organizations like local councils and fairs. The algorithm is highly adaptive and currently set up to err on the side of inclusion when the level of confidence

about a match is relatively lower with the purpose of making sure that a maximum number of smaller organizations operating around the globe that are of interest to many GKG users are captured. (I overcome this issue by developing an exclusion list to reduce irrelevant entities and redundancies. See the Data Retrieval section below for the discussion of the exclusion list).

A GKG theme indicates discussions around a topic. There are 2,609 themes in the GKG database as of October 2017. These themes include governance, constitutions, political and administrative reforms, riots and protests, blockades, natural disasters, manmade disasters, earthquakes, varieties of crises related themes. All themes were created using sophisticated lexicological dictionaries and algorithms. The master file for the themes can be accessed from the GDELT website.³

This dissertation uses the version 1.0 of the GDELT GKG database because GDELT analytics services for data retrieval for version 2.0 are not yet available. The main difference between versions 1 and 2 is in that the former includes data only from English language news sources while the latter translates 65 languages in the fly while collecting data.

b) Data Retrieval

Network data was retrieved from the GDELT GKG database using the tools provided by the GDELT Analysis Services – cloud-based tools and services that allow exploring, retrieving, and visualizing data from the GDELT databases free of charge. Among these tools, the GKG Network Visualizer was used to export graph data in .GEXF (v.1.2) format for advanced analysis using the free, open-source software suite GEPHI.⁴

³ The master file of GDELT GKG themes are available at <http://data.gdelproject.org/documentation/GKG-MASTER-THEMELIST.TXT>

⁴ The tool is available at <http://analysis.gdelproject.org/module-gkg-network.html>

The use of this tool does not require knowledge of programming or data retrieval languages such as Structural Query Language (SQL).⁵ However, it requires one to understand the database and how the information is collected, processed, and stored to facilitate meaningful and advanced analysis. The tool allows the user to specify values along certain parameters such as date range, type of actors, location, themes, and threshold levels for inclusion and the system queries the entire database and provides matching results via e-mail. The parameters use Boolean logics for inclusion and exclusion.

The date ranges for data retrieval were chosen according to the research design. Specifically, I compare short term 3-month pre-post and medium term 2-year pre-post data to capture the impact of the 2015 earthquakes on governance reforms in Nepal. The location parameter was chosen as Nepal. For retrieving data for the 2015 earthquakes in Nepal, the NATURAL_DISASTER_EARTHQUAKE theme was used. Governance themes were identified from the master theme list and found to be relevant for governance networks, as presented in Table 2.⁶

Table 2. List of Governance Themes in GDELT GKG Database

Theme
CONSTITUTIONAL
DEMOCRACY
ELECTION
GENERAL_GOVERNMENT
GOV DISSOLVEGOV
GOV_DIVISIONOFPOWER
GOV_INTERGOVERNMENTAL
GOV_LOCALGOV

⁵ Users with such skills can utilize the Google BigQuery tools to query data from the GDELT databases.

⁶ The following keywords capture all the themes in the table: gov, politic, public, constitution, legislat, election, policy, state_legitimacy, sovereignty, power_sharing. These keywords were used in data retrieval.

GOV_REFORM
LEG_CONSTITUTIONALAMENDMENT
LEGISLATION
SLFID_POLITICAL_BOUNDARIES
SLFID_RULE_OF_LAW
SOVEREIGNTY
STATE_OF_EMERGENCY
TAX_POLITICAL_PARTY
WB_1130_STRUCTURAL_POLICY_AND_REFORM
WB_1922_GOVERNANCE_STRUCTURES
WB_2034_STATE_LEGITIMACY_CAPACITY_AND_AUTHORITY
WB_2035_PARLIAMENT_AND_LEGISLATURES
WB_2038_LEGISLATIVE_SCRUTINY_AND_OVERSIGHT
WB_2039_CONSTITUTIONAL_COURTS_AND_LEGAL_REVIEW
WB_2093_ORGANIZATION_OF_PUBLIC_ADMINISTRATION
WB_2095_MACHINERY_OF_GOVERNMENT
WB_2142_LOCAL_GOVERNMENT
WB_2462_POLITICAL_VIOLENCE_AND_WAR
WB_2477_POWER_SHARING_AGREEMENTS
WB_2903_POLITICAL_SYSTEMS_AND_GOVERNMENT
WB_2905_CENTER_OF_GOVERNMENT
WB_2906_POLICY_MAKING_AND_POLICY_COORDINATION
WB_728_PUBLIC_SERVICE_DELIVERY
WB_737_LOCAL_GOVERNANCE
WB_831_GOVERNANCE
WB_836_POLITICAL_ECONOMY_OF_REFORM
WB_926_POLITICAL_PARTICIPATION

Threshold levels for inclusion of nodes and edges can be specified. Low cutoff points would create massive networks of thousands of actors with tens of thousands of edges. This dissertation project sets the node cutoff point at 10 and the edge cutoff point at 5. In other words, for a node to appear in the data, it (i.e. the set of names) must be mentioned at least 10 times in news articles and for ties among nodes to appear in the data the nodes must have co-occurred at least 5 times in the news. These cutoff points were determined after attempting various cutoff

points, and values of 10 and 5 allow retrieval of manageable graph data that can be analyzed in GEPHI. Using threshold values based on the number of times each sets of names appear allows one to identify the key actors and study the broader trends in their relational structure over a period of time.

I developed an exclusion list for data retrieval that would increase the relevance and accuracy of network data that I am using in this dissertation. The exclusion list consists of

- news organizations such as CNN, Reuters, New York Times, Boston Globe, Times Magazine, and so on;
- internet company names such as Google, Microsoft, Apple, Apple App;
- social media names such as Facebook, Pinterest, LinkedIn, Google Plus, Flickr;
- air travel company names such as British Air, Indian Air, United Airlines, Nepal Airlines, and so on;
- airport names such as JFK airport, Dubai International Airport, Tribhuvan International Airport, and so on;⁷
- and stock market names such as NASDAQ, Dow Jones, and New York Stock Exchange, Nepal Stock Exchange, Singapore Stock Exchange, Hong Kong Stock Exchange, and so on.

Using the above criteria, an exclusion list specific to each data query was created and the query was repeated with the exclusion list to improve relevancy and accuracy of the data. The resulting graph data file contains undirected network without any isolates and can be imported into GEPHI for extracting, analyzing, and visualizing inter-organizational networks.

⁷ Tribhuvan International Airport was kept in the network data for analysis of interorganizational coordination of disaster response in Chapter 6.

c) Network Extraction

In working with big data and networks, it is important to extract the relevant parts of the network from a large-scale graph data that is computationally, analytically and visually challenging to make sense of. Therefore, after retrieving the undirected graph data from the GKG database and importing it into Gephi v. 0.9.2 software, three steps were taken to extract networks before further analysis can be conducted.⁸ The first step included going over the list of nodes and ensuring no additional irrelevant organizations such as news organizations, social media outlets, or airlines appear in the node list.

The second step was to filter the results based on the *giant component* algorithm, which removes the small components and keeps only the largest component of the network. This step removes extraneous pairs or cliques of organizations such as firms linked via the stock markets that are irrelevant to the discussions around actors of the governance network. For Chapter 6, a slightly different approach was followed because of the manageable size of the network of main organizations. The network data was exported to Microsoft Excel and several procedures were conducted in to further prepare the data for analysis. Duplicate nodes and edges were removed carefully without affecting the network structure. Jurisdictions and sectors of organizations were coded based on common knowledge and internet search when necessary. Acronyms were created for each organization so that visualizations are easier to interpret.

The final step includes trimming the giant component to make the analysis more manageable by using the *k-core* algorithm in Gephi. A *k-core* network, for a given undirected network, is a maximal sub-network where each node has at least *k* adjacent nodes (Batagelj and

⁸ In case of parallel edges, the merge strategy during data import included summation of edge weights.

Zaversnik 2003). This procedure recursively removes all the vertices in the giant component, in this case with a degree of less than $k=2$; in other words, it sets a minimum requirement of two connections for every node. The k -core trimming was skipped in Chapter 6; after the prepared data was re-imported to Gephi for computing network statistics and visualization, the *giant component* algorithm was used before computing the betweenness and closeness centrality scores.

d) Network Metrics

I measure changes in Nepal's governance system and its structure using following metrics: quantitative information regarding changes in the relational structure and system properties of the governance system. This allows construing exchange of information and resources among organizations over time to track the structural and system capacity of governance in Nepal by juxtaposing local vs. national, Nepalese versus international, and state versus non-state actors that collectively affect the capacity and performance of the governance system in Nepal.

Measures of system structure include 1) identifying actors, specifying their composition as actors are nested within one or more components of the system, and classifying actors into categories of theoretical relevance; 2) mapping the formal architecture of the system based on the tree-like schemas of organizational charts and public-private partnerships; 3) mapping emergent hierarchies of the network architecture that are multi-scalar and shift dynamically depending on countervailing forces operating in top-down and bottom-up manner – many measures used in this context are distribution of social (geodesic) distance, average path length, clustering coefficients, network density, number of subgroups/communities, degree, closeness, betweenness, and other measures of centrality and authority; 4) capacity of the system for information storage and

processing (Bonacich 1987; Wasserman and Faust 1994; Podolny and Page 1998; Barabasi 2003; Watts 2003; Lake 2007; Jackson 2008; Lazer et al. 2009; Helbing 2010; Newman 2010; Ruhl and Katz 2015).

Measures of system behavior include the capacity of the system to collect and disseminate information, trust and resources that collectively affect outcomes of cooperation and conflict in the earthquake response and recovery in Nepal. Different system structures produce different effects on system behavior. Open versus closed, hierarchical versus non-hierarchical, dense versus loosely-connected networks yield different results in dealing with complex problems in uncertain environments. Negative and positive feedback between the system and its environment and among the system's components affect system performance. Systems also produce emergent behavior, as relationships and structures produce effects that are different than the sum of its parts due to thresholds, tipping points, cascades, and critical mass (Schelling 1978; Marwell et al. 1988; Holland 1998; Comfort 1999; Corning 2002; Jackson and Yariv 2007; Ruhl and Katz 2015).

Degree Centrality measure the extent of a node's connectivity in the network – the number of ties a node has, normalized by the total number of ties in the network (Freeman 1978). *Weighted degree centrality* is a degree centrality measure that accounts for the weights of the ties or edges in the network.

Betweenness Centrality measures the importance of each node in terms of its brokerage role in the network. In other words, it measures the normalized frequency with which each node provides a shortest-path connection between other nodes in the network (Freeman 1977). The greater the betweenness centrality of a score, the more important its brokerage role is in the network, as calculated using the method developed by Brandes (2001).

Closeness Centrality measures the mean of the shortest geodesic distance from a given node to all other nodes in the network normalized by the total number of nodes in the network (Bavelas 1950). The greater the closeness centrality score of a node is, the closer the node's geodesic distance is to all other nodes in the network.

Network Diameter is the social or geodesic distance between the two farthest nodes in the network. Geodesic distance is the shortest path between nodes. A pair of connected nodes have a geodesic distance of 1. For a network of diameter k , the two most distant nodes of the network are connected to each other via $k-1$ number of nodes. *Average Path Length* or mean geodesic distance measures the average number of "steps" or "degrees of separation" each node is away from all other node (Wasserman and Faust 1994).

Network Density measures how complete the network is. In other words, a complete network has all possible ties among its nodes and a density of 1. It is calculated by summing the number of ties and dividing it by the total number of all possible ties (Wasserman and Faust 1994).

Network Modularity measures modular decomposition of a network into a number of sub-networks or communities. The greater the modularity score of a network, the more sophisticated is its community structure and better compartmentalization of its communities that have a real-world importance. The algorithm used for community detection was developed by Blondel and colleagues (2008) with random decomposition for higher accuracy while also accounting for edge weights. The resolution algorithm for community detection was developed by Lambiotte and colleagues (2009). Lower resolution (integers) results in greater number of communities.

Average Clustering Coefficient measures the extent to which a network is clustered, i.e. the degree to which nodes are situated in clusters or neighborhoods of higher connectivity

(Latapy 2008). Networks that are highly clustered but have lower average path length exhibit “small world” properties such as faster diffusion of ideas and behavior (Milgram 1967; Watts and Strogatz 1998).

The spline value of 0.8 is chosen for node size ranking, which is based on betweenness centrality scores in Gephi visualizations. This allows the visualization of more nodes with larger size based on their betweenness scores even though there are large differences between the highest ranked and the second and third highest ranked organizations in terms of their brokerage power.

e) Limitations

There are some limitations related to automated data collection by the GDELT GKG algorithms. The algorithms produce some false positives in detecting locations and organizations. One hopes such false positives do not matter much for this research because the focus on key actors and the broader trends will reduce the use of false positives, which tend to be outliers. The use of giant component and k-core filtering also aids in removing irrelevant organizations and false positives. In addition, while the GKG engine de-duplicates the sets of names on a daily basis, de-duplication does not happen when the sets of names occur in different days. When that happens, it is possible the same sets of names occurred again or was simply reported again in a different day. Therefore, it is possible that some nodes and edges are redundant. This issue is partially addressed when the node and edge thresholds are used in data retrieval and when parallel edges were merged using the summation method on edge weights in importing data into Gephi. This limitation on the use of edge weights lessens if one assumes that the news about more important actors are picked up by more organizations and repeat greater number of times than the news

about important key actors. When necessary, this limitation was addressed by manually de-duplicating the nodes, and then the edges in the network.

There are some limitations related to automated data collection by the GDELT GKG algorithms. The algorithms produce false positives in detecting locations and organizations. One hopes such false positives do not matter much for this research because the focus on key actors and the broader trends will reduce the use of false positives, which tend to be outliers. However, as is known well in the field of social network analysis, measurement error and missing data have consequences for inference.

In addition to the problems associated with entity and theme extraction, the method of observing governance networks through the media has its own limitations. Typically, whether human-coded or computer-coded, when data about governance actors and their transactions are observed through media reports, the data is biased toward the most central actors, whether positive or negative (Yi and Scholz 2016).

3.2.2. Donations Data

Donations data was downloaded from OpenNepal.Net.⁹ The datasets compiles donations that are disbursed, committed, and pledged from various sources including UN Office of Coordination for Humanitarian Affairs' financial tracking system and the Nepalese Prime Minister's Disaster Relief Fund website. There is an ordinal difference among types of donations with respect to fungibility of donations. Disbursed donations are actual financial transaction between a donor organization and a recipient organization. Committed donations are strongly promised donations from a donor organization to the recipient organization. Pledged donations are relatively softer

⁹ <http://earthquake.opennepal.net/organization>

promises that will then translate into commitment and then disbursements. The donations dataset is used to show how drastic rise in economic resources for government spending can alter incentives for political actors and trigger a series of events that culminate in transformations in the governance system.

3.2.3. Citizen Feedback Surveys

Four rounds of citizen perception surveys were conducted about the relief and reconstruction activities of government agencies and I/NGOs in earthquake affected districts coordinated by international donor agencies and deployed by youth volunteers. This data is used for analysis of social trust, which is important for adaptive capacity of governance systems. As discussed in Chapter 4, one of the major ways large-scale natural disasters affect governance reforms is through social trust.

The surveys elicit response from earthquake affected citizens regarding their challenges, information needed to access resources that are available to address their challenges, and the level of trust and satisfaction they have for services provided by local, national, international, and nonprofit organizations from May through November of 2015 (covers the first six months after the earthquakes struck). Appendix C provides the list of variables covered by the questionnaire used in these surveys. The data was downloaded from the website of the Humanitarian Data Exchange (HDX).¹⁰

¹⁰ <https://data.humdata.org/showcase/nepal-earthquake-citizen-perception-survey>

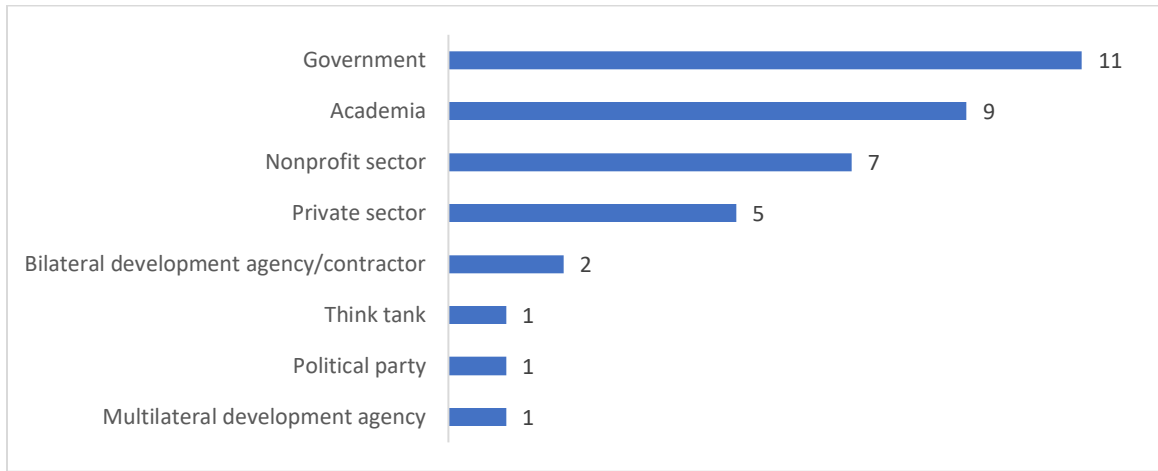
3.2.4. Expert Interviews and Field Observations

In early March of 2016, after about ten months following the earthquakes, I undertook a two-week pre-dissertation field trip whereby I had a chance to observe activities related to recovery and reconstruction implemented by various actors of Nepal's governance system. There I had a chance to speak with experts in academia, government, international agencies, and the private sector about how the earthquakes affected their operations and assets, and to familiarize myself with the range of options they are considering or implementing to address the challenges they were facing in the post-disaster governance context. These field observations and conversations with experts in Kathmandu, Lalitpur, Bhaktapur, and Sindhupalchok helped me to explore disaster policy and management challenges in Nepal.

In early April of 2018, I conducted a three-week long field trip to Nepal to undertake 35 semi-structured interviews with experts representing key actors in Nepal's governance system. Appendix A lists the names of 37 major organizations that my interviewees are associated with and Appendix B lists a set of questions that I used to guide my interviews. The research trip was funded by a doctoral dissertation research grant (#1757111) from the Disasters, Risk and Management Sciences program of the US National Science Foundation and interview questions were approved by the Institutional Review Board at University of Pittsburgh.

While the majority of the interviews took place in Kathmandu and Lalitpur, a few were conducted in Bhaktapur and Kavre. The majority of the interviewees had association with a government agency. Academic institutions and nongovernmental agencies also featured prominently in terms of organizational affiliation of the expert interviewees. Figure 3 below shows the distribution of interviewee organizations across sectors.

Figure 3. Sectors of Organizations Represented in Expert Interviews



Expert interviews and field observations were used to understand the extent to which theoretical propositions developed in this dissertation are featured in expert knowledge and discussions in Nepal. They also served to cross-check and validate my findings from secondary sources of data gathered from news articles and organizational reports. Because of the flexibility that semi-structured interviews with experts allow, I was also able to discover new ways of thinking about governance challenges in Nepal.

Because experts did not feel comfortable with having the interview recorded on a device, the majority of interviews were recorded with a pen in a paper notebook in abridged fashion. As soon as the interview was over, the abridged notes were expanded and typed up on a secure, password protected and encrypted computer without saving any personally identifiable information.

The resulting 46-page interview data was then exported into Atlast.ti software for qualitative coding and analysis. Given theoretical propositions developed in this dissertation, the main coding procedures included identification of discussion of 1) how the earthquakes affected Nepal's *resource capacity* and played a role in governance reforms; 2) how the earthquakes

affected Nepal's *social trust* to facilitate governance reforms; and 3) how the earthquakes affected Nepal's *organizational capacity* with respect to capabilities to collect, analyze, exchange, and use information. After reading through the data to code for these through discussions, additional codes were identified through reading for open coding. These codes included initial conditions, fear of loss of control, leadership, social learning, Madhesi demands, external pressure, popular pressure, reconstruction requirements, and window of opportunity. Finally, the analytic tools of Atlas.ti's network manager and co-occurrence were used to visualize the extent to which these concepts were identified in expert interviews.

3.2.5. Other Data Sources

Qualitative data from reports published by Nepal's government agencies, academics, UN organizations, nonprofits, think tanks, national and global news media to trace the processes that link natural disasters to governance reforms in Nepal. Such qualitative information regarding changes in rules and behaviors of organizations and outcomes of response and recovery activities after the earthquakes documents constitutional amendments, changes in government leadership, and actions and interactions of organizations in support of policy alternatives regarding earthquake response and reconstructions. The sources of these data sources are cited throughout the dissertation.

4.0 THE CONTEXT OF NEPAL

4.1. Situating Nepal

Before providing contextual details about governance and natural disasters in Nepal, it is important to situate Nepal in comparison to other countries so that the scope and boundaries of the research question can be clarified. Such information can be useful to understand the question that many comparative social scientists could ask: what are Nepal's post-disaster governance reforms a case of? Understanding how Nepal fits in with respect to economic, social, and political factors with other countries assists in answering this question.

Nepal is classified as one of the Least Developed Countries (LDC) by the World Bank and the United Nations Department of Social and Economic Affairs. Nepal's per capita national income stood at US \$740 in 2015.¹¹ Nepal ranked 29th with respect to per capita national income among the 48 LDCs as shown in Figure 4a below. Because of heavy involvement of the United Nations, bilateral aid agencies, and INGOs in Nepal's socioeconomic development programs, Nepal was able to increase secondary school enrollment rates and life expectancy and reduce poverty, malnourishment, and infant mortality. However, large portions of the adult population still depend on agriculture and therefore the literacy rate of Nepal is not as high as one would expect given the rate of secondary school enrollment (see Figure 4 for select indicators).

Despite positive trends in educational attainment, life expectancy, and poverty reduction efforts, Nepal still faces socioeconomic instability that emanates from its structural inequality and vulnerability to natural, economic, and political shocks. Due to rigid social hierarchy, some segments of the population are extremely vulnerable to hunger, exploitation, and other negative socioeconomic outcomes. Moreover, political protests/instability and natural shocks like

¹¹ <https://data.worldbank.org/country/nepal>

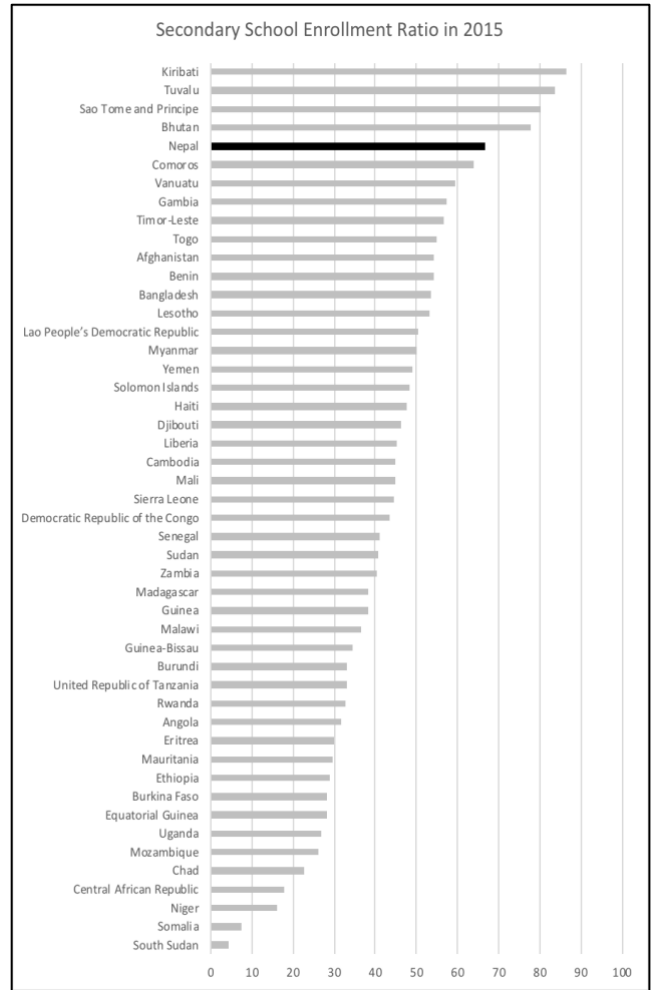
earthquakes, droughts, and floods often lead many vulnerable individuals and families to slide back to extreme poverty even if they have just climbed out of it due to development programming and increased migrant remittances. Dependence on food and energy imports as well as foreign aid and remittances also make the Nepalese vulnerable to shocks in regional and global economic markets. Such high vulnerability to economic, political, and natural shocks are typical for low-income countries categorized under LDC.

Figure 4. Select Development Indicators of Nepal with other Least Developed Countries

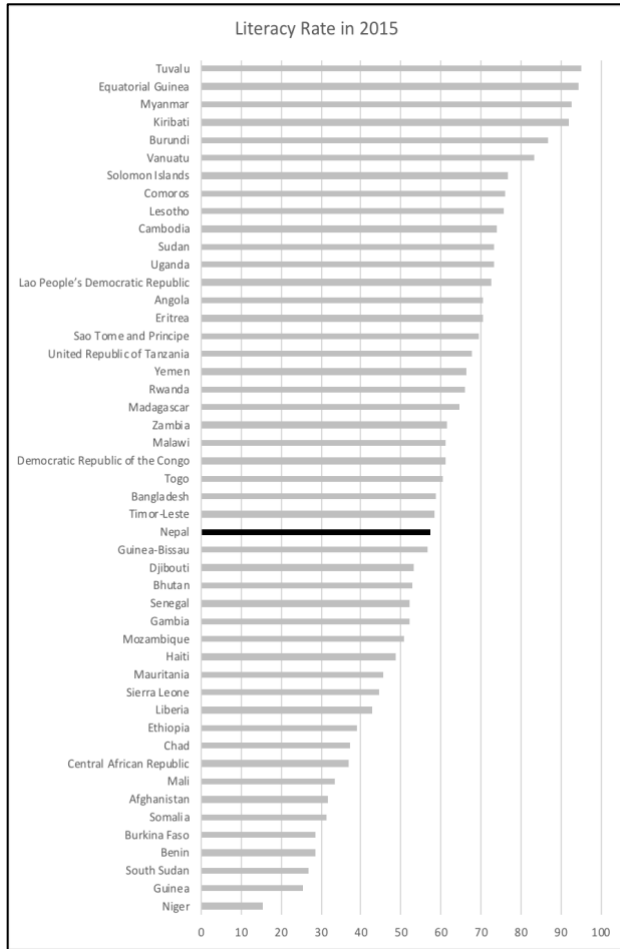
a) Gross national income per capita



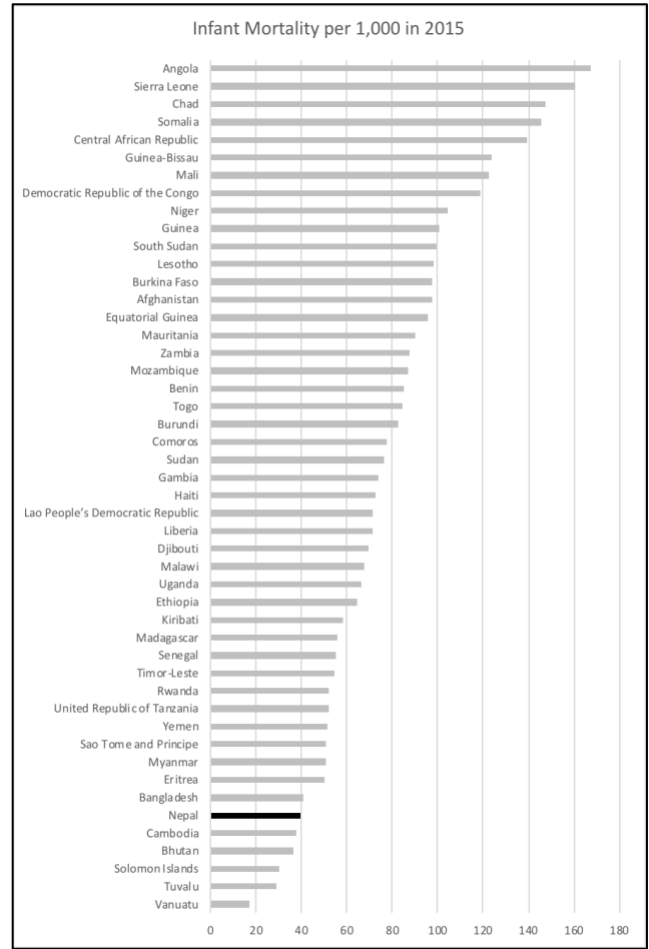
b) Secondary school enrollment ratio



c) Literacy rate



d) Infant mortality rate



Source: UN Department of Social and Economic Affairs (2018).¹²

With respect to political indicators, Nepal represents an average country in the world.

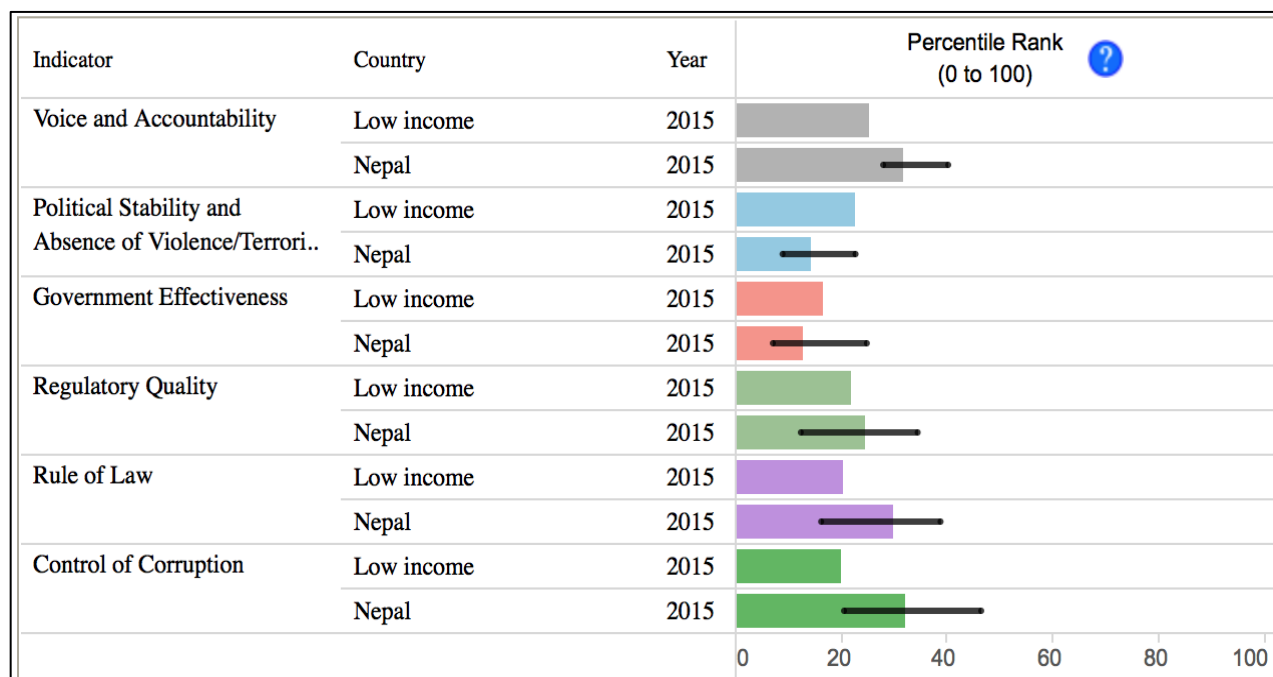
Freedom House rated Nepal as “partly free” in 2015, scoring 4 for civil liberties and 3 for political rights where 1 represents the best and 7 the worst.¹³ Nepal scored under average for low income countries in political stability and government effectiveness in 2015; in contrast it scored

¹² <https://www.un.org/development/desa/dpad/least-developed-country-category/ldc-data-retrieval.html>

¹³ <https://freedomhouse.org/report/freedom-world/2015/nepal>

above average with respect to voice and accountability, rule of law, regulatory quality, and control of corruption as shown in Figure 5 below.

Figure 5. Governance Indicators of Nepal and LDCs in 2015



Source: Kaufmann, Kraay, and Mastruzzi (2011)¹⁴

4.2. The Governance System of Nepal

Natural disasters such as the 2015 earthquakes in Nepal are shocks that provide an excellent test of governance effectiveness (Schneider 1990). Nepal experienced that shock as it was going through a painful but protracted political transition that had reduced effectiveness and capacity of governance institutions in Nepal. Following democratic movements in early 1990s, the Kingdom of Nepal had transitioned to a constitutional monarchy whereby Prime Minister elected by majority political parties in the parliament governed the country (Kantha 2015). However, the

¹⁴ The chart was created using <http://info.worldbank.org/governance/wgi/#reports>

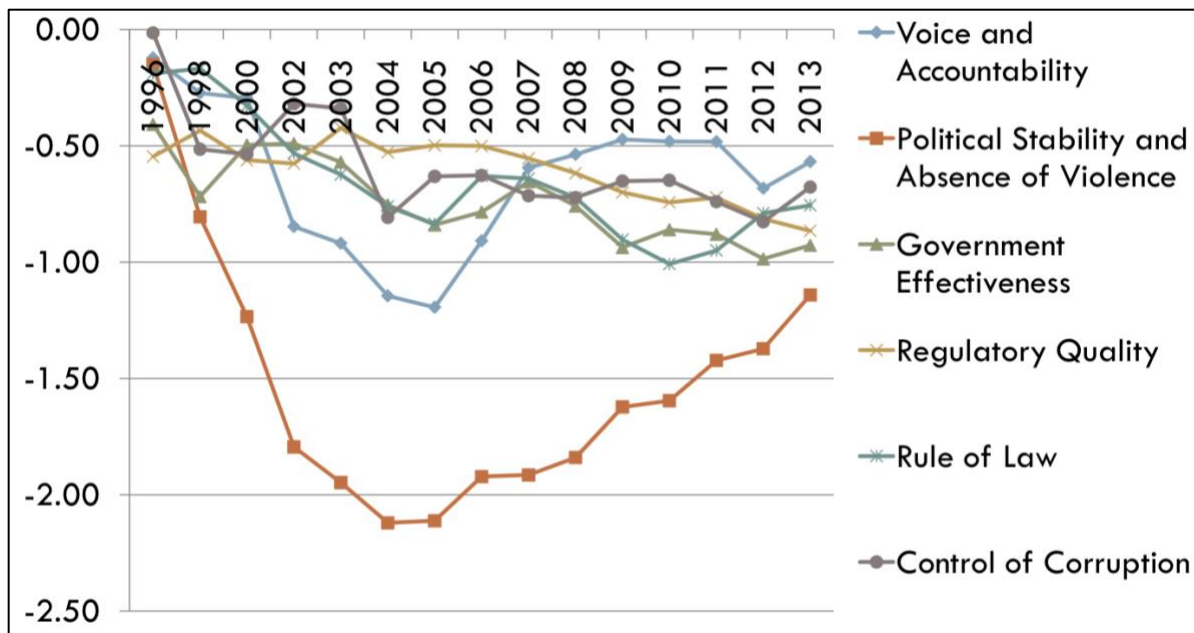
instability of transition further dragged Nepal into a civil war from 1996 through 2006. In 2006, all sides to the conflict signed the Comprehensive Peace Agreement (CPA) and in 2007, the Interim Constitution of Nepal declared the country as a democratic federal state and the Constituent Assembly (CA) in 2008 abolished the monarchy and declared Nepal as a secular republic (Schneiderman et al. 2016).

The CPA provisions stated that rebel soldiers of the Communist Part of Nepal (CPN) – Maoist incorporated in the Nepal Army, victims of war crimes compensated, and the CA draft a constitution within two years of its first session after elections. While the first provision was completed after long but painful integration of soldiers, the second and third provisions were taking too long to complete due to 139 different political parties jockeying for power and influence. From 2008 to 2015, because the political leaders were unable to come to an agreement and adopt a new constitution, Nepal faced heightened instability and was governed by seven different prime ministers and governing coalitions. Daily functions of government such as service provision and public infrastructure projects suffered severely as the instability in government precluded it from even spending its budget. This is reflected in governance indicators presented in Figure 6 below. The 2015 earthquakes produced the necessary catalyst and within 44 days after the earthquakes major political leaders of Nepal agreed on 16 contentious issues that had been delaying the constitution adoption (ICG 2016).

Because of economic tolls of political transition over the previous two decades, Nepal had grown dependent on foreign grants and loans from the World Bank, Asian Development Banks, European Union aid agencies, US Agency for International Development, and United Nations agencies such as UN World Food Program, UN Development Program, UN World Health Organization, UN Children’s Fund, UN Food and Agriculture Organization, and so on.

Such dependence on foreign aid and loans gave foreign actors much power to shape the process of state reform in Nepal. Moreover, because Nepal depends on India with respect to national security and economic transit, India has had enormous influence on determining who governs Nepal. Geopolitical and economic dependence play an important role as either enabling or constraining factors in disaster relief operations (Kelman 2006).

Figure 6. Governance Indicators of Nepal, 1996-2013



Source: World Bank (2014) Worldwide Governance Indicators¹⁵

4.3. The 2015 Earthquakes in Nepal

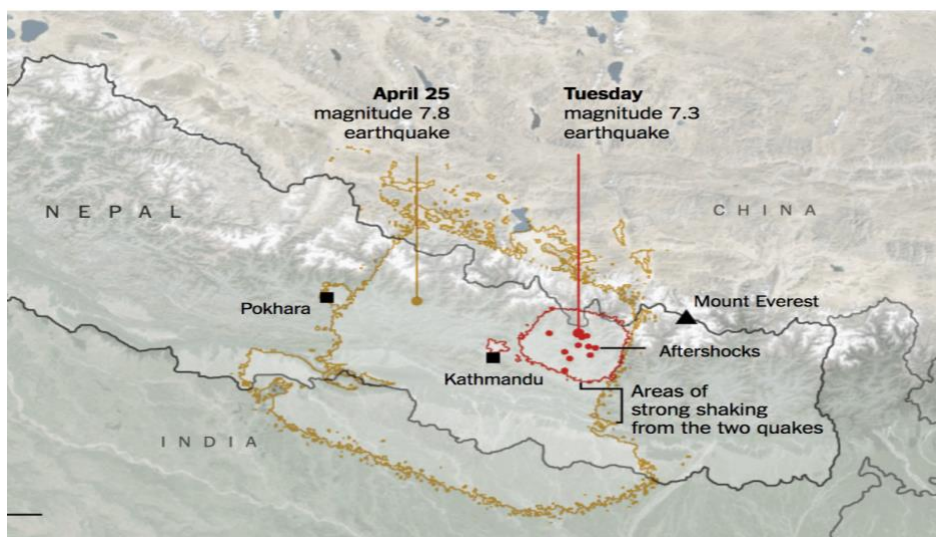
The 2015 earthquakes of M7.8 on April 25 and of M7.3 on May 12, 2015 led to the death of 8,787 and injury of 22,304 individuals. The earthquakes were the worst since the 1934 Bihar earthquake of M8. The two earthquakes destroyed or partially damaged a total of 469,539

¹⁵ http://dms.nasc.org.np/sites/default/files/documents/Governance_1.pdf

buildings in 31 of Nepal's 75 districts, affecting about half of Nepal's population of 28.5 million. The overall damage to the Nepalese economy is estimated at USD 5.2 billion (National Planning Commission 2015). The overwhelming majority of the earthquake victims and survivors are from the 14 most severely affected districts of Nepal. In these districts, 24,000 classrooms were destroyed, affecting 950,000 children. Figure 7 below maps the geographic areas of Nepal where the seismic shocks occurred. In addition, during April 25-October 18, 2015, there were 70 quakes, 14 floods, 56 landslides in Nepal (UNOCHA 2015).

Many earthquake victims are low-income, rural inhabitants of Nepal, as poorer people tend to live in areas that are prone to natural disasters and in houses made of mud bricks. Nepal is the poorest country in South Asia. Its GDP in 2014 was 19.6 billion and its population at 28.5 million (World Bank 2015). Nepal is dependent on remittances, tourism, foreign aid, and imports. In 2010, Nepal's trade deficit was 27% of its GDP (Paudel & Burke 2015). Only 17.3% of the population in Nepal lives in urban areas. The adult literacy rate in Nepal is at 57.4%. Only 11.1% of Nepalese are Internet users, while 52.8% the population uses mobile phones (UNICEF).

Figure 7. The 2015 Earthquakes and Aftershocks in Nepal



Source: New York Times (2015)

4.4. Disaster Policy and Management in Nepal

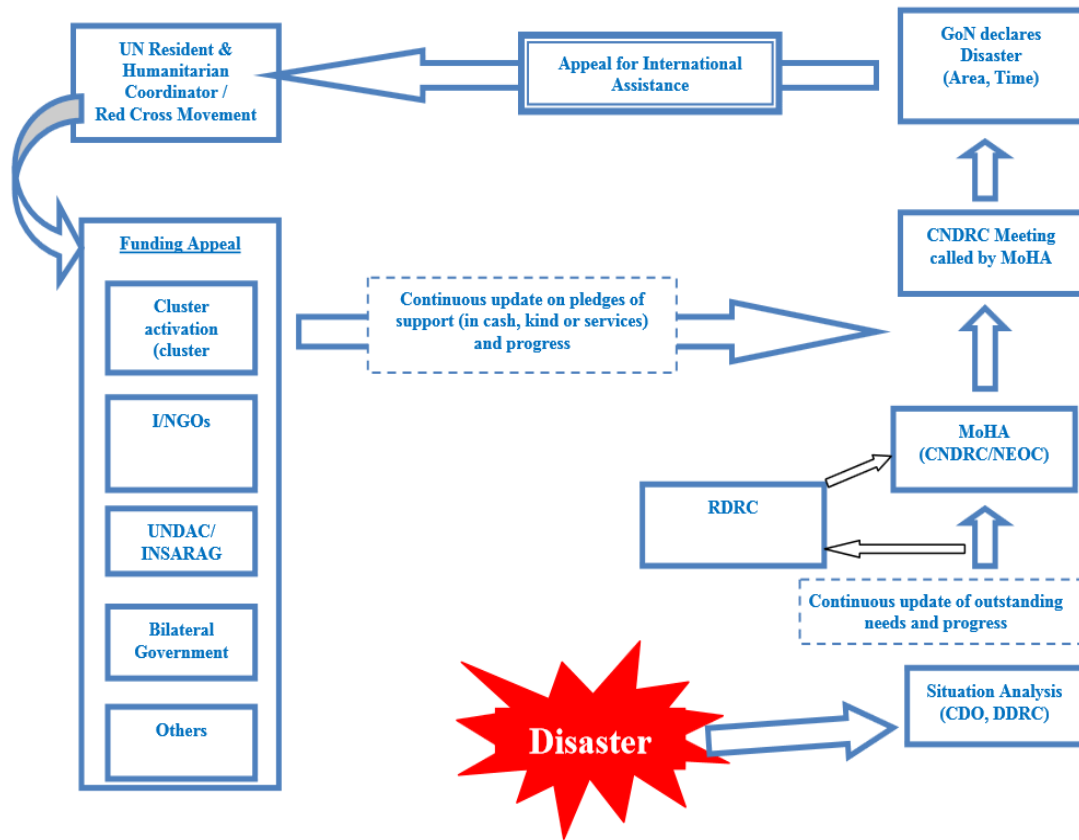
The Natural Calamity Relief Act, 1982, mandates the Ministry of Home Affairs as the lead disaster management agency and the Minister to chair the Central Natural Disaster Relief Committee. The Minister also manages the coordination with international relief agencies. The Cabinet may declare national emergency in catastrophic events, in which case the Prime Minister would chair the National Council for Disaster Management. Since the 1988 earthquake, when about 1,000 people were killed, 6,553 injured, and about 65,000 buildings damaged in eastern and central regions of Nepal, the government of Nepal has initiated several risk reduction and capacity building projects with the assistance of international organizations.

In 1993, the Government of Nepal partnered with the United Nations Development Program (UNDP), the World Bank (WB), and the Asian Development Bank (ADB) to develop a building code that includes modern principles of earthquake resistance. Nepal government authorized the new building code with the Building Act of 1998. In 2003, the government made it mandatory for all government buildings to comply with the code. The Local Self-Governance Act, 1999, mandates District Development Committees (DDCs), Municipalities, and Village Development Committees (VDCs) to respond to disasters by creating Disaster Relief Committees and Emergency Operation Centers at all levels.

The National Strategy for Disaster Risk Management, 2009, provides a roadmap for making Nepal a disaster resilient country. International aid organizations are also heavily involved in Nepal to assist the country with varieties of programs such as education, health, climate change, fight against poverty, and so on. Under this umbrella, there have also been

programs to make school, hospital, and other public buildings earthquake resistant. Various ministries in the Government of Nepal partner with the United Nations and other international organizations to plan and prepare for natural disasters such as floods, avalanches, landslides, and earthquakes. The government adopted the UN cluster system in which a ministry and an international agency would act as co-leads in each cluster, as shown in Figure 8 and Table 3 below.

Figure 8. Nepali National Disaster Management Framework



Source: ReliefWeb (2015)

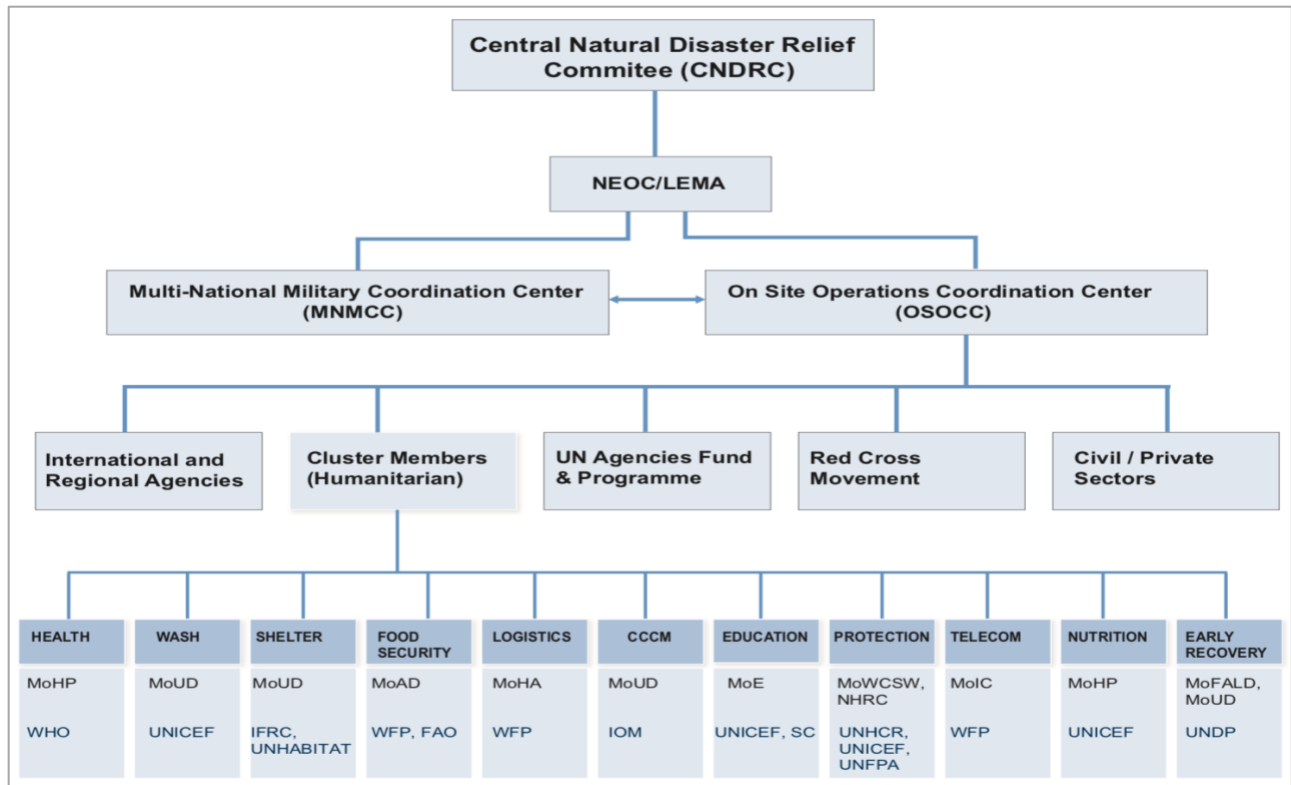
Table 3. A Co-Lead Cluster Approach to Disaster Governance in Nepal

Cluster	Government of Nepal Lead Agency	Co-Lead Agency
Health	Min. of Health and Population	WHO
WASH	Min. of Urban Development	UNICEF
Shelter	Min. of Urban Development	IFRC, UNHABITAT
Food	Min. of Agricultural Development	WFP, FAO
Logistics	Min. of Home Affairs	WFP
CCCM	Min. of Urban Development	IOM
Education	Min. of Education	UNICEF, SC
Protection	MWCSW; NHRC	UNHCR, UNICEF, UNFPA
Telecom	Min. of Information and Communications	WFP
Nutrition	Min. of Health and Population	UNICEF
Early recovery	Min. of Urban Development	UNDP

Source: ReliefWeb (2015)

The Nepal Army runs the Multi-National Military Coordination Center (MNMCC) to coordinate disaster relief activities with the aiding foreign military agencies. The MNMCC reports to the NEOC. The NEOC runs the On-Site Operation Coordination Center (OSOCC), which is designed to cooperate with the MNMCC to achieve civilian-military cooperation. Other ministries in the Government of Nepal also partner with the United Nations and other international organizations to plan and prepare for natural disasters such as floods, avalanches, landslides, and earthquakes. The government adopted the UN cluster system in which a ministry from the Government of Nepal leads each cluster and a UN agency or an international agency supports the lead ministry as a co-lead/partner agency. The clusters also receive strategic advice from the Humanitarian Country Team (HCT) that is led by the UN Resident/Humanitarian Coordinator and composed of the UN agencies, International Organization for Migration, Red Cross and INGOs. Figure 9 below depicts Nepal's national policy framework for disaster management.

Figure 9. Nepali National Disaster Response Framework (NDRF)



Source: ReliefWeb (2015)

International non-governmental organizations that have been operating in Nepal for quite some time coordinate their activities within the Association of International NGOs (AIN), which is led by Save the Children in Nepal. Within AIN, there is a group of INGOs that have projects related to disaster risk and management. In addition, there is also a body called Disaster Risk Consortium that coordinates activities of public, private, NGO and international organizations in Nepal that have projects related to disaster risk reduction.

4.5. Nepal's Governance System After the Earthquakes

Catastrophic natural disasters oftentimes produce temporary breaks in governance systems, opening space for renegotiation of the social contract with consequences for distribution of

economic resources and political rights (Pelling & Dill 2010). In the case of Nepal, the governance system was in the middle of a protracted constitution making process following the conclusion of its decade-long civil war when the earthquakes hit the country. The earthquakes catalyzed this process by heightening the urgency for establishing effective governance to address the enormous challenge of post-disaster recovery, especially because the international community headed by the UNOCHA pressured the government to speed up the constitutional process to receive reconstruction aid grants (ICG 2016). The massive losses and damages that the earthquakes produced also tipped the balance of power between the ruling parties and opposition parties, as the former usually take the blame for failures of pre-disaster risk reduction efforts and of post-disaster response and recovery operations. In a fragile, low-income, multiparty political system without leaders able to reach compromise and unity in the face of a “focusing event” (Birkland 1998), elite conflict and political contestation can easily spread downstream to the masses as new and old politicians mobilize their bases in support of their policy agendas and political programs (Gawronski & Olson 2013).

To better understand how the 2015 earthquakes catalyzed constitutional reform in Nepal, one needs to comprehend the disaster vulnerability and resilience of Nepalese communities depending on their socioeconomic, ecological, and geographic location within the country (Cutter et al. 2009). In the case of Nepal, the country is situated in a highly seismically active geography with harsh weather and topographic conditions suggesting that natural systems have already created the conditions for vulnerability of Nepal’s population to multiple, recurring disasters such as monsoon floods, droughts, earthquakes, avalanches, and landslides. Over 70 percent of Nepal’s population lives in rural areas and engages in subsistence agriculture in a harsh climatic environment. Earthquakes and other natural disasters have the capacity to alter

socio-ecological systems of rural Nepalese, because transformed soil and shifted water resources might prohibit farming for affected communities. Moreover, international aid organizations tend to introduce cash crops and market-based modes of production in disaster-stricken areas of Nepal to inadvertently upend centuries of practice in subsistence agriculture (Epstein et al. 2017). Aid agencies could also inadvertently create moral hazard problems whereby better-off residents in connected geographies deliberately do not rebuild their houses because they know they will get help from donors, whereas households in remote mountainous areas do not have access to aid agencies and they often have to rebuild on their own (McGillis & Spoon 2017).

In addition to ecological vulnerabilities, because of failures in social systems, built infrastructure, and ineffective regulations regarding urban and suburban growth, building construction, and land use and zoning, Nepalese citizens are highly vulnerable to natural disasters (Bhattarai and Conway 2010). For example, there is not enough open space in Kathmandu Valley for emergency and disaster response actors to move around in densely populated areas. Even police vehicles, ambulances, and firefighters cannot pass congested traffic on local roads. Because of the socioeconomic and spatial inequalities in Nepal, most earthquake victims were women from low-caste groups in the outskirts of Kathmandu Valley and rural areas of central Nepal (Boersma et al. 2016).

Such high disaster vulnerability due to ecological and social factors creates conditions for mass mobilization for political action and governance reform in the aftermath of a massive earthquake. This is especially the case due to Nepal's democratic opening after mass movements of the 1990s, subsequent proliferation of political parties along ethnolinguistic cleavage, and decade-long Nepalese Civil War (1996-2006), which ended by active diplomacy of international and regional actors using the United Nations peace building platform (Kantha 2015). Without

studying Nepal's governance system and its participating actors in detail, one could expect increased conflict and even collapse of the state in the aftermath of the 2015 earthquakes. While complexities and diversity in Nepal's governance system has the potential for double and triple loop learning and enhanced adaptive governance capacity (Pahl-Wostl 2009), structural inequalities in the distribution of economic resources and political rights/power of groups across Nepal's regions as well as economic and geopolitical dependence of Nepal to India have made such improvement a challenging task. Therefore, post-earthquake reconstruction in Nepal depends not only on initial conditions of social forces, market prices, and government action (Horwich 2000), but also on geopolitical considerations such as the border crisis and unofficial economic blockade imposed on Nepal by India due to Nepal's leaders not addressing India's demand on what Nepal's new constitution should entail. The blockade resulted in shortages of fuel, medical supplies and construction materials in Nepal for six months and brought the reconstruction process to a halt, taking a toll on earthquake victims in harsh winter conditions.

In the context of Nepal, due to the natural landscape and climate of the country, the post-earthquake environment was full of secondary natural challenges and shocks such as aftershocks, landslides, monsoon and freezing winter temperatures in the mountainous areas. While outbreaks of contagious diseases were prevented, a serious manmade crisis in post-disaster context was of political and geopolitical nature whereby the quick adoption of the new constitution was followed by minority protests in the south and unofficial economic blockade by India which worsened relief and recovery efforts in post-earthquake Nepal (Comfort and Joshi 2017).

While caused exogenously, catastrophic natural disasters oftentimes produce temporary breaks in governance systems, opening space for renegotiation of the social contract with consequences for distribution of economic resources and political rights (Pelling and Dill

2010).¹⁶ In the case of Nepal, the governance system was in the middle of constitution making process following the conclusion of its decade-long civil war when the earthquakes hit. The earthquakes catalyzed this process (Iyengar 2015) by heightening the urgency for establishing effective governance to address the enormous challenge of post-disaster recovery, especially because the international community headed by the UNOCHA pressured the government to speed up the constitutional process in order to get the reconstruction funds.¹⁷ The massive loss and damage that the earthquakes produced also tipped the balance of power between the ruling parties and opposition parties, as the former usually take the blame for failures of pre-disaster risk reduction efforts and of post-disaster response and recovery operations.

Even though it was a common knowledge that a powerful earthquake was coming (Bilham 2015) and successful educational campaigns had been implemented in schools and public arenas, implementation of building codes in public and private buildings and public infrastructural upgrading was uneven across socioeconomic groups and geographic areas (EERI 2016). In a fragile, low-income, multiparty governance system without leaders able to reach compromise and unity in the face of a “focusing event” (Birkland 1998), elite conflict and political contestation easily spreads downstream to the masses as new and old politicians mobilize their bases in support of their policy agendas and political programs.

Political use of the earthquakes to fast-track constitutional reform backfired as protests from politically marginalized Madhesi groups in the Terai plains that were unaffected by the earthquakes triggered border crisis with India (ICG 2016). Relatedly, political use of the

¹⁶ Whether this opportunity is realized to effect change depends on additional factors such as citizen perception of regime legitimacy and satisfaction with government performance, triggering events and tipping points (critical mass), and attribution of blame/responsibility for the disaster (Birkmann et al. 2010; Abney & Hill 1966; Arceneaux & Stein 2006).

¹⁷ See Pelling and Dill (2006) on disasters as catalysts of political action.

earthquakes to gain office led to serious unintended consequences as the work of the National Reconstruction Authority got delayed and citizens suffered from postponed reconstruction activities as well as the border crisis.

The earthquakes and the ensuing domestic and regional political contestation produced a window of opportunity for Madhesi elites to mobilize the masses to enhance their political rights and power in Nepal's new governance system. While major political parties compromised on a new constitution after three months of the earthquakes, the Madhesi demands for more rights and representations were unmet. In the shadow of India-China contestation over Nepal as well as parliamentary elections and Modi's nationalist populism in India in support of Hindi speaking, co-religionist Madhesi population of Nepal, new networks of Madhesi politicians emerged to take advantage of the situation.¹⁸ Because the plains had not suffered from the earthquakes but the hills and mountains of the central region of Nepal did, the Madhesi riots and with tacit support from the Indian government led to the blockade of the borders to force the hands of mainstream Nepalese politicians who represent the hills and the mountains, as the restriction of the passage of gasoline and construction materials brought the recovery process to a complete halt.

In addition to the border crisis, there was a political crisis with respect to selecting the head of the National Reconstruction Authority (NRA) – a national agency in charge of reconstruction routinely established after a major disaster – that further delayed the reconstruction process. While the NRA was established on paper with legislation after only eight months of earthquakes on December 25, 2015, it took the government about two years to agree on a chief of the agency who would oversee spending USD 4.1 bln. The main reason for the

¹⁸ See Kantha (2015) for a brief history of the role India has played in supporting Nepal's government against opposition groups and vice versa.

delay in establishing the NRA leadership and offices was lack of leadership that could forge unity and stability in the face of a catastrophic disaster to rebuild the country. Instead, the process of negotiations exhibited elite divisions with respect to vision, allocation of funds, and mandate for the agency. Thus, the already weak, unstable government institutions in Nepal became even weaker in the face of border crisis and delays in enabling the National Reconstruction Authority due to the crises associated with constitution making and state building in Nepal.

Lack of accountable, capable local governance structures in rural areas (where most damage occurred) and ineffective inter-governmental coordination mechanisms from national to local bodies created a massive challenge for relief and reconstruction (Regmi 2016). Adoption of a new constitution, new elections at local, provincial and national levels, and bureaucratic reform based on the new constitution were widely expected to have addressed these issues; however, they never materialized until after the earthquakes.

Donors have varying preferences in their methods of distributing disaster aid to affected individuals and sectors of the economy. Some prefer working with the government, while others choose to work with global INGOs who have local offices in Nepal. Some disaster assistance projects employ Nepalese citizens, while others hire global consultants or donor country citizens. Issues such as corruption, party patronage within the government and civil society, and all too frequent leadership change in the Government of Nepal are serious concerns for donors who want to ensure transparency and accountability of their donations. Divisions within the donor community can be a serious obstacle against effective disaster recovery.

The Government of Nepal prefers that donations go through government agencies for several reasons. First, the government and political party officials that make up the government

need legitimacy and by distributing funds and construction materials to their constituencies, they believe they can improve their legitimacy. If aid organizations implement reconstruction projects on their own and take credit for it, the government looks weak vis-à-vis aid agencies. The second, the aid bureaucracy/industry in Nepal has its own issues with accountability and efficiency. Civil servants and academics in Nepal believe that they do not know how decisions are made in the aid circles and that the aid industry crowds out Nepalese talent and ideas, making the government and people even weaker and more dependent on aid.¹⁹ Third, Nepalese government officials question the way INGOs allocate the funds; they claim that INGOs have too high overhead costs because they hire Western nationals instead of Nepalese citizens and spend too much on consultants to write reports. Nepalese government officials would rather spend evaluation money on delivering more reconstruction goods.²⁰ Some of these concerns were in play when the Government of Nepal decided to take control of the recovery process by reinstating import duties on relief and reconstruction materials on June 23, 2015, merely 42 days after the second earthquake. They argued that donors were creating dependency and lowering the Nepalese people's capacity and resiliency (Boersma et al. 2016).

Disaster aid often has implications for advancing national security and economic interests of donor countries. When international and regional organizations such as the United Nations, World Bank, and SAARC are bound by preferences of major states that contribute to the budgets of those agencies, countries such as China prefer alternative mechanisms of disaster aid distribution and coordination. In the face of competing security and economic interests, the Government of Nepal finds it necessary to ensure national sovereignty and bureaucratic autonomy over the implementation of disaster assistance projects, while attempting to reduce

¹⁹ This observation is based on personal communication with some organizational leaders in Nepal.

²⁰ This observation is based on personal communication with some organizational leaders in Nepal.

economic and political dependency on major powers, especially India and China. Fragmented and unstable governance makes this task very challenging as foreign policy interests of donor countries lead them to support certain Nepalese political parties who would best align with their interests. In lieu of disaster diplomacy, it appears that a geostrategic disaster competition takes place. The earthquakes closed off the country's roads to China, exacerbating Nepal's already heavy economic dependence on India. China and India competed for influence by providing relief and reconstruction assistance. Madhesi protests and Indian economic blockade delayed reconstruction and increased Chinese influence (STRATFOR 2015).

Moreover, with years of experiencing instability, political patronage, corruption, and donor driven ideas about shrinking government, the Nepalese bureaucracy has lost its political insulation and expertise. The reality of the situation in Nepal is that there are not many expert civil servants who have the knowledge, skills, and institutional memory to cope with these serious challenges, besides the ever-changing cast of political appointees. Even the few expert civil servants who exist are afraid of being prosecuted for corruption, because corruption laws are too strict and ambiguously defined and selectively implemented.²¹ In addition, the Structural Adjustment Policies have made the government very lean and dependent on the international aid community, while also relying on NGOs to provide public services. Divisions within the donor community, disagreements between the aid bureaucracy and the government, and issues of dependency have introduced more complexity and challenges with respect to post-earthquake reconstruction in Nepal.

One of the serious gaps in the capacity of Nepal's governance system was the absence of the middle tier of governance structures that link the local institutions to national government

²¹ This observation is based on personal communication with some organizational leaders in Nepal.

agencies. Because of this problem, the reconstruction process has delayed, as the national actors could not exchange information and work together with local actors (Regmi 2016). This challenge was exacerbated by the enormity of the reconstruction task, as Nepal's exposure to multiple, recurring disaster risks in the rugged terrain and harsh climate as well as its experience with irregular land use, unplanned urbanization, and under-regulated construction industry has posed a major challenge to the existing governance system in addressing the challenges of reconstruction. Moreover, civil society organizations have provided relief and reconstruction as well as "the space for citizens to express their concerns, articulate them to the proper authorities, and demand a better government response" (Bakija 2016).

5.0 THE 2015 EARTHQUAKES AND THE EFFECTIVENESS OF NETWORKED RESPONSE

This chapter provides an analysis of the disaster governance system of Nepal by identifying the main actors, salient issues, and gaps in governance of the disaster response system. Using GDELT knowledge graph data, published reports, and expert interviews, the chapter shows that the scale of the 2015 earthquakes overwhelmed Nepal's disaster response network, and large number of external actors that responded to Nepal's appeals to assistance contributed to the perception and fear of loss of control as many foreign military and civilian actors dominated the scene. National level public organizations had significant coordination problems with local and district level organizations in Nepal. Moreover, due to tensions with UN agencies and donors, cooperation of the national ministries with international organizations suffered in the disaster response network. Massive mobilization of resources in disaster relief phase as well as perception of loss of control in managing one's own internal affairs such as Search and Rescue (SAR) and management of displaced populations provide an important background for subsequent chapters.

Effective interorganizational communication and cooperation are key elements of successful disaster response. Scholars advise measuring interorganizational networks through multiple sources of data. Typically, human-coded event data from content analysis of news and published reports is used. This approach usually requires much time and resources. Alternatively, the Global Data on Events, Location and Tone (GDELT) database contains graph data that is coded from contents of global and national media reports using advanced algorithms. Because GDELT database contains a massive-scale network of interconnected events, organizations, locations, and topics, it provides an alternative source of data to evaluate whether disaster

governance networks have actually operated according to their designed policies and plans. The present chapter also analyzes the performance of the 2015 Nepal Earthquake response networks to see whether they worked as planned by policymakers and public managers. Governmental and NGO reports are coded to map the *planned network* and the GDELT knowledge graph data is used to map the *actual network*. Measures of density, centrality, and cohesiveness are used from the literature on disaster response networks to make the comparisons.

Effective interorganizational communication and cooperation are key elements of successful disaster response (White 1999; Sylves 2008). The present chapter uses GDELT data constructed from media reports to evaluate the effectiveness of a natural disaster response network. In so doing, the chapter aims at improving collective understanding of enabling and constraining factors that drive cooperation between national government agencies and international governmental and non-governmental organizations responding to complex emergencies in developing country settings – a critical question raised by scholars like Comfort (1990) and Natsios (1995). The chapter also briefly evaluates the strengths and weakness of a particular of the GDELT data source in conducting a social network analysis of interorganizational cooperation in the 2015 Nepal Earthquake response in relation to contextual knowledge about the case obtained from desk research, other scholarly works, and fieldwork and expert interviews.

Scholars often measure interorganizational networks through multiple sources of data. Typically, human-coded event data from content analysis of news and published reports is used (e.g., Comfort and Kapucu 2006; Lia and Hsu 2018). This approach usually requires much time and resources. Alternatively, the Global Data on Events, Location and Tone (GDELT) database contains graph data that is coded from contents of global and national media reports using

automated algorithms. Because GDELT database contains a massive-scale network of interconnected events, organizations, locations, and themes (topics), it provides an additional source of data to evaluate whether disaster governance networks have actually operated according to their designed policies and plans.

5.1. Effectiveness of the Disaster Response Network

Effective management of response to large-scale natural disasters like the 2015 Nepal earthquakes is contingent upon a complex set of interdependent factors (Comfort 1999). The most important factors are the extent to which risk reduction activities are effectively implemented prior to the disaster. However, risk reduction depends on the level of economic development, distribution of resources across social groups, and governance capacity of a given country and takes years if not decades to undertake (Cutter et al. 2008).

The next set of factors can be grouped under the rubric of preparedness and include coherent policy and management framework for joint planning, communication, and collaboration among diverse sets of organizations that have varying levels of financial, human, and organizational resources (Perry and Lindell 2003). Policy and planning documents such as national frameworks for disaster management need to be actively implemented during simulations and exercise for the organizations to effectively prepare for large-scale earthquakes. However, even the most prepared disaster relief networks can fail because of the unexpected nature of high-risk disaster that often create high uncertainty in a dynamic environment (Comfort and Kapucu 2006). Therefore, such response networks are truly tested only when the actual disaster happens.

Once the disaster strikes, the first goal of the response network is to restore normalcy as quickly as possible while minimizing loss of life and property and preventing secondary consequences of a disaster such as public health catastrophes, social upheaval, political disorder, and economic collapse. Attaining these objectives is often a tall order because disaster response networks quickly overwhelmed by the scale of the disaster and needs of the affected populations. A surge in the number of response actors that results from appealing to international organizations for support can create serious communication and coordination issues even when a coherent policy and management framework is in place prior to the disaster (Nolte and Boenigk 2011). In resource-poor countries, it becomes especially important to communicate and coordinate better as many organizations operate with minimal financial, human, and organizational capacity (Saban 2015).

Evaluating the effectiveness of disaster response networks based on only inputs and outputs such as number lives saved during search and rescue activities and the quantity of food and shelter provided in early phases of relief does not provide a sufficient evaluation of the effectiveness of the disaster response network. The reason is there will always be losses in human life and unsatisfied human needs in large-scale disasters. In addition, the number of responders deployed, the number of equipment used, the amount of food and shelter provided may still lead to a failed disaster response. Moreover, it is hard to judge how many lives could have been saved if a given amount of additional inputs was procured and deployed. Therefore, it is important to focus on how available resources were provided to affected populations with minimal failures in communication and coordination.

A more viable approach to the evaluation of disaster response networks then is analysis of the extent to which organizational actors were prepared to communicate and coordinate their

actions prior to the disaster and of the extent to which they actually were able to do in the face of a disaster (Comfort and Kapucu 2006). Comparison of the network-in-plan with the network-in-action can provide crucial insights for identifying and learning lessons (Birkland 2006), especially when done with careful consideration of domestic context as well as benchmark cases from the country's past or other comparable, contemporary cases from similar countries. Such an analysis of network effectiveness is important for critical outcomes such as community capacity (Provan and Kenis 2008) and organizational resilience (Lai and Hsu 2018) that public policy and administration scholars study. It is also important for practitioners and policy makers because network properties and structures shape the rules of engagement in complex, dynamic environments such as mass-scale earthquake relief (Byman et al. 2000).

The next sections start with a summary of network statistics for the 2015 earthquake response networks in Nepal. I then discuss which types of organizations have played influential roles in the actual disaster response network compared to their respective roles, or lack thereof, in the policy documents of the Government of Nepal. Finally, key organizations and their roles are discussed to provide a detailed analysis of their pivotal role in the network.

5.2. Network Statistics

Once interorganizational network data is extracted and preprocessed as described in the previous section, it results in a network of 273 organizations and 853 undirected ties and 12 connected components (Table 4). On average, each organization has about 6.2 ties. The *diameter* of the network is 6. This means that the farthest two organizations in the network with respect to geodesic distance are connected to each other through six other organizations. Geodesic distance

is the shortest path between two organizations.²² Mean geodesic distance, which is also called *average path length*, is about 3. In other words, on average organizations in the network are situated three steps or “degrees of separation” away from one another (Wasserman and Faust 1994). This is a relatively closely connected network. Usually, spread of ideas, propagation of behavior, and transmission of diseases are effective up to three degrees of separation.

The *density* of the network is 0.023. Network density measures how complete the network is. In other words, a complete network has all possible ties among its nodes and a density of 1. It is calculated by summing the number of ties and dividing it by the total number of all possible ties (Wasserman and Faust 1994). While the network has only 2.3 percent of all possible ties, it is moderately dense for an interorganizational disaster response network.

Network modularity measures modular decomposition of a network into a number of sub-networks or communities. The greater the modularity score of a network, the more sophisticated is its community structure and better compartmentalization of its communities that have a real-world importance.²³ The disaster response network has a moderate network modularity score of about 0.6. The algorithm detected 19 subnetworks, including five largest ones.

Average clustering coefficient measures the extent to which a network is clustered, i.e. the degree to which nodes are situated in clusters or neighborhoods of higher connectivity (Latapy 2008). Networks that are highly clustered but have lower average path length exhibit “small world” properties such as faster diffusion of ideas and behavior (Milgram 1967; Watts

²² A pair of connected nodes have a geodesic distance of 1. For a network of diameter k , the two most distant nodes of the network are connected to each other via $k-1$ number of nodes.

²³ The algorithm used for community detection was developed by Blondel and colleagues (2008) with random decomposition for higher accuracy while also accounting for edge weights. The resolution algorithm for community detection was developed by Lambiotte and colleagues (2009).

and Strogatz 1998). While the average path length of the disaster response network is not low, the average clustering coefficient is moderate at 0.7.

Table 4. Network Statistics

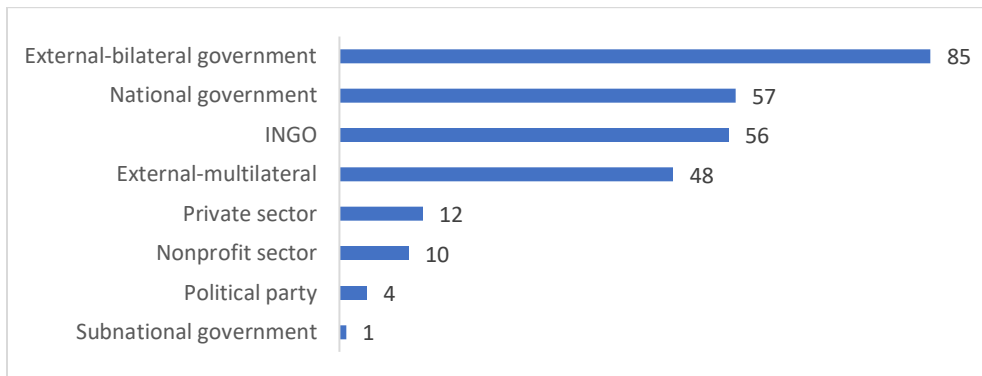
Number of Nodes	273
Number of Edges	853
Average Degree	6.249
Network Diameter	6
Network Density	0.023
Modularity	0.574
Connected Components	12
Average Clustering Coefficient	0.703
Average Path Length	2.934

Note: See Appendix D for charts showing distribution of the centrality measures.

5.3. Frequency Distribution by Organization Type

With respect to frequency distribution, as shown in Figure 10, external bilateral organizations make up the largest number of organizations in the network, namely 85. National government agencies and INGOs are the second and third most common organizations in the network, respectively. Subnational government agencies and political parties have the lowest presence in the network. Despite their small number, three of the four political parties represented in the network are the largest four parties and have near-ubiquitous presence across all sectors and jurisdictions in Nepal. While it is possible that Nepalese private firms and NGOs are underrepresented in English-language media outlets, the data speak to the fact that international organizations (bilateral, multilateral, and non-governmental) overshadow Nepalese governmental and non-governmental organizations in the disaster response network due to Nepal's dependence on foreign assistance and surge capacity of international actors.

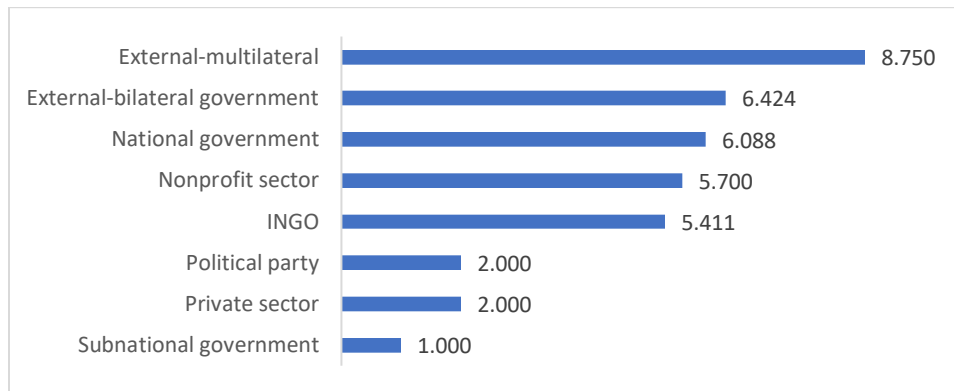
Figure 10. Frequency of Organizations by Type (N=273, E=853)



5.4. Network Centrality by Organization Type

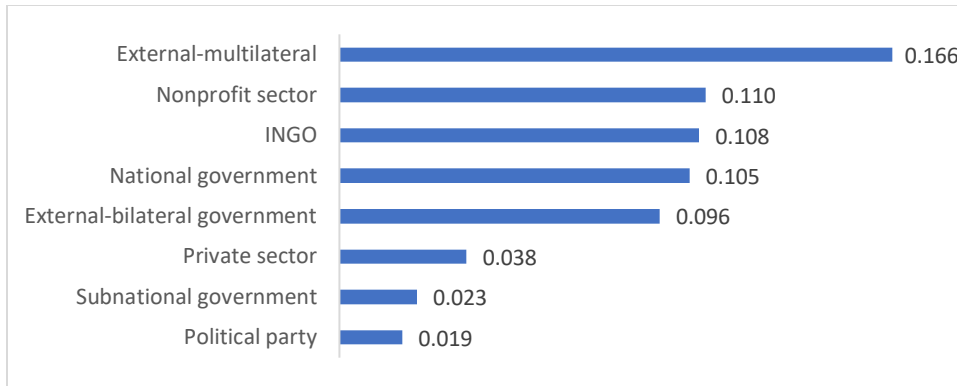
Degree Centrality measures the extent of a node's connectivity in the network – the number of ties a node has, normalized by the total number of ties in the network (Freeman 1978). Degree centrality is the most basic measure of influence in a network. When degree centrality measures are averaged and broken out across organization types, multilateral and bilateral governmental agencies are the top two types of organizations, reducing national government agencies of Nepal to the third place. Still, national government agencies are more connected than domestic and international NGOs. It is interesting to observe that domestic NGOs have higher degree centrality scores than international ones (Figure 11), despite the fact that the role of domestic NGOs are not clearly formulated in the Nepal's National Disaster Response Framework. This is consistent with the findings of Bisri and Beniya (2016). This is likely the case because domestic NGOs have depended on international NGOs and multilateral donors for funding; however, after the earthquakes they also received large amounts of funds from local and Non-Resident Nepalis (diaspora living or working abroad) as well as from foreign individual philanthropists who developed ties with them while on a touristic journey in Nepal.

Figure 11. Mean Degree Centrality of Organizations by Type (N=273, E=853)



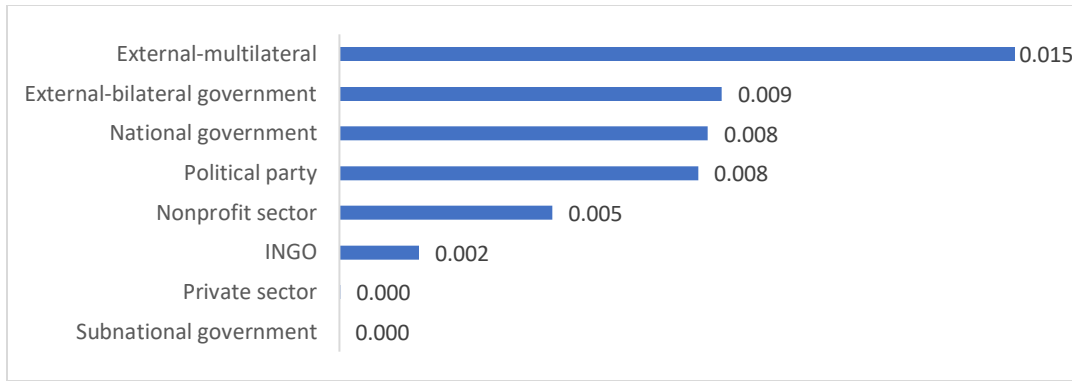
However, when *Eigenvector Centrality* measures – a more refined measure of influence that takes into account connectivity of the nodes to which a node is connected – are used, both domestic and international NGOs have higher mean scores than the national government agencies of Nepal and external bilateral organizations (Figure 12). These findings attest to the fact that 1) frequency does not explain everything as relations and interdependencies are important in disaster response; and 2) external multilateral organizations, Nepalese NGOs and international NGOs in Nepal had been working on disaster risk reduction and preparedness issues as the national government of Nepal was busy dealing with political transition and international bilateral organizations have not had as long presence and as great influence in Nepal as multilateral agencies and NGOs have.

Figure 12. Mean Eigenvector Centrality of Organizations by Type (N=273, E=853)



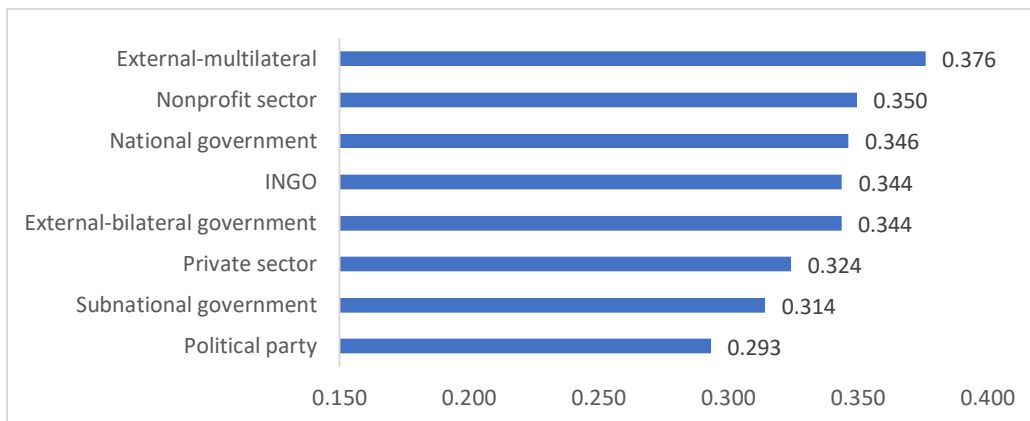
Betweenness Centrality measures the importance of each node in terms of its brokerage role in the network. In other words, it measures the normalized frequency with which each node provides a shortest-path connection between other nodes in the network (Freeman 1977). The greater the betweenness centrality of a score, the more important its brokerage role is in the network, as calculated using the method developed by Brandes (2001). With respect to this measure of influence, external multilateral organizations are in a dominant position of the network, surpassing all other actors by a large difference. It is because of the dominance of the United Nations as well as actors such as Asian Development Bank and the World Bank. Even though local and international NGOs have higher eigenvector scores, likely because of their close ties with multilateral organizations, the national government agencies of Nepal surpassed them with respect to their betweenness centrality scores. Political parties also have relatively higher influence because of their engagement with multilateral organizations and brokerage of ties between international and domestic actors. In contrast, the private sector and subnational organizations had negligible brokering power in the disaster relief network (Figure 13).

Figure 13. Mean Betweenness Centrality of Organizations by Type (N=248, E=828)



Closeness Centrality measures the mean of the shortest geodesic distance from a given node to all other nodes in the network normalized by the total number of nodes in the network (Bavelas 1950). The greater the closeness centrality score of an organization is, the closer the organization's geodesic distance is to all other organizations in the network. It appears external multilateral agencies are closest to all other organizations in the network than any other type of organization. Overall, it seems all organizations in the network are situated in the network such that they all have more or less even closeness to others in the network with the exception of political parties, which have lower closeness centrality scores (Figure 14).

Figure 14. Mean Closeness Centrality of Organizations by Type (N=248, E=828)



5.5. Most and Least Central Organizations

Among external multilateral actors, denoted with dark blue nodes in Figure 15, the United Nations agencies in general had the highest degree centrality score with the World Food Program having the highest in particular. This is likely because of the importance of the presence of WFP in Nepal with long existing anti-poverty programs and logistical capabilities that allow the organization to access even the remotest mountainous villages. EU agencies in general had the second highest degree centrality score followed by the World Bank, the World Health Organization, International Federation of Red Cross and Red Crescent Societies (IFRC), Asian Development Bank, and the International Committee of the Red Cross (ICRC).

In contrast, the UN Population Fund and the UN Office for the Coordination of the Humanitarian Affairs (UNOCHA) were among external multilateral organizations with the lowest degree centrality scores. The latter is probably the case because the United Nations have had a strong presence in Nepal for decades and the head of the UN Country Team – UN Resident Coordinator (RC) – also took over the role of Humanitarian Coordinator (HC) obviating the need for UNOCHA to send one. The office of RC in the UN headquarter/compound in Patan, Lalitpur played an important role in coordinating relief operations for all international humanitarian actors (Datta et al. 2018).

The same set of actors are dominant in the disaster relief network with respect to alternative measures of centrality: eigenvector, betweenness and closeness. The International Organization for Migration (IOM) joins the list of top actors according to the latter measures. With respect to least central actors, surprisingly the UN Humanitarian Air Service joins the list.

Among external bilateral actors colored in pink in Figure 15, international development agencies, especially the US Agency for International Development (USAID) and the UK

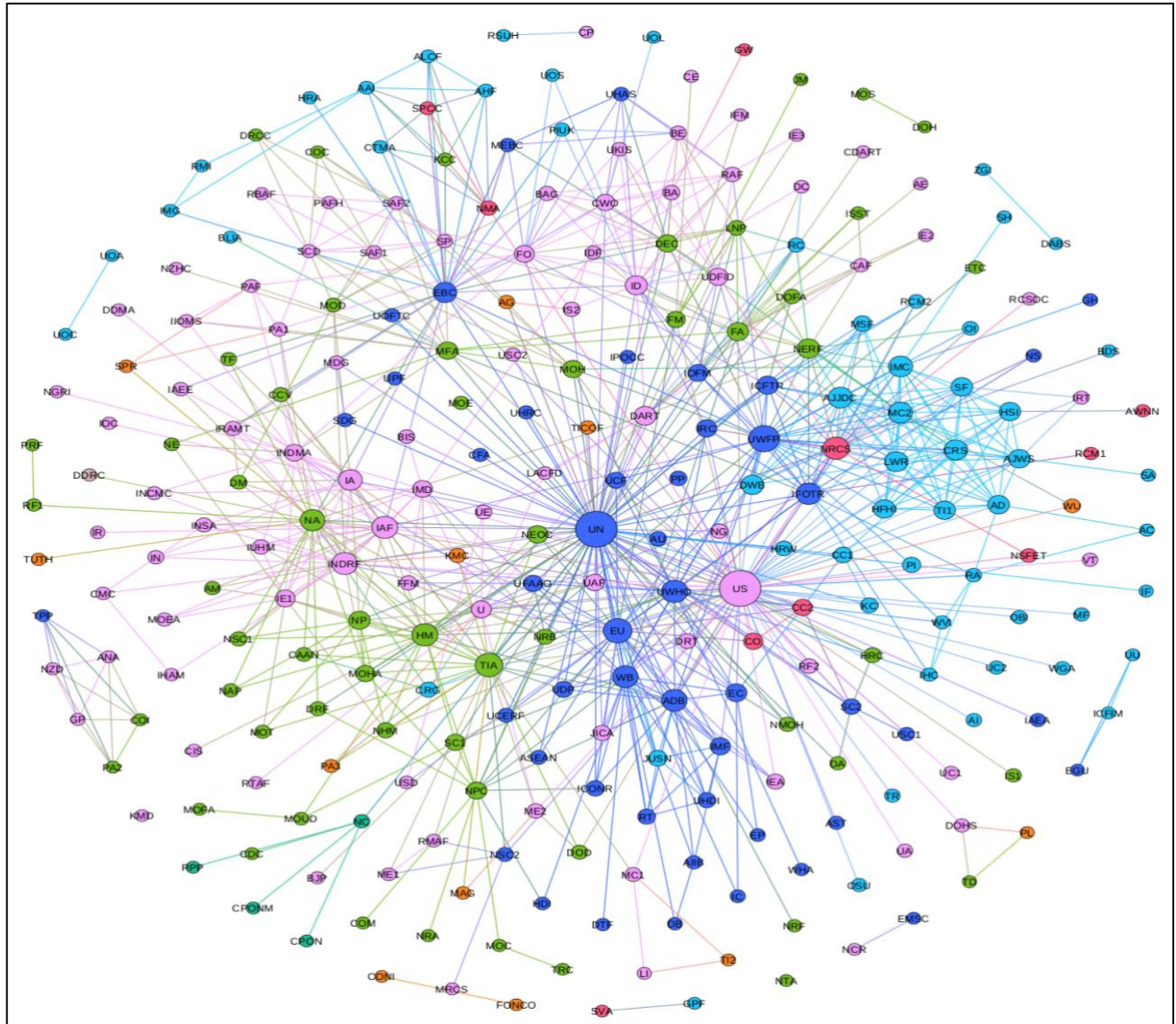
Department for International Development (DfID) have played the most central role in the disaster relief network. Disaster Assistance Response Teams (DARTs) within the USAID have been a useful instrument of assistance within Nepal's disaster relief network. Similarly, the Indian National Disaster Response Force, the Indian Air Force, the Indian Army, the National Disaster Management Authority of India, and the Embassy of India also appear in the top list with respect to degree centrality measures. The next set of actors are Singapore security forces including their air force, army, civil defense units, and police. Israeli and Pakistani military forces also played active roles in the search and rescue operations, consistent with the findings of Thapa (2016).

In contrast, the US Army, Chinese international search and rescue teams, the Red Cross Society of China, Indian Railways and the Indian Oil Corporation were on the list of actors with the lowest degree centrality measures in the disaster response networks. Despite the US Army's low degree centrality score, the US Marine Corps and the US Air Force have much higher scores especially because one of the U.S. Marine Corps helicopters crashed in a remote mountainous region of Nepal while on a disaster relief mission. The Chinese Red Cross and search and rescue teams are highly praised by the Nepali leaders and external scholars alike who point out that while keeping silence and not networking/coordinating with other actors, Chinese disaster relief agency provided effective rescue and shelter provision (Wolbers et al. 2016).

Considering alternative measures of centrality, the same set of actors are influential in the disaster response networks. The Japan International Cooperation Agency (JICA) joins the list of influential actors with respect to eigenvector centrality; however, JICA has a very low betweenness centrality score. Malaysian Red Crescent Society also took part in the disaster relief

network; however, it is among bilateral actors with lowest eigenvector, betweenness, and closeness centrality scores.

Figure 15. Interorganizational Disaster Response Network in Nepal, Apr 25 - Jul 25, 2015



Note: The software Gephi version 0.9.2 software was used to visualize the network extracted from the GDELT Global Knowledge Graph database. Appendix H provides the list of descriptions for labels used in the graph.

Among national government agencies of Nepal color coded in green in Figure 15, the Tribhuvan International Airport, the Nepal Army, Ministry of Home Affairs, the Ministry of

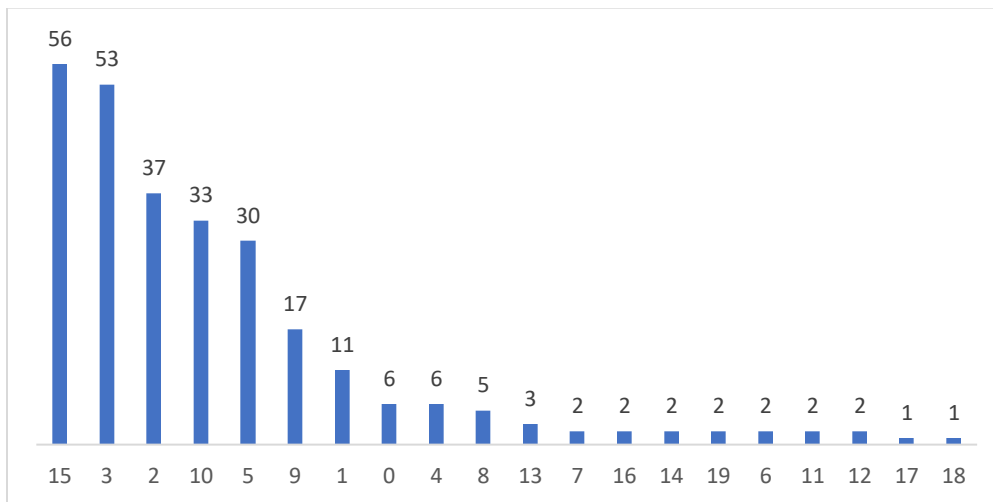
Foreign Affairs, the Nepal Earthquake Relief Fund, the Central Natural Disaster Relief Committee, the National Planning Commission, and the Nepal Police appear on the list of most central actors, respectively, in terms of degree centrality measure. Interestingly, the National Disaster Response Framework of Nepal does not discuss the role of the Ministry of Foreign Affairs and the National Planning Commission, even though they have played important roles. Moreover, the Armed Police Force of Nepal does not appear in the top 10 list of highly connected agencies, even though it is part of the Ministry of Home Affairs and took active role in disaster response. The Ministry of Education and the Nepal Telecommunications Authority appear to have the least number of ties among national government agencies.

As for subnational government agencies, lack of their presence in the relief network could be explained by two factors. First, Comfort and Joshi (2017), coding the disaster relief network using Kathmandu Post news articles, report that about 14 percent of the actors in the network were district government agencies. Given this information, the network identified by GDELT in this study underreports the number of subnational actors. However, even in Comfort and Joshi (2017) report only about 2 percent actors from local (subdistrict) government. This leads to the second explanation, namely either local government actors were not represented in the Kathmandu Post articles either or, as Manandhar and colleagues (2017) argued, lack of elected local government officials precluded the local institutions from playing an effective role in the disaster response. Even in some localities where response capacity did exist, lack of effective communication with district and national organizations delayed effective response and recovery (Regmi 2016; Manandhar et al. 2017). Both explanations found support from qualitative expert interviews I conducted in earthquake affected districts such as Kathmandu, Lalitpur, Bakhtapur, Sindhupalchok, and Dulikhel in March 2016 and April 2018.

5.6. Subnetworks in the Network

As discussed above, the modularity algorithm detected 19 subnetworks within the disaster response network based on their structure. Subnetworks 15, 3, 2, 10, and 5 are the main communities detected by the algorithm, accounting for 77% of the organizations within the disaster response network. Figure 16 shows distribution of the number organizations across modularity class.

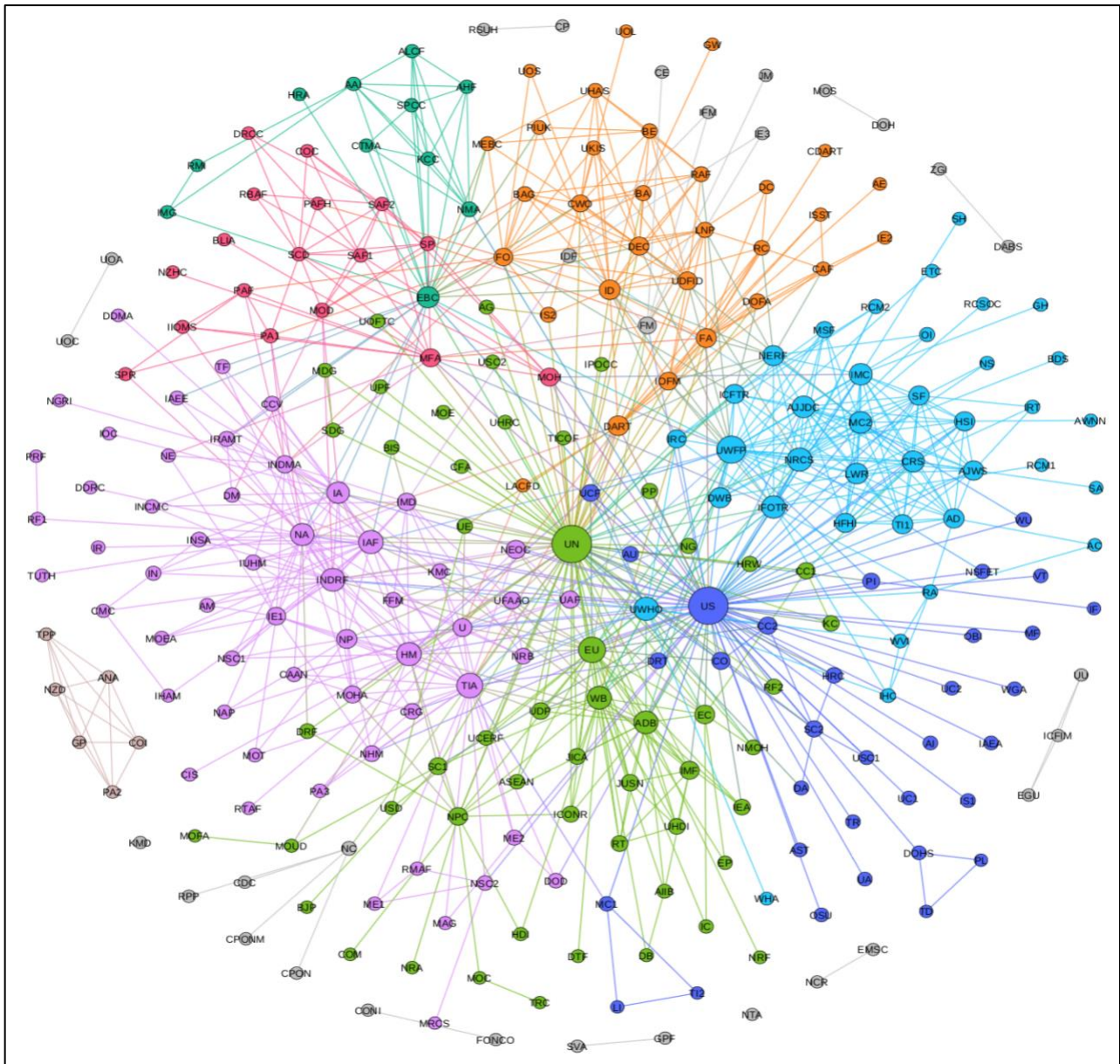
Figure 16. Frequency of Organizations by Modularity ($N=273$, $E=853$)



An interesting observation from the visualization of subnetwork modularity classes in the disaster networks in Figure 17 is that while multilateral agencies, Western bilateral agencies, and INGOs appear in different subnetworks of the disaster response network, the national government agencies of Nepal and Indian government agencies are coupled together within the same subnetwork. This finding speaks to the fact that Indian government and security actors dominated the response scene and the media elaborately discussed many issues including some

controversial issues related to portrayal of Nepal in Indian media and the strong reaction by the Nepali public that triggered anti-India sentiments.²⁴

Figure 17. The Disaster Response Network by Modularity, Apr 25 – Jul 25, 2015



Note: The software Gephi version 0.9.2 software was used to visualize the network extracted from the GDELT Global Knowledge Graph database.

²⁴ <https://www.bbc.com/news/world-asia-india-32579561>

5.7. Summary

The main findings of this chapter show that the disaster response network following the massive 2015 earthquakes in Nepal was dominated international multilateral and bilateral governmental institutions as measured by centrality scores. Perceived loss of control in the disaster response network to Indian actors as well as the UN actors led government officials and political party leaders in Nepal to attempt to regain control of the disaster governance network. Within a month of the earthquakes, the government of Nepal ended the emergency phase of the response and re-imposed import duties to all the incoming goods at the customs. Moreover, the government required that financial donations go through the Prime Minister's Disaster Relief Fund or Nepal's central bank. Political party leaders attempted to reignite nationalism, anti-India sentiment, and self-sufficiency narrative to regain control of the situation. This is consistent with the findings of Wolbers and colleagues (2016) who show that anti-dependency narrative was used by political officials to regain control of the resources flows in the humanitarian response network.

While complex response activities in highly uncertain and dynamic environments of catastrophic events suggest that no one actor is truly in control of the entire network (Comfort and Joshi 2017) and thus shared management of response activities would be a more effective approach, lack of coordination and duplication of efforts among bilateral international governmental and non-governmental actors, as reported by experts in Nepal, can lower the effectiveness of networked response activities. Moreover, Manandhar and colleagues (2017) argue that there were overlapping mandates by the Nepal Army, Nepal Police, and the Nepal

Armed Police Force and lack of clear line of authority as the lead agency – the Ministry of Home Affairs – could not command its peer ministries.

The analysis of the graph data extracted from the GDELT database is certainly useful in understanding the effectiveness of disaster response activities in Nepal. However, a rich understanding of the context from other studies, surveys, and interviews is necessary in order to make sense of the findings from analysis of the big data collected by GDELT. One main limitation of the data extracted from GDELT was the fact that actors of lower centrality were not represented well in the network. The version 2 of the GDELT Global Knowledge Graph database will be explored in future research as it includes Nepali language news and social media as well. However, the latter could make accurate entity extraction more difficult, and it will require more manual intervention in data preparation to reduce duplication of nodes and edges.²⁵ Methods and algorithms can be developed by using entity names that can be cross-checked with databases of existing organizations.

²⁵ This is a typical problem with automated extraction of entities from text data (Pfeffer and Carley 2012).

6.0 NEPAL'S RESOURCE CAPACITY BEFORE AND AFTER THE EARTHQUAKES

This chapter discusses the state of resource capacity in Nepal and how it changed in the aftermath of the 2015 earthquakes, creating incentives and enabling conditions for dominant actors in the system for governance reforms. In order to demonstrate the impact of the 2015 earthquakes on resource capacity of Nepal's governance system, it is important to provide baseline information regarding Nepal's resource capacity and organizational infrastructure used to mobilize resources. As reviewed in Chapter 2, commanding increasing levels of resources due to post-disaster resource mobilization can be a motivating factor for governance actors to adopt institutional and policy measures that would then maximize the benefit they receive from those resources in terms of economic and political influence.

Reforming the governance system hinges on resource capacity, which is typically measured by the amount of resources the governance system is capable of mobilizing and developing. One of the basic features of high-capacity governance systems is that they can generate high tax revenue, which structures state-citizen relations due to compulsory and oftentimes coercive enforcement of tax collection and development of the tax base – the economy. Increased economic activity due to post-disaster resource mobilization expands the tax base and improves the revenue capacity of the governance system. Tax mobilization in strong governance systems is organized such that individuals and organizations have incentives to benefit individually by their activities and not be overburdened by their obligation to pay taxes for collective well-being. Increasing productive activities of the economy to expand the tax base and to mobilize additional, non-tax revenue requires public infrastructure development, effective utilization of natural resources, and investments in human capital and knowledge creation by leveraging additional resources using private sector and external partners.

6.1. Resource Capacity Before the Earthquakes

6.1.1. Fiscal Resources

Nepal's governance system has had low capacity to mobilize resources. First, with respect to government revenue, the Nepalese government mobilized USD 3.82 billion in FY 2014, which makes up only 18.38 percent of the country's gross national product and amounts to USD 134.87 per capita. Adjusted to purchasing power parity, which provides a more comparative understanding, the government revenue was equivalent to USD 12.63 billion, or USD 445.92 per capita. Overwhelming 88 percent of government revenue was tax revenue, indicating that in addition low tax mobilization, Nepal does not have significant non-tax resources such as petroleum or natural gas. Nepalese government expenditures, on the other hand, make up 23.33 percent of the GDP, which is higher due to foreign aid and borrowing (MOF 2015).

In contrast, tax revenue makes up about 35 percent of GDP on average in Organization for Economic Cooperation and Development (OECD) countries, which have high capacity governance systems (OECD 2016). This suggests that the governance system of Nepal needs a stronger capacity to mobilize revenue to achieve greater, infrastructure development, well-being and prosperity.

Nepal's tax system is rather regressive, meaning that the tax burden is shouldered more by the poor than the rich. The reason for that is, as can be seen in Table 5, 44 percent of the government revenue is generated by consumption tax – Value Added Tax (VAT), as opposed to only 22 percent from income tax (MOF 2015; NPC 2015). The reason is that VAT is easier to collect than income tax, and many advanced economies in the world rely on VAT. In early 1990s, the U.S. Agency for International Development (USAID) assisted Nepal in developing

the VA system. Passing the Value Added Tax Act of 1995, despite opposition from the business community, Nepal first started collecting VAT on November 16, 1997. Before then, Nepal had various taxes such as sales tax, hotel tax, contract tax, and entertainment tax (Puri 2011; Shrestha 2000). The VAT system has been successful because it allowed the system to stabilize revenue despite the ongoing civil war with the Maoists (Shumshere 2009).

Table 5. Public Revenue Composition of Nepal, 2011-2013

	FY2011		FY2012		FY2013	
	NPR bn.	Percent	NPR bn.	Percent	NPR bn.	Percent
Tax revenue	172.8	87%	211.7	87%	259.2	88%
Income tax	42.1	21%	52.9	22%	66.1	22%
Property taxes	6.6	3%	3.6	1%	5.3	2%
Consumption tax (VAT)	88.4	45%	110.6	45%	129.3	44%
Trade tax	35.7	18%	44.7	18%	58.5	20%
Nontax revenue	25.6	13%	32.7	13%	36.8	12%
Charges	10.2	5%	0.3	0%	0.3	0%
Sale of services	1.6	1%	6.9	3%	11.2	4%
Dividends	8.6	4%	9.4	4%	10.8	4%
Others	5.2	3%	16.1	7%	14.5	5%
Total	198.4	100%	244.4	100%	296	100%

Source: Nepal's Ministry of Finance (MOF 2015).

Reforming and strengthening Nepal's governance system depends considerably on improving Nepal's public revenue collection efforts by addressing the challenges that are precluding the government from achieving greater revenue. One way to improve revenue collection would be to simplify and automate the process of payments because as it can be seen in Table 6, Nepalese taxpayers spend considerably greater amount of time and effort for tax compliance, compared to other South Asian and more developed countries. That would mean decreasing the number of payments per year and reducing the number of hours spent filing the taxes (World Bank 2017).

Table 6. Efficiency of Tax Payments in Nepal

	Nepal	South Asia	OECD (20)	Best Performer
Number of tax payments per year	34	28.5	10.9	3 (Hong Kong SAR, China)
Hours spent making tax payments	339	277.3	160.7	55 (Luxembourg)
Tax rate (as % of profit)	29.6	43	40.1	18.47% (OECD 32)

Source: World Bank (2017a).

The main challenges in Nepalese governance system's tax efforts are many people are not registered to pay income tax and VAT tax because much of economic activity occurs in the informal sector. Many people owe tax arrears due to inability to pay, and a very large number of cases overwhelm the Revenue Tribunals of Nepal where government pursues those with arrears, committing fraud and evasion. The large magnitude of tax arrears in Nepal suggest that tax rules are lax and enforcement processes are ineffective (MOF 2015; Sharma and Duwadi 2013). Moreover, while tax incentives for private sector infrastructure development and hydropower production has weakened the revenue efforts (Dixit 2017) and exemption of agricultural production from taxation due to subsistence considerations has also reduced public revenue (Dahal 2009; Shumshere 2009). Improving agricultural productivity is very crucial because 2/3 of Nepal's population lives in rural areas and 1/3 of its GDP originates from agriculture even though only 16.7 percent of Nepal's land is arable (IRIN 2012).

However, it is important to keep in mind that even as greater revenue is raised, its positive impact on governance depends on the effective allocation and implementation of public expenditures. As it is well known, Nepal's government has historically had challenges in spending and implementing projects (Wildavsky 1972). Even in FY 2013 Nepal's government

experienced delays in spending and thus 46 percent of the budget had to be spent in the last quarter and 21 percent of the budget was spent in the last month of the fiscal year. This created fiscal contraction as public revenue outstripped the government capacity to effectuate public investments (MOF 2015).

6.1.2. Non-Fiscal Resources

Improving revenue mobilization also depends on the capacity of individuals and organizations to simply shoulder the burden of taxes due to poverty, lack of infrastructure, inefficient exploitation of natural resources, and lack human capital development.

Nepal's revenue mobilization is constrained by its poverty as Nepal is a least developed country (LDC), one among 48 LDCs globally or 13 in Asia. Nepal is the second poorest country in South Asia following Afghanistan (NPC 2015). Nepal's gross national income was US \$20.8 billion in 2014. Adjusting for purchasing power parity, this figure was US \$68.74 billion, which is slightly less than the GDP of West Virginia and marginally greater than that of Idaho (BEA 2017; World Bank 2017b). Over the past decade before the earthquakes, Nepal's GDP grew at 4 percent annually, which is very low for a developing country. Gross national income per capita was US \$730 in 2014. Adjusting for purchasing power parity it was US \$2,430 while the global average was US \$15,226 and South Asian average US \$5,289 (World Bank 2017b).

Absolute poverty rate is high Nepal; as of 2015, 24.8 percent of the population lives in extreme poverty – under USD 1.25 a day (NPC 2015). Based on multiple measures of poverty such as internationally administered multi-cluster poverty index (MPI), 44 percent of Nepal's population lived in poverty in 2014 (OPHI 2015). Human Development Index (HDI) was 0.458 in 2011, ranking 145th in the world (UNDP 2014). According to the World Food Program Nepal

is a food deficit state, as 48 percent of the children under the age of five have chronic malnourishment problems (60 percent in mountain areas), which is greater than to the rate of 42 percent in Somalia (WFP 2009). In addition, child labor is high – every third child aged 5-17 is involved in child labor (NPC 2015).

Poverty is exacerbated by geographic and socioeconomic inequality in the country, creating further obstacles for economic development and revenue mobilization. Spatial inequality is high in Nepal as the absolute poverty rate in the Far Western region was 59 percent and in the Western region 33 percent in 2011 (NPC 2015). As Figure 18 shows, many districts in the Far Western region and some in eastern part of the Terai region suffer from low HDI values.

Figure 18. Human Development Index in Nepal's Districts, 2011

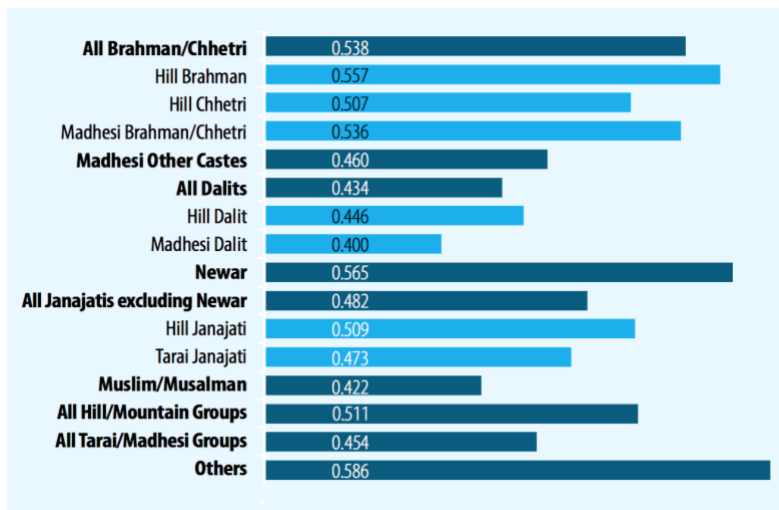


Source: UNDP (2014, 15).

Socioeconomic disparity in Nepal is also high. The Gini coefficient for Nepal was 0.328 in 2010. The poorest 40 percent of the population has only 12 percent of the national income

(NPC 2015). Extreme poverty falls mostly on certain castes/ethnicity and women/girls. National absolute poverty rates for certain castes and ethnicities are 45 percent whereas the national average was 25 percent in 2010 (CBS 2011). As can be seen in Figure 19, HDI was highest for Hill Brahmins (0.557) and lowest for Madhesi Dalits at 0.4 in 2011. Gender Development Index (GDI) was 0.482 in 2011 and the Gender Empowerment Measure (GEM) was 0.568 in 2011 (NPC 2015).

Figure 19. Human Development Index by Caste/Ethnicity, 2011



Source: UNDP (2014, 17).

Another challenge for revenue mobilization is the problem of developing physical resources such as basic infrastructure building and natural resource exploitation, creating challenges for effective governance and development in Nepal. Inadequate bridges and road networks contribute to higher food prices and therefore lower food security and well-being in Nepal (Shively and Thapa 2017). Natural resource scarcity, especially in water and land in Nepal create local level conflicts, making the problem of governance and development much more challenging (Upreti 2004).

Roads are the backbone of Nepal's economy and its residents' livelihoods and yet, only half of the population in Nepal has access to paved roads. In rural hill areas and mountains regions, one-third of residents walk more than four hours to reach an all-season road (World Bank 2016b). According to the Department of Local Infrastructure Development and Agricultural Roads, Nepal has 6,683 rural roads, extending to 50,943 km. Of these, 1,575 km are blacktop, 14,601 km are gravel, and 34,766 km are earthen fair-weather roads (FNCCI 2017). Despite building additional 65,500 km road in the past decade, Nepal's road density is only 0.44 km/km². Nepal's roads are not safe for driving based on international standards (NPC 2015).

Road infrastructure development in Nepal started in 1950 and before then Nepal had no roads and was not connected to any international road networks. Its only linkage was through the single railway line of Nepal from Janakpur to Jainagar (53 km) that was built in 1928. After the construction of roads and provision of subsidized fuel from India in 1956, trucking became a major mode of freight transport and busses became a primary mode of movement for passengers (Gaire 2014). Only 19% of roads in Nepal are all-weather roads, while only 11% of total roads in Nepal are paved with asphalt. Two of the 75 districts are still not connected by roads (FNCCI 2017).

According to the president of the Confederation of Nepalese Industries H. B. Sharma the main problem with Nepal's poor infrastructure development record is government monopoly in infrastructure development in Nepal, poor quality standards, and near-constant delays in project implementation. Moreover, due to revenue capacity issues, the number of infrastructures projects being developed is also insufficient. A minimum annual investment of USD 3 billion is required to finance better infrastructure for Nepal (Dhungana 2017). Recently there has been more private

sector involvement in road construction in the form of public private partnerships; however, delays are still common in project implementation (World Bank 2016b; interviewee #).

Another reason for Nepal's poor road infrastructure is lack of maintenance as the roads deteriorate due to use and weather-induced hazardous events. There is a backlog of road maintenance for more than 50,943 km of rural roads. That is why most Nepalese roads are in poor condition (FNCCI 2017). While air travel is well developed due to Nepal's tourism industry, it is still not affordable to many Nepalese citizens. Moreover, only 11 of the 47 airports have proper surfaced runways and air safety standards and quality are not good due to high altitude and weather conditions (World Highways 2014).

Besides roads and bridges, Nepal also has weak infrastructure in many sectors including industry (only 15 percent of Nepal's GDP is from the industry²⁶), housing sector (7 percent of urban Nepalese live in squatter settlements and only 29.8 percent of Nepal's housing stock is considered safe for living). Banking and financial infrastructure is also in poor condition as only 25.3 percent of individuals age 15 and above own a bank account and 3.7 percent a debit card (World Bank 2014). The only infrastructure that is better developed in Nepal is its telecommunications as about 90 percent of the population has access to telecommunication (NPC 2015). While communications are essential for strong governance, physical connectivity is also important for economic and political development of the country.

Nepal's revenue mobilization capacity is weak also because of inefficient natural resource utilization. Nepal's main natural resources are land, water, forests, and its mountains. Only 16.7 percent of Nepal's land is arable, and 47.5 percent of the arable land requires irrigation. Therefore, productive use of land depends on water. However, for four months, Nepal

²⁶ Unofficial estimates suggest that only 6 percent of Nepal's GDP originates from industrial production. <https://www.nytimes.com/2014/08/15/world/asia/in-nepal-a-better-life-with-a-steep-price.html>

has too much water and for eight months Nepal has inadequate water, bordering effective droughts (IRIN 2012).

Nepal also does not use its forest and water resources for energy in an efficient manner. About 53.8 percent of the population still uses wood as the main fuel. 28.7 percent uses LPG for cooking in 2011. Only 74% of Nepal's population has access to electricity (NPC 2015), while those who have access to it lose power up to 18 hours a day due to short supply.²⁷ While Nepal has great potential for hydropower development, currently only 10 percent of the hydropower potential is exploited in Nepal (NPC 2015).

Nepal uses its tourism resources relatively more efficiently, as the country ranked 38th among 184 countries in terms of the tourism sector's contribution to national employment in 2014. In the same year, the tourism sector in Nepal accounted for 487.5 thousand jobs, which accounted for 3.5 percent of total employment in the country. The tourism sector accounted for 4.3 percent of Nepal's GDP (Kathmandu Post 2015). Alternative estimates indicate that 1.2 million Nepalese citizens rely on tourism sector jobs and 20 percent of the population's livelihood depends on tourism sector (Kunwar and Limbu 2015).

With respect to human resources, Nepal's population was 28,323,282 in 2015 (World Bank 2017b). However, the economy in Nepal has employment problems and many in Nepal seek job opportunities abroad. About 3.8 million permits were issued by Nepal's Ministry of Labor and Employment for employment abroad in the last two decades. That would amount to 14 percent of Nepal's current population (MOL 2016). Because of such high number of labor migration, remittances going back to Nepal amounted to USD 6.6 billion in 2015, making up 29.2 percent of Nepal's GDP. In 2013 Nepal was a top four emigration country in the world after

²⁷ <http://www.abc.net.au/news/2014-07-14/nepal-unveils-first-full-budget-in-three-years/5593454>

India, Pakistan, and Bangladesh (World Bank 2016a). Many of Nepalese labor migrants work in low-skill jobs because the education system is not well developed in Nepal. In 2001 National Census, the literacy rate in Nepal was at 66 percent of the population (CBS 2012).

Nepal has recently developed good engineers, information technology professionals, and health sector professionals resulting from cooperation of the country with organizations such as International Center for Integrated Mountain Development (ICIMOD), World Health Organization (WHO), World Bank, Asian Development Bank (ADB), Japan International Cooperation Agency (JICA), United Nations Development Program, Nepal Society for Earthquake Engineering, and so on. However, the majority of these professionals are located in the Kathmandu Valley and the Central Region of Nepal, if they haven't left the country in search of better job opportunities abroad (Table 7). A recent report on civil service reform in Nepal concluded the same problem of concentration of quality civil servants in Kathmandu and lack of willingness and motivation to work in civil service in the rest of the country (Bajracharya and Grace 2014). This situation further contributes to socioeconomic and spatial inequality in Nepal leading to the vicious cycle of poverty, inequality, and low education.

Table 7. Civil Servants Across Nepal's Regions

Region	N Civil Servants	Percent	Percent of total population
Eastern	13,039	16.34	21.92
Western	12,331	15.45	18.58
Far Western	6,602	8.27	9.55
Central	37,987	47.5	36.49
Mid-Western	9,775	12.25	13.46
Total	79,734	100	100

Source: Bajracharya and Grace (2014, 14).

Thus, the governance capacity of Nepal with respect to resources is fragile because of underdeveloped economy, inefficient use of natural resources, poverty, spatial and socioeconomic inequality, underdeveloped infrastructure, harsh terrain and weather conditions, low industrial capacity, political instability and conflict, and environmental degradation (NPC 2015). Notwithstanding the low level of resources and conflict, the country had macroeconomic stability in terms of revenue growth, low fiscal deficit (less than 4% on average in the past decade), low inflation, healthy balance of payments despite large trade imbalances (due to remittances), low public-sector indebtedness (25% - 15.4 external, 9.1 domestic - of GDP in 2015), foreign exchange reserves are 40% of GDP – worth one year of imports of merchandise (due to remittances MOF 2015) (NPC 2015).

The relatively prudent steering of the economy is largely because of Nepal's partnership with donors and development agencies. In 2014, official development assistance to Nepal that goes through government budget was 62.54 percent of government's development budget and 12.95 percent of all government expenditures (NPC 2015). Total foreign aid is over 25 percent of government revenue, as about 40 percent of official development assistance dollars do not go through government budget (off the book) and many INGOs spend additional millions of dollars outside of official development assistance (MOF 2017). The largest five donors are ... In terms of foreign direct investment, in FY13-14 Chinese investments exceeded Indian ones for the first time even though cumulatively Indian FDI amounts were twice the amount of Chinese investments.²⁸ In addition, Nepal also borrows internally and externally to make up for missing resource capacity of the governance system (NPC 2015).

²⁸ http://www.doind.gov.np/images/industrial-static/ind_stat_2070_71.pdf

6.2. Resource Capacity After the Earthquakes

6.2.1. Donations

Even though it is natural to think of large-scale disasters having a negative effect on resource capacity of a country due to destruction of property and loss of life, such disasters can lead to mobilization of large amounts of resources and contribute to resource capacity building. The April and May 2015 earthquakes of Nepal weakened the resource capacity of Nepal's governance system in the short run because of destruction in physical infrastructure, loss of human capital, and reductions in governments revenue efforts because of the earthquakes as well as the subsequent political protests and border crisis/blockade. The economy also lost substantial amount of resources due to destruction of heritage sites and loss of revenue from the tourism industry.

The GDP growth rate decreased to three percent from an expected rate of five percent (NPC 2015). The earthquake damages were estimated to be between one third and one half of Nepal's GDP. At least three percent more of Nepal's population slid into absolute poverty as a result of the earthquakes (NPC 2015). When presented with officially certified proofs and documentation, the national government waived income taxes, excise duties, license fees, and home rental taxes to small businesses and individual taxpayers who lost property due to the earthquakes for FY2014-15 (NBSM n.d.).

However, vast of amount of resources also started to flow in after the 2015 earthquakes. External multilateral agencies, bilateral agencies, INGOs, private individuals and organizations donated or committed to donate resources that collectively exceed the annual budget of Government of Nepal. Within two months of the earthquakes, a donor's conference facilitated by

the United Nations and hosted by the Government of Nepal ended with development partners pledging USD 4.3 billion (Table 8).

Table 8. Donations, Commitments and Pledges for Relief and Recovery

Type of Donation	April 2015 - Dec 2016 (USD)
Disbursement	0.7 million
Commitment	1.2 billion
Pledge	3.5 billion

Source: Prime Minister's Disaster Relief Fund

Competing actors in Nepal's governance system would naturally want to be the stewards of these resources because they can create a lot of political capital by overseeing the distribution of these resources to earthquake affected communities. However, because of perceptions of government corruption and inefficiency, international actors prefer to channel these resources through INGOs and NGOs in Nepal. From their perspective, government actors redirect funding according to their own priorities, if not outright capture resources for their personal use or for the use of their narrow constituencies who may or may not have suffered from the earthquakes. At the same time, many Nepali government and academic actors perceive INGOs, NGOs, and the multilateral actors as wasteful. Their claim is that outside organizations spend too much funds on non-tax paying foreign consultants and writing reports that do not deliver concrete benefits to earthquake victims. As Figure 20 and Figure 21 show below, while bilateral governmental and multilateral inter-governmental actors provided the bulk of donations, much of these funds were channeled through multilateral agencies that have long had active programs in Nepal as well as domestic NGOs of Nepal. Only 10.24% of the disaster relief donations were channeled through agencies of the Government of Nepal.

Figure 20. Distribution of Donations by Donor Type

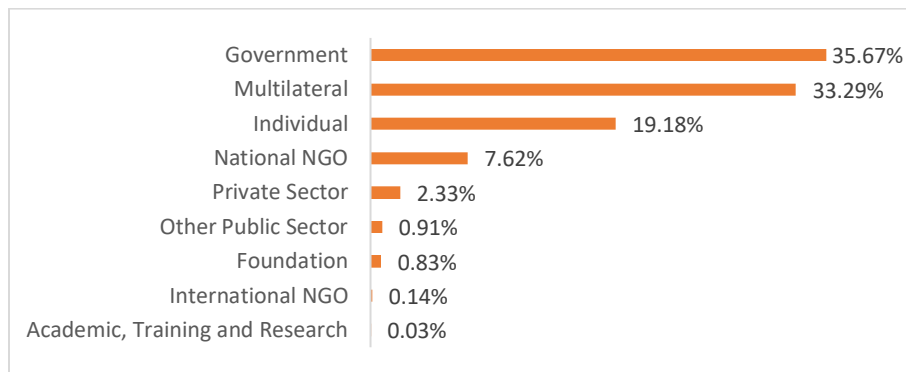
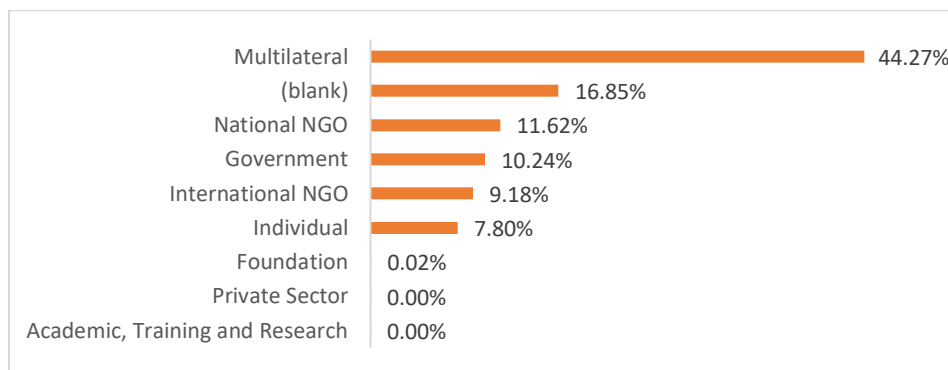


Figure 21. Distribution of Donations by Recipient Type

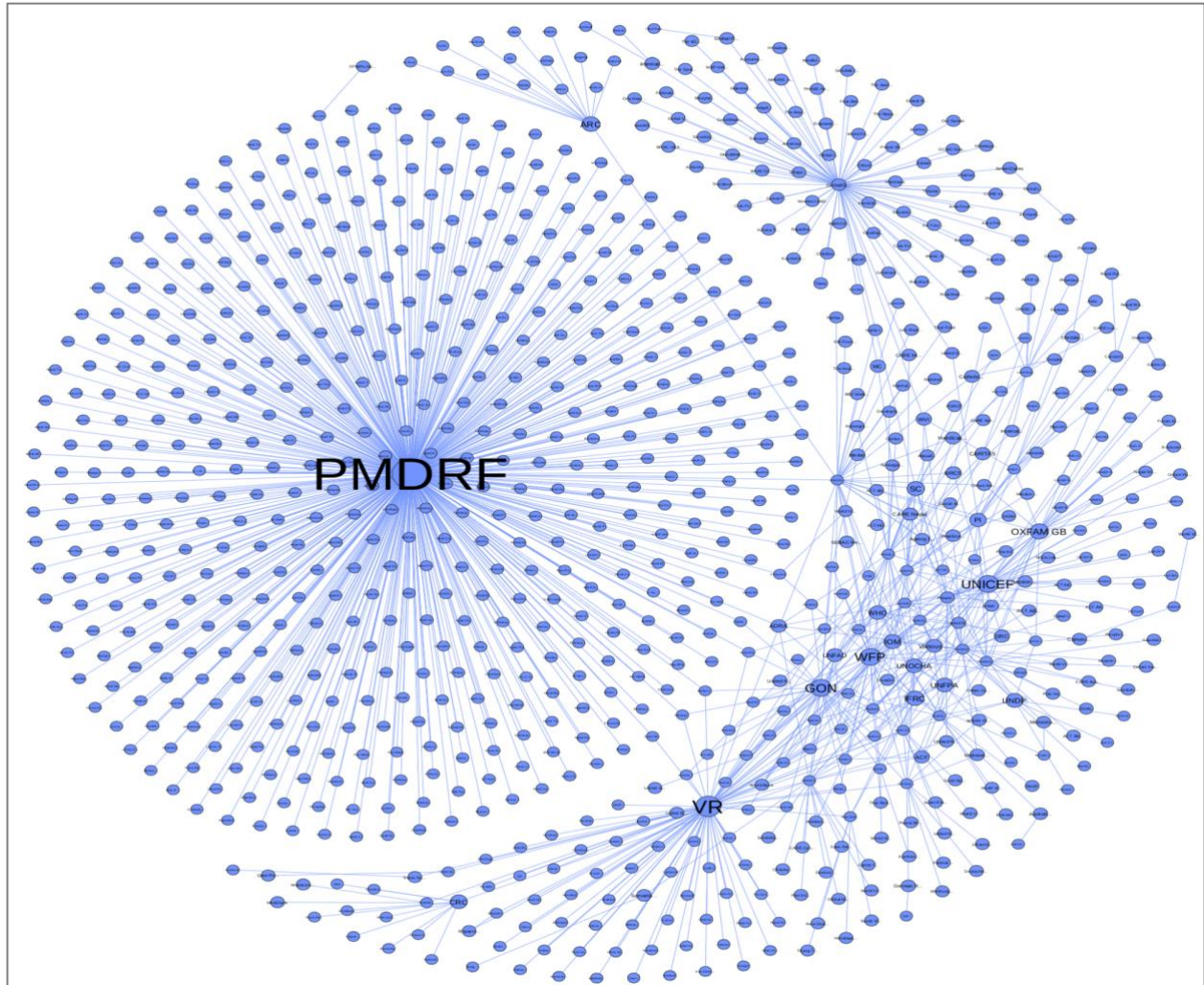


The Prime Minister's Office attempted to channel donations through itself by setting up the Prime Minister's Disaster Relief Fund (PMDRF). 499 organizations and/or individuals donated to this fund (see Table 9). However, these are often small funds and involve many Nepali and private sector organizations. As the visualization in Figure 22 shows, the PMDRF stands on its own in the donation network. While the Government of Nepal (GON) did receive donations from major multilateral and bilateral actors, it is clear that it is competing for resources with the UN agencies and Red Cross agencies who are dominant in the network with respect to receiving donation funds.

Table 9. Main Recipient Actors with Highest In-Degree Centrality Score

Label	Organization Name	In-Degree Centrality
PMDRF	Prime Minister's Disaster Relief Fund	499
VR	Various Recipients	88
UNICEF	UN Children's Fund	36
GON	Government of Nepal	36
WFP	World Food Program	35
OXFAM GB	Oxfam Great Britain	19
ARC	American Red Cross	15
IFRC	International Federation of Red Cross	14
SC	Save the Children	12
IOM	International Organization for Migration	11
UNDP	UN Development Program	11
UNFPA	UN Population Fund	10
UNOCHA	UN Office for the Coordination of Humanitarian Affairs	10
CRC	Canadian Red Cross	10
WHO	World Health Organization	9

Figure 22. The 2015 Earthquakes Donation Network in Nepal (N=890, E=1099)



Note: Visualization was created using Gephi 0.9.2. Nodes and Labels are sized with respect to in-degree centrality score with a spline value of 0.8 and the network layout is in accordance with Fruchterman Reingold.

With respect to disbursed amounts of donation for relief and early recovery efforts, UN agencies contributed the highest amount as the World Food Program, UNICEF, and the Central Emergency Response Fund of the world governance body contributed over 27 percent of total amount. Private individuals and businesses provided the second greatest amount of disbursed funds – about 13 percent. The US government and the UK government were among the highest with respect to bilateral governmental assistance (Table 10).

Table 10. Top Donor Organizations by Disbursement

Top 10 Donor Organization	Disbursed Amount (USD)	Disbursed Percentage
World Food Program	103,606,246	14.47%
Private (individuals and organizations)	92,977,408	12.98%
United Nations Children's Fund	73,021,054	10.20%
United States of America	42,361,535	5.92%
United Kingdom	40,288,992	5.63%
European Commission	26,174,939	3.65%
UN Central Emergency Response Fund	20,582,198	2.87%
Canada	20,082,637	2.80%
Norway	19,354,679	2.70%
Thailand	17,878,584	2.50%
Others	259,834,814	36.28%
Total	716,163,086.00	100.00%

Multilateral development institutions committed the largest amount of donations for rebuilding Nepal. The Asian Development Bank committed about one third of all committed amounts, whereas the combined commitment amount for the World Bank and International Monetary Fund was about 21 percent of all committed funds. The US government committed 5.29 percent of all committed donations (Table 11).

Table 11. Top Donor Organizations by Commitment

Top 10 Donor Organization	Committed Amount (USD)	Committed Percentage
Asian Development Bank	400,002,964	32.53%
Japan	254,888,449	20.73%
World Bank	202,500,000	16.47%
United States of America	65,072,046	5.29%
Private (individuals and organizations)	50,226,764	4.08%
International Monetary Fund	49,700,000	4.04%
European Commission	30,226,408	2.46%
Germany	20,104,711	1.63%
Canada	17,311,735	1.41%
Norway	15,988,301	1.30%
Others	123,775,931	10.06%
Total	1,229,797,309	100.00%

With respect to pledged funds for reconstruction, the Government of India tops the list with 28.40 percent of all pledged funds, with Asian Development Bank taking the second place with 17 percent and the World Bank the third place with 14 percent of all pledged funds. The Government of China pledged to contribute the fourth largest amount – 13.7 percent (Table 12).

Table 12. Top Donor Organizations by Pledge

Top 10 Donor Organization	Pledged Amount (USD)	Pledged Percentage
India	1,000,000,000	28.40%
Asian Development Bank	600,000,000	17.04%
World Bank	500,000,000	14.20%
China	483,000,000	13.72%
Japan	260,000,000	7.38%
United States of America	130,481,490	3.71%
European Commission	124,270,000	3.53%
United Kingdom	109,280,000	3.10%
Disasters Emergency Committee	100,591,716	2.86%
Canada	60,000,000	1.70%
<i>Others</i>	<i>153,617,034</i>	<i>4.36%</i>
Total	3,521,240,240	100.00%

On the receiving end of donation funds, UNCIEF and the World Food Program combined received over 40 percent of all disbursed funds for relief and early recovery efforts. In contrast, the Prime Minister’s Office received only about 10 percent of the disbursed funds. Even though Red Cross agencies are well connected in the donations network, they received rather small amounts of donations and played similar role to that of subcontracting INGOs and NGOs to larger multilateral organizations (Table 13).

Table 13. Top Recipient Organizations by Disbursement

Top 10 Donation Recipient Organization	Disbursed Amount (USD)	Disbursed Percentage
United Nations Children's Fund	171,395,035	23.93%
World Food Program	116,292,943	16.24%
Prime Minister's Disaster Relief Fund	67,790,887	9.47%
Various Recipients	55,086,468	7.69%
International Federation of Red Cross	21,869,523	3.05%
International Organization for Migration	14,157,564	1.98%
Oxfam Great Britain	11,605,002	1.62%
Save the Children	10,485,214	1.46%
Thai Red Cross Society	8,500,000	1.19%
United Nations Development Program	7,897,385	1.10%
(blank)	120,708,413	16.85%
<i>Others</i>	<i>110,374,652</i>	<i>15.41%</i>
Total	716,163,086	100.00%

Among recipients of commitments and pledges, the Government of Nepal received 58 percent and 97 percent, respectively (Table 14 and Table 15). However, if and/or when these pledges materialize, the donors usually decide as to what type of projects in which areas of the country and through what channels will be spent. My interviews with high level decision makers in Nepal demonstrate that the donors often changed their priorities – what they consider is important for them to fund (Interviewee #25). Moreover, many bilateral donors use multilateral agencies to channel their donated funds. For example, when the Government of India materialized USD 16.2 million of its pledged USD 1 billion in aid, it did not deliver the funds to the Government of Nepal. The Government of India contracted with the UN Development Program (\$8.79 million) and the UN Office for Project Services (\$7.41 million) to help rebuild safer houses in Gorkha and Nuwakot districts of Nepal.²⁹

²⁹ <http://www.undp.org/content/undp/en/home/news-centre/news/2018/Government-of-India-UNDP-and-UNOPS-partner-to-expedite-reconstruction-in-Nepal.html>

Table 14. Top Recipient Organizations by Commitment

Top 10 Donation Recipient Organization	Committed Amount (USD)	Committed Percentage
Government of Nepal	716,612,873	58.27%
Various Recipients	310,292,971	25.23%
United Nations Children's Fund	28,778,857	2.34%
Oxfam Great Britain	20,099,918	1.63%
World Food Program	12,511,091	1.02%
International Federation of Red Cross	12,024,985	0.98%
Save the Children	10,725,011	0.87%
International Organization for Migration	8,040,542	0.65%
Various NGOs	7,858,613	0.64%
Agency for Technical Cooperation and Development	6,717,776	0.55%
<i>Others</i>	<i>96,134,672</i>	<i>7.82%</i>
Total	1,229,797,309	100.00%

Table 15. Top Recipient Organizations by Pledge

Top Donation Recipient Organization	Pledged Amount (USD)	Pledged Percentage
Government of Nepal	3,402,392,583	96.62%
Various Recipients	115,193,990	3.27%
Various NGOs	2,919,859	0.08%
Oxfam Great Britain	612,240	0.02%
Save the Children	114,068	0.00%
United Nations Agencies	7,500	0.00%
Grand Total	3,521,240,240	100.00%

Even though much of the donations did not go to government coffers, other actors such as NGOs and private firms that play important roles within Nepal's governance system did benefit from these resources as they received grants and contracts to deliver specific services related to earthquake relief and reconstruction. In my interviews with experts in Nepal, many governmental agencies, NGOs, and private firms stated that their funding increased considerably, and operations expanded significantly due to the earthquakes. According to one interviewee, political parties were able to claim credit for many services provided by Nepali NGOs because many

NGOs were aligned with, if not directly influenced by, political parties. The interviewee claimed that the UML party was able to consolidate power by winning elections because it controls the majority of the NGOs in the country and 2/3 of all Nepali employees of the UN and INGOs are UML supporters (Interviewee #31).

There are other channels through which relief and reconstruction activities can increase the resource capacity of the governance system of Nepal. As Nepal's governance system is very decentralized and involves many actors across different levels and sectors, all the relief and recovery resources benefit these actors in one way or another. For example, the National Reconstruction Authority, along with its partners such as the UN, the World Bank, Asian Development Bank, Japanese International Cooperation Agency, and so on mobilized over fifty sectors of the economy (Interviewee #31), many Nepali NGOs, private firms, and individuals benefit from increased economic activity. The increased economic activity contributes significant amounts to government coffers in the form of sales and income tax receipts.

6.2.2. Fiscal Resources

Financial statistics provided by Nepal's Ministry of Finance corroborates my argument and shows increasing tax revenue in Nepal after the earthquakes and decreasing dependence on foreign aid grants and loans. Table X shows that tax revenue increased by 18% in the year of the earthquakes and by 32% in the following year. The decrease in foreign aid in FY2015-16 probably reflects the fact that many donors diverted their funds from routine development programs to disaster relief and recovery related programs and thus were not able to support the budget of the Government of Nepal. However, in FY2016-17 foreign aid funds increased drastically because of support for reconstruction, even though it has declined again in the two

subsequent years. The overall budget figures appear to align with the fact that the resource capacity of Nepal's government has been increasing over the years and increased even more drastically because of the 2015 earthquakes.

Table 16. Annual Changes in Revenue and Aid in Nepal (in Billion NRs.)

	Tax Revenue	% Change	Aid Grants and Loans	% Change	Total Revenue	% Change
FY 2014-15	356		73		441	
FY 2015-16	421	18%	67	-9%	528	19%
FY 2016-17	554	32%	107	59%	566	7%
FY 2017-18	658	19%	72	-32%	730	29%
FY 2018-19*	838	27%	59	-19%	890	22%

Note: *Estimate. Source: Ministry of Finance.³⁰

Even when increased levels of post-disaster resource mobilization and capacity building occurs in private organizations, individuals and families as well as non-governmental organizations due to increased levels of remittances, donations, foreign grants and loans, the public purse will grow because of sales and income tax receipts obtained from increased economic activity. Rebuilding houses, schools, hospital, roads and bridges activates multiple sectors of economic activity, which can increase tax revenue. In addition, government agencies collaborate with businesses in public-private partnerships and give out contracts to NGOs. Increased levels of resources capacity of collaborative partners have a positive effect on the overall resource capacity of the governance system. As one of the experts I interviewed noted, due to increased levels of internal resource mobilization from import taxes and increased contribution of remittances to Nepal's economy, the Government of Nepal is starting to rely less

³⁰ <http://mof.gov.np/en/archive-documents/budget-speech-17.html>

on foreign aid and thus becoming stricter in regulating the activities of INGOs and UN agencies (Interviewee #3).

However, with respect to the spending side of the revenue capacity there has been some critical issues. While Nepal had weak pre-disaster capacity to implement government expenditures, in the post-disaster government system, due to opening of new government offices and moving of personnel and resources from the central government to provincial and municipal levels in accordance with the new constitution has dramatically increased public spending. In April 2018, as the Government of Nepal was preparing a new budget for the new fiscal year, there were concerns related to lack of sufficient funds in government coffers. Two of the experts interviewed in April 2018 noted that the political class has expanded due to the new constitution and administrative reforms and it is going to be challenging from a fiscal perspective to sustain the increased number of government offices and personnel across Nepal (Interviewee #4 and #5).

6.2.3. Non-Fiscal Resources

In addition to donations and fiscal resources, other non-fiscal resources have been affected by the earthquakes as well. Even though the tourism sectors suffered for a year after the earthquakes, it has bounced back. Moreover, many tourists that have visited Nepal over the decades had made strong links with their Nepali trekking guides, local community leaders, and their host families. After the 2015 earthquakes, many of these former tourists who lived in developed countries raised funds in their church, workplace, school, and so on and reached out to their contacts in Nepal to spend the money to address people's needs. For example, one interviewee who was expert in the tourism sector but also had engineering background helped rebuild a school in his father's village in Dhading district. He could do this when a tourist friend

of his from Australia reached out to him after she raised funds there to use the funds for rebuilding efforts. In one and a half years they rebuilt the school with US\$ 150,000 in a remote village (Interviewee #7).

Other interviewees gave examples of similar experiences among their friends, family, and contacts. In one of the community meetings, I observed one Belgian tourist asking Nepali community leaders how she could help with school rebuilding and other similar projects because she recounted how a tour guide saved her and her husband's lives during the earthquakes as they were traveling in Nepal then. Since then, they have raised funds in Belgium and have made several trips to Nepal to help rebuild schools and improve educational capacity in remote villages. In addition, one expert has recounted that he had gone to college in the US and worked in two different cities before returning to Nepal. His former classmates, colleagues, and neighbors from the US reached out to him with private donations and raised funds from their American communities and asked my interviewee to spend the funds on relief and rebuilding activities. The interviewee recalls the funds were in the US \$50,000 – 100,000 range. He said even many ordinary people were getting funds at least in US \$10,000 because of their friends and family abroad (Interviewee #22).

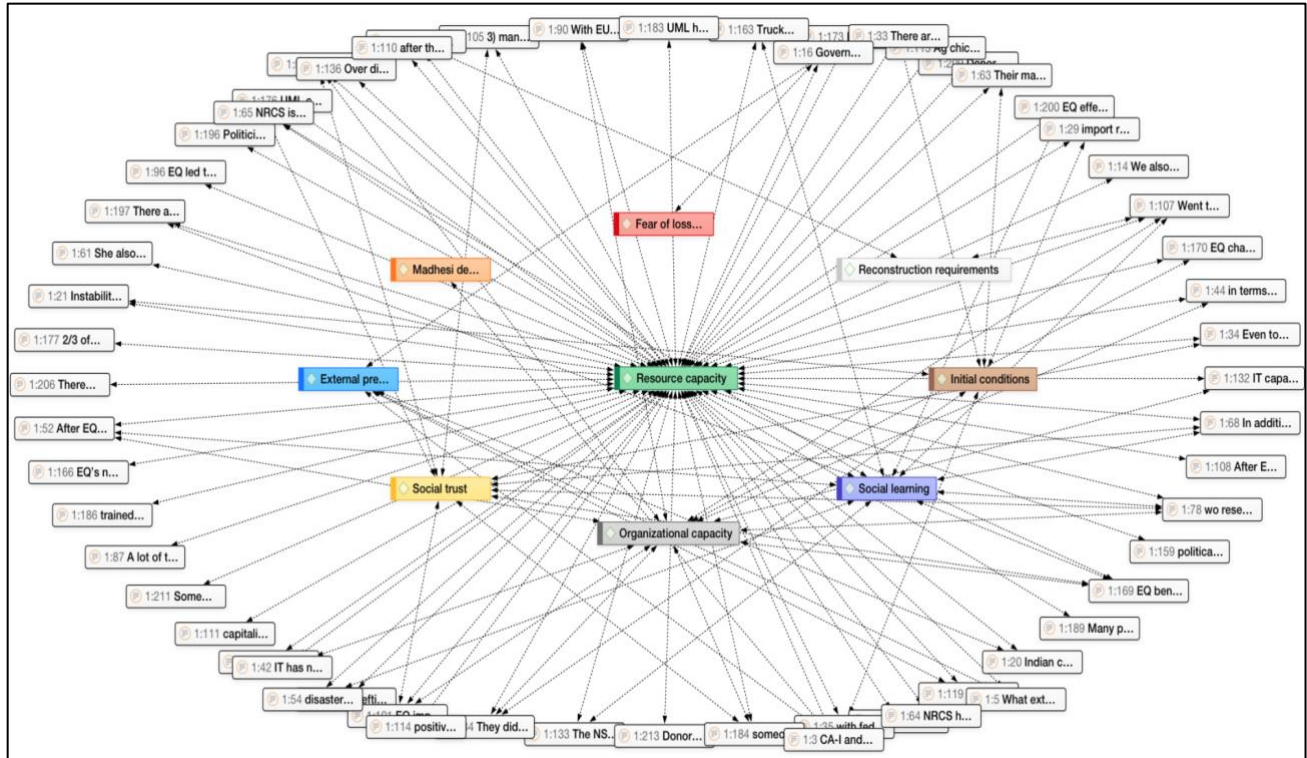
Similarly, millions of Nepalis live in developed nations around the world. The Nepali diaspora outside of Nepal is called Non-Resident Nepalis (NRN) in Nepal. NRNs around the world raised extraordinarily large sums of funds to help with relief and reconstruction activities in Nepal. They transferred their funds to Nepali organizations through friends and colleagues and undertook relief and rebuilding efforts in a community-driven manner. Several of my interviewees (for e.g. Interviewee # 2 and # 27) received funds from their NRN colleagues abroad and used their business and friendship ties in Nepal to help rebuild schools and houses to

assist the vulnerable populations. I had a chance to observe a school opening ceremony and house turn over ceremony in the Sindhupalchok district.

Remittances also played an important factor in resource mobilization for relief and rebuilding in Nepal. Expert interviewees mentioned that many more Nepalis are abroad due to the earthquakes so that they can send money home to rebuild their houses. Consequently, there is shortage in labor required for blue collar work involved in rebuilding houses. As a result many experts mentioned that low skilled individuals from Madhesh and India have been working in central and mountainous areas of Nepal in construction jobs. As daily labor wage for house construction had gone up three times from 350 rupees a day to over a thousand rupees a day, it has benefited many low-skilled individuals to make a more livable wage (Interviewee #31, 32, 35).

The concept of resource capacity was mentioned 60 times across 35 expert interviews. Because the resource capacity has interdependence with other concepts, the network visualization shows 8 neighboring concepts. Figure 23 visualizes all 60 mentions of resource capacity and the 8 concepts that co-occur with resource capacity in these 60 mentions. Experts brought up the importance of resource capacity for Nepal's post governance reforms and institutional capacity building efforts in multiple ways, including the importance of tax revenue, foreign grants and loans, private investments, migrant remittances, infrastructure financing and development, human resource development as well as social and organizational resources.

Figure 23. Semantic Network of Resource Capacity in Expert Interviews



Note: Atlas.ti software was used to create the visualization with the author’s interview data.

As Table 17 demonstrates, resource capacity has higher interdependence with organizational capacity, social learning and social trust – the concepts discussed in the next two chapters. Resource capacity was also mentioned in connection with initial conditions and external pressure. While the earthquakes have affected resource mobilization and capacity, it is also important to account for increasing trend in development of Nepal’s economy, albeit in slower and less consistent pace, prior to the earthquakes in Nepal. External pressure is also important as foreign donors and lenders have an important role in Nepal’s resource capacity and thus can have influence in decision making regarding governance reforms and policy changes.

Table 17. Co-Occurrence of Resource Capacity in Expert Interviews

	Resource capacity		
External pressure	5	-	0.06
Fear of loss of control	1	-	0.01
Initial conditions	6	-	0.08
Madhesi demands	1	-	0.02
Organizational capacity	13	-	0.13
Reconstruction requirements	2	-	0.03
Social learning	11	-	0.11
Social trust	9	-	0.09

Note: The table was produced using the author's interview data with Atlas.ti software.

6.3. Summary

This chapter analyzed the impact of the 2015 earthquakes on resource capacity of Nepal's governance system using mixed-methods and multiple sources of evidence. In so doing, it described the pre-disaster level of resource capacity in Nepal and analyzed disaster donations data that documents mobilization of resources by Nepali actors as well as their international partners in the UN system and multilateral development organizations. The chapter also used financial statistics provided in government and nongovernmental organization reports as well as expert interview data to show how the fiscal, economic, and human resource capacity of Nepal compares before and after the earthquakes. Incentives to command these resources and the increased resource capacity has increased the capacity of Nepal's governance system and facilitated the adoption of the new constitution and implementation of administrative reforms to implement the federal constitution that mandates the creation of central, provincial, and local bodies of authority. Increased level of resource capacity has contributed to adaptation of the

system in the post-disaster environment and allowed the Nepali actors to gain more autonomy with respect to internal policy decisions as well as in managing their diplomatic ties.

7.0 SOCIAL TRUST IN NEPAL BEFORE AND AFTER THE EARTHQUAKES

This chapter analyzes how the 2015 earthquakes affected governance reforms and institutional capacity building in Nepal through changes in social trust. As reviewed in Chapter 4, social trust is critical for any governance system to function effectively because in the absence of social trust the necessary level of interactivity and cooperation among the units of the system cannot be sustained in decentralized governance systems that rely on both vertical and horizontal linkages. Social trust, in combination with resource capacity and organizational capacity, is an important -micro and meso-level mechanism that contributes to macro-level changes in the laws and structures that shape governance systems. In post-earthquake Nepal, sudden increases in social trust created a window of opportunity for drastic measures such as the passage of the new constitution in the face of resistance by powerful external actors like India that has historically challenged Nepal with border blockades from time to time when all other levers of influence did not materialize. The chapter traces pre-post changes in social trust in Nepal using published reports and articles as well as primary expert interview data and secondary citizen feedback surveys of relief and recovery activities in earthquake affected districts of Nepal.

7.1. Social Trust Before the Earthquakes

Social trust as the logic of social action will be traced at the levels of citizen-citizen, leader-leader, and state-citizen. At the citizen-citizen level, the level of social trust in Nepal was rather low before the earthquakes owing to the fact that Nepal has had high social conflict in the past two decades prior to the earthquakes. High rates of extreme poverty and correlation of poverty with civic and political rights across ethnolinguistic, geographic, and caste-based social groups and gender has contributed to social cleavage and vulnerability to external shocks such as natural

disasters, political instability, and market failures. At the leader-leader level, elite conflict has been high, albeit in downward trend after the signing of the Comprehensive Peace Agreement (CPA) in 2006, because of political factionalism within a multiparty system that was weakened by unstable governing coalitions. Lack of social trust among major political leaders created an atmosphere of distrust as external actors like India could easily influence Nepali leaders who were suspicious of each other to defect on cooperative understandings and agreements within coalition governments. At the level of state-citizen or leader-follower, corruption and bribery in government offices, political parties, courts, law enforcement agencies, and licensing and certification boards as well as extensive political party patronage and instability-breeding political protests had maintained an environment of citizen distrust of authorities. Widespread protests and hunger strikes against injustices among ordinary Nepalese citizens had reflected low levels of social trust and legitimacy of governance institutions in Nepal. The influence of India on Nepal's internal governance affairs especially after the rise of nationalist Hindu conservatives to power in India in 2014 had worsened the already low trust environment in Nepal.

7.1.1. Citizen-Citizen Relations

High levels of poverty and inequality among citizens of a country is associated with high levels of social and political conflict (Cederman et al. 2011) as well as lack of development (Easterly and Levine 1997; Collier and Hoeffler 2002). Especially in Nepal, high poverty and inequality can create the conditions for lack of social trust and increased levels of conflict and underdevelopment (Murshed and Gates 2005; Sharma 2006; Macours 2010). Nepal is one of the 48 least developed countries (LDCs) in the world and one among 13 in Asia. Nepal is the second poorest country in Asia after Afghanistan (NPC 2015). Gross national income per capita was US

\$730 in 2014 (World Bank 2017b). Absolute poverty rate is high Nepal; as of 2015, 24.8 percent of the population lives in extreme poverty – under USD 1.25 a day (NPC 2015). Based on multiple measures of poverty such as internationally administered multi-cluster poverty index (MPI), 44 percent of Nepal’s population lived in poverty in 2014 (OPHI 2015). Human Development Index (HDI) was 0.458 in 2011, ranking 145th in the world (UNDP 2014). According to the World Food Program Nepal is a food deficit state, as 48 percent of the children under the age of five have chronic malnourishment problems (60 percent in mountain areas), which is greater than the rate of 42 percent in Somalia (WFP 2009).

Poverty is exacerbated by geographic and socioeconomic inequality in the country, creating further obstacles for economic development and stable governance. Spatial inequality is high in Nepal as the absolute poverty rate in the Far Western region was 59 percent and in the Western region 33 percent in 2011 (NPC 2015). Poverty and inequality is further worsened by high levels of religious, ethnic, gender, and caste-based fractionalization in Nepal, which has contributed to low levels of social trust. Nepal has 102 ethnic groups and 17 officially recognized languages (CBS 2012). Despite the abolishment of the official caste system, caste-based inequality endures in Nepal and discriminates against individuals based on religion, language, ethnicity, and gender grounds (Stash and Hannum 2001). Such an inequality is pervasive and deeply embedded within the social structure of Nepal whereby high-caste Hindus owned much of the land, enjoy economic and political privileges, and social status. Low-caste members of the society are excluded from land ownership, political and civil rights, and representation in civil service. Brahmins and Chhettris, the highest-caste groups in Nepal are only 29 percent of the population but make up over 80 percent of civil servants in army, policy and government offices (Jamil and Dangal 2009). It is challenging to establish stable governance institutions and achieve

greater levels of economic development in Nepal where there are low levels of social trust, civic association, and cross-ethnic solidarity (Askvik et al. 2011). Low-level of trust among citizens is not conducive to establishing legitimate, fair and just governance systems that work well for all regardless of their social identity (Rothstein and Uslaner 2005).

As reviewed in Chapter 4, such high inequality, poverty, and lack of trust within and across communities creates social and geographic vulnerability and exacerbates risk for damage from natural disasters. Poor and marginalized families often build housing on flood plains and earthquake hazard zones, and in cities slum dwellers set up housing that lacks earthquake safety and devoid of spaces for evacuation and search and rescue activities during emergencies.

7.1.2. Leader-Leader Relations

As described in Chapter 2 and detailed in Section 9.2 of the following chapter, Nepal had suffered from lack of trust and cooperation among its political leaders leading up to the earthquakes in 2015. Constant jockeying for power, defections from common understandings and agreements in unstable governing coalitions had defined the governance system of Nepal during its transition from an autocratic Hindu kingdom to a secular democratic republic. While communal inequalities and distrust among citizens travel up to political leaders, lack of trust and cooperation among leaders can also show negative influence on social trust among citizens. Especially in the context of pervasive divisions and factionalism among political parties that permeate government offices, NGOs, trade unions, private businesses, and civil society (Basnyat et al. 2017). Many of the experts interviewed for this study pointed out lack of cooperation among political party leaders as the main cause of instability and underdevelopment in Nepal's governance system.

7.1.3. Citizen-State Relations

Because civil service, nonprofit organizations, and private firms are all involved in patron-client relationship with political parties in Nepal, lack of social trust among citizens and lack of cooperation among political leaders and the resulting nepotism, favoritism, and patron-client relationship in allocation of collective resources reduces public trust in and social legitimacy of governance institutions. According to Transparency International's Global Corruption Barometer, 90 percent of the Nepalese citizens perceive political parties as being corrupt or extremely corrupt. Further 85 percent of the population believes that public officials and public servants are corrupt or extremely corrupt and 72 percent considers corruption in the country has increased in the previous two years (2012-2014). The major challenge in Nepal is to insulate the civil service from politics so that political parties cannot deteriorate the professional public management.³¹

Because of the problem of democratization, Nepal has experienced a culture of constant protests that disrupt day to day public management and economic activities of individuals. Moreover, because of unresponsive government, many private citizens resort to hunger strikes to attract attention of public officials to solve their problems. Many cases of such distrust of the court system and government offices is documented in detail in the following chapter.

At the local level, village and district administration committees do not function in a fair and representative manner because elected local government institutions have expired in 2002 and no local elections were held since then (until 2017). Bureaucratic appointees from the center

³¹ <http://kathmandupost.ekantipur.com/news/2014-05-21/political-interference-in-bureaucracy-abetting-corruption-says-ti-report.html>

and all-party mechanisms in Nepal's districts have been perceived as coalitions of unelected elites who share government development budgets among themselves using corrupt schemes.³²

Nepal's political leaders had both opportunities and threats to reform prior to the 2015 earthquakes, and unfortunately, were unable to make enough progress on governance reforms to ensure political stability and economic development in Nepal due to lack of social trust at all levels. Nepal's leaders had opportunities in terms of resources, timing, and international attention on resolving their governance issues but missed those opportunities due to threats to reform such as fragmented political party system, ethnicized politics, and lack of autonomy from India and international donors. As a result, prior to the 2015 earthquakes, Nepal's leaders failed to meet four deadlines to agree on a new constitution that would strengthen the governance system (IRIN 2012).

Integration of Maoist combatants into the Nepal Army and transitional justice issues with respect to the relatives of the victims of the civil war had to be dealt with for the constitution writing process to advance. These two issues maintained the low social trust and presented a threat to successful governance reforms until after the catastrophic earthquakes.

Prior to the 2015 earthquakes, the electoral victory of Modi contributed to further creating an environment distrust and became a threat to Nepal's secular transition reforms, as conservative Hindu nationalists rose to power in India.³³ At the same time, Modi's "Neighborhood First" policy intensified competition with China for influence over Nepal leading to an opportunity of a better bargaining position for Nepal in attracting foreign capital into the economy, while carefully considering both China's and India's preferences with respect to

³² <https://asiafoundation.org/resources/pdfs/analysislocalgovernancenepal.pdf>

³³ <https://www.worldpoliticsreview.com/articles/13712/modi-win-in-india-could-endanger-nepal-s-secular-transition>

Nepal's federal governance structure.³⁴ Foreign direct investments from Chinese industries were three time greater than those from Indian industries in FY 15-16, while cumulatively India still was ahead of China with three times greater foreign direct investments.³⁵

7.2. Social Trust After the Earthquakes

Following the devastating earthquakes of April/May in 2015, there was a sudden increase in social trust in Nepal at the levels of citizen-citizen, leader-leader, and state-citizen or leader-follower, which then slowly subsided in the months and years that followed. The sudden increase in social trust at the citizen-citizen level in post-disaster Nepal is reflected in the fact that inter-ethnic, cross-geography, and cross-caste cooperation occurred as Nepalis of all walks of life rushed to help their friends, family, and neighbors no matter what their socioeconomic or political background was. At the elite level, many political leaders, inspired by the increased levels of trust and philanthropy in Nepal, felt the responsibility to act to rebuild the country with a solid foundation – through a stable constitution and governance institutions. Increased levels of inter-elite cooperation allowed major political leaders to make concessions and compromise and reach a deal on the new constitution. At the state-citizen relationship, the Nepal Army, the Nepal Police, and the Nepal Armed Force, along with other actors, rushed to help earthquake victims and survivors, which increased citizen trust of government. However, as it typically does, social trust has subsided in the months and years following the immediate relief and early recovery phase as the difficult border crisis made life more difficult and brought to a halt the already slow and painstaking process of post-disaster reconstruction in Nepal.

³⁴ <https://thediplomat.com/2014/10/the-geopolitics-of-nepals-federal-structure/>

³⁵ http://www.doind.gov.np/images/industrial-static/Industrial_statistics_7273.pdf

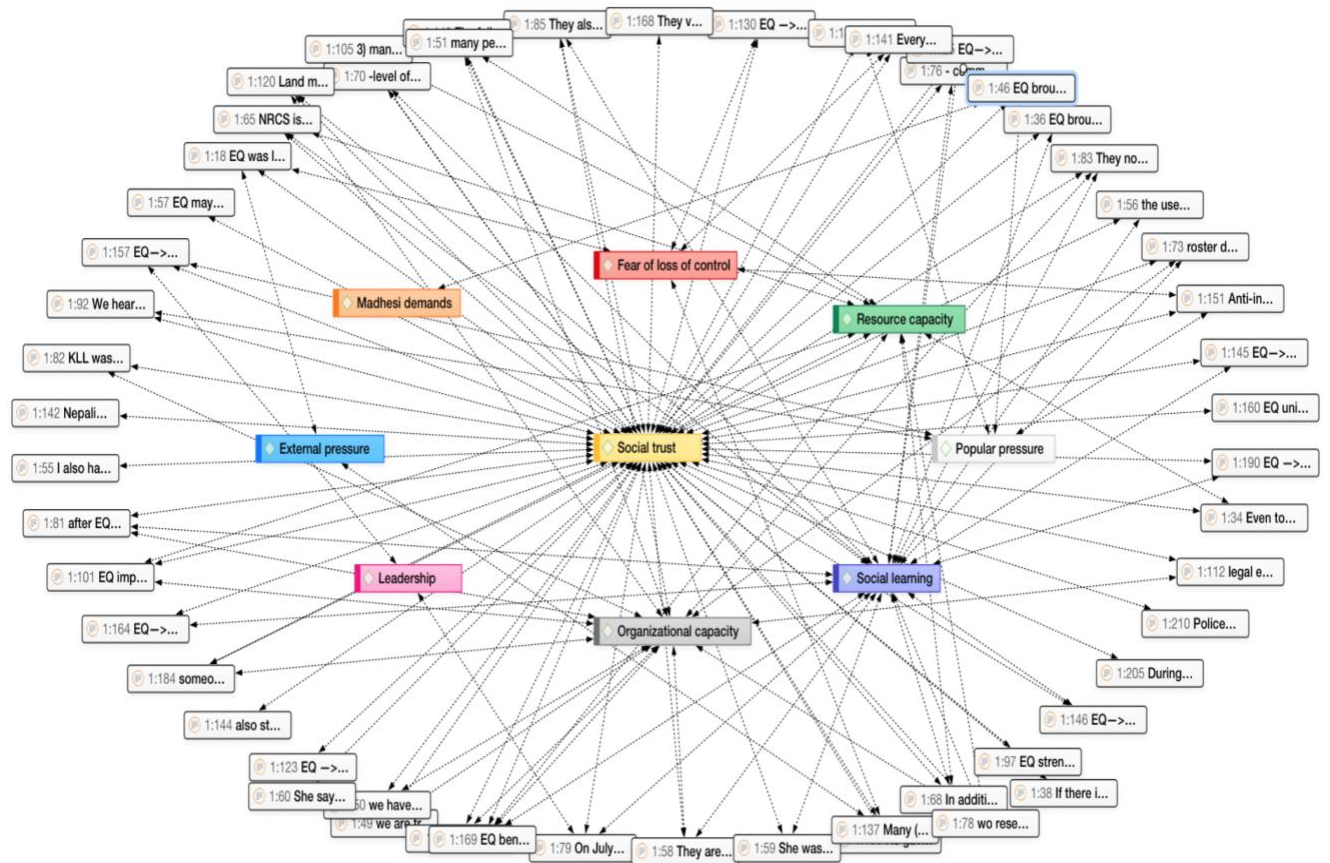
7.2.1. Citizen-Citizen Relations

The large-scale destruction caused by the 2015 earthquakes in Kathmandu Valley and the central hills and mountainous areas of Nepal generated high levels of social trust among citizens of Nepal facilitating cooperation across social, ethnic, caste, and communal groups in Nepal. Such high social trust mobilized the youth, professionals, civic associations, and neighbors to help each other and ameliorate their fellow citizens' suffering, producing emergent organizational behavior in the system. Social trust was enhanced to such a degree that social disorder and looting did not occur in Nepal (Interviewee #2 and 28).

Expert interviews and field observations provide evidence that right after the earthquakes people dropped what they were doing and rushed to help earthquake victims in their communities as well as in remote communities (Interviewee #2). Even those whose housing units were not damaged lived in tents in open spaces for fear of stronger aftershocks. Neighbors and businesses opened their yards and open spaces for all to set up a tent, and inter-group activities such as cooking, eating, and doing daily chores together created a high level of interaction among neighbors of various socioeconomic status (Interviewee #10). Neighbors of higher income provided food and other materials to neighbors of low caste that lacked means (Interviewee #28). Meat and alcoholic drinks were also consumed copiously as neighbors barbecued in their open space tents on a daily basis for at least a month (Interviewee #9).

The concept of social trust was mentioned 54 times in expert interviews, which made it the second most mentioned concept along with social learning and organizational capacity after resource capacity, which was mentioned 60 times. Figure 24 visualizes the semantic network of social trust as well as its neighbor concepts.

Figure 24. Semantic Network of Social Trust in Expert Interviews



Note: Atlas.ti software was used to create the visualization with the author's interview data.

Experts discussed many cases in which social trust increased due to the earthquakes in the context of increased social learning (21 times), improved organizational capacity (16 times), and resource capacity (9 times). Social learning is interesting in that increased level of trust and interaction among citizens and social groups led to exchange of information and knowledge sharing that resulted in enhanced understanding and awareness of not only disaster vulnerabilities and risk reduction investments, but also on other issues related to their everyday lives and businesses. Concepts of fear of loss of control, popular pressure, and leadership also came up while discussing social trust (Table 18).

Table 18. Co-Occurrence of Social Trust in Expert Interviews

	Social trust		
External pressure	2	-	0.03
Fear of loss of control	5	-	0.09
Initial conditions			
Leadership	2	-	0.03
Madhesi demands	1	-	0.02
Organizational capacity	16	-	0.17
Popular pressure	5	-	0.09
Reconstruction requirements			
Resource capacity	9	-	0.09
Social learning	21	-	0.24
Window of opportunity			

Note: The table was produced using the author's interview data with Atlas.ti software.

7.2.2. Leader-Leader Relations

Experts also discussed the notion of social trust in the context of increased trust and cooperation among political leaders who came together to reach a compromise deal on finally and speedily adopting the new constitution that they have been debating and unable to agree in the previous seven years. Many business leaders pointed out that high level of social trust generated by the earthquake among political leaders created the right conditions for “moving on” with the political transition so that a new constitution can be adopted to create a capable and stable governance system that can prioritize rebuilding and developing the nation's infrastructure (Interviewees #2, 3, and 27).

Despite the increased level elite interaction and consensus, it is important to note that political leaders act strategically, and in the presence of an opportunity some leaders can defect cooperative understandings and agreements. External actors such as the Indian government

agencies, UN agencies, European organizations, and the Chinese government, among others, may influence the decisions of political leaders regarding structural reforms in the governance system. However, the elite unity and cooperation that was enhanced by the earthquakes got even more strengthened as political leaders perceived that they loss control in the governance system in the immediate aftermath of the earthquakes as emergent behavior from civil society and overwhelming number of international actors dominated the system. As UN agencies, INGOs, and foreign consultants discussed the possibility of pandemic breakouts such as cholera, as happened in post-earthquake Haiti and many other cases, the Nepali leaders reacted strongly by stating that “Nepal will not fail as a nation” and “will not become a Haiti” (Interviewees #26, 28, and 35).

Moreover, such fears of national disintegration grew stronger as the Indian Army and foreign militaries, as recounted by the experts, dominated the airspace in Nepal whereby the Nepal Army felt unable to control the situation. Even when thanked for their assistance and asked to leave, the Indian military took longer time to leave the country, as pointed out by experts. This situation was exacerbated by the fact that the Indian Government sent its Foreign Secretary to Nepal to personally demand postponement of the adoption of the new constitution because it did not meet its demands such as creating an autonomous Madhesi province in the south of Nepal and making Hinduism a state religion. This further increased the Nepali political leaders’ fear of national and territorial disintegration of Nepal. Such perceived fear further increased the unity and cooperation among the elite, who withstood Indian resistance and forged ahead with the new constitution.

Madhesi riots and unofficial blockade of Nepal’s southern border with India in retaliation against the passage of the constitution brought even more unity among Nepal’s political leaders,

except the Nepali Congress that did not call the situation a blockade.³⁶ The blockade halted the movement of essential goods such as petroleum, food, and medicine and fueled nationalist and anti-India sentiments. In the local, provincial, and national elections that followed, the political leaders who withstood the Indian resistance and championed governance reforms in Nepal won the majority vote and was able to form a stable government. Nepali Congress leaders lost their position of dominance in the system for not resisting against the perceived Indian onslaught against Nepal's sovereignty and territorial integrity (Interviewee #3, 4, 21, 28, and 29).

Civil society activists and intellectuals discussed a more nuanced impact of social trust on governance reforms in Nepal. According to them, the earthquakes and the resulting social trust as well as the popular pressure from dominant social groups allowed the mainstream political party leaders to incite nationalist and anti-India sentiments in order to discredit advocates of a constitution that is more inclusive of ethnic minorities in regard to granting them more autonomous provinces and positive discrimination in civil service recruitment. Such activists, along with Indian interests, European and UN agencies, Madhesi groups, and Nepali Congress lost their influence in the dominant post-disaster narrative of resilient, patriotic Nepali peoples who act in unity against the divisive foreign forces and in avoidance of dependency on foreign aid to rebuild a strong governance system in Nepal. Some interviewees even brought up the notion of shock therapy or "shock doctrine," popularized by Naomi Klein in her 2007 book entitled "The shock doctrine: The rise of disaster capitalism." Such activists, along the same

³⁶ One expert noted that "the Indian blockade targeted Nepal when Nepal was in its weakest moment due to the earthquakes (Interviewee #26). Another interviewee noted, however, that the blockade was targeted to weaken the specific government led by Prime Minister Oli, not all Nepal (Interviewee #29). While the Indian Government disagrees that it was a blockade and states that the border crisis was created by Madhesi protesters, the United Nations General Secretary and other world leaders called on all sides, including the Indian Government to lift the border obstruction to avoid a humanitarian crisis in the earthquake-stricken country of Nepal. Leaders of many UN agencies in Nepal openly called the situation "border blockade" (UN News 2015). <https://news.un.org/en/story/2015/12/517922-ongoing-border-blockade-imports-sends-food-and-fuel-prices-skyrocketing-nepal>

lines, were very skeptical of many political and business leaders who made fortunes in the most difficult moments of Nepal as it suffered from the earthquakes and economic blockade, because of which the price of essential goods surged over through times (Interviewee #10, 22, and 23).

7.2.3. Citizen-State Relations

Social trust at the level of citizen-state dyad also increased substantially in the aftermath of the earthquakes in Nepal, as evidence by expert interviews of the author and Citizen Feedback Surveys implemented by youth volunteers and INGOs in Nepal. Evidence suggests that because of disaster relief activities of the Nepal Army, Nepal Police, and Nepal Armed Police Force, citizen trust toward those institutions increased significantly. Many citizens who had viewed the police as punishers started to view them as heroes (Interviewee #2, 8, and 28). Even civil servants, including the police contributed their monthly salary to the government disaster relief fund (Interviewee #8). Public opinion surveys also found that the level of trust toward the army has increased from 80 percent to 89 percent,³⁷ and public trust toward government institutions in general and army (88 percent), police (88%), and armed police force (86%) in particular increased significantly after the earthquakes, even though it later subsided (army to 76% and police 74%).³⁸ One interviewee noted that political parties in the center remained to have low public trust, local offices of political parties were involved in helping citizens with disaster relief and recovery (Interviewee #35).

Because of the increased level of interaction between the citizen and the state as government employees, not only public trust on institutions but also social learning increased as

³⁷ <http://archive.nepalitimes.com/article/nation/Himal-media-poll-have-faith,2515>

³⁸ Independent Impacts and Recovery Monitoring Nepal Phase 2 Quantitative Survey, http://asiafoundation.org/wp-content/uploads/2016/09/IIRMPPhase2_executiveSummary_QuantitativeReport.pdf

citizens learned how to access government services. Moreover, government agencies sent out mobile teams to remote mountainous areas to help earthquake victims and survivors with preparing the necessary paperwork for accessing reconstruction subsidies (Interviewee # 25). Where government teams fell short, nonprofits and civil society groups stepped in to help the citizens in acquiring the necessary information for accessing public services (Interviewee #23).

While public opinion surveys and expert interviews focus on general social trust, Citizen Feedback Surveys asked several questions regarding their trust or organizations, fairness of relief activities, and adequacy of information. The first round of the surveys was implemented in mid-July, second at the end of August, third in September and fourth in October. When asked about the fairness of support, only 28 percent of respondents answered positively as opposed to 54 percent that answered negatively in the first round. In the fourth round, positive answers increased to 42 percent and negative answers declined to 43 percent (Figure 25). Among respondents who thought that relief support was not provided in a fair way, many pointed out that provision of relief materials was not fair because issues of political party patronage and geographic access especially when materials were distributed on a first-come-first-serve basis, as villagers in remote areas and those who received information later were not able to secure relief materials (Figure 26).

Figure 25. Perception of Fairness in Relief Distribution

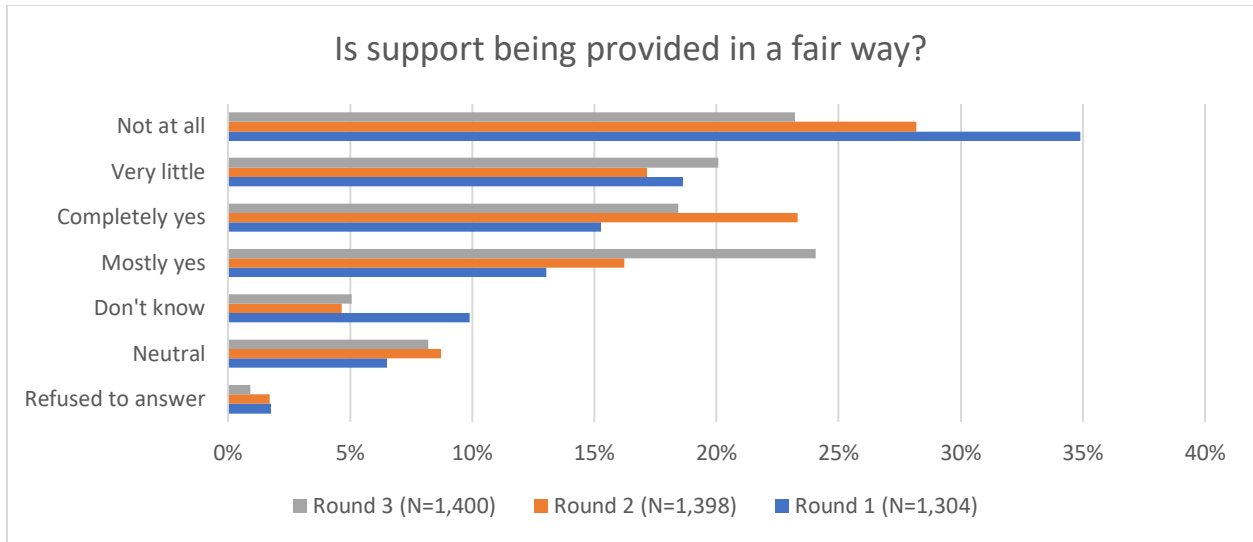
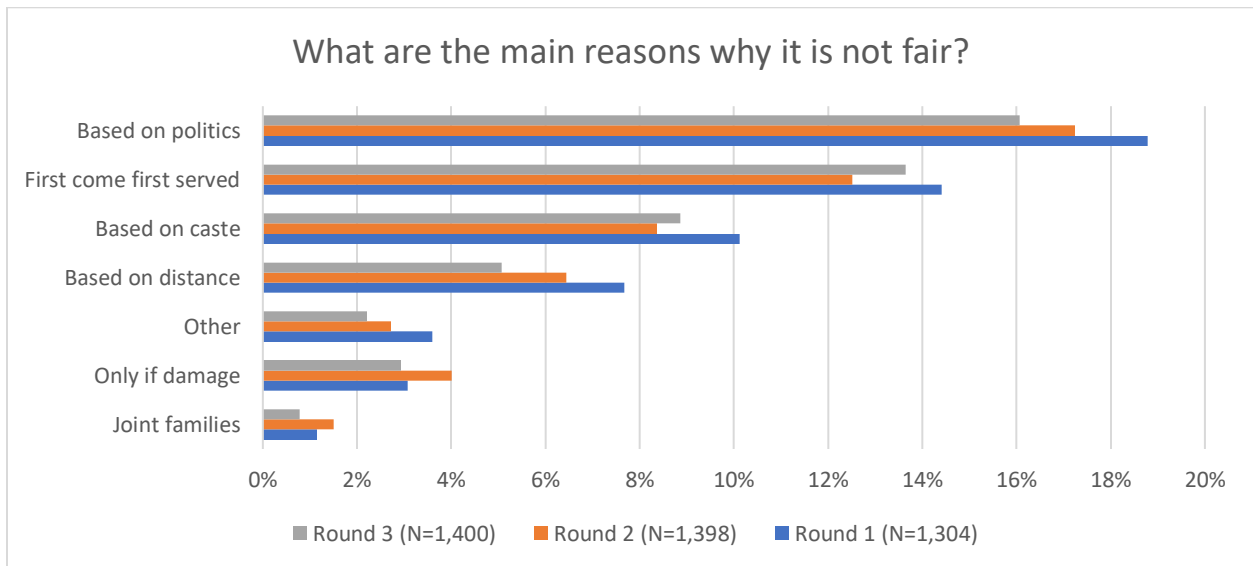


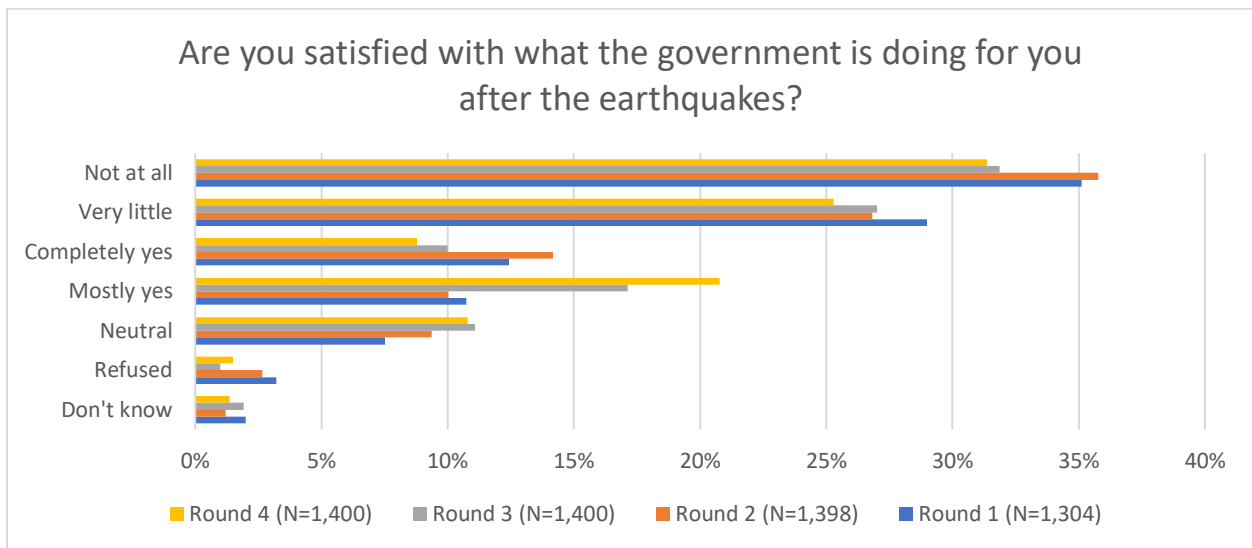
Figure 26. Perception of Unfairness Factors in Relief Distribution



When asked whether they were satisfied with government services related to relief and recovery, 23 percent of respondents gave a positive answer (mostly or completely yes), whereas 64 percent gave a negative answer (very little or not at all) in the first round of the survey. These number changed from the first round to the fourth round as 30 percent and 56 percent, respectively

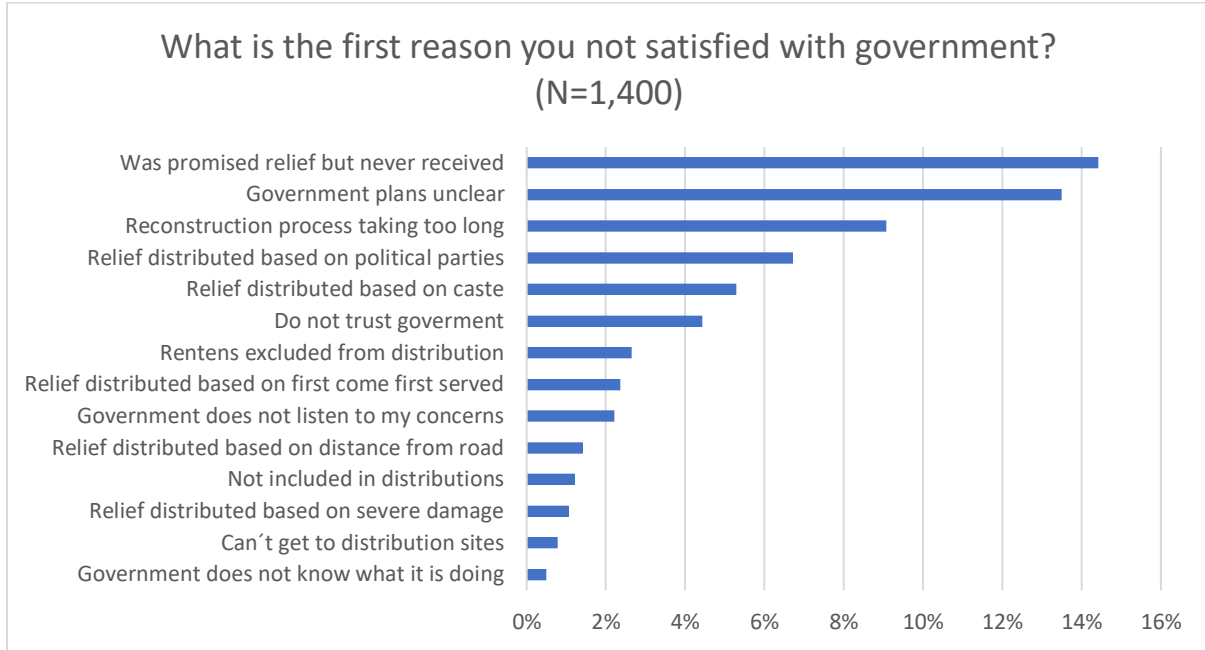
(Figure 27). Most respondents with negative answers pointed out that their dissatisfaction is related to problems associated with government assistance with building materials, its handling of cash for work programs and housing inspection. Field observations and expert interviews utilized in this dissertation also point to the fact that it was a long, challenging process for remote villages to get their building designs and construction plans approved by government as it is a requirement for receiving assistance for reconstruction.

Figure 27. Satisfaction with Government Relief Services



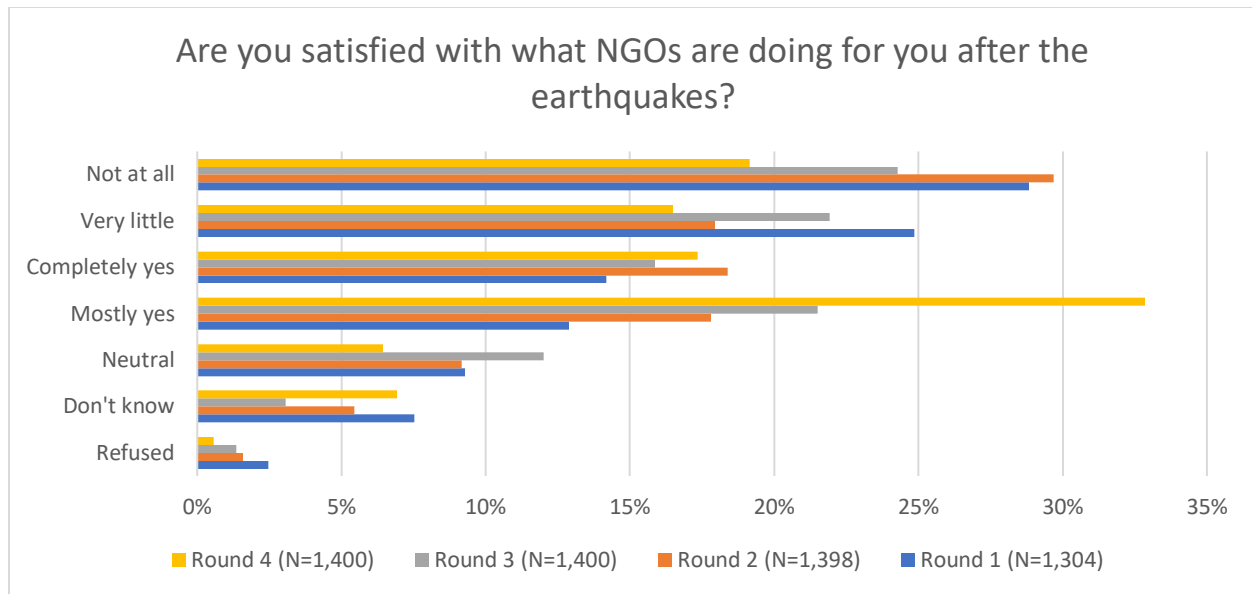
In the fourth round of the survey, when citizens were asked why they were dissatisfied with government's efforts in earthquake relief and recovery, many respondents answered that the government made promises that it could not deliver and that it had unclear plan with respect to reconstruction policy. That is likely why many respondents were dissatisfied with the delayed reconstruction phase of the disaster. Respondents also mentioned that part of their dissatisfaction is also with distribution of goods based on political party affiliation and caste (Figure 28).

Figure 28. Reasons for Dissatisfaction with Government Services in the 4th Round



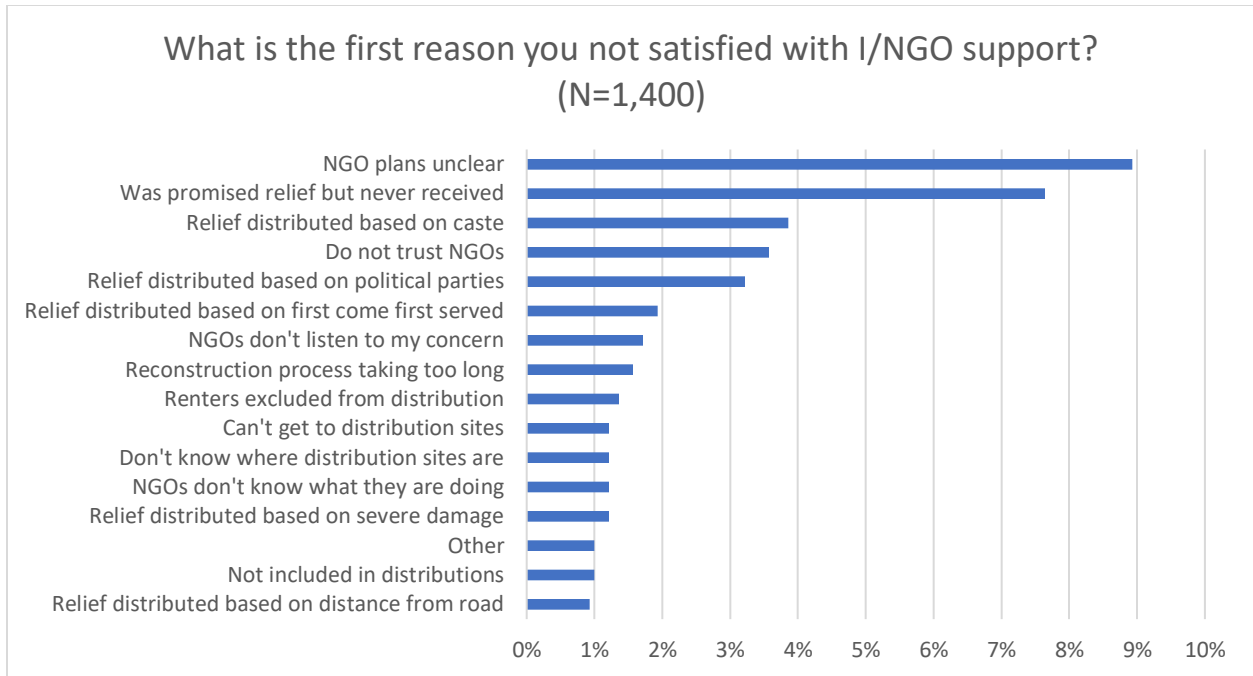
In contrast, 27 percent of respondents were satisfied with I/NGO efforts in relief and recovery, whereas 54 percent was dissatisfied in the first round of the survey. In the fourth round, these numbers have improved to 50 percent and 36 percent, respectively (Figure 29). While this shows that public trust of I/NGOs started off at a similar rate with that of government, it improved markedly over the next three months. This is likely the case because citizen dissatisfaction of government increased due to unofficial Indian economic blockade and obstruction of the movement of essential goods across the India-Nepal border. Citizens mentioned building materials and cash for work program as their primary reason for their dissatisfaction with NGO performance.

Figure 29. Satisfaction with I/NGO Relief Efforts



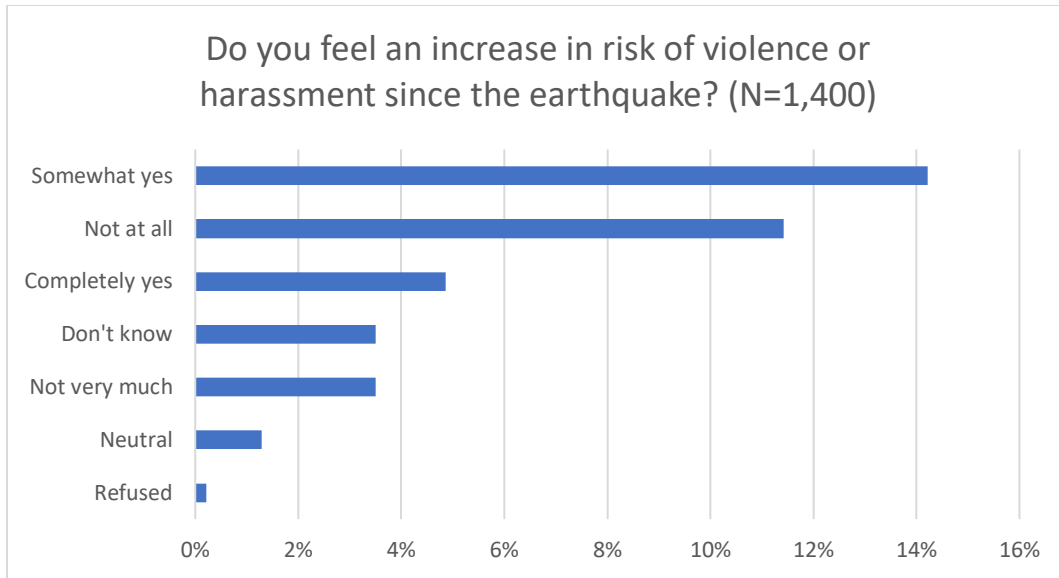
In the fourth round of the survey, when citizens were asked why they were dissatisfied with NGO efforts in earthquake relief and recovery, many respondents answered unclear and unmet promises to provide relief, but also pointed out that NGOs distributed relief based on caste and that they did not trust NGOs. This speaks to the fact that local NGOs in Nepal are community-based organizations and embedded in their identity-based group structures. As discussed by experts in the interviews, many NGOs are aligned with political parties and are not transparent in terms of how they are spending their funds due to lack of rigorous government oversight. As of April 2018, the new government of Prime Minister Oli started an active deliberation of a new legislation that restrict and regulate operations of NGOs, especially the ones that receive funding from external sources (Interviewees #3 and #20).

Figure 30. Reasons for Dissatisfaction with I/NGO Services in the 4th Round



Many scholars and activists claim that often post-disaster uncertainty creates an environment that bad actors such as human traffickers and violent mobs can take advantage of. With that in mind, the survey asked if respondents perceived an increase in risk in their communities. To this question, 19 percent of respondents replied positively and 15 percent negatively (Figure 31). Many who respondent positively stated that the increased levels of risk originate from their community, which likely speaks to the fact that gender and caste-based inequality has been an important part of social relations in post-disaster Nepal.

Figure 31. Perception of Risk of Violence and Harassment



7.3. Summary

This chapter analyzed how the 2015 earthquakes affected governance reforms and institutional capacity building in Nepal through changes in social trust. As reviewed in Chapter 2, social trust is critical for any governance system to function effectively because in the absence of social trust the necessary level of interactivity and cooperation among the units of the system cannot be sustained in decentralized governance systems that rely on both vertical and horizontal linkages. Social trust, in combination with resource capacity and organizational capacity, is an important - micro and meso-level mechanism that contributes to macro-level changes in the laws and structures that shape governance systems. In post-earthquake Nepal, sudden increases in social trust created a window of opportunity for drastic measures such as the passage of the new constitution in the face of resistance by powerful external actors like India that has historically challenged Nepal with border blockades from time to time when all other levers of influence did not materialize. The chapter traces pre-post changes in social trust in Nepal using published

reports and articles as well as primary expert interview data and secondary citizen feedback surveys of relief and recovery activities in earthquake affected districts of Nepal.

8.0 NEPAL'S ORGANIZATIONAL CAPACITY BEFORE AND AFTER THE EARTHQUAKES

This chapter analyzes how the changes in the levels of organization capacity within Nepal's governance system – increased level of interorganizational connectivity among the actors of Nepal's governance system and their enhanced capacity for information collection, exchange, and use following the 2015 earthquakes – have contributed to governance reforms and improved governance capacity in Nepal. Because disaster response and post-disaster reconstruction requires large-scale efforts in collecting, exchanging, processing and using information to make policy and governance decisions, Nepal's post-disaster information capacity enhanced significantly. Such informational capacity has had spillover effects as governance actors started using the same tools and techniques to address other policy and governance problems. As a critical component of organizational capacity, informational capacity has enhanced significantly in Nepal's governance system as a result of massive earthquakes and large-scale effort to respond and rebuild afterwards. The chapter also shows that actors that had greater pre-disaster organizational capacity had greater opportunity to further increase their capacity in the post-disaster governance system of Nepal due to increased levels of resources and changes in the governance system that solidified their rights and privileges.

8.1. Organizational Capacity Before the Earthquakes

In addition to changes in resource capacity and social trust, one needs to measure changes in organizational infrastructure of Nepal's governance system to understand the impact of the 2015 earthquakes on political reforms in Nepal. This section provides an account of how key organizational actors were structured and institutionalized and how they exchanged information

on key themes through networks of public, nonprofit, private, local and international organizations within two years prior to the April/May 2012 earthquakes in Nepal. In this period, the main features of the organizational infrastructure of Nepal's governance system included over-centralized national government and lack of local governance capacity, weak mid-tier structures that mediate policy prioritization and implementation between the center and the local, highly corrupt and inefficient practices of administrative and party officials, thin civil service bench and lack of policy experts and administrative leaders due to politicization of the government bureaucracy, government monopoly in economic policy and program implementation, politicization of civil society, firms, and professional associations and trade unions by political parties, and near-constant reshuffling of political parties in government due to unstable governing coalitions.

8.1.1. Post-2006 Governance in Nepal

According to the country's Interim Constitution of 2007 and its subsequent amendments, Nepal is a secular, federal republic with a multi-party electoral system. While the president is the head of state and commander-in-chief of the Nepal Army, the prime minister is the chief executive of government. Both the president and prime minister are elected by the parliament, or the Constituent Assembly until a new constitution is adopted. The 601 members of the Constituent Assembly are elected by popular vote through a mixed electoral system whereby 240 members are elected via first-past-the-post rules, 335 through proportional representation, and the remaining appointed by the prime minister (MOF 2015).

Prior to adoption of the new constitution, the governance system of Nepal functioned at central, district, and local levels whereby the national government at the center in Kathmandu

runs the country through civil service personnel located in 75 districts, 14 administrative zones (*anchal*), and five development regions. According to the Local Self-Governance Act of 1999 and amendments, while 3,915 Village Development Committees (VDCs), 58 municipalities, 75 District Development Committees (DDCs) were considered local governments, 75 Chief District Offices and 14 administrative zones were part of the central government reporting to Kathmandu. Because there were no local elections to VDCs, DDCs, and municipalities since they were dissolved in 2002, Chief District Officers appointed by the central government have been in charge of local governance as well (MOF 2015). Each of the 75 districts had a court run by a chief judge and a judge that are appointed by the Chief Justice of the Supreme Court upon recommendation of the Judicial Council. In addition, Nepal had 16 Appellate Courts tiered between the Supreme Court and the District Courts.³⁹ Table 19 provides detailed information regarding Nepal's administrative zones.

Table 19. Development Regions, Zones, and Districts of Nepal

No	Name	Zones	N Districts	Headquarter	Population	Area (km ²)
1	Eastern Development Region	Koshi, Mechi, Sagarmatha	16	Dhankuta	5,811,555	28,456
2	Central Development Region	Bagmati, Janakpur, Narayani	19	Kathmandu	9,656,985	27,410
3	Western Development Region	Dhawalagiri, Gandaki, Lumbini	16	Pokhara	4,926,765	29,398
4	Mid-Western Development Region	Bheri, Karnali, Rapti	15	Birendranagar	3,546,682	42,378

³⁹ <https://www.kullabs.com/classes/subjects/units/lessons/notes/note-detail/269>

5	Far-Western Development Region	Mahakali, Seti	9	Dipayal	2,552,517	19,539
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Source: Ministry of Finance (MOF 2015).

While local governance bodies have weak (if extant) revenue capacity of their own due to poverty, conflict and underdevelopment. According to the Local Self-Governance Act of 1999, the central government makes direct budgetary transfers to District Development Committees, municipalities, and Village Development Committees. In FY12-13, the central government transferred NPR 23.3 billion, only 8.1 percent of total central government expenditure, to local bodies. 3.4 percent of the transfers were unconditional grants that are used for development activities such as agriculture and livestock extension, primary education, and health. The remaining portion of the transfers are conditional grants from which social payments such as pensions and disability checks are made. In the allocation formula, population determines 40-60% of the central government transfers, poverty and HDI rates 25%, and the remaining is determined by geography (10%) and cost index (25-30%). While local government bodies contribute to budget making (priorities), line ministries make most of the decisions on behalf of subnational governments due to rigid (fast-paced) timetables prescribed by law (MOF 2015). This suggests that Nepal had a highly centralized governance system with weak local capacity as of April 2015.

Table 20. The Structure of Nepal's Government, July 2013

	Number of Units	Expenditure (NPR millions)	Percent Total
Ministries, including their offices in administrative zones	45	270,054	68
Autonomous government agencies	1,460	95,000	23.9
District Development Committees	75	32,000	8.1

Municipalities	58		
Village Development Committees	3,915		
Total	5,553	397,054	100

Source: Ministry of Finance (MOF 2015).

As of April 2015, Nepal's governance system had problems of corruption, red tape, and inefficient program implementation. In 2015, Nepal scored 27 out of 100 in Transparency International's Corruption Perceptions Index, ranking the country 130th (out of 188) in the world for transparency, accountability and corruption in public life (CPI 2015). In 2011, corruption as a measure of governance index by the World Bank was -0.83 (the range is ± 2.5) for Nepal (World Bank 2012) and the quality of public administration was 3.1 out of 6 (NPC 2015). The national government officials, courts, police, and party officials were found to be highly corrupt by public opinion and expert surveys in 2013.⁴⁰

Completion of bureaucratic tasks and administrative behavior are overly rigid and rule-based, so much so that pro-poor and pro-growth policies and programs are left unimplemented, expenditure allocations remain unspent, and staff vacancies remain unfilled. Government officials are caught up in delivering tasks, not services, based on rigid rules. This provides cover for incompetence and lack of accountability for failing to deliver services as the rules become an easy scapegoat for lack of action. Because of underperforming governments, under-spent budgets, and unimplemented programs, public debt as percentage of GDP has gone down from 60 percent in 1995 to 24.5 percent in 2015. The problem is also manifest in government running fiscal surplus over the past few years, as actual expenditures remained much lower than planned expenditure (NPC 2015). Given these observations, it is fascinating how Wildavsky's (1962) observations regarding unmet planning targets, under-spent budgets, and unimplemented projects

⁴⁰ <http://www.business-anti-corruption.com/country-profiles/nepal>

in Nepal still hold true as of April 2015. These problems have gotten worse because of multi-party instability and Maoist rebellion that Nepal has experienced since 1990s compared to the relatively stable, albeit authoritarian, governance system of Nepal under King Mahendra in 1960s and 70s.

The governance system of Nepal suffers from lack of policy experts in the civil service, as the majority of civil servants are assigned for positions of generic management while there are few well qualified public personnel in fields such as economic planning and statistics, engineering, agriculture, and forestry (See Table 21). Only health professionals are relatively abundant, even though remote mountainous still lack quality health care. The same problem applies to civil servants in general, as about 1/3 of all civil servants are concentrated in Kathmandu (See Table 22).

Table 21. Civil Service Jobs in Nepal

Civil Service Position Categories	Number	Percent
General administration	37,044	46.3
Agriculture	4,925	6.16
Auditing	327	0.41
Economic planning and statistics	369	0.46
Education	1,644	2.05
Engineering	7,961	9.95
Forestry	4,829	6.04
Health	16,418	20.52
Justice	3,028	3.78
Parliament	221	0.28
Constitutional	52	0.06
Foreign affairs	210	0.26
Miscellaneous	2,973	1.53
Total	80,001	100

Source: Bajracharya and Grace (2014, 13).

Table 22. Distribution of Civil Servants Across Government Levels in Nepal

Government Level	N Civil Servants	Percent
Central – Kathmandu	25,781	32.31
Regional	2,589	3.24
Zonal	770	0.96
District	32,825	41.13
Area	15,996	20.04
Municipality	60	0.08
Sub-total	78,021	97.77
Temporary	1,782	2.23
Total	79,803	100

Source: Bajracharya and Grace (2014, 14).

According to the Fragile States Index (FSI) by the Fund for Peace, the Nepalese state was one of the least stable and highly fragile states of South Asia along with Bangladesh, Sri Lanka, and Pakistan in 2015. In that sense, Nepal is not unique as the weakest states of the world cluster around South Asia based on FSI rankings. The FSI includes 12 indicators: “demographic pressures, refugees and internally displaced persons (IDPs), group grievances, human flight and brain drain, uneven economic development, poverty and economic decline, state legitimacy, public services, human rights and rule of law, security apparatus, factionalized elites, and external intervention as its 12 primary indicators.”⁴¹ Lack of infrastructural reach of the state to society (Mann 1984), high ethnolinguistic fragmentation, caste-based hierarchy, and multiplicity of sources of public authority (princes, religious leaders, ethnic leaders, landlords, etc.) have made it hard to establish coherent and effective governance structures in South Asia (Fukuyama 2011).

A significant problem of Nepal’s political transition from an autocratic kingdom to a secular, democratic republic has been instability of the nascent multiparty parliamentary system

⁴¹ <https://thediplomat.com/2014/06/asias-most-fragile-states-are-in-south-asia/>

due to high political mobilization of the masses in protests and rebellion. In a society of high ethnolinguistic diversity and socioeconomic inequality such as Nepal, there are more disagreements than agreements among vying political parties that politicize almost all spheres of life including civil service, businesses, civil society and trade unions. For example, Basnyat and colleagues (2017) observe that over the past 25 years, trade unions in the tourism industry of Nepal have become instruments of political parties vying for power and resources, eroding the unions' traditional role of fighting for worker rights and improved workplace conditions. Party patronage and factional politics have become acute in Nepal's districts as well. Rankin and colleagues (2016) show how building roads have become a highly contested governance issue in Nepal's districts whereby coalitions of administrative and socioeconomic elites, landlords, ethnicity/caste-based organizations, NGOs, and civil society organizations are dominated by competing political parties.

8.1.2. Governance System Two Years Prior to the Earthquakes

Within about two years prior to the 2015 earthquakes, interorganizational networks of Nepal's governance system engaged in conflict and cooperation on several key issues. While Nepal's leaders spent much of their time and energy on adopting a new constitution, governance of economic and public affairs of the country suffered a lot. While the dissolution of the First Constituent Assembly in 2012 and protests due to disagreements over elections, the army, and transitional justice impeded economic investments and productivity, the 2013 November elections and Indian and Chinese investments in 2014 brought renewed hope and optimism to pass the new constitution and implement economic development projects. However, as of January 23, 2015, the Nepali people had lost hope again on passing the new constitution.

This section identifies main actors and issues in Nepal's governance system within about two years prior to the 2015 earthquakes. According to data extracted from the Global Data on Events, Location and Tone (GDELT) Nepali Congress was the most influential actor in Nepal's governance system in this period (see Chapter 5 for discussion of GDELT data and methods). Nepali Congress is the oldest and largest political party in Nepal and won the greatest number of seats in the November 19, 2013 election for the second Constituent Assembly tasked with adopting a new constitution for the country.⁴² As the largest winner of Constituent Assembly seats, Nepali Congress formed a coalition government with the second largest winner of seats the Communist Party of Nepal (Unified-Marxist-Leninist). Sushil Koirala, the chairman of Nepali Congress, led Nepal's government as Prime Minister from February 11, 2014 to October 12, 2015. Nepali Congress was the highest-ranking actor based on weighted degree centrality and second highest in terms of betweenness and closeness centrality.

The United States government was the second most influential player according to weighted degree centrality and the highest-ranking actor according to betweenness and closeness centrality measures. In this period, the U.S. government influenced Nepal's governance in several ways. The U.S. government is one of the top bilateral donors of Nepal assisting in various spheres of governance such as agricultural development, education, trade, and healthcare, with the U.S. Agency for International Development implementing projects worth over USD 205 million during 2009-2014.⁴³ In addition, the U.S. government play a role in Nepal's governance system through its funding for international NGOs, private contractors, multilateral donor agencies such as the World Bank, International Monetary Fund, United Nations, World Trade Organization, Asian Development Bank, and through its security assets in

⁴² <https://epthinktank.eu/2014/11/28/nepals-political-parties-and-the-difficult-road-towards-a-new-constitution/>

⁴³ <http://mof.gov.np/ieccd/newsbook/20140820115245.pdf>

South Asia.⁴⁴ The U.S. government has also an observer status in the main regional organization called South Asian Association for Regional Cooperation (SAARC).⁴⁵

The Supreme Court of Nepal was the third most influential actor based on weighted degree, betweenness, and closeness centrality measures in this period. The Supreme Court has played an important role in Nepal's democratic transition not only by interpreting the laws of the country and determining its own composition but also by restricting what constitutional amendments can be passed (Stith 1996). The Supreme Court not only made important decisions during the peace process of Nepal, the Chief Justice stepped in and governed the country for nine months and oversaw elections for the second Constituent Assembly when the first one ended in crisis without delivering a constitution on May 27, 2012.

The United Nations is ranked fourth with respect to all three centrality measures, while the UN Nepal Office appears in top ten influential actors in terms of weighted degree centrality. The United Nations has been one of the longest and most influential international actors in Nepal ever since Nepal's joining the international community in 1955.⁴⁶ Currently there are nineteen resident and twelve non-resident specialized UN agencies operating in Nepal.⁴⁷ There are seven coordination mechanisms that facilitate inter-agency collaboration within the UN umbrella in Nepal.⁴⁸ In addition, the United Nations played a key brokering role in bringing an end to Nepal's 1996-2006 Civil War and the United Nations Mission in Nepal (UNMIN) oversaw the implementation of the Comprehensive Peace Agreement signed between the Government of

⁴⁴ <https://www.state.gov/r/pa/ei/bgn/5283.htm>

⁴⁵ <https://www.brookings.edu/research/chinas-role-in-saarc/>

⁴⁶ <https://www.un.org/press/en/2006/org1469.doc.htm>

⁴⁷ For a list of all UN agencies operating in Nepal visit <http://mofa.gov.np/un-its-specialized-agencies/>

⁴⁸ <http://www.un.org.np/coordinationmechanism/>

Nepal and the Maoist party.⁴⁹ In 2012, UN agencies employed 2,155 staff (1,859 national and 296 international) to oversee UN projects in Nepal and mobilized USD 259 million.⁵⁰

Table 23. List of UN Coordination Mechanisms in Nepal

Name
UN Country Team in Nepal
Humanitarian Coordination and Clusters
Nepal Risk Reduction Consortium
UN Development Assistance Framework (UNDAF)
Common Country Assessments (CCA)
UN Peace Fund for Nepal (UNPFN)
Thematic Task Forces

Source: <http://www.un.org.np/coordinationmechanism/>

The Election Commission of Nepal was the fifth most influential actor in this period in terms of all three measures of network centrality. The Commission conducts all national, state and local elections in Nepal and ran by Chief Election Commissioner along with five Election Commissioners appointed by the President of Nepal. The Commissioners are above age 44 and have at least bachelor's degree, good moral character, and no political party affiliation.⁵¹ Nepal's elections for the second Constituent Assembly took nineteen months to be conducted – on November 19, 2013 – after the first Constituent Assembly expired on May 27, 2012. The Commission played a central role in conducting a free and fair election to preserve peace in the face of increasing calls for resumption of armed struggle by breakaway Maoist factions.⁵²

The Nepal Army was the sixth most influential actor in Nepal's governance system in this period with respect to degree and betweenness centrality measures and eighths in terms of

⁴⁹ <https://www.un.org/apps/news/story.asp?NewsID=37279#.Wh8GQraZNAY>

⁵⁰ <http://www.un.org.np/coordinationmechanism/aboutUNCT>

⁵¹ https://www.constituteproject.org/constitution/Nepal_2015?lang=en

⁵² https://www.cartercenter.org/resources/pdfs/news/peace_publications/election_reports/nepal-2013-final.pdf

closeness centrality measures. The Nepal Army, which used to be called the Royal Nepal Army before the abolishment of the monarchy in 2008, commands 95,000 troops in six divisions and three specialized brigades across Nepal as of 2012. The Nepal Army is under civilian control – the President of Nepal is the commander-in-chief. The Nepal Army has sent 75,500 troops to 35 United Nations peacekeeping missions across the globe since 1958, including the UN Stabilization Mission in Haiti since 2004.⁵³ The Nepal Army has close links with the Indian Army and India is the largest weapons supplier to the Nepal Army. As of 2012, the US Pacific Command coordinated the US military engagement with Nepal and provided USD 50 million worth of training and technical assistance grants.⁵⁴ In addition to protecting Nepal's porous border with India and mountainous border with China, the Nepal Army deployed two thirds of its force (62,000 troops) when the government mobilized total of 150,000 security personnel to provide security during November 2013 elections for the second Constituent Assembly. It was the first deployment of the army since the end of the civil war in 2006.⁵⁵

The Nepal Police appears seventh in terms of degree centrality measures, but not in top ten according to betweenness and closeness centrality measures. However, the Ministry of Home Affairs, the parent organization of the Nepal Police, appears seventh in terms of the latter measures. The Nepal Police is tasked with maintaining internal law and order in Nepal and has over 42,000 personnel. The Inspector General is the chief of the Nepal Police and reports to the Minister of Home Affairs. In addition, the Ministry also commands over 26,000 officers within a separate paramilitary police organization called Nepal Armed Police Force, which does not have arrest powers but conduct anti-riot, anti-smuggling, counter-insurgency and anti-terrorist

⁵³ 4,665 peacekeepers were actively deployed as of April 2017 http://www.nepalarmy.mil.np/na_un.php

⁵⁴ <https://www.globalsecurity.org/military/world/nepal/army.htm>

⁵⁵ <https://reliefweb.int/report/nepal/analysis-tensions-mount-nepal-contentious-election-nears>

operations. The Ministry of Home Affairs is also in charge of disaster management, immigration, national identification records management, prison system management, and investigations.⁵⁶

The Truth and Reconciliation Commission (TRC) was the eight most influential organization measured in terms of degree centrality, despite its absence in the top ten lists by betweenness and closeness centrality. The TRC, along with the Commission of Investigation on Enforced Disappeared Persons (CIEDP), was established by the 2014 Investigation on Enforced Disappeared Persons, Truth and Reconciliation Commission Act, as required by Article 5.2.5 of the 2006 Comprehensive Peace Agreement between Government of Nepal and the Maoists and Article 33 of the 2007 Interim Constitution of Nepal. Both commissions were formed by the government on February 10, 2015 to investigate grave violations of human rights such as murder, rape, hostage taking, and enforced disappearances during the Nepalese Civil War, 1996-2006 with the goal of bringing the perpetrators to justice and providing reparation to the families of the victims.⁵⁷ The Nepalese Civil War cost at least 13,000 lives (alternatives estimates are at 15,000 and 17,000).⁵⁸ As of July 2014, 1,347 persons were still missing from civil war era.⁵⁹

The World Bank was ranked ninth in terms of degree and closeness centrality measures and tenth in terms of betweenness centrality in this period. The World Bank is one of the top donors and lenders in Nepal. In March 2014, the World Bank had a portfolio of 20 active projects in various areas such as energy, education, food security, water management, healthcare and transportation. The World Bank's active portfolio netted USD 1.5 billion in commitment

⁵⁶ <https://www.nepalhousingreconstruction.org/sites/nuh/files/2017-03/PDNA%20Volume%20A%20Final.pdf>

⁵⁷ <http://www.trc.gov.np/about-us> and <http://www.ciedp.gov.np/index.php>

⁵⁸ <http://www.ohchr.org/EN/Countries/AsiaRegion/Pages/NepalConflictReport.aspx>

⁵⁹ <https://www.icrc.org/en/document/missing-persons-nepal-right-know-updated-list-2014>

with USD 685 million cumulative disbursement. The grant to credit ratio of World Bank's portfolio in Nepal was 45 to 55 percent.⁶⁰

Nepal's Ministry of Commerce ranked eighth in terms of betweenness centrality but did not appear in top ten lists in degree and closeness centrality. The Ministry of Commerce is tasked with registering trading entities, regulating export and import activities, overseeing implementation of investments and infrastructure to facilitate trade, and governing Nepal's relationship with the World Trade Organization and harmonizing its laws with the world trade body. The ministry was unified within the Ministry of Industry, Commerce and Supplies in early 2000s, but later the Ministry of Industry was split and recently the Ministry of Supplies was also split. The Ministry of Commerce governs three public corporations: Trade & Export Promotion Centre (TEPC), Nepal Intermodal Transport Development Board, and Nepal Transit and Warehousing Company Ltd.⁶¹ The Ministry of Commerce took an active role in undertaking the trade and investment deals with India and Nepal in this period, as discussed below.

The Nepal Rastra Bank (NRB) was the ninth top actor in terms of betweenness centrality but did not appear in top ten lists of degree and closeness centrality. This is probably because of NRB's brokerage role as the central bank of Nepal that is tasked with managing the foreign exchange reserves of Nepal, regulating the foreign exchange policy, governing Nepal's monetary policy, and supervising the banking and financial institutions of the country. The governor, two deputy governors, and three directors are appointed by the Council of Ministers for five-year terms. The Board of Governors of NRB includes the latter as well as the secretary and the Minister of Finance.⁶²

⁶⁰ <http://siteresources.worldbank.org/SOUTHASIAEXT/Resources/223546-1398285132254/Nepal-Country-Snapshot-Spring-Meetings-2014.pdf>

⁶¹ <http://www.moc.gov.np>

⁶² <https://nrb.org.np/aboutus/bod.php>

Nepal's Council of Ministers appeared as the sixth most influential actor in terms of closeness centrality measure but did not appear in top ten lists in terms of degree and betweenness centrality measures. The Council of Minister's is Nepal's cabinet, headed by the Prime Minister. The Council of Ministers is housed jointly with the Office of the Prime Minister. The Council of Ministers of Nepal is where most high-level executive and policy decisions of the Government of Nepal are made. While Nepal's constitutions have put an upper limit to the number of cabinet members, prime ministers have from time to time included more ministers without portfolios to affect the decision-making process within the council while also enlarging the pool of titles used for patronage. For example, the Prime Minister Deuba's cabinet includes four deputy ministers and twenty line ministers, reaching the legally prescribed 25 limit for cabinet membership. However, he also added nine more ministers without portfolio to the cabinet. Similarly, in addition to adding 25 state (junior) ministers, the PM added seven more state ministers without portfolio.⁶³

The European Union was the tenth most influential actor in terms of closeness centrality but did not appear in top ten in terms of degree and betweenness centrality. In addition to development assistance projects financed by individual member states, the European Union has played an important role in Nepal's economic development and political conflict resolution. The EU-Nepal are governed by the EC-Nepal Cooperation Agreement of 1996 but also by numerous regional and multilateral initiatives, including the EU's assistance in strengthening the South Asian Association for Regional Cooperation (SAARC).⁶⁴ In 2011-2013, the EU allocated USD 75 million to support Nepal's electoral process, school sector reform, public finance capacity building, and trade facilitation. In addition, Nepal has benefitted USD 10 million from the EU

⁶³ <http://opmcm.gov.np/en/cabinet/>

⁶⁴ https://ec.europa.eu/europeaid/sites/devco/files/csp-nepal-2007-2013_en.pdf

supported Global Climate Change Alliance Facility to improve its food security monitoring and analysis systems.⁶⁵

In this period, interorganizational cooperation and conflict in Nepal's governance system revolved around five key themes.

a) Political Instability and Ineffective Governance

After the expiration and dissolution of the First Constituent Assembly on May 27, 2012, Nepal experienced uncertainty and instability as the political elite took 18 months to conduct new elections for the Second Constituent Assembly in November 2013. The First Constituent Assembly failed to meet four deadlines to adopt a new constitution since 2008 mainly due to disagreements between mainstream Nepali Congress and UML on the one hand and Maoists and ethnic parties such as Madhesis, Tharus, and other smaller ethnic parties on the other hand on the number and names of federal provinces, form of government (parliamentary or presidential) and the structure of the judiciary (Adhikari and Gellner 2016). Moreover, issues of integrating former Maoist rebels into the Nepal Army and transitional justice had not been resolved yet and thus complicated political negotiations. Without a parliament, the government led by the Maoist Prime Minister Baburam Bhattarai operated without budget for eight months due to disagreements among political leaders (Kaphle 2013). In March 2013, the four major parties finally agreed through a High-Level Political Mechanism on a new caretaker government led by the Supreme Court Justice in March of 2013. Such an interim government is criticized on the grounds of violating the separation of powers principle. In April 2013, the new caretaker government and the political elite started discussions regarding new elections. While initial plans

⁶⁵ https://ec.europa.eu/europeaid/countries/nepal_en

for elections were set for June, it was deferred to November due to disagreements among political party leaders and public protests by breakaway Maoist parties.⁶⁶

In this period, as Nepal's leaders spent most of their efforts in new elections and passing a constitution, governing public and economic affairs of the country was left on the backburner. Nepalese citizens grew increasingly dissatisfied with poor economic conditions due to political instability and the inability of the leaders to pass a constitution during the five years since the First Constituent Assembly was vote in in 2008. The leftist parties, especially the Maoists were blamed because the votes had given them the largest number of seats in the First Constituent Assembly elections in 2008 (Kaphle 2013).

As governance of public services and economic affairs of the country suffered due to dissolved parliament and inability to pass a new constitution, corrupt practices of the civil war years continued unabated. When interviewed, many businesses reported receiving letters from political parties demanding contributions (extortion and bribery). Some political parties still maintained private armed groups as enforcers. Such contributions usually ranged from USD 1,000 to 5,000 based on the size of the business and those who refused were threatened with vandalism and violence.⁶⁷ Even in major corruption cases that attracted wide media attention, political parties were reported to influence in their favor the supposedly independent investigations conducted by the Commission for the Investigation of Abuse of Authority (CIAA).⁶⁸

Due to lack of effective governance to address major corruption issues, the Nepalese citizens resorted to hunger strikes and protests to attract attention to the problem and to demand

⁶⁶ <http://www.nydailynews.com/news/world/carter-ngo-observe-elections-nepal-article-1.1304370>

⁶⁷ <http://www.nytimes.com/2013/11/07/world/asia/in-fractured-nepal-plans-for-national-elections-provide-a-series-of-subplots.html>

⁶⁸ <http://kathmandupost.ekantipur.com/news/2014-12-18/politicians-try-to-influence-ciaa.html>

resolution at the risk of losing their lives. For instance, a renowned medical doctor undertook a two-week hunger strike protesting the government's inappropriate sacking of Tribhuvan University's Institute of Medicine dean and appointing a new dean for political patronage. Many health professionals around the country joined the doctor and protested publicly in solidarity. As a result, there were public discussions regarding politicization of medical industry and colleges in Nepal as political party leaders have investments in these institutions. There were media reports claiming that "political patronage has plagued just about all professional institutions, with meritocracy taking a back seat... [politicization of appointments in] medical colleges and hospitals is merely a manifestation of the larger malaise that now plagues all walks of life—the bureaucracy, the police, all kinds of professional groups and even the media."⁶⁹ Licensing of medical facilities and colleges could be approved only through bribery. Many health professionals lost confidence in the system.⁷⁰ The same doctor held another 11-day hunger strike a year later in March 2015, as the government had failed to implement reforms in medical education system and corrupt political practices in licensing of medical colleges as promised.⁷¹

Experts point out that governance quality in Nepal deteriorated in the post-1990 transition period due to politicization of the bureaucracy by major parties, which blocked implementation of government policies and legislation when it did not suit them and resorted to corruption and abuse of power to pursue their interests. This hampered proper professionalization and standardization of conduct in government bureaucracies. Bureaucratic leadership also suffered as political expediencies trumped rules while ordinary citizens were inundated with red tape in the

⁶⁹ <http://kathmandupost.ekantipur.com/news/2014-01-27/a-dark-chapter.html>

⁷⁰ <https://blog.com.np/2014/03/05/an-analysis-of-corruption-in-nepal-is-it-becoming-socially-acceptable/>

⁷¹ https://www.washingtonpost.com/news/worldviews/wp/2015/04/01/as-hunger-strike-weakens-nepali-doctor-his-protest-movement-strengthens/?utm_term=.1bf9391891c6

absence of real service delivery.⁷² Thus, many Nepalese citizens highly distrust police, courts, and government officials due to corruption as they are implicated in illegal activities such as gold-smuggling, substandard medicine imports for profit, bribery for licensing, accreditation, and procurement.⁷³ Transparency International's Global Corruption Barometer showed that 90 percent of Nepalese citizens consider political parties corrupt or extremely corrupt, 85 percent believe that government officials and civil servants are corrupt or extremely corrupt, and 72 percent think that corruption has worsened in the past two years. The Chairman of the Transparency International-Nepal, Bishnu Bahadur KC, argued that government bureaucracy must be insulated from political party influence to alleviate Nepal's corruption problem.⁷⁴

Increased political instability, ineffective governance and corruption in this period affected all aspects of public and private affairs in Nepal. In December 2013, the European Union Commission banned all Nepalese airlines carrying both passengers and cargo from flying into the 28 EU countries due to air safety concerns. (The Commission requested the European Aviation Safety Agency to initiate an aviation safety assistance project to Nepal).⁷⁵ More and more Nepalese citizens left home in search of jobs abroad. By 2015, more than ten percent of Nepal's labor force was abroad (in construction and domestic services) and Nepal's remittances made up more than one fourth of Nepal's GDP. Due to abuse and lack of basic worker safety standards hundreds of labor migrants died every year in gulf countries, as constantly reported by

⁷² [www.telegraphnepal.com/national/2014-01-15/nepal-army-\(na\)-has-role-in-strengthening-and-consolidation-of-state](http://www.telegraphnepal.com/national/2014-01-15/nepal-army-(na)-has-role-in-strengthening-and-consolidation-of-state)

⁷³ <https://blog.com.np/2014/03/05/an-analysis-of-corruption-in-nepal-is-it-becoming-socially-acceptable/>

⁷⁴ <http://kathmandupost.ekantipur.com/news/2014-05-21/political-interference-in-bureaucracy-abetting-corruption-says-ti-report.html>

⁷⁵ <https://timesofindia.indiatimes.com/world/europe/EU-bans-all-airlines-from-Nepal-to-fly-into-the-28-nation-bloc/articleshow/26915299.cms>

media and human rights organizations.⁷⁶ Despite open borders and free movement of people across Nepal-India borders, exchanging Nepali currency into Indian currency became a challenge. In March 2014, there was acute shortage in Nepal for Indian currency so that Nepalese citizens wanting to travel to India had to wait in long queues to buy Indian currency. The Nepalese currency was not accepted even at banks or exchange stores in India. Because the Nepal Oil Corporation owed nearly NPR 9 billion to the Indian Oil Corporation for imports of petroleum products and had to make payments in Indian Rupees, this led to further shortage of Indian Rupees in Nepal. The government increased the price of petroleum products only to reverse its decision after student organizations held public demonstrations against the decision.⁷⁷

Due to ineffective governance, illegal activities at the Nepal-India border increased considerably. Nepal's and India's security forces, including the armies, police, and armed police forces, however, continued to collaborate to fight crimes such as smuggling of abusive drugs and small arms, robbery, abduction, extortion and homicide.⁷⁸ In August 2013, India created five new posts along its border with Nepal to check criminal entries and curb smuggling of arms.⁷⁹ Two Indian terrorists A. K. Tunda and Y. Bhatkal in India's most wanted list were arrested in August 2013 in Nepal and handed over to India.⁸⁰ Fighting crimes such as smuggling currency and gold, trafficking protected species, and terrorism is challenging because of the open nature of the 1,700 km border between India and Nepal. Criminals usually escape justice by running from one country to the other.⁸¹ The terrain is also harsh in many parts of the border, making targeted

⁷⁶ https://www.washingtonpost.com/world/asia_pacific/nepal-once-known-for-farming-now-exports-people-migrants-earn-big-but-face-risks/2014/03/23/5858ca52-8441-11e3-bbe5-6a2a3141e3a9_story.html?utm_term=.a47914293143

⁷⁷ <http://www.thehindu.com/news/national/onceabundant-indian-rupee-now-a-rare-sight-in-nepal/article5823258.ece>

⁷⁸ http://www.business-standard.com/article/politics/nepal-identifies-17-cross-border-crimes-on-border-with-india-113083000504_1.html

⁷⁹ <http://www.indiatvnews.com/news/india/india-creates-23-new-border-posts-along-nepal-bhutan-26549.html>

⁸⁰ <http://www.firstpost.com/politics/tunda-bhatkal-were-arrested-in-nepal-says-report-1072887.html>

⁸¹ <http://kathmandupost.ekantipur.com/news/2014-02-18/nepals-stability-prosperity-indias-strategic-objective.html>

enforcement much more challenging. While the 1950 Treaty of Peace and Friendship between India and Nepal has allowed their citizens to legally reside, work, and own property in both sides of the border, India worries that many who cannot enter India for illegal activities find an easy way to enter India through Nepal as Nepal relies on tourism and aid and has made it easy to get visa on arrival to enter the country.⁸²

Making things worse, a panel of scientists issued a report in July 2013 that the 2010 cholera outbreak in post-earthquake Haiti was likely introduced by UN peacekeepers from Nepal. The report led to debates in the international community in assigning responsibility of the outbreak to the UN as the Nepalese government also countered the claims. There were many lawsuits against the UN by parties representing the victims of cholera in Haiti (Lynch 2013). The Nepal Army's reputation at home and abroad suffered from the allegations as well as from the UK government's arrest of a colonel of the Nepal Army in February 2013. The Nepal Army is one of the most powerful institutions in Nepal and yet has a limited role in the country's national politics. The Nepal Army has a history of supplying soldiers to the British Army and being currently the seventh largest per capita contributor of troops to the UN peacekeeping missions.⁸³

Due to lack of effective governance by Nepal's political leaders, the Supreme Court of Nepal grew into an increasingly influential role in Nepal's governance system. In March 2013, the Supreme Court's Chief Justice formed a new government to be in power until new elections are held. The Supreme Court also made several important decisions to affect public affairs in Nepal. On June 11, 2013 Nepal's Supreme Court ruled that the government must make changes in the country's passport so that transgender individuals do not need to describe themselves as

⁸² <https://economictimes.indiatimes.com/news/politics-and-nation/india-nepal-border-increasing-wrinkles-on-the-forehead-of-security-services/articleshow/44887898.cms>

⁸³ <https://thediplomat.com/2013/10/the-deft-politicking-of-nepals-army/>

either male or female.⁸⁴ In September 2013, the Supreme Court of Nepal banned individuals with criminal conviction to run for seats in the November elections.⁸⁵

Despite lack of effective governance in Nepal, projects with foreign development partners continued, albeit at a much lower rate. In December 2013, India announced a project to set up high-voltage, direct current power transmission lines with Nepal.⁸⁶ Nepal's and India's Commerce Ministers met to discuss tariffs and methods to reduce cross-border illegal trade. India also donated 10,000 cows to Nepal to help with Nepal's increasing demand for milk.⁸⁷

The U.S. Agency for International Development (USAID) continued its efforts in assisting Nepal with reforming its health, education, and disaster risk reduction sectors. In August 2013, USAID started the Program for Enhancement of Emergency Response (PEER) to improve education on search and rescue and health risk reduction during disasters.⁸⁸ In January 2014, there were reports regarding collaborative work among Ministry of Health and Population, NSET, WHO, Ministry of Home Affairs, hospitals, and national government's Health Emergency Operation Center to upgrade hospital buildings and run a database of all hospitals and clinics and medical personnel so that in case of a major earthquake they can manage public health effectively.⁸⁹ There were also discussions regarding Nepal's acute need for treating mental health problems of victims of the civil war in Nepal. Representatives from the World Health Organization (WHO), Nepal's Ministry of Health, Nepal's only mental health hospital called

⁸⁴ <http://www.livemint.com/Consumer/jA6j2oVNqm1jI6n4krv5zO/Nepal-court-orders-passport-change-for-transgenders.html>

⁸⁵ <http://www.achrweb.org/briefingpapers/BPNepal-02-2013.pdf>

⁸⁶ <https://economictimes.indiatimes.com/industry/energy/power/india-to-set-up-hvdc-transmission-line-with-nepal-bhutan/articleshow/26898438.cms>

⁸⁷ <http://www.thehindu.com/news/international/south-asia/india-nepal-to-check-illegal-border-trade/article5490341.ece>

⁸⁸ <https://www.forbes.com/sites/theapothecary/2013/08/15/near-absence-of-government-in-health-reform-lessons-from-nepal/#2636da7ffba9>

⁸⁹ <http://www.irinnews.org/feature/2014/01/21/nepal's-health-sector-more-earthquake-ready>

Mental Hospital, Tribhuvan University Teaching Hospital and its Institute of Medicine, the Center for Victims of Torture's Nepal office, and the Center for Mental Health and Counseling-Nepal had discussions related to bringing mental health counseling services to local communities using community-based health service provision models in Nepal.⁹⁰ In cooperation with the World Health Organization, and Nepal's Public Health Concern Trust, a local NGO Nyaya Health, which runs a local hospital in Nepal's Far West Region, started using the internet and patient stories to crowd-fund urgent medical surgeries.⁹¹

b) 2nd Constituent Assembly Elections

In addition to dismal economic conditions, corruption, political instability due to dissolved parliament and failure to adopt a constitution, Maoist combatant integration into the Nepal Army, transitional justice issues, and splits within Maoist and Madhesi parties were the main issues that preceded the November 2013 elections to the Second Constituent Assembly.

As the Maoists had spurred nationalism and anti-India sentiments during their leadership in government, they needed to mend relations with India in order improve their odds in the new Constituent Assembly elections. The Maoists abandoned anti-India sloganeering in February 2013. In April 2013, the UCPN-Maoist chief Dahal visited India and called for trilateral economic and political cooperation between China, India, and Nepal.⁹² At home, however, the Maoists suffered factional splits due to the party's compromise on reducing to 1/10th the number of ex-rebels to be integrated in the Nepal Army. The hardline, breakaway faction of the Maoists

⁹⁰ <http://www.irinnews.org/report/99314/nepal's-post-conflict-mental-health-needs-neglected>

⁹¹ <http://www.irinnews.org/news/2013/12/20/crowd-sourcing-nepal's-rural-healthcare>

⁹² <http://www.livemint.com/Politics/DWzekVf59HPiV7nntXjv8O/Prachanda-calls-for-partnership-between-India-Nepal-China.html>

(itself split into two parties) conducted strikes and promised to boycott the elections.⁹³ At the end of September 2013, the head of the breakaway Maoist party in collaboration with the other 33 small parties demanded the Supreme Court Chief Justice and the head of the interim government resign from the Supreme Court chief position and criticized the move by the four main parties to deploy the Nepal Army during elections.⁹⁴ The anti-election protesters vandalized voter registration equipment, torched cars of candidates, set fire to copies of the Election Code of Conduct mostly in rural areas but also in Kathmandu in October 2013, and promised to organize a 10-day nationwide transportation strike in the days leading up to the November 19th election.⁹⁵

As Maoist guerilla fighters integrated into the Nepal Army, there were cases of hunger strikes and demands to bring Maoist fighters to justice by the relatives of victims who died in the hands of Maoist rebels. There were also hunger strikes by relatives of those who disappeared or were killed by the government security forces during the conflict. While the Truth and Reconciliation Commission Act was signed by Nepal's President into law, in practice the commission has not been formed, as the parties have objected to investigation of war time cases. Nepal's Human Rights Commission argued that investigations will be conducted, and justice will be attained.⁹⁶ Victims' representatives also filed cases with the Supreme Court and took cases to the United Nations and other international venues.⁹⁷ Victims' relatives held months of hunger strikes even when their doctors had to place nutrient tubes under their clavicle. They complained that the concepts of transitional justice and truth and reconciliation were misrepresented in Nepal and impunity continued in the name of peace process.⁹⁸ Finally in April 2014, the Constituent

⁹³ <https://blog.com.np/2013/06/18/elections-2013-challenges-ahead-for-nepal/>

⁹⁴ <http://www.telegraphnepal.com/headline/2013-09-30/nepal:-baidya-party-prefers-poll-but-regmi-resignation-must-says-gurung.html>

⁹⁵ <http://www.irinnews.org/report/99031/analysis-tensions-mount-nepal-contentious-election-nears>

⁹⁶ <https://blog.com.np/2013/08/29/rights-and-wrongs-two-photos-two-stories-justice-and-injustice-nepal/>

⁹⁷ <http://www.ipsnews.net/2013/09/killers-roam-free-in-nepal/>

⁹⁸ <http://kathmandupost.ekantipur.com/news/2014-01-03/nepal-and-the-age-of-accountability.html>

Assembly finalized and passed a bill that created two commissions to investigate war crimes committed by both sides while also specifying the criteria for amnesty. National Network of Families of Disappeared Persons, Nepal's Supreme Court, human rights groups and activists, hunger strikes, the UN have played an important role in advocating for transitional justice.⁹⁹

Nepalese citizens and politicians alike complained, however, that money has become the most important part of elections as parties were rewarding financial contributors by giving seats won through proportional representation (PR) system.¹⁰⁰ In that sense, the PR system has evolved into selling party lists, whereas the original intent was to increase diversity among lawmakers. Some wealthy individuals openly supported political parties. For instance, in October 2013, Nepal's only billionaire Binod Chaudhary declared his support to one of the top four parties CPN-UML.¹⁰¹

In November 2013, Nepal finally held elections for the second Constituent Assembly after the first one did not deliver a constitution and ran out of time in May 2012. The results of the election put a spotlight on the disappointed public who had mandated political parties dominated by the Maoist party and many other ethnic parties against the establishment parties of Nepali Congress and UML. Because of disagreements over the structure of government and division of power among the parties, the leaders had neglected their job of governing the country as many public and private sector projects were left unimplemented due to political instability and uncertainty. The November 2013 election results demonstrate that the people were fearful of fragmentation of Nepal led by the leftists and ethnic parties and voted to support the centrist right Nepali Congress and the rightist, religious and pro-monarchy party RPP-Nepal. The center leftist

⁹⁹ <http://www.aljazeera.com/indepth/features/2014/04/seeking-justice-nepal-war-crimes-201442812829143761.html>

¹⁰⁰ https://www.telegraphindia.com/1131118/jsp/foreign/story_17582795.jsp

¹⁰¹ <http://www.reuters.com/article/us-nepal-billionaire/a-billionaire-and-a-ghost-trading-floor-the-tale-of-nepals-paralysis-idUSBRE9960UP20131007>

party that has championed liberal capitalism also gained votes becoming the second largest party in CA-II as opposed CA-I where the Maoists won the greatest number of seats. The Maoist party and the Madhesi parties had splintered into factions as the hardliners broke away from the main parties due to compromises with the established parties. Their loss of considerable number of seats in this election reflect the fact that many Nepalese citizens came to believe that ethnicity and identity-based federalism would lead to further instability, if not the demise of the Nepalese state, and that the Maoists and Madhesi led revolution for a New Nepal suffered a retreat. Some observers also argued that the interim government led by the Supreme Court Chief Justice, the Nepal Army, and the President of Nepal used administrative resources and collaboration with India to consolidate power in the hands of Nepal's mainstream party Nepali Congress.¹⁰²

In the Madhesi areas of Terai, Nepali Congress emerged as the largest winning party. In addition to non-Madhesi populations of Terai, even Madhesis have voted for the Nepali Congress, instead of ethnic Madhesi parties. The reasons are simple. Many ordinary Madhesis were dissatisfied with increased levels of political violence and banditry that was prevalent in the regions during the past five years. People complained about worsened economic conditions. Both Biratnagar and Birgunj, major Nepalese industrial hubs in the Terai, suffered from lackluster industrial output. The tobacco factory in Janakpur, another major population center in Terai, went out of business as many lost their jobs (the factory was the largest employer in the area and drove much of the economic activity in the region). Madhesis looked to the Nepali Congress and UML for good jobs, cars, well paved roads, and better irrigation projects. Their disappointment with ethnicized politics was felt strongly as they voted based on their urgent economic issues

¹⁰² <http://www.frontline.in/world-affairs/revolution-in-retreat/article5443844.ece>

instead of their wishes for ethnopolitical autonomy. Because Madhesi leaders promised much but did not realize their promises, people chose to vote for development and stability.¹⁰³

c) Formation of New Government

With surprising outcome of the elections, Nepalese leaders formed a new government to usher in some hope that economic conditions will improve, and a new constitution will be passed. While a few disagreements made it harder to form a government and pass a new budget, Nepalese leaders were able to rise above their disagreements and start afresh to improve governance in Nepal.

The first disagreement started when both President Yadav and Chief Justice Regmi, who was the Interim Prime Minister and head of the Election Commission, claimed the right to call the first meeting of the second Constituent Assembly. The dispute had to be settled in the Supreme Court due to ambiguities in the Interim Constitution of 2017, which did not foresee a second Constitutional Assembly. The first meeting of the CA-II was finally held on January 22, 2014 with the Chief Justice calling the meeting and the President issuing a statement that called for forming a new government. At the first meeting, the members of CA-II reached an agreement to adopt a new constitution within a year, i.e., by January 22, 2015.¹⁰⁴

It took another eighteen days for the leaders to form a government. On February 10, 2014, the Nepali Congress leader Sushil Koirala finally emerged as the new Prime Minister in alliance with the second largest party UML. Experts pointed out that Prime Minister Koirala has the backing of smaller parties and independent members of the Constituent Assembly to make him a more likely leader who can bring the country's leaders together to adopt a new

¹⁰³ <https://thediplomat.com/2013/12/the-madhes-and-the-future-of-nepal/>

¹⁰⁴ <http://www.indileak.com/nepal-summons-first-constituent-assembly-meeting-on-january-22/>

constitution. Mr. Koirala is reportedly known to have skills in negotiations and political alliance building because of his family ties with previous leaders of the country and his lifelong experience in politics (Sushil Koirala is the fourth Koirala to hold the position of Prime Minister in Nepal).¹⁰⁵ To get the votes for the position, Sushil Koirala reached a six-point agreement with UML. The agreement included power-sharing in the cabinet, drafting a new constitution within a year of taking office, holding elections for presidency, vice-presidency, and parliament speakership, and not overturning the laws made during CA-I that, among others, declared Nepal a secular, federal republic.¹⁰⁶

Other experts disagreed pointing out that while Koirala led the Nepali Congress for 23 years, he never held a government position and thus does not have experience in public administration. Mr. Koirala also served a prison term in the past for being involved in the 1973 hijacking of an airplane that was carrying the King's gold to India and seizing the money to use for revolutionary activities of the Nepali Congress against the monarchy. However, many still believe that the unmarried man in his late 70s is soft spoken and clean from corruption.¹⁰⁷

While Koirala had agreed to give the positions of Minister for Home Affairs and the Deputy Prime Minister to the UML party leaders in a verbal "gentleman's agreement," which is a common practice among Nepal's politicians, he reneged on his promise after he was sworn in as Prime Minister. This led to serious political tensions in forming the cabinet as the UML boycotted the inauguration ceremony and sat out the first two weeks of government.¹⁰⁸ Koirala considered joining forces with UCPN-Maoist and the royalist Rashtriya Prajatantra Party (Nepal)

¹⁰⁵ <http://www.bbc.com/news/world-asia-26116387>

¹⁰⁶ <https://economictimes.indiatimes.com/news/international/world-news/nepal-parliament-elects-sushil-koirala-as-new-pm/articleshow/30159955.cms>

¹⁰⁷ <https://www.reuters.com/article/us-nepal-parliament-pm/nepal-picks-koirala-as-new-pm-but-challenges-remain-idUSBREA1908U20140210>

¹⁰⁸ <http://www.scoop.co.nz/stories/HL1501/S00016/strength-and-weakness-of-nepalese-political-parties.htm>

leaders in forming a new government but had pushback from within his own party. Koirala finally gave in as his power was being questioned by Sher Bahadur Deuba, who lost his party's nomination for Prime Minister to Koirala only with a small margin. The Council of Ministers was finally formed on February 24, two weeks after his election as the Prime Minister.¹⁰⁹

In July 2014, the Government of Nepal introduced a complete budget, first in the past three years that were mired in instability, outlining major spending programs. The Finance Minister R. S. Mahat stated that the USD 6.4 billion budget will be spent on enhancing energy supplies, transportation infrastructure and agricultural development. The budget is twice the regular budget amounts because of unspent expenditures piling up over the past three years after the dissolution of the First Constituent Assembly. The government unveiled a road project that would connect Kathmandu to India through Terai. The government also set up low interest loans to help villagers set up small farms instead of traveling abroad for work. The introduction of the budget was delayed as lawmakers demanded that each constituency's development budget be increased to NPR 50 million from one million. They compromised on an initial NPR 10 million allocation and the budget was introduced.¹¹⁰

d) Changes in External Environment

The victory of the conservative, nationalist Hindu Bharatiya Janati Party (BJP) in Indian general elections of April-May 2014 and its leader Narendra Modi's tenure as Prime Minister of India affected the dynamics of governance in Nepal. As soon as Modi won the elections, he initiated a policy of Neighborhood First to prioritize India's relations with its neighbors to counter the increasing influence of China in what India considers its sphere of influence in South Asia. Modi

¹⁰⁹ <https://thediplomat.com/2014/03/nepal-tries-again-to-write-a-constitution/>

¹¹⁰ <http://www.abc.net.au/news/2014-07-14/nepal-unveils-first-full-budget-in-three-years/5593454>

invited all the leaders of the South Asian Association for Regional Cooperation (SAARC) countries to his inauguration ceremony. Under Modi's leadership, India elevated the status of its relations with neighbors to political levels from merely routine bureaucratic affairs, giving high priority in buttressing India's role in the economies and governance of neighboring countries. China responded in kind by increasing its own investments and commitments in South Asian countries. Chinese investments had grown significantly especially in Sri Lanka, Bhutan, Pakistan, and Afghanistan but also in Nepal in recent years.

In May and June, after Modi's election as Prime Minister, the Nepalese and Indian media start discussing the increasing Chinese influence on Nepal and India's worries about it at an increasing rate.¹¹¹ Previously, in March 2013, after Nepal Army had completed the integration of 1,352 former Maoist fighters and political parties cleared the way for resumption of purchase of military supplies from India that came to a halt in 2005. In July 2013, Indian Minister for External Affairs had announced that India would be providing military supplies through loans and subsidies to Nepal.¹¹² In response to India's efforts, the Chief of Nepal Army and a general from the Chinese People's Liberation Army met to reiterate China's commitment to provide military aid to Nepal worth USD 7.7 million, assist with training, and set up two mobile hospitals for the Nepal Army in response to Nepal's support to One China policy and curbing of anti-Chinese activities of Tibetan refugees in Nepal.¹¹³ There appeared growing signs and evidence of growing influence of China on Nepal on India's radar.¹¹⁴

In August 2014, Modi visited Nepal to improve bilateral relations and promised a USD 1 billion worth of investments. A week before him, his FM visited Nepal to prepare ground for his

¹¹¹ <http://www.bbc.com/news/world-asia-22365488>

¹¹² <http://indiatoday.intoday.in/story/india-resumes-military-supplies-to-nepal/1/290835.html>

¹¹³ <http://www.thehindu.com/news/international/world/china-nepal-agree-to-deepen-military-ties/article4951454.ece>

¹¹⁴ <http://www.scmp.com/magazines/post-magazine/article/1572819/caught-middle>

visit. Modi's visit was the first Indian PM visit to Nepal in 17 years. It improved direct political ties instead of just relying on bureaucratic ties. Modi's first visit was to Bhutan, second to Nepal and third to Sri Lanka, while also improving ties with Bangladesh, Pakistan, and Afghanistan. Modi started a Neighborhood First Policy to counter increasing Chinese influence in the region through China's One Road, One Belt project. Modi promised to invest in Nepal's hydropower and infrastructure sectors and complete projects in a timely manner.¹¹⁵

In response, China announced its own plans for infrastructure development in Nepal. In August 2014, the Chinese government announced that by 2020 China will complete a railway extension from Tibet to Indo-Nepalese border through Kathmandu. In 2006, China had linked Tibet's capital city Lhasa to its railroad network.¹¹⁶ Recently, the railroads were extended from Lhasa to Tibet's border with Nepal – the town of Xigaze, which is situated only 253 km away from China's border with Nepal and India.¹¹⁷ China prepared a blueprint for the railroad extension project in early January 2015 and both Chinese and Nepalese officials signed an agreement on implementing it.¹¹⁸

Following up on Modi's promises, Indian and Nepali officials signed the Indo-Nepal Power Trade Agreement in September 2014, paving the way to further hydropower and energy development. In September 2014, the Investment Board of Nepal signed a hydropower deal worth USD 1.4 billion with the Indian energy infrastructure company called GMR. The deal was expected to be the first of four such large energy projects. The project includes building a 900-megawatt dam and a tunnel system with the goal of providing electricity to Nepal as well as

¹¹⁵ <https://www.nytimes.com/2014/08/04/world/asia/nepal-enthralled-by-visit-of-indian-prime-minister-narendra-modi-who-hits-the-right-notes.html>

¹¹⁶ <http://www.livemint.com/Politics/Rn8aHaXVsdY6Xcu1ZH8zrN/China-planning-railway-line-to-India-Nepal-borders-by-2020.html>

¹¹⁷ <https://thediplomat.com/2015/01/nepal-chinas-gateway-to-south-asia/>

¹¹⁸ <http://www.thehindu.com/news/international/south-asia/nepal-to-join-silk-road-economic-belt-through-tibet/article6749342.ece>

exporting it to India. The deal includes a form of contract called “build, own, operate and transfer”. GMR will give 12 percent of the electricity output to Nepal for free for 25 years. After 25 years, the ownership will be transferred to Nepal. Nepal will also benefit 27 percent of the profits that will originate from exporting electricity to India. The hydropower station is expected to be built by 2021. All four projects will benefit Nepal through taxes, royalties, energy, dividends, and ownership in the amount of USD 17 billion – which is almost equal to Nepal’s annual GDP.¹¹⁹ Nepal will own 27 percent of the profits through its public corporation the Nepal Electricity Authority¹²⁰ In addition to hydropower deals, the Export-Import Bank of India extended a USD 1 billion line of credit to Nepal in December for hydro and infrastructure projects.¹²¹ Further, Nepalese and Indian border officials and surveyors from convened to resolve the remaining 7 percent of Indo-Nepal border that was not clearly demarcated yet.¹²² Election of Modi appeared to improve Nepal’s fortunes considerably, ushering in more hope to the country.

The South Asian Association for Regional Cooperation (SAARC) also became part of increasing regional rivalry between India and China. As India tries to accelerate regional economic integration through common infrastructure and trade projects, rather hostile relations with Pakistan slows the progress made through the regional body. In addition, Pakistan and other members of the SAARC are pushing the idea of China transitioning from an observer status into full membership, which India stands to oppose. In March 2014, Nepal’s former Foreign Secretary Arjun Bahadur Thapa was selected as the Secretary General of the SAARC.¹²³ In

¹¹⁹ <https://www.ft.com/content/ff40a2d2-422c-11e4-a9f4-00144feabdc0>

¹²⁰ <http://www.livemint.com/Companies/Pu8KypRY2WXHRR8ZzoUTYP/GMR-signs-agreement-with-Nepal-for-900MW-hydro-project.html>

¹²¹ <http://www.livemint.com/Politics/3WoV3fIU0LYmWDHoTncutI/Exim-Bank-gives-1-billion-to-Nepal-the-largest-since-2011.html>

¹²² <https://thediplomat.com/2014/09/india-and-nepal-tackle-border-disputes/>

¹²³ <http://www.thehindu.com/news/international/south-asia/nepals-arjun-bahadur-thapa-is-new-saarc-secretary-general/article5746895.ece>

November 2014 Nepal held the 18th SAARC summit in Kathmandu. Modi visited Nepal again for the SAARC summit. Modi's main goal was to increase connectivity among SAARC member states. Some proposals include improving road, train, flight, and telecom connectivity in the region.¹²⁴ Modi also urged Nepal's leaders to pass the constitution as soon as practical but with national consensus instead of pushing through with 2/3 majority of the CA. The NC-UML coalition was attempting to pass it through 2/3 majority instead of consensus.¹²⁵

e) Another Attempt, Another Failure

With renewed hope and optimism, the Constituent Assembly and the new government led by coalition of Nepali Congress and UML made another attempt at adopting a new constitution for the country. However, the attempt ended in yet another failure because of disagreements among Nepal's political leaders. While the mainstream parties of Nepali Congress and UML interpreted their victory in the November 2013 elections as the popular verdict for unity and against ethnicity or identity-based federalism, the Maoists and ethnic parties such as Madhesis who preferred greater number of federal provinces based on ethnic groups insisted on adopting a constitution that is not passed through a minimum requirement of 2/3 majority but through near-unanimous political consensus in the Constituent Assembly. While the mainstream political leaders had been able to sway many Maoist and Madhesi leaders into the mainstream, many hardline Maoists and Madhesis were not on the same page. At this point, at least one thing was obvious: as soon as the Comprehensive Peace Agreement was signed in November 2006 concluding the civil war with the brokerage of the UN, many mainstream political leaders argued

¹²⁴ <http://www.livemint.com/Politics/Z3AZhn3hmHCQWfCcWnGyK/India-looks-to-build-greater-road-air-links-with-Saarc.html>

¹²⁵ <http://www.livemint.com/Politics/5rsWrmWaPWV3irdkP1K14L/Narendra-Modi-calls-for-urgency-on-Nepal-constitution.html>

that they gave away too much and needed to fight back against those promises. According one expert, many mainstream leaders believed that they did not even need a new constitution.¹²⁶

With electoral victory of the BJP party in India and ascension of Modi to the position of Prime Minister of India, not only had the contours of Indian influence over Nepal had changed, but also the royalist, right-wing Hindu leaders of RPP under the leadership of Kamal Thapa also had strengthened beyond increasing their Constituent Assembly seats in the November 2013 elections. One of the UML party leaders Pradip Gyawali argued that many Nepalese leaders routinely consulted with the Indian intelligence (RAW) officials to improve their positions in negotiations.¹²⁷ Moreover, NC and UML leaders met with the Indian ambassador at the Indian embassy weeks before the January 22, 2015 attempt to pass the constitution without the Maoist and RPP's support. The latter did not attend the meeting.¹²⁸ The Indian ambassador in Nepal at the time was Ranjit Ray, a long-term Nepal specialist who had good relations with Nepal's political leaders and civil servants and had helped draft the twelve-point agreement that ended the civil war, has so far managed to maintain good relations with Kathmandu's politicians and civil servants.¹²⁹

In the meantime, in November 2014, a Madhesi pro-independence movement led by CK Raut emerged and demanded improving political, economic and social conditions for the Madhesis in Terai. Protests were suppressed by the Nepal Armed Police whereby a protester was gunned down by the paramilitary unit and the leader of the movement CK Raut was arrested and charged with "crimes against the state", punishable by 20 years in prison.¹³⁰ In December 2014,

¹²⁶ <http://www.aljazeera.com/indepth/opinion/2015/01/nepal-constitution-crisis-2015120115231721767.html>

¹²⁷ <http://www.telegraphnepal.com/editorials/2014-01-15/nepali-nationalism-revisited.html>

¹²⁸ <http://www.scoop.co.nz/stories/HL1501/S00016/strength-and-weakness-of-nepalese-political-parties.htm>

¹²⁹ <http://kathmandupost.ekantipur.com/news/2014-02-18/nepals-stability-prosperity-indias-strategic-objective.html>

¹³⁰ <http://www.aljazeera.com/indepth/features/2014/11/nepal-marginalised-group-protest-crackdown-20141118121936855760.html>

Kamal Thapa, the leader of the conservative Hindu movement, demanded a referendum on re-making Nepal a Hindu state and a constitutional monarchy.¹³¹

On January 22, 2014, Nepal's leaders failed to meet the fifth deadline to pass a new constitution. After the NC-UML coalition government was established with the leadership of Prime Minister Sushil Koirala in February of 2013, the leaders had agreed to pass the new constitutions by January 22, 2014. While the NC-UML coalition attempted to push through the new constitution with a 2/3 majority vote, the Maoists and ethnic parties held protests against such a move and demanded political consensus. The same problems that prevented passing the constitution in May 2012 stood in the way of succeeding this time as well. These problems were: (1) the names, numbers and borders of proposed federal provinces; (2) whether or not to name the provinces along ethnic or identity lines; (2) forms of government (prime ministerial or presidential); (3) type of electoral system first-past-the-post, proportional or a mixed system; and (4) disagreements about the structure of the judiciary and the constitutional court.

As the Maoist leader Prachanda demanded that their views be taken into consideration, an alliance of 30 parties including the Madhesi that he leads had already started street protests and strikes. The protestors argued that if the constitution was pushed through with a 2/3 majority vote, then country will slide into another conflict.¹³² Because of the hurried nature of the coalition government's effort to push through the new constitution without consultation with smaller parties, the breakaway Maoist parties have called for dissolution of the CA so that an all-party mechanism be started to adopt a new constitution and revive the "People's Liberation Army" to continue the "unfinished" war.¹³³ The attempt to pass the constitution ended in a brawl

¹³¹ <http://kathmandupost.ekantipur.com/news/2014-12-20/kamal-thapa-demands-referendum-on-hindu-state.html>

¹³² <http://www.bbc.com/news/world-asia-30901175>

¹³³ <http://indianexpress.com/article/opinion/columns/nextdoor-nepal-an-undemocratic-hurry/>

in the parliament as politicians threw shoes, microphones, and chairs to one another. As 1,000 police units were deployed to restore order in the parliament, the conflict spilled over to the streets as many gathered on all sides to protest in support of their party.¹³⁴

The network visualization in Appendix F depicts the problems of cooperation and conflict in this period in Nepal. It demonstrates the obsession of Nepal's leaders with election and working out a constitution, as well as the increased role of the Supreme Court in the process, and the importance of the international community – the United Nations, the World Bank and India in Nepal's governance system. Networks statistics in Appendix F shows that the network had a modest density of 0.024 with a relatively higher average clustering coefficient of 0.773, exhibiting a small world phenomenon. The connectivity of the network is modest with average degree centrality of 7.698 and average path length of 2.69. This suggests that while there were many problems that actors in Nepal had to work on through cooperation and conflict, they did have connected lines of communication that is structurally conducive for resolving their differences.

8.1.3. Governance System Three Months Prior to the Earthquakes

This section of the chapter identifies the main actors and issues in Nepal's governance system within three months prior to the 2015 earthquakes. Using measures of edge-weighted degree, betweenness and closeness centrality, top ten actors are identified along with their estimated scores. According to weighted degree centrality measures, three new organizations were detected. Asian Development Bank has increasingly become one of the largest multilateral donors in Nepal, implementing projects in spheres of governance and economy. The Chinese-led

¹³⁴ <http://www.aljazeera.com/news/asia/2015/01/nepal-fails-meet-constitution-deadline-protests-150123064734163.html>

Asian Infrastructure Investment Bank (AIIB) also joined the top ten influential actors, as China has become of the top donors and investors in Nepal. In addition, the Constituent Assembly's Questionnaire Committee, formed by the speaker in late January, becomes a major actor regarding the disputed points in the constitution.¹³⁵ The Committee members prepared questionnaires and proposals on disputed issues in order to put them up for a vote in the Constituent Assembly. However, the UCPN-Maoist and RPP-N parties disagreed for voting on disputed issues, insisting on political consensus.¹³⁶

With respect to betweenness centrality scores, Nepal's Ministry of Health and Population, the Indian Ministry of Health, and the Appellate Courts of Nepal joined the top ten influential actors. The first two played important role in addressing the brief, small-scale epidemic of swine flu, which occurred in February in India, and in March in Nepal, as will be discussed below. The Appellate Courts, in addition to the Supreme Court, became influential as a corruption scandal in the medical industry of Nepal exposed a doctor who allegedly had faked his medical degree and embezzled funds from a hospital.¹³⁷

In terms of closeness centrality measure, Amnesty International and Bharatiya Janata Party (BJP) – the ruling nationalist Hindu party of India joined the top ten actors. Amnesty International experts have played an influential role in the transitional justice debates of Nepal.¹³⁸ The VP of the BJP party Renu Devi visited Nepal in February and stirred a controversy between the two countries when she commented that Nepal should never choose an ethnicity-based federalism and that Nepal should enshrine the Hindu religion as the state religion while cracking

¹³⁵ <http://archive.setopati.net/politics/5276/>

¹³⁶ <http://nepalireporter.com/dissolve-questionnaire-committee-pm-koirala/>

¹³⁷ <http://nepalitimes.com/article/from-nepali-press/Fake-doctor-out-on-bail,2117>

¹³⁸ <https://www.reuters.com/article/us-nepal-rights/nepal-supreme-court-rejects-amnesty-for-war-crimes-idUSKBN0LV0CG20150227>

down on activities of Christian missionaries in Nepal. Many Nepalese leaders reacted to Devi's comments by accusing her of interfering with Nepal's internal affairs.¹³⁹

After failing to meet the promised January 22, 2015 deadline to adopt the new constitution, Nepal faces some political instability and uncertainty. In the subsequent three months, prior to the devastating earthquakes, Nepal's leaders make additional efforts to reach an agreement. However, it appears the views of the mainstream NC-UML coalition members have hardened as they continued to insist on pass the constitution without the Maoists and other smaller party with mere 2/3 majority instead of a more unanimous consensus. At the same time, Maoists and their multi-party alliance organized street protests and threatened the parties with violent confrontation unless their constitutional demands were met.¹⁴⁰ Frequent nationwide strikes and shutdown of streets for protests severely disrupted daily economic life in Nepal.¹⁴¹ With constitution making taking center-stage, ineffective governance and corruption continued in Nepal. All the while, the rightist, Hindu nationalists appeared to be strengthening further, making their demands much louder to remake the Nepalese state and Hindu state. In addition, transitional justice continued to be a hurdle in the way of constitution making, as, in addition to protesting relatives of victims, the UN, Amnesty International, and the UK also got involved in pressing the political parties and the government in resolving the transitional justice issues.

In February 2015, the Supreme Court of Nepal delivered a ruling making the amnesty provision of the 2014 Commission on Investigation of Disappeared Persons, Truth and Reconciliation Act unconstitutional. As more than 200 relatives of victims filed a petition, a three-judge Supreme Court bench issued an order to remove the discretionary powers of amnesty

¹³⁹ <http://kathmandupost.ekantipur.com/news/2015-02-20/bjp-vp-yadavs-remarks-personal.html>

¹⁴⁰ <http://www.aljazeera.com/news/2015/02/thousands-march-nepal-constitution-vote-150228142556311.html>

¹⁴¹ <https://www.reuters.com/article/us-nepal-strike/maoists-call-off-three-day-nepal-strike-after-clashes-anger-idUSKBN0MY11320150407>

given to the commissions and made it a requirement that the consent of the victims or their relatives must be sought for any amnesty or reconciliation to occur.¹⁴² Over 13,000 were killed and 1,347 still missing as a result of the decade long civil war. While the Maoists kidnapped tortured and killed people who they suspected of being informants or uncooperative “class enemies” and committed mass atrocities like bombing buses, government security forces also engaged in secret arrests, torture, and killings.¹⁴³ Maoists organized street protests against the Supreme Court decision.¹⁴⁴

Complicating the issue of transition justice, a colonel from the Nepal Army who commanded a unit in South Sudan as part of UN’s peace keeping mission was arrested in London in January 2013 during his travel and his trial for torturing two alleged Maoist sympathizers was ongoing in early 2015.¹⁴⁵ Experts argue that the involvement of the UK government in Nepal’s transitional justice issues is related to the British government’s military aid to the Royal Nepal Army and a potential British involvement in routine and systematic torture of Maoists even after India and the US stopped aid as the King Gyanendra usurped power in 2005.¹⁴⁶ The problem of transition justice had increasingly become a hurdle in the way of constitutional negotiations among NC, UML, and the Maoists.¹⁴⁷ The United Nations and the Amnesty International encouraged Nepal’s leaders to conduct proper transitional justice procedures in Nepal in order to advance the peace and democracy building processes.

¹⁴² <https://www.reuters.com/article/us-nepal-rights/nepal-supreme-court-rejects-amnesty-for-war-crimes-idUSKBN0LV0CG20150227>

¹⁴³ <http://www.aljazeera.com/indepth/opinion/2015/03/nepal-transitional-injustice-150309101407122.html>

¹⁴⁴ <http://nepalitimes.com/article/editorial/2072-constitution,2173>

¹⁴⁵ <https://www.theguardian.com/law/2015/feb/27/nepalese-colonel-faces-torture-trial-in-uk>

¹⁴⁶ <https://thediplomat.com/2015/03/a-nepal-army-colonel-fronts-londons-old-bailey/>

¹⁴⁷ <http://nepalitimes.com/regular-columns/The-deadline/justifying-war-crimes-nepal,474>

In the meantime, rampant corruption problems continue unabated in Nepal.¹⁴⁸ The latest corruption scheme in this period was revealed by the International Consortium of Investigative Journalists who reported that eight Nepalese citizens had deposited USD 54 million of potentially laundered illegal money in the Swiss branches of the HSBC bank.¹⁴⁹ In February 2015, the head of India's Aam Admi Party (AAP) visited Nepal and gave a speech in Kathmandu, urging Nepalese politicians to find a minimum common understanding on disputed issues regarding passing a new constitution. The AAP is known for being a single issue, anti-corruption political party in India. The AAP leader encouraged the leaders of Nepal to start a process to rid corrupt officials from positions of power, as they have done in India.¹⁵⁰

In March 2015, the Deputy Prime Minister and Home Minister declares that some rightist (Hindu monarchist and Madhesi independence) and leftist (hardline Maoist) groups are threatening peace and stability by increasing their activities and the government is increasing surveillance of their activities.¹⁵¹ Nepalese national and religious sentiments grow as the public become sensitive about the comments of external government officials. The UK ambassador was pressured to resign as his comments in December regarding freedom of religious conversion in Nepal was interpreted as political interference in domestic affairs of Nepal.¹⁵² The position of the royalist, conservative Hindu movement strengthens as the deposed king of Nepal makes a statement that he is willing to cooperate with the ruling coalition to revive the constitutional monarchy in return for the former king's support to pass a new constitution.¹⁵³ While there were discussions of unification among royalist, Hindu parties RPP and RPP-Nepal, which had been

¹⁴⁸ <http://www.aljazeera.com/indepth/opinion/2015/03/nepal-failed-development-150322052502920.html>

¹⁴⁹ <http://www.nepalitimes.com/blogs/thebrief/2015/02/15/black-money-probe/>

¹⁵⁰ <http://kathmandupost.ekantipur.com/news/2015-02-22/nepal-itself-should-find-solution-aap-spokesman.html>

¹⁵¹ <http://www.asianews.it/news-en/Hindu-fundamentalists-threatened-peace-and-stability-in-Nepal-33610.html>

¹⁵² <http://www.nepalitimes.com/blogs/thebrief/2015/02/11/uk-envoy-quits-foreign-service/>

¹⁵³ <http://indianexpress.com/article/opinion/columns/nextdoor-nepal-wants-to-know-india-must-tell/>

split up previously, there was no unity within RPP itself, as the latter was at the verge of further splits.¹⁵⁴

Against the strengthening of the religious and royalist groups, leftist and ethnic groups were getting further weakened. The Maoists have continued to weaken further because of more splits in the parties and criminal allegations against the main Maoist leader Dahal regarding war crimes and financial embezzlement. Similarly, Madhesi activists have also weakened as they have splintered into multiple political groupings, Madhesis voting for non-Madhesis parties in November 2013 elections, and there has been increasing backlash against them regarding the threats to Nepal's territorial integrity if Madhesi demands for provincial demarcation were to be met.

All the while, India, China and other development partners continue to seek new projects while trying to implement the existing ones. The Chinese government increased its aid to Nepal fivefold under their agreement on Economic and Technical Cooperation. The grants will be used on large infrastructure development projects aimed at improving trade and tourism.¹⁵⁵ China announces that it has started feasibility study regarding connecting Lhasa to Kathmandu via a tunnel through Mount Everest by 2020 at the request of Nepal's government.¹⁵⁶ Nepal and China also sign a USD 1.6 billion hydropower project agreement.¹⁵⁷ While India tries to preserve Nepal's dependence to India, Chinese is trying to increase Nepal's dependence to China, and Nepal is attempting increase its independence from both. Nepal and Bangladesh set up power trading companies with India's initiative that started at SAARC's November 2013 meeting. The

¹⁵⁴ <http://www.telegraphnepal.com/opinion/2015-04-15/nepal:-unity-talks-meaningless-while-rpp-house-is-in-disarray.html>

¹⁵⁵ <http://kathmandupost.ekantipur.com/news/2015-03-18/china-jacks-up-aid-to-nepal-five-fold.html>

¹⁵⁶ <https://economictimes.indiatimes.com/news/politics-and-nation/alarm-bells-for-india-china-plans-to-build-rail-link-with-nepal-through-mount-everest/articleshow/46867474.cms>

¹⁵⁷ <https://www.npr.org/2015/04/17/400285221/india-china-seek-to-capitalize-on-nepals-water-wealth>

objective is to create an integrated electricity market in the region that would boost electricity production and trade among India, Nepal, Bhutan, Bangladesh, and Myanmar.¹⁵⁸

While the development partners and experts have been ringing the alarm bell about a mega-earthquake in central Nepal that is overdue, political leaders of Nepal have been too busy fighting positions of power and resources in their fight in drafting a new constitution. Exemplary but small projects were in the works to retrofit schools and hospitals in some municipalities in anticipation of the massive earthquake.¹⁵⁹ There was a brief period of anxiety in March regarding a public health emergency as 552 patients were identified with swine flu and 24 of them died in Nepal.¹⁶⁰ The epidemic took place in neighboring India a month earlier when thousands of people caught the swine flu and over a hundred died within a few days.¹⁶¹

Thus, within three months prior to the earthquakes, the governance system of Nepal was gridlocked again because of its leaders' inability to agree on a new constitution and the issues surrounding power sharing in government and transitional justice. While NC-UML coalition did their best to co-opt the Maoists and the Madhesis into continuing the status quo with respect to delineating the borders of federal provinces and their numbers, the UML party leaders were growing impatient to adopt a new constitution so that they would form a new government under a UML leader based on their agreement with Sushil Koirala.¹⁶² Against this backdrop, there were initial signs of a strategy being discussed among Nepal's top leaders to consider deferring certain

¹⁵⁸ <http://www.livemint.com/Industry/vo1sa3Q6GDiklOzixVOC7L/Bangladesh-Nepal-setting-up-stateowned-power-traders.html>

¹⁵⁹ <http://nepalitimes.com/blogs/kundadixit/2015/01/11/preparing-to-be-prepared/>

¹⁶⁰ <http://aa.com.tr/en/health/swine-flu-outbreak-kills-24-in-nepal/54927>

¹⁶¹ <http://gulfnnews.com/news/asia/india/fears-grow-as-100-people-die-from-swine-flu-in-three-days-in-india-1.1459610>

¹⁶² <http://nepalitimes.com/regular-columns/by-the-way/constitution-way-to-secure-future-for-political-leaders,477>

constitutional matters into the future so that a new constitution could be passed based on what can be agreed upon currently.¹⁶³

The visualization in Appendix G depicts co-occurrence of entities in discussions of issues within Nepal's governance system during the three months prior to the earthquakes. As it can be seen, Nepal's Supreme Court, the Nepali Congress, the US, UN, and the World Bank are among the most influential actors. The activity among Health Ministry agencies shows the issue of swine flu that occurred in late winter/early spring in Nepal. Similarly, the Medical Association of Nepal and the Supreme Court were involved in adjudicating disputes regarding allegations of corruption in the medical industry of Nepal. Network statistics in Appendix G show that while network density increased, average clustering coefficient decreased. This reflects the difference in time period covered as well as the lower number of actors that occur in the network within three months prior to the 2015 earthquakes.

8.2. Organizational Capacity After the Earthquakes

8.2.1. Governance System Within Three Months After the Earthquakes

In this period, interorganizational cooperation and conflict in Nepal's governance system can be described in three key themes.

a) Immediate Impact of the Earthquakes

The earthquakes struck Nepal as its political leaders hit another low, failing to meet a deadline of January 22, 2015 to adopt a new constitution, which was needed for regaining stability for the country. Some experts had started to wonder if Nepal's days were numbered and whether it would slide back into armed conflict and chaos.¹⁶⁴ The high level of damage from the

¹⁶³ <http://www.thehindu.com/opinion/lead/crafting-a-constitution-for-nepal/article7008153.ece>

¹⁶⁴ <https://thediplomat.com/2015/01/the-future-of-nepal-are-its-days-numbered/>

earthquakes in Nepal was blamed on Nepal's governance system, which had been overly centralized and concentrated in Kathmandu. Because of lack of physical infrastructure development, socioeconomic development, and local governance capacity building outside of Kathmandu, earthquake damages were much greater and earthquake response activities were much lower and ineffective in rural areas (Koirala and Macdonald 2015).¹⁶⁵

Maoist leaders Dahal and Bhattarai used the sluggish response of the government and poor leadership of PM Koirala to discredit the NC-UML coalition government that had been governing the country since February 2014. The Koirala government was also weak due to the PM's health issues (lung cancer) and multiple resignations of cabinet ministers for various reasons.¹⁶⁶ As UML leader Oli was anxious to become the next PM, it became possible to discredit Koirala and advance to the PM position in cooperation with the Maoists. Alternatively, the Maoist and Madhesi leaders demanded to form a new "national government" in which Maoists and Madhesis are also included. The sudden opportunity for funds and to rebuild the devastated regions of Nepal created a strong momentum for cooperation and competition for building political capital. The opposition leader Maoist Bhattarai, for example, proposed to head the National Reconstruction Authority in return for cooperation.¹⁶⁷ This basically led to the scramble for reconstruction funds and influence over reconstruction activity and competition for taking credit for delivered public goods and services by Nepal's political parties.¹⁶⁸

Experts and analysts have argued that the earthquakes were the largest trigger for the momentum to political deal-making that led to agreement among Nepal's leaders to pass the new

¹⁶⁵ https://www.washingtonpost.com/news/monkey-cage/wp/2015/06/09/why-was-the-nepali-earthquake-so-devastating-because-of-its-governments-political-failings/?utm_term=.a2c2438b574b

¹⁶⁶ <https://www.voanews.com/a/nepal-un-differ-on-quake-aid-priorities/2847294.html>

¹⁶⁷ <http://www.thehindu.com/opinion/lead/reconstructing-nepal-after-the-earthquake/article7282990.ece>

¹⁶⁸ <http://blog.crisisgroup.org/asia/2015/05/26/nepals-political-faultlines/>

constitution. While the earthquakes pressured the political parties to come to the table and act, they also empowered the mainstream political parties to make minor concessions to the Maoists and Madhesi to pass the new constitution. These minor concessions could always be retracted in the future, as it often has happened. Therefore, many argued that the new constitution did not represent the wishes of the Nepalese people in all segments of society, as larger parties basically ignored the preferences of the smaller parties.¹⁶⁹ As the Maoist-Madhesi opposition alliance had weakened in their demand for federalism, their preference for a larger influence in the reconstruction process also dwindled the salience of their demands for federalism (this Madhesi group of leaders, however, were not considered as true representatives of the Madhesi community as they were perceived being co-opted by the mainstream parties).¹⁷⁰

As the earthquakes exposed the weakness of Nepal's governance, political party leaders had to act to show leadership and action in passing the new constitution quickly. This process was dubbed among experts and commentators as a "super-fast-track" process to pass the constitution, which was deemed hasty and illiberal.¹⁷¹ The agreement on the new constitution, paradoxically, allowed the continuity in the system in which government lasts a year and a half on average as political parties come in and out of government offices, a patron-client relationship system that sustains the political machine of Nepal's parties. Therefore, the threat of the UML and the Maoists in forming a new government with or without a new constitution was credible against the Koirala government as it had already been in power for a year and a half. However,

¹⁶⁹ <http://www.bbc.com/news/world-asia-33067693>

¹⁷⁰ <https://www.nytimes.com/2015/06/09/world/asia/earthquake-prods-nepal-parties-to-make-constitution-deal.html>

¹⁷¹ <http://www.aljazeera.com/indepth/opinion/2015/07/nepal-constitutional-jeopardy-150707134909858.html>

the Koirala and the Nepali Congress wanted to take credit for passing the new constitution so that it would later have better chances in rebuilding as well as local elections.¹⁷²

The earthquakes also strengthened the civil society and nonprofits vis-à-vis the government and political parties. Not only did youth groups, citizens associations, local nonprofits, diaspora associations, and Nepalese chapters of international nongovernmental agencies engaged in grassroots activities to help earthquake victims and thus received more visibility than inactive and ineffective government institutions, many of these groups were getting local and international donations over hundreds of thousands of dollars, which worried the government and political parties a lot.¹⁷³ Civil society groups, especially young professionals and the youth organized various initiatives using social media and other tools to step and help the victims of the earthquakes in a show of increased sense of collective responsibility in Nepal.¹⁷⁴

However, in Nepal, private organizations as well as civil society groups are also subsumed within the system of patron-client relationships with political parties at the top. This civil society activism in the aftermath of the earthquakes was much more about caring for the victims and rebuilding the country than fights about federalism and long-term rights of the marginalized communities. The civil society groups and the “super-fast-track” process for adopting a new constitution thus did not allow time or attention for the marginalized communities to object to the process in which essentially many of the newly gained rights of these groups were reversed in the new draft of the constitution. Even though the second Constituent Assembly was committed to the progress achieved during the first Constituent Assembly, the new draft of the constitution undid much of the progress achieved in areas such

¹⁷² <http://www.aljazeera.com/indepth/opinion/2015/06/small-step-nepal-constitution-maoists-150610132309535.html>

¹⁷³ <http://blog.crisisgroup.org/asia/2015/05/26/nepals-political-faultlines/>

¹⁷⁴ <https://www.nytimes.com/2015/06/02/opinion/shaking-up-the-status-quo-in-nepal.html>

as freedom of expression and press, women's legal, reproductive, property, and citizenship rights, distribution of parliamentary constituency boundaries, tenant rights not to get forcefully evicted by landlords, and political and socioeconomic empowerment of marginalized ethnic and caste groups. Some of the achievements of the Interim Constitution were directly removed from the new draft, while others were masterfully diluted using clever word plays in Nepali language. Not only did the earthquakes distract the marginalized groups as they became less able and willing to object to the changes in the constitutional rights, the government also used the earthquakes and resulting crisis to pass a legislation that gave the Nepal Armed Police (APF) vast new powers to arrest and discretion to open fire in cases of looting, riots and disorder.¹⁷⁵

The earthquakes also showed that Maoist-Madhesi parties developed stronger ties as opposition during the NC-UML government and constitutional disagreement. However, they were mostly pragmatist and mainstream parts of the Maoists and Madhesi parties. Being part of the reconstruction government became much more important for politicians. Reconstruction meant building political capital. That is why the leaders moved swiftly to pass the new constitution. What these leaders would later find is that they did not have control over large segments of breakaway Maoist and Madhesi factions that considered the mainstream Maoist and Madhesi leaders were bought off by the establishment.¹⁷⁶

The earthquakes also revealed simmering problems with Nepal-international community relations. When Nepal's government leaders felt they did not exercise much control over activities of international organizations and nonprofits, they attempted several measures to restore their influence. For example, on June 22, 2015, less than two months after the earthquakes, the government of Nepal declared the emergency phase was over. This led to re-

¹⁷⁵ <http://www.aljazeera.com/indepth/opinion/2015/07/nepal-constitutional-jeopardy-150707134909858.html>

¹⁷⁶ <http://nepalitimes.com/regular-columns/by-the-way/political-tectonics-after-nepal-earthquake,498>

imposition of customs check and taxes on aid materials imported from abroad leading to long queues and delays. As a response, the United Nations officials used a formal diplomatic method called “demarche” to directly inform the government of their concerns for earthquake victims who need shelter, food and basic medical help.

The international norm for emergency relief phase is three months in which all imported shipments enter the country freely and without imposition of import duties and excise taxes. Nepal’s Finance Ministry official Madhu Marasini, who heads the Office of Coordination of International Economic Cooperation, stated that the office informed development partners categorically that all rescue and relief goods must be deposited in central warehouses of the government and distributed in coordination with government to avoid import taxes. The government of Nepal criticized international agencies and donor countries in not being transparent about their activities and how they are spending millions of dollars during their search and rescue operations. Nepal had been especially sensitive about its national sovereignty and also pressured by India and China not to allow foreign military powers near their borders even for search and rescue operations.¹⁷⁷

Nepal’s government leaders used local media outlets to mount serious challenges against the United Nations and development partners. For instance, Nepal’s domestic media widely reported that the food the WFP was distributing amounted to spoiled rice. The UN responded by criticizing domestic media for inaccurate reporting by arguing that a few hundred spoiled bags of rice should not be used to discredit the whole UN umbrella agencies. Some experts argued that the government as attempting to discredit the international agencies in an effort to deflect criticism on its ineffective disaster response. As Nepal’s government used new rules and

¹⁷⁷ <http://www.bbc.com/news/world-asia-33249184>

regulations to regain control over activities of international agencies, the latter complained that layers of bureaucratic red tape would allow government to engage in nontransparent and corrupt practices with relief funds and supplies (such as profiteering from supplies and directing funds to party supporters and cronies). Experts pointed out that the main problem with mainstream NC-UML coalition led government and development partners emanated from pre-earthquake disagreements on donor funds and support going to promotion of human rights, democracy and ethnic inclusion, especially by the UN and Nordic country agencies.¹⁷⁸

There were especially sharp disagreements with Nepal's establishment and the mandates of the UN Mission in Nepal and the Office of the High Commissioner for Human Rights with respect to the peace process and transitional justice issues. Many in the Kathmandu establishment blamed development partners for stoking divisive ethnic anxiety and disunity in Nepal through their inclusion agenda.¹⁷⁹ This dispute expanded into non-governmental agencies in the aftermath of the earthquakes, as on June 14, 2015, eight of the eleven national executive members of Amnesty International in Nepal resigned, protesting the organization's favorable view of a Madhesi intellectual KC Raut who had led riots to improve Madhesi political rights by demanding a separate province for the Madhesi but was arrested on treason charges by government.¹⁸⁰

Many experts also pointed that development partners were complicit with Nepal's political elite in the ineffectiveness of aid projects worth millions of dollars in the country. At the management and operational levels, development agencies and Nepal's government were almost fused with respect to development policy, budget and program implementation. Development

¹⁷⁸ <https://www.voanews.com/a/nepal-un-differ-on-quake-aid-priorities/2847294.html>

¹⁷⁹ <http://blog.crisisgroup.org/asia/2015/05/26/nepals-political-faultlines/>

¹⁸⁰ <http://www.nepalitimes.com/blogs/thebrief/2015/06/14/amnesty-international-in-trouble/>

partners are as Kathmandu-centric as Nepal's government and do not have much impact outside of the valley.¹⁸¹ Many funds allocation for development projects disappeared in a nontransparent manner through “all-party mechanism” in Nepal's districts whereby a coalition of unelected elites from major political parties allocated development funds among themselves. For example, hundreds of millions of dollars spent under the Local Government and Community Development Program that was supposed to build local infrastructure and governance and millions of dollars under the Nepal Peace Trust Fund that was supposed to help with conflict victims' needs for reparation did not result in any tangible outcomes that can be observed.¹⁸²

Therefore, many internationals argued against the Nepal's government proposed approach of reconstruction called one-window policy both at the center and the districts by arguing that it would lead to misuse of resources at both levels – political party-based appropriations at the center – National Reconstruction Authority – and “all-party mechanism” based corruption at the local level. In response, some experts and government officials in Nepal argued that many foreign agencies have expanded their operations by using earthquake emergency as pretext in a non-transparent manner in the past and that all donations must be channeled through government's one-window approach to response and recovery in order to avoid problems of aid-dependency and crowding out local efforts by foreign experts and consultants who seem to value their expert evaluations more than local knowledge and practices (interviewee #; Ghimire and Robertson 2015;¹⁸³ Wolbers et al. 2016).¹⁸⁴

¹⁸¹ <http://blog.crisisgroup.org/asia/2015/05/26/nepals-political-faultlines/>

¹⁸² <http://www.aljazeera.com/indepth/opinion/2015/05/nepal-aid-earthquake-corruption-150524135716175.html>

¹⁸³ <http://nepalitimes.com/article/nation/60-years-after-1954-devastating-flood-same-failings-of-government-today-post-quake,2433>

¹⁸⁴ <http://blog.crisisgroup.org/asia/2015/05/26/nepals-political-faultlines/>

The dispute worsened as Nepal's own institutions had disagreements. While the National Planning Commission (NPC) argued for reconstruction through regular inter-ministerial coordination in order to avoid billion-dollar duplication of existing bureaucratic arrangements, the Finance Ministry argued for centralized, one-stop shop style National Reconstruction Authority arguing that existing ministries have not even been able to spend their regular expenditure allocations.¹⁸⁵ This likely speaks to factional divisions within political parties in Nepal, as both institutions were under the leadership of the Nepali Congress party.

b) Announcement of Nepal's Constitutional Deal

By Saturday, June 6, 2015, merely 25 days after the May 12 earthquake and 42 days after the April 25 earthquake, it was apparent that the four largest political parties of Nepal had reached an agreement on the new constitution. These parties included two mainstream political parties Nepali Congress and UML, which had been running the government in coalition since February 2015, and two main opposition parties – the UCPN-Maoist and the Madhesi Janadhikar Forum-Loktantrik (MJF-L). These four parties met with representatives of smaller parties from the Constituent Assembly at PM Koirala's residence the same evening to convince the fringe parties in getting on board with the new constitutional deal. One of the NC leaders Ramesh Lekhak stated that the smaller parties responded positively to the new constitutional deal.¹⁸⁶

On Tuesday, June 8, the Government of Nepal made a formal announcement that Nepal's political leaders just reached a 16-point agreement to adopt a new constitution using a "super-fast-track" approach. The Minister of Information Minendra Rijal stated that the devastating

¹⁸⁵ <http://www.aljazeera.com/indepth/opinion/2015/06/takes-rebuild-nepal-earthquake-150625065358598.html>

¹⁸⁶ <http://www.nepalitimes.com/blogs/thebrief/2015/06/06/progress-in-statute-writing/>

earthquakes were powerful motivating forces for collaboration and the resulting agreement was a major breakthrough in the political system.¹⁸⁷

Box 1 below presents an unofficial translation of the 16-point deal signed by the four political party leaders in the night of Monday, June 7, 2015.

Box 1. Sixteen-point Agreement of June 7, 2015

1. The Federal Democratic Republic of Nepal will have eight provinces based on five criteria of identity and four criteria of capability.
2. Two-thirds majority of provincial assemblies will name the provinces.
3. The Nepal government will form a federal commission to recommend on demarcation of federal provinces. The commission will have tenure of six months. The Legislature-Parliament will take a final decision on the demarcation with a two-thirds majority after the recommendation of the commission.

Parliament and Electoral System

4. There will be a bicameral parliament comprising federal legislature parliament and the upper house. Provincial parliaments will be unicameral.
5. Mixed electoral system will be adopted for parliamentary election. There will be 275 members in Parliament. There will be 165 constituencies based on geography and population. A total of 165 lower house members will be elected through first-past-the-post (FPTP) system. The rest—110—will be elected through the proportional representation system.
6. The upper house will have 45 members-40 of the members will be elected equally from each federal province. The remaining five will be nominated by President on the recommendation of the Council of Ministers.

Form of Government

7. To run the state affairs, a federal democratic republic multiparty parliamentary system of governance will be adopted. The leader of the party having a clear majority or having support of other parties in Parliament will become the executive prime minister.
8. There will be a constitutional President in Nepal. An electoral college of the federal legislature parliament and provincial assemblies will elect the President.

(The UCPN (Maoist) has its differences on the parliamentary system of governance and the constitutional president. Despite this, the party agrees to taking forward the constitution writing process.)

¹⁸⁷ <http://www.aljazeera.com/news/2015/06/nepal-political-rivals-agree-national-charter-150609044704806.html>

9. After the promulgation of the new constitution, the election of the President, Vice President, Prime Minister, Speaker and Deputy Speaker will be held by the transformed Legislature-Parliament as per the Interim Constitution-2007.
10. Until the next election of the House of Representatives, the transformed Legislature-Parliament will hold the election of the Prime Minister, vote of confidence, no confidence motion and Cabinet formation as per the Interim Constitution-2007. The impeachment of the President, Vice President, Prime Minister, Speaker, Deputy Speaker will be in accordance with the Interim Constitution-2007.

Judicial System

11. An independent, impartial and efficient judicial system will be formed as per the concept of independent judiciary.
12. The Supreme Court will be the court of record. It will be authorized to make final interpretation of the constitution.
13. A Constitutional Court will be formed to settle disputes on the jurisdictions between the provinces and the Centre, between provinces, between provinces and local bodies, and election-related disputes of the House of Representatives, National Assembly and provincial assemblies. The Constitutional Court shall have the final decision on these issues. The court will be chaired by the Chief Justice of the Supreme Court and will comprise two senior-most justices, and two legal experts who are qualified for the post of Supreme Court Justice. The tenure of the Constitutional Court will be 10 years from the promulgation of the new constitution.
14. The provision on the formation of the Judicial Council will be as determined by the Interim Constitution-2007.
15. The constitution writing process will be taken forward based on the spirit of this fundamental agreement on federalism, forms of government, electoral system, and judicial system.

Local Body Election

16. The election of local bodies will be held as soon as possible to strengthen the representation and participation of the people.

Signatories:

Sushil Koirala, Prime Minister and President, Nepali Congress

KP Sharma Oli, Chairman, CPN-UML

Pushpa Kamal Dahal, Chairman, UCPN-Maoist

Bijay Kumar Gachhadar, Chairman, Madhesi Janadhikar Forum-Loktantrik

Source: http://www.satp.org/satporgtp/countries/nepal/document/papers/16-point_Agreement.htm

After the failure of the January 22 deadline, there were some signs of political discussions among the leaders that the issues of number, boundaries and names of federal

provinces could be deferred into the future in order to adopt a constitution. The April-May earthquakes catalyzed this process and contributed to the parties reaching an agreement on the number of federal provinces – eight – and leaving the work on boundaries to a yet another federal commission that would come up with recommendations on how to draw the boundaries of the eight provinces within six months of promulgation of the new constitution. The names of the provinces would be determined by the provincial legislatures using a 2/3 voting rule. The Maoists were hard pressed to concede on the form of government, as they have had a longstanding demand to turn Nepal into a presidential system whereby the president of the country is directly elected by the people. To signify the importance of the issue and, perhaps, to show that they had made concessions, they included a note in the agreement that they came to the table and signed the agreement despite their differing views on the form of government.¹⁸⁸ In addition, political parties, especially UML, Maoists and the Madhesi MJF-L agreed to form a national government after adopting the new constitution, as PM Koirala had promised to step down once the constitution is passed.¹⁸⁹ As soon as the 16-point agreement was signed, the CA passed a resolution and mandated the Constitution Drafting Committee to prepare a draft of the new constitution within two weeks.¹⁹⁰

Just like the dominant segments of the Nepalese society, the international community positively reacted to the new development. On June 9, the Secretary-General of the United Nations welcomed the 16-point agreement as significant milestone for Nepal's political development. Reaffirming the continuing support of the United Nations to Nepal's peace process and post-earthquake reconstruction, the Secretary-General encouraged the leaders of Nepal to

¹⁸⁸ <https://www.nytimes.com/2015/06/09/world/asia/earthquake-prods-nepal-parties-to-make-constitution-deal.html>

¹⁸⁹ <http://www.nepalitimes.com/blogs/thebrief/2015/06/06/progress-in-statute-writing/>

¹⁹⁰ <https://economictimes.indiatimes.com/news/international/world-news/nepals-new-constitution-draft-likely-in-15-days-prasad-sitaula-chairman-drafting-committee/articleshow/47663588.cms>

implement the 16-point agreement and continue to resolve the remaining issues while drafting the constitution with citizen input.¹⁹¹

However, the Madhesi ethnic parties (apart from the MJF-L), conservative Hindu parties, and other smaller ethnic parties denounced the 16-point agreement as regressive, arguing that the new basic document would allow continuation of the marginalized communities' suffering. The Maoist party attempted to get the dissenting parties on board, as they had been protesting together when the NC-UML attempted to pass the new constitution with 2/3 vote of the Constituent Assembly in January 2015. The Maoist leader Dahal stated on June 13 that he was confident in bringing the dissenting parties on board and revealed that they agreed to allow the next president to be from the Nepali Congress party, perhaps unintentionally giving out details that make the constitutional deal making process to look like a fight for public office.¹⁹² Five days later, on June 18, Deputy PM and the Home Minister Bamdev Gautam announced that the UML would form a new government once the new constitution is adopted with KP Sharma Oli as the prime minister.¹⁹³

Many experts also criticized the deal as regressive because many of the newly gained rights of the Interim Constitution of 2007 were rolled back, likening the process to the national movements of 1950 and 1990, in which cases resulting changes turned out to be too limited and a lot more like the status quo than what was expected to be achieved.¹⁹⁴

In the following days, several smaller parties representing marginalized ethnic communities and pro-federalism forces merged to more effectively launch their opposition of the

¹⁹¹ <https://www.un.org/sg/en/content/sg/statement/2015-06-09/statement-attributable-spokesman-secretary-general-nepal>

¹⁹² <http://kathmandupost.ekantipur.com/news/2015-06-14/presidential-post-to-nc-after-statute-dahal.html>

¹⁹³ http://zeenews.india.com/news/south-asia/cpn-uml-to-lead-next-nepal-govt-deputy-pm-says_1615753.html

¹⁹⁴ <http://www.aljazeera.com/indepth/opinion/2015/06/small-step-nepal-constitution-maoists-150610132309535.html>

constitutional agreement. The Madhesi Janadhikar Forum-Nepal (MJF-N), the Federal Socialist Party Nepal (FSPN), and the Khas Samabeshi Party merged to form the new Sanghiya Samajbadi Forum-Nepal (SSFN) party, under the leadership of MJF-N Chairman Upendra Yadav. They had a total of 15 seats in the 601-member Constituent Assembly and vowed to invite other smaller parties and independent lawmakers to join them.¹⁹⁵

Another blow of opposition came from one of the Supreme Court justices as it ruled on June 19 that the CA cannot pass a constitution without determining the number, names, and boundaries of federal provinces.¹⁹⁶ The Supreme Court also opposed the attempts of the CA trying to establish a committee that would constantly monitor the apex court and also make it easier to remove judges. Joining the dispute, some Madhesi leaders argued that they would protest and walk out of the CA if a constitution was delivered without federal provinces in it. They opposed the idea of establishing provinces and their boundaries by a federal commission on a later date.¹⁹⁷ Some criticized the move by arguing that the petitioner, lawyers, the judge were all Madhesi and therefore produced a ruling against the 16-point deal. They also criticized president, who is of Madhesi origin, to be taking the side of the Madhesi in the constitutional dispute.¹⁹⁸

In the meantime, Nepal's government continued its activities to pursue donations for reconstruction. On June 25, the government hosted an international donors conference whereby foreign donors pledged aid to Nepal's reconstruction. India pledged USD 1 billion, ADB 600 million, World Bank 500 million, China 480 million, Japan 260 million, USAID 130 million,

¹⁹⁵ <http://kathmandupost.ekantipur.com/news/2015-06-16/three-parties-merge-to-become-sanghiya-samajbadi-forum-nepal.html>

¹⁹⁶ <http://kathmandupost.ekantipur.com/news/2015-06-20/will-request-sc-to-correct-its-move-dahal.html>

¹⁹⁷ <http://indianexpress.com/article/opinion/columns/a-new-moment-a-new-court/>

¹⁹⁸ <http://nepalitimes.com/regular-columns/Legalese/supreme-court-verdict-on-16-point-deal-blurs-separation-of-powers,509>

and EU 112 million.¹⁹⁹ Many domestic and international companies that were trying to get trade or production licenses in Nepal also contributed funds to the Prime Minister's Disaster Relief Fund.²⁰⁰ Nepal's government allocated about USD 715 million for reconstruction in its FY2015-16 budget of about USD 8 billion, which was 32.6 percent greater than the FY2014-15 budget despite the fact that the government projected to collect only 93 percent of the revenue compared to the preceding fiscal year due to the earthquakes. The government also planned to provide 50,000 young people with jobs during the reconstruction process.²⁰¹ UML leaders complained that the government prepared the FY2015-16 budget without consulting with UML even though the two parties formed the coalition government.²⁰² Home Minister Gautam (UML) announced that his party UML was mobilizing 50,000 party cadres to undertake rehabilitation and reconstruction activities for three days, while also encouraging donors to donate funds through government's single-door policy to reconstruction.²⁰³

c) New Constitution Draft and Public Feedback

Three weeks following the 16-point agreement, on June 30, 2015, the Government of Nepal presented a draft constitution with 297 articles in the Constituent Assembly despite opposition by smaller political parties and the Supreme Court.²⁰⁴ In order to speed up the process of public consultations, on July 2, the CA passed a resolution to bypass the CA Regulation 93(3), which requires the CA to debate the constitution among its members before it can be published in Nepal Gazette for public feedback, so that the draft can be published in Nepal Gazette the morning of

¹⁹⁹ <http://www.nepalitimes.com/blogs/thebrief/2015/06/25/over-3-billion-for-nepal/>

²⁰⁰ <http://kathmandupost.ekantipur.com/news/2015-06-17/we-want-peaceful-developed-democratic-nepal-pm.html>

²⁰¹ <https://thehimalayantimes.com/business/nepal-fin-min-mahat-presents-budget-for-fy-201516/>

²⁰² <http://kathmandupost.ekantipur.com/news/2015-07-16/new-constitution-at-the-earliest-nepal.html>

²⁰³ http://zeenews.india.com/news/south-asia/cpn-uml-to-lead-next-nepal-govt-deputy-pm-says_1615753.html

²⁰⁴ <https://www.voanews.com/a/nepal-un-differ-on-quake-aid-priorities/2847294.html>

July 3. The resolution passed despite protests by members of smaller political parties such as Federalist Socialist Forum Nepal, Terai Madhesi Loktantrik Party, Sadbhawana Party, Terai Madhes Sadbhawana Party, and RPP Nepal.²⁰⁵

On July 7, the Chief Justice of Nepal's Supreme Court stepped down and a new Chief Justice was sworn in the following day. Experts argued that the new Chief Justice has reputation for integrity and impartiality, as political party leaders were disgruntled by the recent Supreme Court decision that ordered the CA to produce a constitution that already defines the names and boundaries of federal provinces of Nepal. Experts argued that the Supreme Court should not intervene in politics and attempted to restrict the power of the institution in the new draft of the constitution.²⁰⁶ Moreover, the under the leadership of the previous Chief Justice, the Supreme Court produced dubious rulings, one which bailed out a jailed doctor who was arrested for embezzling funds from a hospital using a fake medical diploma.²⁰⁷

Some experts argued that the new draft constitution lessened the power of the CIAA by eliminating the responsibility to conduct investigations on "improper conduct" of public officials. Both the 1990 Constitution and the 2007 Interim Constitutions had these responsibilities assigned to the agencies. This change will likely reduce the power of the agency, as it has recently investigated some political party leaders related to large-scale hydropower projects.²⁰⁸ Experts further argued that Maoists have become part of the mainstream political parties just like UML did in 1990s. While the grievances of the Nepalese are still there – which the Maoists used to successfully launch their political careers center stage, the fact that the new constitution sounds like a pre-2006 status quo is a bad omen for the ordinary Nepalese who still

²⁰⁵ <http://kathmandupost.ekantipur.com/news/2015-07-02/constitution-draft-to-be-published-in-nepal-gazette.html>

²⁰⁶ <http://nepalitimes.com/regular-columns/Legalese/new-Chief-Justice-Kalyan-Shrestha,519>

²⁰⁷ <http://nepalitimes.com/article/nation/fake-doctor-Yeshe-Lodoe-Lama-out-on-bail,2155>

²⁰⁸ <http://kathmandupost.ekantipur.com/news/2015-07-04/ciaa-powers-curtailed-in-draft-constitution.html>

suffer from Nepal's inequality. No wonder why the international actors, even the ones that had animosity against communists in general – agreed with the Maoist demands for social and political reform in Nepal.²⁰⁹

On July 16, the UML leader Nepal argued that they need to pass the constitution as soon as possible and conduct local elections. This attests to the fact that UML wanted to form a new government as soon as possible and take control of the reconstruction process and conduct the local elections in its watch while people are happy with reconstruction aid. The UML leader Nepal also said that the volunteering program that their party ran to help rebuild in villages was a successful program as it won people's good grace.²¹⁰

On July 17, the Maoist leader Dahal went on a seven-day visit to India, meeting the foreign minister and the prime minister of India.²¹¹ The meetings were likely intended to reconcile issues related to the newly drafted constitution. Commenting on the newly drafted constitution, India's Prime Minister Modi welcomed the progress but stated that he hoped outstanding issues would be resolved soon before the document is put up for vote so that all sections of the Nepalese society support the new constitution, which is important for building stable, inclusive, and prosperous Nepal.²¹² Both India and China had concerns regarding Nepal's new constitution, especially with respect to ethnicity based federal provinces, which would send the wrong signal to Tibet as well as Nepali speaking populations of India's West Bengal state. Especially with Modi's rise in India and increasing Chinese influence in South Asia, the geopolitical competition had intensified. While India, in cooperation with the US strategy of

²⁰⁹ <http://nepalitimes.com/article/nation/experience-of%20Deepak-Thapa-as-former-desk-editor-at-Nepali-Times,2426>

²¹⁰ <http://kathmandupost.ekantipur.com/news/2015-07-16/new-constitution-at-the-earliest-nepal.html>

²¹¹ <http://www.india.com/news/india/prachanda-meets-narendra-modi-465697/>

²¹² <http://www.india.com/news/india/narendra-modi-meets-former-nepal-pm-prachanda-465756/>

“democratic encirclement” of China, is attempting to further integrate South Asian nations into its orbit of economic and political influence, China has been investing in the region following its Silk Road infrastructure plan and geopolitical strategy of “pearl of strings” in South Asia.²¹³

Two days, July 20-21, were announced to be public holiday so that citizens could debate the constitution and attend public consultation meetings. All members of the Constituent Assembly and government officials were deployed to conduct public consultation meetings.²¹⁴ In the same two days protests erupted in the Terai region of Nepal where Madhesi and Tharu ethnic communities did not support the new draft arguing that their rights are underrepresented in the new document. The newly formed Sanghiya Samajwadi Forum-Nepal (SSF-Nepal) took the lead in protests and mobilized Madhesi people to boycott the constitution writing process. In alliance with other parties such as the Samyukta Loktantrik Madhesi Morcha, SSF-Nepal called for alliance with more Madhesh-based fringe political parties to join forces in protesting the new document.²¹⁵

In the Madhesi city of Gaur, Rautahat, the cadres of Madhes-based parties threw chairs to a senior UML leader Madhav Kumar Nepal (who was a prime minister during the first Constituent Assembly) in protest to the constitution and the consultation process. Sadbhawana Party (SP) supporters also joined the protests throwing rocks to the former prime minister alleging that the Chairman of their party Anil Kumar Jha was not allowed to enter the consultation meeting. The police used tear gas to disperse the crowds. Other SP leaders also swore to not allow anti-Madhesh constitution and announced a general protest shutdown of the

²¹³ <http://kathmandupost.ekantipur.com/printedition/news/2015-07-03/between-a-rock-and-a-hard-place-278018.html>

²¹⁴ <http://kathmandupost.ekantipur.com/news/2015-07-17/public-holiday-on-july-20-21-for-public-feedback-on-statute.html>

²¹⁵ <http://kathmandupost.ekantipur.com/news/2015-07-23/yadav-bids-to-galvanise-madhes-forces.html>

Terai region.²¹⁶ The Federal Socialist Forum Nepal, Terai-Madhes Loktantrik Party, Sadbhawana Party and Tarai-Madhes Sadbhawana Party also called for general shutdown protests across the Terai region claiming that police used excessive force against those holding peaceful demonstrations in during the public hearings on the draft constitution.²¹⁷

Hundreds of supporters of breakaway Maoist parties also protested and got arrested as they torched dozens of cars on the streets. They argued that the new constitution betrays the ideals of the revolution they fought to undo ethnic discrimination in Nepal. While the protests disrupted life and business in Kathmandu, many residents also complained about protesters' disruptive activities, especially in the aftermath of the earthquakes when a lot of work needs to be done to rebuild the country.²¹⁸ The conservative Hindu parties joined the dispute after a couple of days when a BJP MP from neighboring Indian state of Uttar Pradesh visited Nepal to deliver a speech in a Hindu event to demand that Nepal declared a Hindu State in the constitution and that religious conversion was prohibited by law.²¹⁹

On July 21, the Chief of Staff of the Nepal Army submitted a letter to the Constituent Assembly arguing that the Chief of Staff of the Army must be included in the National Security Council, which authorizes and mobilizes the army. The Chief of Staff also argued that the Public Service Commission need not get involved in recruitment of soldiers as the army already engages in competitive recruitment and that the CIAA need not investigate abuse among the military officials as the army already does that in accordance with the Nepal Army Act.²²⁰ The following day, a senior Nepali Congress leader and a former prime minister Sher Bahadur Deuba

²¹⁶ <http://kathmandupost.ekantipur.com/news/2015-07-20/madhes-based-parties-supporters-hurl-chairs-at-uml-leader-nepal.html>

²¹⁷ <http://kathmandupost.ekantipur.com/news/2015-07-21/strike-hits-life-in-terai-clashes-in-few-places.html>

²¹⁸ <https://www.ndtv.com/world-news/nepal-police-arrest-247-as-charter-protest-turns-violent-1200278>

²¹⁹ <https://timesofindia.indiatimes.com/india/Nepal-must-declare-itself-a-Hindu-rashtra-Adityanath/articleshow/48194975.cms>

²²⁰ <http://kathmandupost.ekantipur.com/news/2015-07-21/nepal-army-wants-coas-in-security-council-408189.html>

publicly stated that the Army Chief of Staff must have a place in the National Security Council, which is headed by the Prime Minister of Nepal. Deuba argued that as in the 1990 Constitution, in the new constitution it is important for the Nepal Army to be represented in the National Security Council that includes Ministers of Defense, Home, Finance, and Foreign Affairs.²²¹

Another contentious issue with the draft constitution that many Madhes based communities as well as pro-inclusion advocates in Nepal opposed was the restriction of citizenship for children through their mothers. The issues also galvanized many human rights agencies and pro-gender equality supporters to push for allowing citizenship through either mother or father of the child.²²²

8.2.2. Governance System Within Two Years After the Earthquakes

On July 27th, leaders of Nepali Congress, UML, and CPN-Maoist stated that during public hearings Nepali people did not like the word secularism in Nepal's constitution. The CPN-Maoist leader Dahal noted that the term sounds alien, and therefore they would consider replacing it with another word to respect feedback they received from the people on the draft constitution.²²³ This acknowledgment was in response to a street protest campaign of Hindu groups that erupted across Nepal to claim that Nepal must be enshrined as Hindu state in the constitution.²²⁴ The debate regarding the role of Hinduism in Nepal's constitution was marred by a tragedy as one man was arrested who had reportedly sacrificed the life of his young son to

²²¹ <http://kathmandupost.ekantipur.com/printedition/news/2015-07-22/include-army-chief-in-national-security-council-deuba.html>

²²² <http://www.nepalitimes.com/blogs/thebrief/2015/06/11/citizenship-through-mothers/>

²²³ <https://www.thehindu.com/news/international/secularism-to-go-from-nepal-constitution/article7470390.ece>

²²⁴ <http://archive.nepalitimes.com/regular-columns/by-the-way/new-constitution-should-adopt-inclusive-democracy-with-federalism-republicanism-secularism,538>

Hindu deities.²²⁵ Some argued that formerly discredited political leaders attempted to incite religious sentiments to find their way back into politics.²²⁶ In addition to Madhesi and Hindu protests, many activists of inclusive state for Nepal noted their disagreement with dilution of many fundamental rights for food, health, education, free press, special quotas for marginalized ethnic groups, and women's rights in the constitution.^{227 228 229}

On July 30th, landslides in mountainous villages west of the earthquake epicenter Gorkha District killed at least 29 villagers. The monsoon season typically causes landslides in the mountainous areas and floods in the plains of Nepal. In the aftermath of the April and May earthquakes, monsoons were expected to cause more landslides and floods than usual.²³⁰

On August 6th, a University of Cambridge professor Jeane-Philippe Avouac and his colleagues published the findings of their research on Nature Geoscience and Science Magazine that indicated that western Nepal and northern India could be rocked by another powerful earthquake due to a partial release of the built-up energy at the Main Himalayan Thrust in the April/May earthquakes.^{231 232} In an interview with the BBC, Professor Avouac noted that it is important to raise awareness without scaring people to train children with earthquake drills.²³³

²²⁵ <https://www.nytimes.com/2015/07/27/world/asia/11-arrested-in-nepal-in-possible-ritual-killing-of-boy.html>

²²⁶ <http://kathmandupost.ekantipur.com/printedition/news/2015-07-29/religious-tolerance.html>

²²⁷ <http://archive.nepalitimes.com/regular-columns/by-the-way/new-constitution-should-adopt-inclusive-democracy-with-federalism-republicanism-secularism,538>

²²⁸ <http://kathmandupost.ekantipur.com/news/2015-07-27/in-nepal-men-still-believe-only-they-are-entitled-to-rights.html>

²²⁹ <https://scroll.in/article/745901/nepal-dalit-leader-says-modis-stress-on-consensus-has-meant-dilution-in-draft-constitution>

²³⁰ <https://www.bbc.co.uk/news/world-asia-33714147>

²³¹ Avouac, Jean-Philippe, Lingsen Meng, Shengji Wei, Teng Wang, and Jean-Paul Ampuero. "Lower edge of locked Main Himalayan Thrust unzipped by the 2015 Gorkha earthquake." *Nature Geoscience* 8, no. 9 (2015): 708.

²³² Galetzka, John, Diego Melgar, Joachim F. Genrich, Jianguai Geng, Susan Owen, Eric O. Lindsey, Xiaohua Xu et al. "Slip pulse and resonance of the Kathmandu basin during the 2015 Gorkha earthquake, Nepal." *Science* 349, no. 6252 (2015): 1091-1095.

²³³ <https://www.bbc.com/news/science-environment-33807791>

On August 13th, Nepali government leaders reached an agreement and appointed Govind Raj Pokhrel as CEO of the National Reconstruction Authority. Pokhrel was the vice president of the National Planning Commission and oversaw the production of the Post-Disaster Needs Assessment report prepared for the June 25th Donor Conference.²³⁴ UML leader KP Oli and Nepali Congress leader and Prime Minister Sushil Koirala were each endorsing different candidates and therefore appointment of the CEO got delayed since the government ordinance was introduced on June 21st to create the National Reconstruction Authority. CPN-Maoist and MJF-Democratic party leaders objected to the ordinance introduced by the NC-UML government on the grounds that it should be established through a parliamentary legislation.²³⁵ While the NRA was established in time for the donor conference, it had to be ratified by the Constituent Assembly by August 31st. The speaker of the CA reconvened the body after its summer recess only on September 1, effectively rendering the NRA legally non-existent. It took the political parties another three months to debate and agree on the legislation, which was finally passed on December 20th and signed into law by Nepal's president on December 25th. The legislation established the NRA with Sushil Gyawali as its CEO. The body was to be government by the Prime Minister as the chairman of the governing committee and the leader of the main parliamentary opposition as the vice-chairman of the committee.²³⁶

By the end of August, Nepal's government re-opened Mount Everest for tourism. Many tourism agencies started a campaign to encourage tourists to visit Nepal pointing out the country needs tourism revenue to rebuild.²³⁷

²³⁴ <http://archive.nepalitimes.com/blogs/thebrief/2015/08/13/reconstruction-authority-formed/>

²³⁵ <http://therisingnepal.org.np/news/4328>

²³⁶ <http://localnepaltoday.com/the-nra-reconstruction-delayed-by-politics/>

²³⁷ <https://www.nytimes.com/2015/09/06/travel/nepal-tourism-intrepid-travel.html>

On August 8th, major political party leaders agreed on the boundaries of Nepal's federal provinces. Even though the earlier deal had foreseen eight federal provinces, Nepal's leaders came up with six federal provinces. Mid-Western and Far-Western areas erupted in protests as Karnali districts refused to be part of two provinces and demanded a province for the group.²³⁸ In the following three days, local administration officials in protest-affected districts imposed curfews during daytime with police and armed police force personnel enforcing it. Three people died in clashes with law enforcement.²³⁹ In contrast, Madhesi areas of the Terai was relatively calm, as many Madhesi leaders were waiting to see the main four leaders to make revisions to the six-province model.²⁴⁰ However, starting August 17th, Madhesi parties declared indefinite shutdown protests in the Terai.²⁴¹

Some argued that Karnalils got a province of their own because dominant leaders such as Sher Bahadur Deuba (NC), Bhim Rawal (UML) and Lekhraj Bhatta (UCPN-Maoist) supported this move and these districts were under the influence of the mainstream leaders of Nepal. In contrast, Tharu and Madhesi communities did not get a province because the ruling elite of Nepal would lose their dominant positions if they accorded these groups provinces.²⁴²

By August 24th, protests against the demarcation of Nepal into six provinces intensified in Far-West districts of Nepal. Fifty people were injured, and seven police officers and a young boy were killed in Tikapur district in what the Home Minister of Nepal stated a premeditated attack by Maoist extremists. The Nepal Army was mobilized under the leadership of the Chief District Officer of affected districts.²⁴³

²³⁸ <http://archive.nepalitimes.com/blogs/thebrief/2015/08/10/protests-over-demarcation/>

²³⁹ <http://archive.nepalitimes.com/blogs/thebrief/2015/08/12/curfew-in-surkhet/>

²⁴⁰ <http://archive.nepalitimes.com/blogs/thebrief/2015/08/11/why-is-the-madhes-calm/>

²⁴¹ <http://archive.nepalitimes.com/blogs/thebrief/2015/08/31/strikes-hit-life-hard/>

²⁴² <http://kathmandupost.ekantipur.com/news/2015-08-29/from-ground-zero-tikapur-tangle-needs-political-solution-24-hour-curfew-for-last-five-days.html>

²⁴³ <http://archive.nepalitimes.com/blogs/thebrief/2015/08/24/kailali-carnage/>

On September 13th the Constituent Assembly started the process of voting to adopt the new constitution clause by clause with 2/3 majority. On September 16th, the Constituent Assembly finalized its voting and adopted the new constitution. On September 18th, the Speaker of the Constituent Assembly signed the constitution. On September 20th, the President of Nepal signed and promulgated the new constitution of Nepal.

In the evening of September 16th, the Ambassador of India in Nepal Ranjit Rae requested Prime Minister Sushil Koirala and President Ram Baran Yadav to postpone the promulgation of the constitution. On September 18th, Indian Prime Minister Modi's special envoy Foreign Secretary S. Jaishankar arrived in Kathmandu and demanded the postponement of the constitution.²⁴⁴

On September 24th, Kathmandu Post published that Nepal-bound cargoes were halted at the Indian side of the border citing order from New Delhi.²⁴⁵ October 11, K.P. Oli was voted as the new Prime Minister in Nepal's parliament.²⁴⁶ October 28, Bidya Devi Bhandari was voted as the new president (first woman to be Nepal's president).²⁴⁷

In interviews with experts in Nepal, discussions of organizational capacity occurred 55 times, rendering the concept second most discussed in the interviews. Figure 32 below shows a visualization of the semantic network of organizational capacity as revealed by expert interviews. The majority of the mentions of the concept occurred in the context of the need for increased information collection, exchange, and use of governance actors in Nepal. An integrated information database can be used not only to collect and monitor post-earthquake reconstruction but also to make government officials accountable by registering their salaries and property

²⁴⁴ <https://scroll.in/article/757547/has-modis-neighbourhood-first-model-forgotten-about-nepal>

²⁴⁵ <https://scroll.in/article/757879/india-is-unhappy-with-nepal-but-insists-it-has-not-shut-the-border>

²⁴⁶ <https://www.nytimes.com/2015/10/12/world/asia/nepal-elects-kp-sharma-oli-as-new-prime-minister.html>

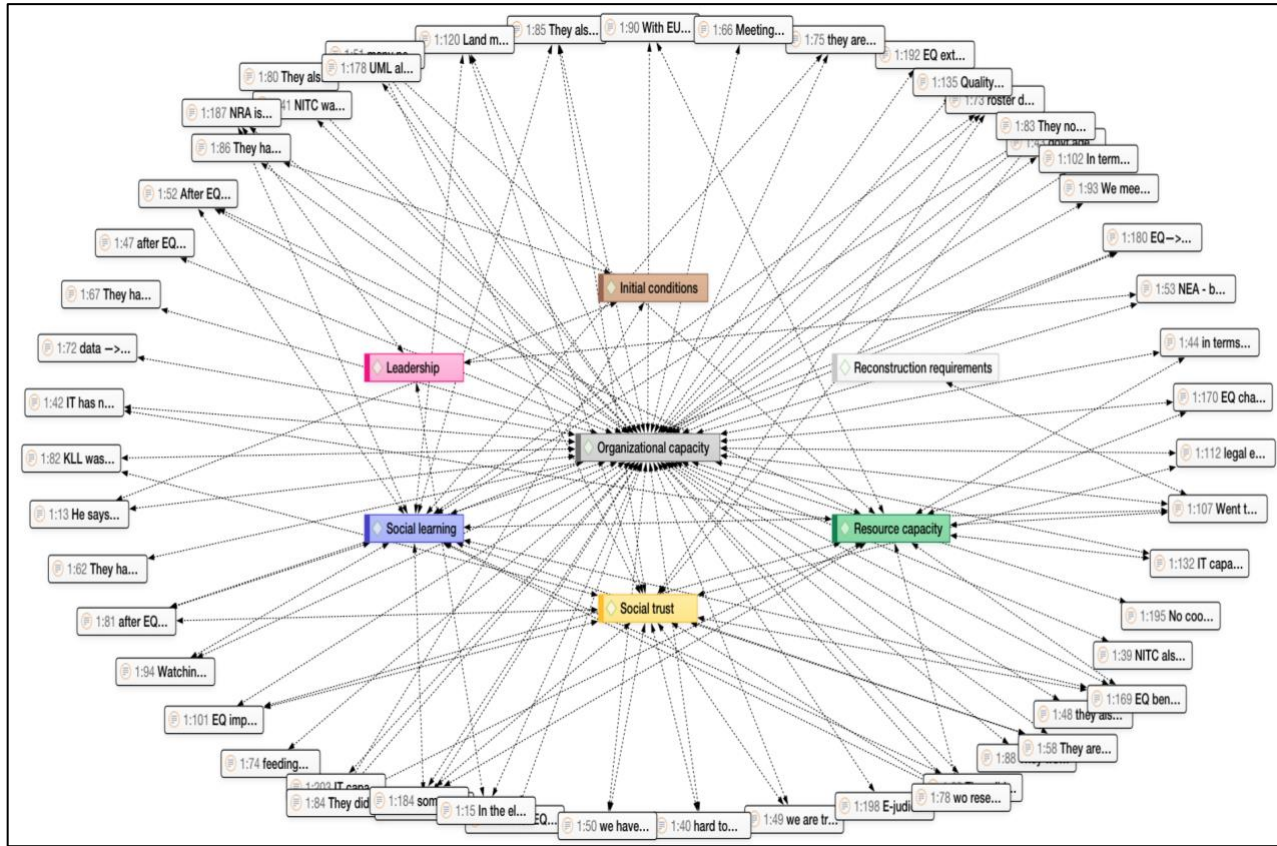
²⁴⁷ <http://kathmandupost.ekantipur.com/news/2015-10-28/bhandari-elected-first-woman-prez.html>

ownership by making it transparent to the public and easily detectable when corruption occurs (Interviewee #2).

The majority of experts discussed how the earthquakes contributed to the building of necessary informational capacity to improve Nepal's governance system. Several government agencies such as the Central Bureau of Statistics, the National Information Technology Center and the Nepal Armed Police Force improved their data centers by launching new, disaster-safe database systems financed by donors like the World Bank, Chinese government, and the Korea International Cooperation Agency (Interviewee #6, #8, and #19). Some of the improved informational infrastructure and tools are already being used for other governance projects to improve public participation in municipal development projects and reducing disaster risk in districts that were not affected by the earthquakes but might be affected by future earthquakes (Interviewee #19). In the judiciary sector, the realization that all files could be lost and the importance of improving access to courts for residents in remote areas who need to appeal for reconstruction subsidies has pushed the system to digitize its files and launch e-courts (Interviewee #34).

Experts also pointed out the importance of organizational capacity for political parties to undertake policy reforms in Nepal's governance. In this contexts, experts noted that political parties that had greater organizational capacity with respect to managing public information (propaganda) as well as internal information among its cadre and branches such as UML and CPN-Maoist were able to take advantage of the post-earthquake environment and improved their influence as opposed to Nepali Congress, which had lower organizational capacity with respect to information dissemination and control among its party members (Interviewee # 4 and #31).

Figure 32. Semantic Network of Organizational Capacity in Expert Interviews



Note: Atlas.ti software was used to create the visualization with the author’s interview data.

The concept of organizational capacity co-occurred with other concepts such as resource capacity, social trust, social learning, leadership, and initial conditions, indicating that changes in organizational capacity interact with changes in resource capacity and social trust to affect governance reforms and institutional capacity building in Nepal. Table 24 below shows the number and standardized measure of co-occurrence of organizational capacity with its neighboring concepts.

Table 24. Co-Occurrence of Organizational Capacity in Expert Interviews

	Organizational capacity		
Initial conditions	3	–	0.04
Leadership	3	–	0.05
Reconstruction req...	1	–	0.02
Resource capacity	13	–	0.13
Social learning	16	–	0.17
Social trust	16	–	0.17

Note: The table was produced using the author's interview data with Atlas.ti software.

8.3. Summary

This chapter analyzed how the changes in the levels of organization capacity within Nepal's governance system – increased level of interorganizational connectivity among the actors of Nepal's governance system and their enhanced capacity for information collection, exchange, and use following the 2015 earthquakes – have contributed to governance reforms and improved governance capacity in Nepal. Because disaster response and post-disaster reconstruction requires large-scale efforts in collecting, exchanging, processing and using information to make policy and governance decisions, Nepal's post-disaster information capacity enhanced significantly. Such informational capacity has had spillover effects as governance actors started using the same tools and techniques to address other policy and governance problems. As a critical component of organizational capacity, informational capacity has enhanced significantly in Nepal's governance system as a result of massive earthquakes and large-scale effort to respond and rebuild afterwards. The chapter also showed that actors that had greater pre-disaster organizational capacity had greater opportunity to further increase their capacity in the post-

disaster governance system of Nepal due to increased levels of resources and changes in the governance system that solidified their rights and privileges.

In this chapter, the complementary nature of the expert interview data and the GDELT data has come into play as interorganizational network data shows increased levels of connections among governance actors and the expert interview data shedding light on increased capacity to collect, analyze and share information in post-disaster Nepal. While the GDELT v.1 data has some limitations with respect to coverage of subnational governance actors, future research should look at the newly released v.2 of the dataset to see if interorganizational networks in Nepal's governance system would have any subnational components as it related to post-earthquake organizational capacity and constitutional reforms in Nepal.

9.0 CONCLUSION

9.1. Summary of Findings

Research presented in this dissertation demonstrates that large-scale natural disasters can have critical impact on governance systems of low-income, fragile states. Using a complex adaptive systems perspective and the 2015 earthquakes in Nepal, the dissertation documented how post-earthquake constitutional reform and changes in adaptive capacity of Nepal's governance system can be traced back to changes in the disaster response network, resource capacity, social trust, and organizational capacity.

Using field observations, expert interviews, and knowledge graph data from media contextualization database Global Data on Events, Locations and Tone (GDELT), Chapter 5 showed that the disaster response network following the massive 2015 earthquakes in Nepal was dominated by international multilateral and bilateral governmental institutions as measured by centrality scores. Perceived loss of control in the disaster response network to Indian and UN actors led government officials and political party leaders in Nepal to attempt to regain control of the disaster governance network. Within a month of the earthquakes, the government of Nepal ended the emergency phase of the response and re-imposed import duties to all the incoming goods at the customs, while also trying to control operations of foreign organizations in Nepal. Moreover, the government required that financial donations go through the Prime Minister's Disaster Relief Fund or Nepal's central bank. Political party leaders attempted to reignite nationalism, anti-India sentiment, and self-sufficiency narratives to regain control of the situation.

Chapter 6 analyzed the impact of the 2015 earthquakes on resource capacity of Nepal's governance system using mixed-methods and multiple sources of evidence. In so doing, it

described the pre-disaster level of resource capacity in Nepal and analyzed disaster donations data that documents mobilization of resources by Nepali actors as well as their international partners in the UN system and multilateral development organizations. The chapter also used financial statistics provided in government and nongovernmental organization reports as well as expert interview data to show how the fiscal, economic, and human resource capacity of Nepal compares before and after the earthquakes. Incentives to command these resources and the increased resource capacity has increased the capacity of Nepal's governance system and facilitated the adoption of the new constitution and implementation of administrative reforms to implement the federal constitution that mandates the creation of central, provincial, and local bodies of authority. Increased level of resource capacity has contributed to adaptation of the system in the post-disaster environment and allowed the Nepali actors to gain more autonomy with respect to internal policy decisions as well as in managing their diplomatic ties.

Chapter 7 provided an analysis of how the 2015 earthquakes affected governance reforms and institutional capacity building in Nepal through changes in social trust. Social trust is critical for any governance system to function effectively because in the absence of social trust the necessary level of interaction and cooperation among the units of the system cannot be sustained in decentralized governance systems that rely on both vertical and horizontal connections. Social trust, in combination with resource capacity and organizational capacity, is an important micro- and meso-level mechanism that contributes to macro-level changes in the laws and structures that shape governance systems. In post-earthquake Nepal, sudden increases in social trust created a window of opportunity for drastic measures such as the passage of the new constitution in the face of resistance by powerful external actors like India that has historically challenged Nepal with border blockades from time to time when all other levers of influence did not materialize.

The chapter traced pre-post changes in social trust in Nepal using published reports and articles as well as primary expert interview data and secondary citizen feedback surveys of relief and recovery activities in earthquake affected districts of Nepal.

Chapter 8 demonstrated that increased levels of organization capacity within Nepal's governance system – increased level of interorganizational connectivity among the actors of Nepal's governance system and their enhanced capacity for information collection, exchange, and use following the 2015 earthquakes have contributed to governance reforms and enhanced governance capacity in Nepal. Because disaster response and post-disaster reconstruction requires large-scale efforts in collecting, exchanging, processing and using information to make policy and governance decisions, Nepal's post-disaster information capacity enhanced significantly. Such informational capacity has had spillover effects as governance actors started using the same tools and techniques to address other policy and governance problems. As a critical component of organizational capacity, informational capacity has enhanced significantly in Nepal's governance system as a result of massive earthquakes and large-scale effort to respond and rebuild afterwards. The chapter also shows that actors that had greater pre-disaster organizational capacity had greater opportunity to further increase their capacity in the post-disaster governance system of Nepal due to increased levels of resources and changes in the governance system that solidified their rights and privileges.

9.2. Implications for Theory

The dissertation contributes to scholarship in social and policy sciences by marrying the disaster policy and management theories with networked governance and institutional change literatures in developing country context. In disaster politics literature, following Pelling and Dill (2010),

Daubers (2013), and Roberts (2013), this dissertation has maintained that large-scale natural disaster must be studied as critical junctures because the window of opportunity created by such extreme events in the spheres of resources, social trust, and organizational capacity can allow governance actors to enact fundamental changes to the rules and structures of governance systems. While the dissertation has provided analysis of disaster response and early recovery, its goal was going beyond the disaster policy and management to observe changes in the broader political system. In that sense the dissertation goes beyond Birkland's (1998) model of organizational learning by studying systemwide learning outside of the boundaries of disaster policy and management.

In international development and political economy literature, scholars have often focused on conflicts and post-conflict rebuilding to understand governance systems in developing countries. This dissertation has argued that catastrophic natural disasters and large-scale efforts to respond and rebuild can have fundamental consequences for governance systems. Many scholars do study resource capacity, social trust, and organizational capacity as they relate to changes in governance institutions. As natural disasters increase due to changes in the global environment, more basic research will be needed to better understand the processes through which disasters and conflicts co-occur and engender contentious politics and social movements that can have consequences for macro-level political and economic outcomes.

9.3. Implications for Policy and Management

Catastrophic natural disasters and their consequential impact on governance systems are not new to Nepal. The Great Bihar earthquake of 1934, the 1954 floods, and the 1988 earthquake in Nepal were followed by tumultuous political processes and enhanced governance capacity in

dealing with such crises. The latter event was followed by an official economic blockade by India that lasted for two years to weaken the regime of King Birendra when the enacted economic and diplomatic policies of the king did not satisfy the government of Indira Gandhi (Koirala 1990). However, a comprehensive search of the English language literature in the United State and Nepal did not result in any research that systematically examined the relationship with catastrophic natural disasters and changes in the policies and governance institutions of Nepal. This dissertation aimed at filling this gap in knowledge.

Just as pre-disaster prevention and preparedness efforts are key to reducing disaster impact, understanding how natural disasters affect resource capacity, social trust, and organizational capacity prior to the disaster is critical for political and economic actors in Nepal's governance system so that they can better manage policy and management problems. For example, Nepal's governance leaders could have predicted a strong reaction by the Indian government and foreseen the border blockade. Such an expectation could have allowed the Nepali actors to increase their supplies of food, medicine, fuel, and other essential in case movement of goods are obstructed at the border.

In disaster policy and management arena, there has been significant social learning across all types of actors in Nepal. Families and businesses have reconstructed their buildings in accordance with earthquake safety guidelines providing in Nepal's Building Code. Construction companies have become much stricter in their building practices and local government offices more diligent in enforcing zoning and building laws. School children have learned more about how to cope with earthquake induced economic and emotional suffering. Organizations have acquired new resources, knowledge, trust, and information systems to better understand and reduce risk from large scale organizations. While such improvement is relative to the prior

conditions, there is still much more work that needs to be done. I hope that as Nepali leaders and citizens continue to debate reforming public institutions that address problems of risk reduction and disaster response, they allocate appropriate time, attention, and human and technological resources to make Nepal a more robust and resilient country against natural hazards.

9.4. Limitations and Future Research

I hope future research contributes to further advancement of knowledge in our understanding of models of post-disaster governance reform. While this dissertation has looked at short and medium-term effects of the 2015 earthquakes on Nepal's governance system, with the passage of time I hope to collect more data and examine longer term effects of the earthquake on Nepal's resource capacity, social trust, and organizational capacity.

Moreover, comparative research design is essential to advance our knowledge on general principles of post-governance reform. In my future work, I hope to use a comparative method to understand why post-2010 Haitian governance system was not able to strengthen its governance system as much as Nepal has been able to do. An equally fruitful way to improve scientific insights to include more cases from the same country's history. I hope to collaborate with Nepali historians to better understand the effects of past disasters such as the 1934 and 1988 earthquakes and the 1954 floods on Nepal's governance system. Within and between case comparisons provide more generalizable insights as to the extent to which Nepal's governance system successfully adapted to the post-disaster environment by conducting organizational reform in multi-risk environment that not only included aftershocks, monsoons, winters, and droughts but also social unrest and high risk of political instability.

While GDELT data is useful in understanding interorganizational structure of Nepal's governance system from a larger context, it has limitations with respect to understanding the role of smaller and local level organizations. To the extent this was an issue with respect to arriving at micro- and meso-level logics of action and mechanisms of change, expert interviews as well as other supplementary data sources described in the methods chapter were used to fill the gap. Because of the complementary nature of all datasets used in this mixed-methods dissertation, a rich understanding of the context as well as the preferences and actions of governance actors due to surveys, news articles, field research and expert interviews complement the interorganizational network analysis that used the GDELT data. Expert interviews validated the GDELT analysis findings by providing more detailed and nuanced evidence on how the 2015 earthquakes have increased resource capacity, social trust, and organizational capacity in Nepal. Future research should explore using the version 2 of the GDELT Global Knowledge Graph database as it would include Nepali language news and social media data in addition to the English language content. Nepali language content would undoubtedly cover more subnational level governance actors in Nepal.

In future research, scholars are encouraged to compare the GDELT graph data with human coded network data from news articles, financial statements of donation exchanges among organizations, and extraction of networks from web hyperlinks. More formal methods of comparison such as Quadratic Assignment Procedure (QAP) and Exponential Random Graphs (ERGs) would allow one to check if macro and micro level network structures across different measures of the network provide similar results (e.g., Lai and Hsu 2018).

APPENDIX A. LIST OF ORGANIZATIONS REPRESENTED IN EXPERT INTERVIEWS

Organization	Sector
Armed Police Force	Government
Attorney General's Office	Government
Auditing Firm	Private sector
Bilateral Development Contractor	Bilateral development agency/contractor
British College	Academia
Community for Self-Reliance Center	Nonprofit sector
Construction firm	Private sector
Construction firm	Private sector
Democracy Resource Center	Nonprofit sector
Department of Standards and Metrology	Government
Evidence for Policy Design	Academia
Florida International University	Academia
Institute of Crisis Management Studies	Academia
Kathmandu Engineering College	Academia
Kathmandu Living Labs	Nonprofit sector
Kathmandu School of Law	Academia
Kathmandu University	Academia
Ministry of Agriculture, Land Management and Cooperatives	Government
Ministry of Finance	Government
National Information Technology Center	Government
National Planning Commission	Government
National Reconstruction Authority	Government
National Society for Earthquake Technology	Nonprofit sector
Nepal Academy of Science and Technology	Academia
Nepal Government Office of Architecture	Government
Nepal Police	Government
Nepal Red Cross Society	Nonprofit sector
Nepal Seismological Center	Government
Nepali Congress	Political party
Rotary Club of Mount Everest	Nonprofit sector
Search and Rescue Consultant	Private sector
South Asia Institute of Advanced Studies	Think tank
Tourism firm	Private sector
Transparency International Nepal	Nonprofit sector
Tribhuvan University	Academia
UN Development Program Nepal	Multilateral development agency
US Agency for International Development	Bilateral development agency/contractor

APPENDIX B. LIST OF QUESTIONS USED IN SEMI-STRUCTURED EXPERT INTERVIEWS

1. What is your role within your organization?
2. What is the role of your organization within the governance system of Nepal?²⁴⁸
3. In what ways and to what extent have the 2015 earthquakes affected your organization?
 - a. How have the earthquakes and relief and reconstruction processes affected the capacity of your organization?
 - b. How did the earthquakes affect the clients and stakeholders of your organization?
 - c. What are the social and economic characteristics of your clients and stakeholders?
4. How did the earthquakes affect your partner organizations and your relationships with them?
5. How would you compare the impact of previous earthquakes and the 2015 earthquakes? Has Nepal's governance capacity improved since then? Or has it lessened?
6. If another earthquake happens in Nepal, would the Nepalese governance institutions respond better or worse?
7. How did the earthquakes affect the constitutional process in Nepal? Has the effect been positive or negative? Why?
8. How did the earthquakes affect Nepal's relations with its neighbors? Has the effect been positive or negative? Why?
9. How did the earthquakes affect civil society organizations in Nepal? Has the effect been positive or negative? Why?
10. How did the earthquakes affect Nepal's relations with international organizations such as the UN and World Bank?
11. What is the primary service area for your organization; urban or rural?
12. How have the earthquakes affected your community/neighborhood?
13. What training and skills are needed by your organization to carry out its work with clients and stakeholders?

²⁴⁸ For interviewees, governance system was defined as a system of rule in which not only political/state actors but also non-state actors such as NGOs, private firms, citizen groups, and international development partners play crucial roles in policy making and implementation (Ansell and Gash 2008).

14. What methods does your organization use to communicate internally and externally?²⁴⁹

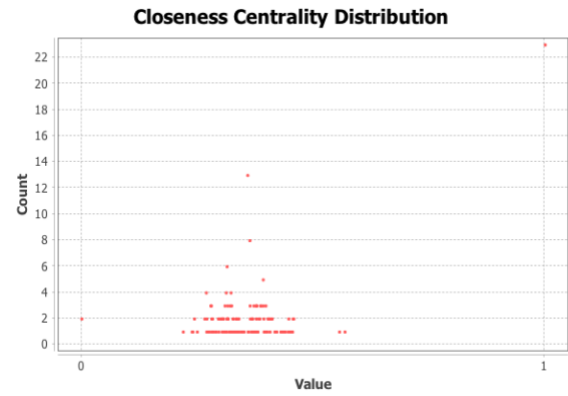
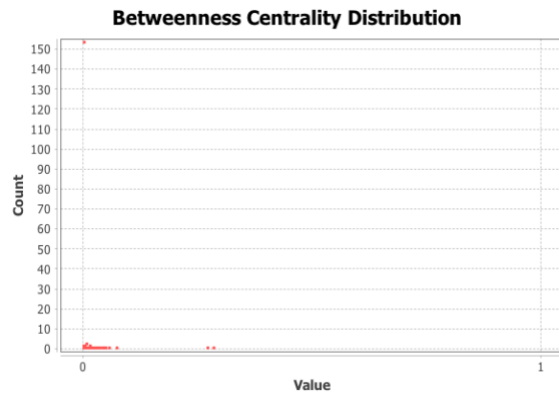
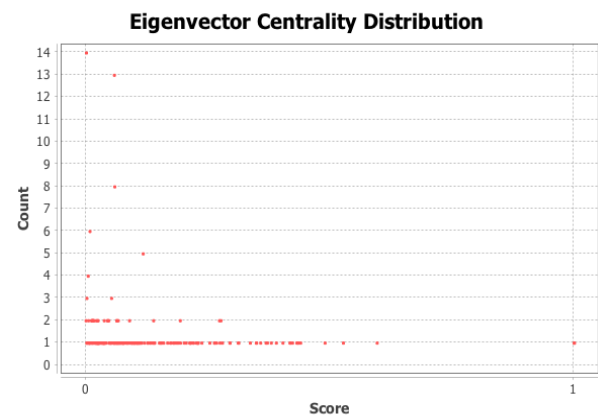
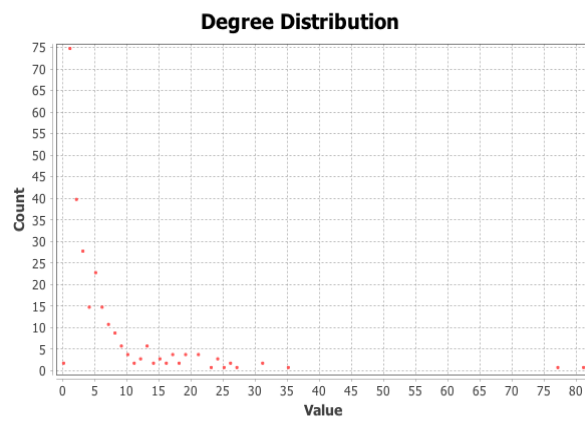
APPENDIX C. LIST OF VARIABLES OF THE CITIZEN FEEDBACK SURVEYS

Variable Name	Variable Description
District	District
vdc_muni	VDC or Municipality
ward	Ward
Age	Age
Gender	Gender
caste_ethnicity	Caste ethnicity
other_caste	If other, what is your caste?
Occu	Occupation
other_occu	If other occupation
health_problem	Do you have any health problem
1	1 Are your main problems being addressed?
1a	1a What is your biggest problem?
1a other	If other, what is your biggest problem?
1b	1b What is your second biggest problem?
1b other	If other, what is your second biggest problem?
1c	What is your third biggest problem?
1c other	If other, what is your third biggest problem?
2	Are you satisfied with what the government is doing for you after the earthquakes?
2a	What is the first reason you not satisfied with government?
2a other	If other top reasons
2b other	What is the second reason you are not satisfied with government?
2b other	If other second reason
3	Do you have the information you need to get relief and support?
3a	What is the top thing that you need information about?
3a other	If other top need information
3b	What is the second most important thing that you need information about?
3b other	If other, second need for information
4	Are you satisfied with what NGOs are doing for you after the earthquake?
4a	What is the first reason you not satisfied with NGO support?
4a other	If other, top reason for dissatisfaction with NGOs
4b	What is the second reason you are not satisfied with NGOs?
4b other	If other, second reason for dissatisfaction with NGO
5	Are you Prepared for winter?
5a	What is the main reason you feel you are not prepared?
5a other	If other why not prepared?
6	Do you have problems related to children in your household or family in the post-earthquake period?
6a	What is the main problem for the children?
6a other	If other What is the main problem for the children?
6b	What is the second top problem for the children?

6b other	If other What is the second top problem for the children?
7	Overall is the post-earthquake relief effort making progress?
8	Do you feel there has been an increase in the environment of tension or risk of violence or harassment since the earthquake?
8a	Who has this increased risk come from?
8a other	If others Who has this increased risk come from?
9	Do you feel that the children in your family are in a safe place while attending school?
10	Do you need to rebuild repair or retrofit your home because of damage caused by earthquakes?
10a	Where do you plan to get the resources or funds to rebuild/repair /retrofit your home?
10a other	If other, where do you plan to do?
10b	What factors do you base your rebuild/repair/ retrofitting decisions on?
10b other	If other, what factors do you baser decisions on?
11	Do you feel your community has recovered from the earthquake?
11a	What is the main thing your community to recover?
11a other	If other, what is the main thing your community to recover?
11b	What is the second main thing your community recover?
11b other	If other, what is the second main thing your community recover?

Source: <https://data.humdata.org/showcase/nepal-earthquake-citizen-perception-survey>

APPENDIX D. DISTRIBUTION OF STATISTICS FOR DISASTER RESPONSE NETWORK



Note: These measures and charts were created using Gephi 0.9.2 software

APPENDIX E. LIST OF LABELS AND DESCRIPTIONS FOR ORGANIZATIONS IN THE
DISASTER REPOSE NETWORK

Label	Description
AAI	Alpine Ascents International
AC	Adventist Church
AD	Adventist Development
ADB	Asian Development Bank
AE	Australian Embassy
AG	Advisory Group
AHF	American Himalayan Foundation
AI	Amnesty International
AIIB	Asian Infrastructure and Investment Bank
AJJDC	American Jewish Joint Distribution Committee
AJWS	American Jewish World Service
ALCF	Alex Lowe Charitable Foundation
AM	Affairs Ministry
ANA	Afghan National Army
ASEAN	Asian Association For Regional Cooperation
AST	Assistance Survey Team
AU	African Union
AWNN	Animal Welfare Network Of Nepal
BA	British Army
BAG	British Army Gurkhas
BDS	Blue Diamond Society
BE	British Embassy
BIS	Bureau Of Indian Standards
BJP	Bharatiya Janata Party
BLIA	Buddha Light International Association
CAAN	Civil Aviation Authority Of Nepal
CAF	Canadian Armed Forces
CC1	Catholic Church
CC2	Culture Centre
CCV	Communication Centre Vehicles
CDART	Canada Disaster Assistance Response Team
CDC	Constitution Drafting Committee
CE	Chinese Embassy
CFA	Commission For Asia

CIS	China International Search
CMC	Crisis Management Committee
CO	Cultural Organization
COC	Coordination Centre
COI	Commission Of Inquiry
COM	Council Of Ministers
CONI	Confederation Of Nepalese Industries
CP	Cheshire Police
CPON	Communist Party Of Nepal
CPONM	Communist Party Of Nepal Maoist
CRG	Contingency Response Group
CRS	Catholic Relief Services
CTMA	China Tibet Mountaineering Association
CWO	Commonwealth Office
DA	Development Agenda
DABS	Dar Al Ber Society
DART	Disaster Assistance Response Team
DB	Development Bank
DC	Development Canada
DDMA	Delhi Disaster Management Authority
DDRC	District Disaster Relief Committee
DEC	Disaster Emergency Committee
DM	Defense Ministry
DOD	Department Of Defense
DOFA	Department Of Foreign Affairs
DOH	Department Of Hydrology
DOHS	Department Of Homeland Security
DRCC	Disaster Relief Coordination Centre
DRF	Disaster Relief Fund
DRT	Disaster Response Team
DTF	Donor Trust Fund
DWB	Doctors Without Borders
EBC	Everest Base Camp
EC	European Commission
EGU	European Geosciences Union
EMSC	European Mediterranean Seismological Center
EP	European Parliament
ETC	Emergency Telecommunications Cluster
EU	European Union

FA	Foreign Affairs
FFM	French Foreign Ministry
FM	Foreign Ministry
FO	Foreign Office
FONCO	Federation Of Nepalese Chambers Of Commerce
GH	Global Health
GP	Green Party
GPF	Global Peace Foundation
GW	Gurkha Welfare
HDI	Human Development Index
HFHI	Habitat For Humanity International
HM	Home Ministry
HRA	Himalayan Rescue Association
HRC	Human Rights Council
HRW	Human Rights Watch
HSI	Humane Society International
IA	Indian Army
IAEA	International Atomic Energy Agency
IAEE	Indian Army Everest Expedition
IAF	Indian Air Force
IC	International Cooperation
ICFIM	International Centre For Integrated Mountain Development
ICFTR	International Committee For The Red Cross
ICONR	International Conference On Nepal Reconstruction
ID	International Development
IDF	Israel Defense Forces
IE1	Indian Embassy
IE2	Irish Embassy
IE3	Israel Embassy
IEA	Indian External Affairs
IF	Intrepid Foundation
IFM	Israel Foreign Ministry
IFOTR	International Federation Of The Red Cross
IHAM	India Home Affairs Ministry
IHC	International Humanitarian City
IOMS	India Institute Of Medical Sciences
IMC	International Medical Corps
IMD	India Meteorological Department
IMF	International Monetary Fund

IMG	International Mountain Guides
IN	Indian Navy
INCMC	India National Crisis Management Committee
INDMA	India National Disaster Management Authority
INDRF	India National Disaster Response Force
INSA	India National Security Advisor
IOC	Indian Oil Corporation
IOFM	International Organization For Migration
IPOCC	Intergovernmental Panel On Climate Change
IR	Indian Railways
IRAMT	India Rapid Action Medical Team
IRC	International Red Cross
IRT	International Relief Teams
IS1	Immigration Services
IS2	International Search
ISST	Interdepartmental Strategic Support Team
IUHM	India Union Home Ministry
JICA	Japan International Cooperation Agency
JM	Justice Ministry
JUSN	Jubilee United States Network
KC	Korean Church
KCC	Khumbu Climbing Center
KMC	Kathmandu Medical College
KMD	Kolkata Meteorological Department
LACFD	Los Angeles County Fire Department
LI	Lexington Institute
LNP	Langtang National Park
LWR	Lutheran World Relief
MAG	Marine Aircraft Group
MC1	Marine Corps
MC2	Mercy Corps
MDG	Millennium Development Goals
ME1	Malaysian Embassy
ME2	Marine Expeditionary
MEBC	Mount Everest Base Camp
MF	MetLife Foundation
MFA	Ministry Of Foreign Affairs
MOC	Ministry Of Culture
MOD	Ministry Of Defence

MOE	Ministry Of Education
MOEA	Ministry Of External Affairs
MOFA	Ministry Of Federal Affairs
MOH	Ministry Of Health
MOHA	Ministry Of Home Affairs
MOS	Ministry Of Science
MOT	Ministry Of Tourism
MOUD	Ministry Of Urban Development
MRCs	Malaysian Red Crescent Society
MSF	Medecins Sans Frontieres
NA	Nepal Army
NAP	Nepal Armed Police
NC	Nepali Congress
NCR	National Capital Region
NE	Nepal Embassy
NEOC	National Emergency Operation Center
NERF	Nepal Earthquake Relief Fund
NG	National Guard
NGRI	National Geophysical Research Institute
NHM	Nepal Home Ministry
NMA	Nepal Mountaineering Association
NMOH	Nepal Ministry Of Health
NP	Nepal Police
NPC	National Planning Commission
NRA	National Reconstruction Authority
NRB	Nepal Rastra Bank
NRCS	Nepal Red Cross Society
NRF	National Reconstruction Fund
NS	National Societies
NSC1	National Seismological Centre
NSC2	National Security Council
NSFET	National Society For Earthquake Technology
NTA	Nepal Telecommunications Authority
NZD	New Zealand Defence
NZHC	New Zealand High Commission
OBI	Operation Blessing International
OI	Oxfam International
OSU	Oregon State University
PA1	Pakistan Army

PA2	Promotion Authority
PA3	Public Affairs
PAF	Pakistan Air Force
PAFH	Pakistan Army Field Hospital
PI	Plan International
PIUK	Plan International United Kingdom
PL	Propulsion Laboratory
PP	Pacific Partnership
PRF	PM Relief Fund
RA	Relief Agency
RAF	Royal Air Force
RBAF	Royal Brunei Armed Forces
RC	Response Centre
RCM1	Red Cross Movement
RCM2	Red Crescent Movement
RCSOC	Red Cross Society Of China
RF1	Relief Fund
RF2	Russian Federation
RMAF	Royal Malaysian Air Force
RMI	Rainier Mountaineering Inc
RPP	Rastriya Prajatantra Party
RSUH	Royal Stoke University Hospital
RT	Relief Trust
RTAF	Royal Thai Armed Forces
SA	Salvation Army
SAF1	Singapore Air Force
SAF2	Singapore Armed Forces
SC1	Supreme Court
SC2	Security Council
SCD	Singapore Civil Defence
SDG	Sustainable Development Goals
SF	Seva Foundation
SH	Scripps Health
SP	Singapore Police
SPCC	Sagarmatha Pollution Control Committee
SPR	Services Public Relations
SVA	Student Volunteer Army
TD	Technology Directorate
TF	Task Force

TI1	Teams International
TI2	Textron Inc
TIA	Tribhuvan International Airport
TICOF	Third International Conference On Financing For Development
TPP	Trans Pacific Partnership
TR	Team Rubicon
TRC	Tourism Recovery Committee
TUTH	Tribhuvan University Teaching Hospital
U	USAID
UA	US Army
UAF	US Air Force
UC1	US Congress
UC2	University Of California
UCERF	UN Central Emergency Response Fund
UCF	UN Children Fund
UDFID	UK Department For International Development
UDP	UN Development Program
UE	US Embassy
UFAAO	UN Food and Agriculture Organization
UHAS	UN Humanitarian Air Service
UHDI	UN Human Development Index
UHRC	UN Human Rights Council
UKIS	United Kingdom International Search
UN	United Nations
UOA	University Of Adelaide
UOC	University Of Cambridge
UOFTC	UN Office For The Coordination Of Humanitarian Affairs
UOL	University Of Leicester
UOS	University Of Sheffield
UPF	UN Population Fund
US	United States
USC1	UN Security Council
USC2	US Supreme Court
USD	US State Department
UU	Utrecht University
UWFP	UN World Food Program
UWHO	UN World Health Organization
VT	Virginia Task
WB	World Bank

WGA	Wise Giving Alliance
WHA	World Health Assembly
WU	Western Union
WVI	World Vision International
ZGI	Zayed Giving Initiative

APPENDIX F. GDELT NETWORK STATISTICS AND VISUALIZATIONS FOR NEPAL'S
GOVERNANCE SYSTEM TWO YEARS PRIOR TO THE 2015 EARTHQUAKES

Top 10 actors by weighted degree centrality

Rank	Actor	Weighted Degree Centrality Score
1	Nepali Congress	9.7943
2	United States	9.2960
3	Supreme Court	5.8629
4	United Nations	4.9181
5	Election Commission	3.6472
6	Nepal Army	3.1355
7	Nepal Police	2.7793
8	Truth and Reconciliation Commission	2.2324
9	World Bank	2.0385
10	UN Nepal Office	1.9314

Top 10 actors by betweenness centrality

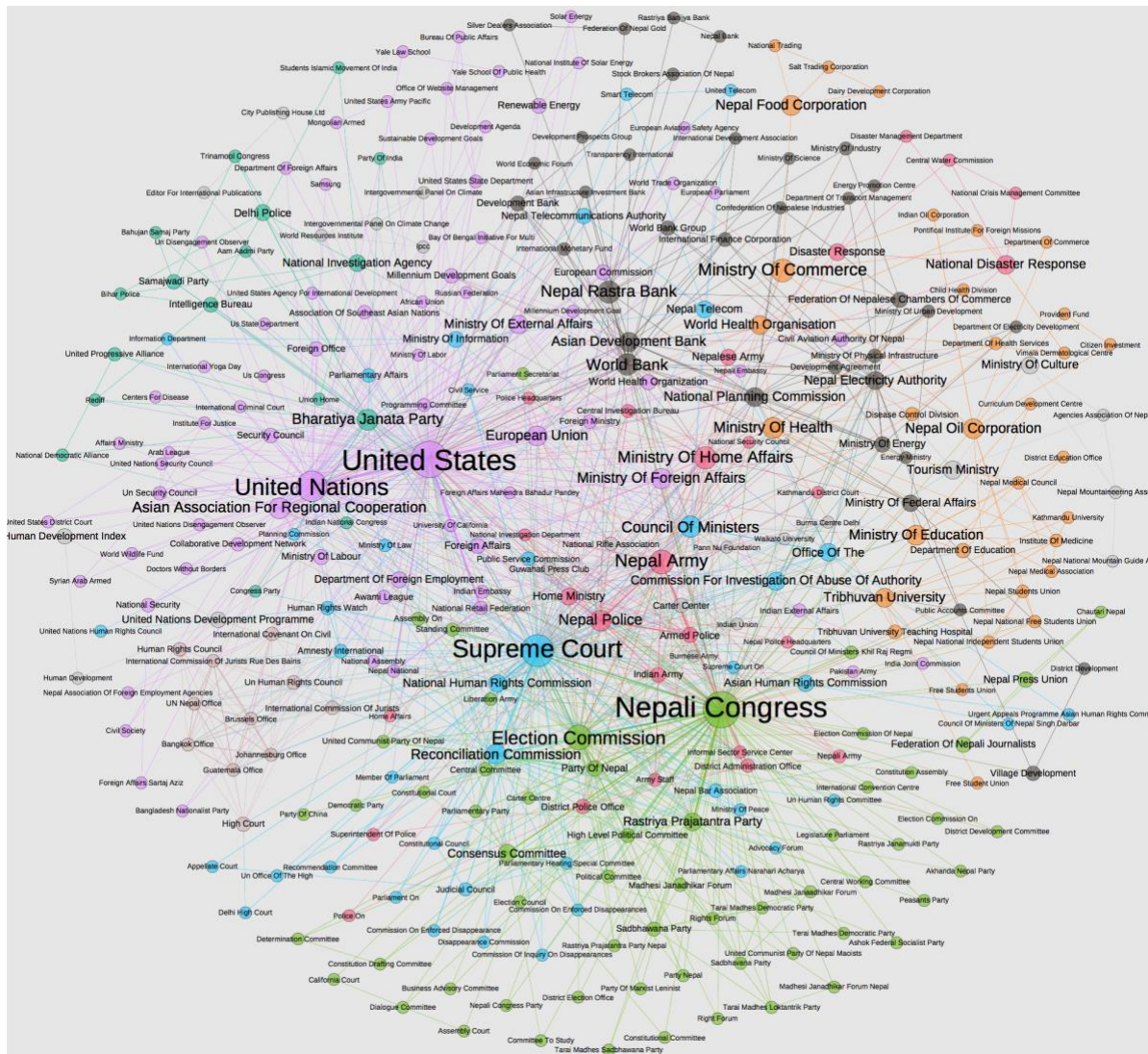
Rank	Actor	Betweenness Centrality Score
1	United States	0.3128
2	Nepali Congress	0.2961
3	Supreme Court	0.1683
4	United Nations	0.1303
5	Election Commission	0.0569
6	Nepal Army	0.0422
7	Ministry of Home Affairs	0.0408
8	Ministry of Commerce	0.0378
9	Nepal Rastra Bank	0.0324
10	World Bank	0.0290

Top 10 actors by closeness centrality

Rank	Actor	Closeness Centrality Score
1	United States	0.6004
2	Nepali Congress	0.5947
3	Supreme Court	0.5641
4	United Nations	0.5400
5	Election Commission	0.5080

6	Council of Ministers	0.4976
7	Ministry of Home Affairs	0.4961
8	Nepal Army	0.4938
9	World Bank	0.4915
10	European Union	0.4877

Nepal's Governance Network, Apr 1, 2013-Jan 24, 2015



Note: Node and label sizes are based on betweenness centrality with spline value of 0.8. Colors denote communities detected by a modularity algorithm. Visualization was made using Fruchterman-Reingold layout method in GEPHI 0.9.2 Data source is GDELT Knowledge Graph.

Network Statistics (N=485; E=1,386)

Variable Name	Value
Average Degree	7.698
Weighted Average Degree	0.398
Network Density	0.024
Modularity	0.546
Average Clustering Coefficient	0.773
Average Path Length	2.69

APPENDIX G. GDELT NETWORK STATISTICS AND VISUALIZATIONS FOR NEPAL'S
GOVERNANCE SYSTEM THREE MONTHS PRIOR TO THE 2015 EARTHQUAKES

Top 10 actors by weighted degree centrality

Rank	Actor	Weighted Degree Centrality Score
1	United States	5.7632
2	World Bank	3.8289
3	Supreme Court	3.6974
4	United Nations	3.6579
5	Nepali Congress	3.5263
6	Truth and Reconciliation Commission	1.9737
7	Asian Development Bank	1.9605
8	Asian Infrastructure Investment Bank	1.5658
9	Nepal Army	1.4737
10	CA Questionnaire Committee	1.3421

Top 10 actors by betweenness centrality

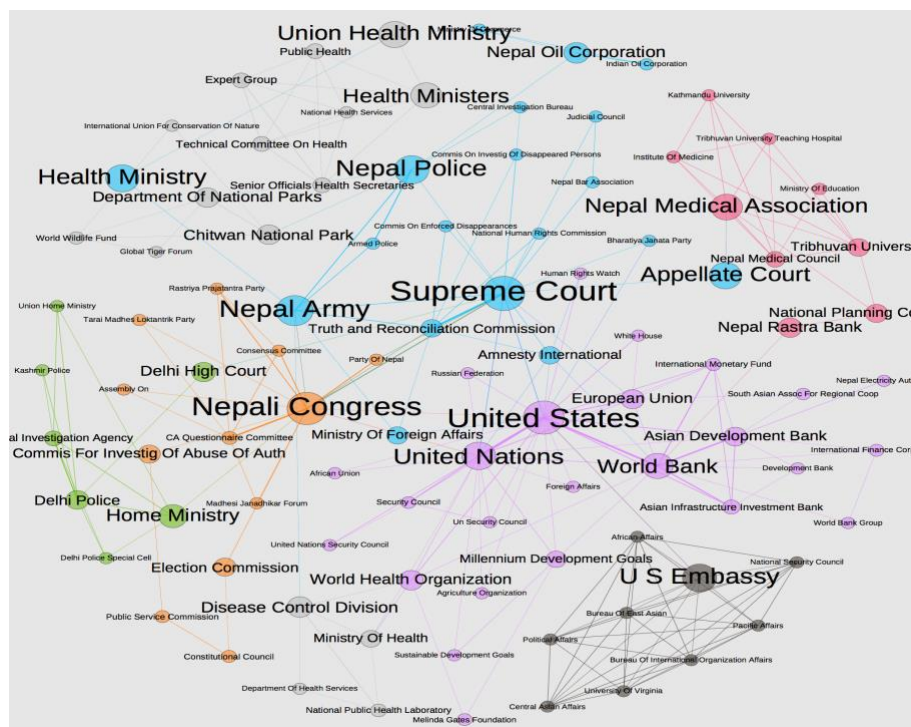
Rank	Actor	Betweenness Centrality Score
1	Supreme Court	0.4081
2	United States	0.3389
3	Nepali Congress	0.2983
4	Nepal Army	0.2144
5	Nepal Police	0.1634
6	US Embassy	0.1544
7	United Nations	0.1460
8	Health Ministry	0.1366
9	Appellate Court	0.1226
10	[Indian] Union Health Ministry	0.1184

Top 10 actors by closeness centrality

Rank	Actor	Closeness Centrality Score
1	Supreme Court	0.4211
2	United States	0.4085
3	Nepali Congress	0.3951
4	United Nations	0.3902
5	Nepal Army	0.3569

6	European Union	0.3478
7	Amnesty International	0.3453
8	Truth and Reconciliation Commission	0.3404
9	Nepal Police	0.3299
10	Bharatiya Janata Party	0.3299

Nepal's Governance Network, Jan 24-Apr 24, 2015



Note: Node and label sizes are based on betweenness centrality with spline value of 0.8. Colors denote communities detected by a modularity algorithm. Visualization was made using Fruchterman-Reingold layout method in GEPHI 0.9.2 Data source is GDELT Knowledge Graph.

Network Statistics (N=191; E=347)

Variable Name	Value
Average Degree	4.66
Weighted Average Degree	0.757
Network Density	0.049
Modularity	0.701
Average Clustering Coefficient	0.681
Average Path Length	3.921

APPENDIX H. GDELT NETWORK STATISTICS AND VISUALIZATIONS FOR NEPAL'S
GOVERNANCE SYSTEM THREE MONTHS AFTER THE 2015 EARTHQUAKES

Top 10 actors by weighted degree centrality

Rank	Actor	Weighted Degree Centrality Score
1	United States	8.1364
2	United Nations	7.6688
3	World Bank	4.0357
4	European Union	3.0390
5	Asian Development Bank	2.3312
6	Supreme Court	1.8442
7	Nepal Army	1.6201
8	Nepali Congress	1.5584
9	World Health Organization	1.4286
10	Nepal Police	1.3052

Top 10 actors by betweenness centrality

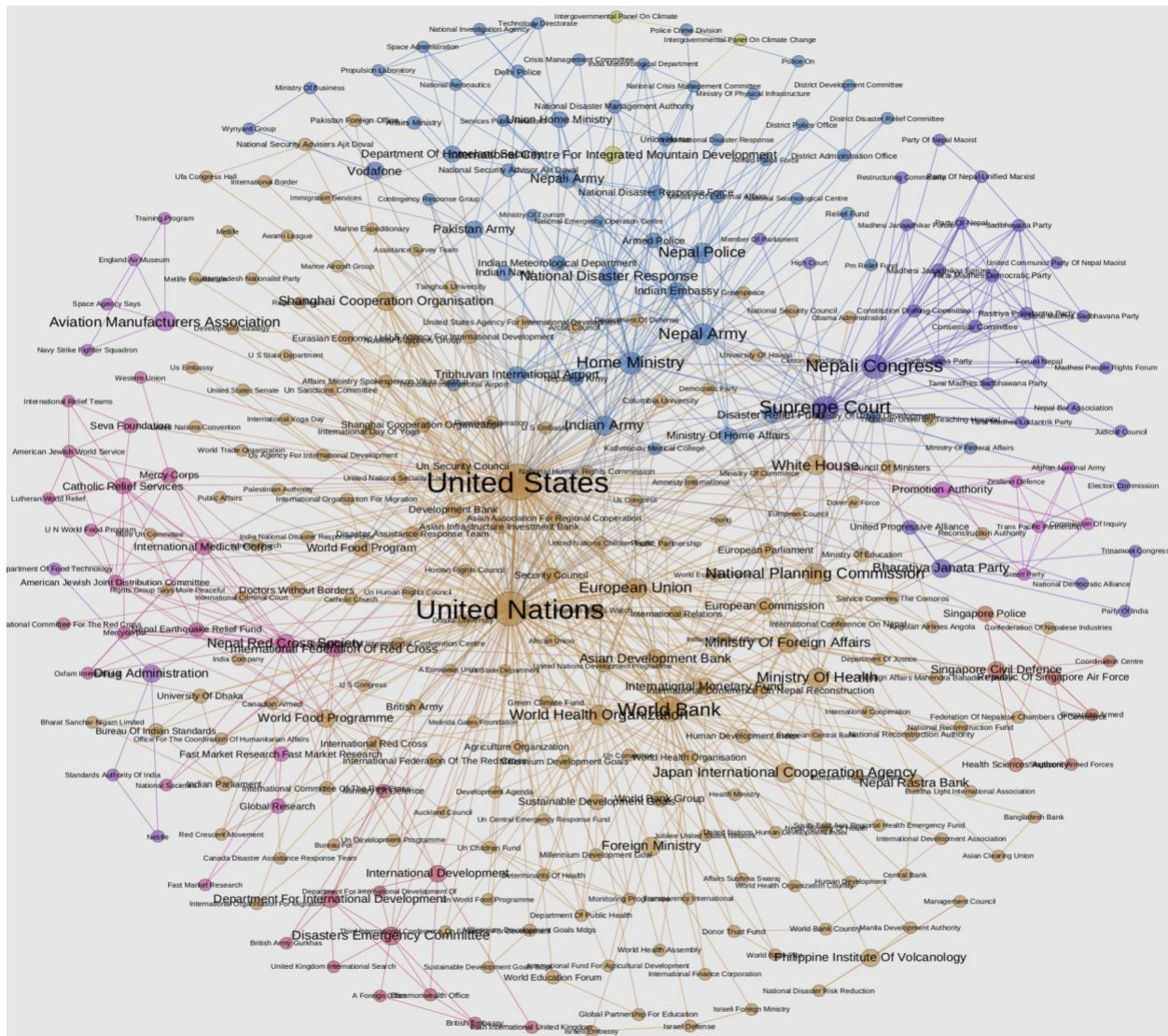
Rank	Actor	Betweenness Centrality Score
1	United States	0.4352
2	United Nations	0.3276
3	World Bank	0.0856
4	Supreme Court	0.0767
5	Nepali Congress	0.0672
6	Nepal Army	0.0432
7	Home Ministry	0.0428
8	National Planning Commission	0.0367
9	Nepal Police	0.0319
10	European Union	0.0309

Top 10 actors by closeness centrality

Rank	Actor	Closeness Centrality Score
1	United States	0.6064
2	United Nations	0.5833
3	World Bank	0.4871
4	Supreme Court	0.4835
5	European Union	0.4694

6	Home Ministry	0.4687
7	Nepal Army	0.4646
8	National Planning Commission	0.4593
9	Nepali Congress	0.4561
10	World Health Organization	0.4510

Nepal's Governance Network, Apr 25-Jul 25, 2015



Note: Node and label sizes are based on betweenness centrality with spline value of 0.8. Colors denote communities detected by a modularity algorithm. Visualization was made using Fruchterman-Reingold layout method in GEPHI 0.9.2 Data source is GDELT Knowledge Graph.

Network Statistics (N=323; E=1,063)

Variable Name	Value
Average Degree	6.582
Weighted Average Degree	0.272
Network Density	0.02
Modularity	0.501
Average Clustering Coefficient	0.732
Average Path Length	2.857

APPENDIX I. GDELT NETWORK STATISTICS AND VISUALIZATIONS FOR NEPAL'S
GOVERNANCE SYSTEM TWO YEARS AFTER THE 2015 EARTHQUAKES

Top 10 actors by weighted degree centrality

Rank	Actor	Weighted Degree Centrality Score
1	Nepali Congress	9.3666
2	United States	8.5916
3	United Nations	6.4148
4	World Bank	2.9260
5	Nepal Police	2.2315
6	Nepal Oil Corporation	2.1254
7	Supreme Court	2.1061
8	Rastriya Prajatantra Party	1.7974
9	European Union	1.5563
10	Nepal Army	1.4952

Top 10 actors by betweenness centrality

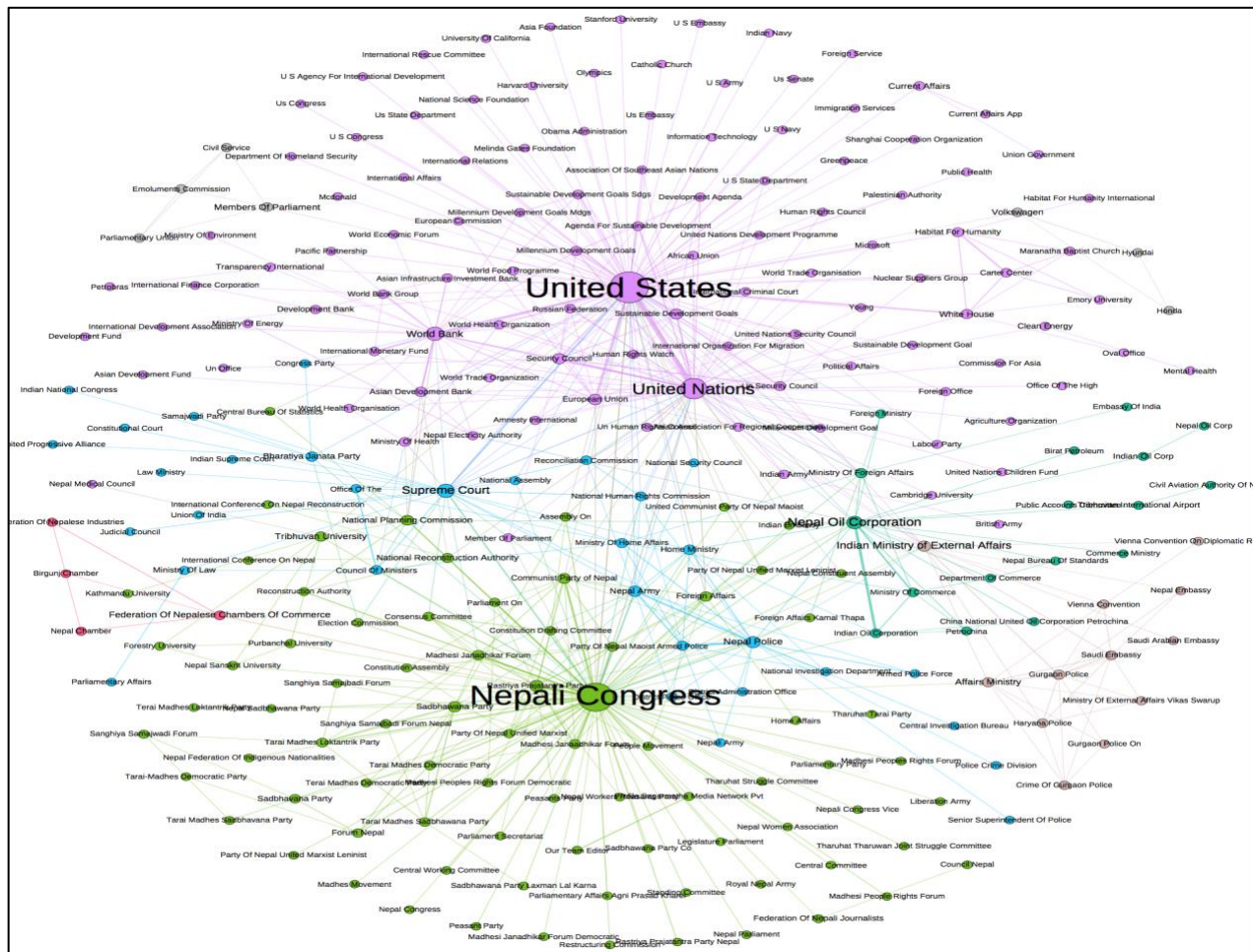
Rank	Actor	Betweenness Centrality Score
1	United States	0.3725
2	Nepali Congress	0.3660
3	United Nations	0.1476
4	Nepal Oil Corporation	0.0755
5	Supreme Court	0.0619
6	Indian Ministry of External Affairs	0.0483
7	World Bank	0.0346
8	Nepal Police	0.0260
9	Tribhuvan University	0.0186
10	Fed. of Nepalese Chambers of Commerce	0.0183

Top 10 actors by closeness centrality

Rank	Actor	Closeness Centrality Score
1	United States	0.5896

2	Nepali Congress	0.5740
3	United Nations	0.5328
4	Nepal Oil Corporation	0.4788
5	Supreme Court	0.4779
6	Indian Ministry of External Affairs	0.4685
7	European Union	0.4602
8	Nepal Army	0.4586
9	Communist Party of Nepal	0.4561
10	Home Ministry	0.4530

Nepal's Governance Network, Jul 26, 2015-Jan 30, 2016



Note: Node and label sizes are based on betweenness centrality with spline value of 0.8. Colors denote communities detected by a modularity algorithm. Visualization was made using Fruchterman-Reingold layout method in GEPHI 0.9.2 Data source is GDELT Knowledge Graph.

BIBLIOGRAPHY

- Abney, F. Glenn, and Larry Hill. 1966. "Natural Disasters as a Political Variable: The Effect of a Hurricane on an Urban Election." *American Political Science Review* 60 (Dec.): 974-81.
- Acemoglu, Daron, and Simon Johnson. 2007. "Disease and development: the effect of life expectancy on economic growth." *Journal of Political Economy* 115(6): 925-985.
- Adger, W. Neil. 2006. Vulnerability. *Global environmental change*, 16(3), 268-281.
- Adhikari, Krishna P., and David N. Gellner. 2016. New Identity Politics and the 2012 Collapse of Nepal's Constituent Assembly: When the dominant becomes 'other'. *Modern Asian Studies* 50(6): 2009-2040.
- Ahrens, J. and Rudolph, P.M., 2006. The importance of governance in risk reduction and disaster management. *Journal of contingencies and crisis management*, 14(4), pp.207-220.
- Agranoff, Robert, and Michael McGuire. 2001. "Big questions in public network management research." *Journal of public administration research and theory* 11(3): 295-326.
- Albala-Bertrand, Jose-Miguel. 1993. *Political economy of large natural disasters: with special reference to developing countries*. Oxford University Press.
- Aldrich, Daniel P. 2012. *Building resilience: Social capital in post-disaster recovery*. University of Chicago Press.
- Almond, Gabriel A. "Comparative political systems. 1956. " *The Journal of politics* 18(3): 391-409.
- Alter, C. and Hage, J., 1993. *Organizations working together: Coordination in interorganizational networks*. Newbury Park, CA: Sage.
- Alvesson, M. & Kärreman, D.(2001). Odd couple: making sense of the curious concept of knowledge management. *Journal of Management Studies*, 38(7), pp.995-1018.
- Ansell, Chris, and Alison Gash. 2008. "Collaborative governance in theory and practice." *Journal of public administration research and theory* 18(4): 543-571.
- Arceneaux, Kevin, and Robert Stein. 2006. "Who Is Held Responsible When Disaster Strikes? The Attribution of Responsibility for a Natural Disaster in an Urban Election." *Journal of Urban Affairs* 28(Jan.): 43-53.
- Argyris, Chris. 1993. "Education for leading-learning." *Organizational dynamics* 21(3): 5-17.
- Bajracharya, Pushkar and Clive Grace. 2014. "The Nepal Civil Service and Re-structuring of the State." Option Paper produced for the Project to Prepare the Public Administration for State Reforms (PREPARE) jointly conducted by the Government of Nepal Ministry of General Administration and the United Nations Development Program.
- Bakija, J. 2016. "Nepal Civil Society Monitors Earthquake Reconstruction Process.": <https://www.demworks.org/nepal-civil-society-monitors-earthquake-reconstruction-process>
- Barabasi, Albert-László. Hierarchical Organization in Complex Networks." *Phys. Rev* 67 (2003): 026112.
- Barone, G., and Mocetti, S. 2014. Natural disasters, growth and institutions: a tale of two earthquakes. *Journal of Urban Economics*, 84, 52-66.
- Basnyat, Sandeep, Brent Lovelock, and Neil Carr. 2017. Political instability and trade union practices in Nepalese hotels." *Journal of Policy Research in Tourism, Leisure and Events*, Vol. 9, no.1: 40-55.
- Bates, Robert H., 2008. *When things fell apart*. Cambridge University Press.
- Batagelj, V. and M. Zaversnik. 2003. An o(m) algorithm for cores decomposition of networks. arXiv, cs/0310049.
- Bavelas, Alex. 1950. Communication patterns in task-oriented groups. *Journal of the Acoustical Society of America*, 22(6):725-730.
- BEA, Bureau of Economic Analysis of the U.S. Government. 2017. "Gross Domestic Product by State."
- Bennett, Andrew and Jeffrey T. Checkel, Eds. 2015. *Process Tracing: From Metaphor to Analytical Tool*. Cambridge: Cambridge University Press.
- Berkes, F. 2007. Understanding uncertainty and reducing vulnerability: lessons from resilience thinking. *Natural hazards*, 41(2), 283-295.
- Berman, R., Quinn, C., and Paavola, J. 2012. The role of institutions in the transformation of coping capacity to sustainable adaptive capacity. *Environmental Development*, 2, 86-100.

- Besley, T. and Persson, T., 2009. The origins of state capacity: Property rights, taxation, and politics. *American Economic Review*, 99(4), pp.1218-44.
- Bhattarai, K., and Conway, D. (2010). Urban vulnerabilities in the Kathmandu Valley, Nepal: visualizations of human/hazard interactions. *Journal of Geographic Information System*, 2(02), 63.
- Bilham, R. 2015. Seismology: raising Kathmandu. *Nature Geoscience*, 8(8), 582-584.
- Birkland, Thomas A. 1997. *After disaster: agenda setting, public policy and focusing events*. Washington DC: Georgetown University Press.
- Birkland, Thomas A. 1998. Focusing events, mobilization, and agenda setting. *Journal of public policy*, 18(1), 53-74.
- Birkland, Thomas A. 2006. *Lessons of disaster: Policy change after catastrophic events*. Georgetown University Press.
- Birkmann, J., Cardona, O. D., Carreño, M. L., Barbat, A. H., Pelling, M., Schneiderbauer, S., ... & Welle, T. 2010. Framing vulnerability, risk and societal responses: the MOVE framework. *Natural hazards*, 67(2), 193-211.
- Bisri, Mizan Bustanul Fuady, and Shohei Beniya. 2016. "Analyzing the National Disaster Response Framework and Inter-Organizational Network of the 2015 Nepal/Gorkha Earthquake." *Procedia engineering* 159: 19-26.
- Bjørnskov, C. (2010). How does social trust lead to better governance? An attempt to separate electoral and bureaucratic mechanisms. *Public Choice*, 144(1-2), 323-346.
- Blondel, Vincent D., Jean-Loup Guillaume, Renaud Lambiotte, Etienne Lefebvre. 2008. Fast unfolding of communities in large networks. *Journal of Statistical Mechanics: Theory and Experiment*, (10), P1000.
- Boersma, F. K., Ferguson, J. E., Mulder, F., & Wolbers, J. J. 2016. *Humanitarian Response Coordination and Cooperation in Nepal. Coping with challenges and dilemmas*. VU Amsterdam.
- Bonacich, Phillip. 1987. "Power and centrality: A family of measures." *American journal of sociology* 92 (5): 1170-1182.
- Borgatti, S.P., Mehra, A., Brass, D.J. and Labianca, G., 2009. Network analysis in the social sciences. *science*, 323(5916), pp.892-895.
- Bourdieu, Pierre, and Samar Farage. "Rethinking the state: Genesis and structure of the bureaucratic field." *Sociological theory* 12, no. 1 (1994): 1-18.
- Brady, Henry E., and David Collier, eds. 2010. *Rethinking social inquiry: Diverse tools, shared standards*. Rowman & Littlefield Publishers.
- Brandes, Ulrik. 2001. A Faster Algorithm for Betweenness Centrality. *Journal of Mathematical Sociology* 25(2):163-177.
- Bratton, Michael. "Beyond the state: Civil society and associational life in Africa." *World politics* 41, no. 3 (1989): 407-430.
- Brautigam, D., Fjeldstad, O., & Moore, M. eds. 2008. *Taxation and state-building in developing countries: Capacity and consent*. Cambridge University Press.
- Brinkerhoff, D. W. 2005. Rebuilding governance in failed states and post-conflict societies: core concepts and cross-cutting themes. *Public Administration and Development: The International Journal of Management Research and Practice*, 25(1), 3-14.
- Bucher, Rue. 1957. Blame and hostility in disaster. *The American Journal of Sociology* 62 (5): 467-75.
- Byman, Daniel, Ian Lesser, Bruce Pirnie, Cheryl Benard, and Matthew Waxman. 2000. "Strengthening the partnership: Improving military coordination with relief agencies and allies in humanitarian operations." No. RAND-MR-1185-AF. RAND CORP SANTA MONICA, CA.
- Calo-Blanco, A., Kovářik, J., Mengel, F., & Romero, J. G. 2017. Natural disasters and indicators of social cohesion. *PloS one*, 12(6), e0176885.
- Carrington, P.J., Scott, J. and Wasserman, S. eds., 2005. *Models and methods in social network analysis* (Vol. 28). Cambridge university press.
- Cassar, A., Healy, A., & Von Kessler, C. 2017. Trust, risk, and time preferences after a natural disaster: experimental evidence from Thailand. *World Development*, 94, 90-105.
- Castells, Manuel. 1996. *The network society*. Oxford: Blackwell.

- Catlos, Elizabeth J., Anke M. Friedrich, Thorne Lay, John Elliott, Sara Carena, Bishal N. Upreti, Peter DeCelles, Brian Tucker, and Rebecca Bendick. 2016. "Nepal at Risk: Interdisciplinary Lessons Learned from the April 2015 Nepal (Gorkha) Earthquake and Future Concerns." *GSA Today* 26 (6): 42-43.
- Cavallo, E., & Noy, I. (2011). Natural disasters and the economy—a survey. *International Review of Environmental and Resource Economics*, 5(1), 63-102.
- CBS, Central Bureau of Statistics. 2011. "Poverty in Nepal." National Planning Commission, Government of Nepal, Kathmandu, Nepal.
- Chang, K. (2010). Community cohesion after a natural disaster: insights from a Carlisle flood. *Disasters*, 34(2), 289-302.
- Cohen, Charles, and Eric D. Werker. 2008. "The Political Economy of 'Natural' Disasters." *Journal of Conflict Resolution* 52, no. 6 (): 795-819.
- Cohen, P. J., Lawless, S., Dyer, M., Morgan, M., Saeni, E., Teioli, H., & Kantor, P. (2016). Understanding adaptive capacity and capacity to innovate in social–ecological systems: Applying a gender lens. *Ambio*, 45(3), 309-321.
- Comfort, Louise K. 1985. "International disaster assistance in the Mexico City earthquake."
- Comfort, Louise K. 1999. *Shared risk: Complex systems in seismic policy*. Amsterdam: Pergamon.
- Comfort, Louise K. 2000. "Disaster: agent of diplomacy or change in international affairs?." *Cambridge Review of International Affairs* 14 (1): 277-294.
- Comfort, Louise K., 2002. Rethinking security: Organizational fragility in extreme events. *Public Administration Review*, 62, pp.98-107.
- Comfort, Louise K. 2007. "Crisis management in hindsight: Cognition, communication, coordination, and control." *Public Administration Review* 67 (s1): 189-197.
- Comfort, Louise K. 1990. "Turning conflict into cooperation: Organizational designs for community response in disasters." *International Journal of Mental Health* 19(1): 89-108.
- Comfort, Louise K., and James Joshi. 2017. "Scalability and Sustainability in Uncertain Environments: Transition to Recovery from the Nepal Earthquakes, April 25 and May 12, 2015." *Earthquake Spectra*.
- Comfort, Louise K., and Naim Kapucu. 2006. "Inter-organizational coordination in extreme events: The World Trade Center attacks, September 11, 2001." *Natural hazards* 39 (2): 309-327.
- Comfort, Louise K., Namkyung Oh, and Gunes Ertan. 2009. "The dynamics of disaster recovery: Resilience and entropy in hurricane response systems 2005–2008." *Public Organization Review* 9 (4): 309.
- Congleton, Roger D. "The story of Katrina: New Orleans and the political economy of catastrophe." *Public Choice* 127, no. 1-2 (2006): 5-30.
- CPI, Corruption Perceptions Index. 2015. "Corruption Perceptions Index 2015." Transparency International. Available at <https://www.transparency.org/cpi2015>.
- Cuaresma, Jesús, Jaroslava Hlouskova, and Michael Obersteiner. "Natural disasters as creative destruction? Evidence from developing countries." *Economic Inquiry* 46, no. 2 (2008): 214-226.
- Cutter, S. L., Boruff, B. J., & Shirley, W. L. 2003. Social vulnerability to environmental hazards. *Social science quarterly*, 84(2), 242-261.
- Cutter SL, Barnes L, Berry M, Burton C, Evans E, Tate E, Webb J. 2008. A place-based model for understanding community resilience to natural disasters. *Global environmental change*, Oct 1;18(4):598-606.
- Cutter, S.L., Emrich, C.T., Webb, J.J. and Morath, D., 2009. Social vulnerability to climate variability hazards: A review of the literature. Final Report to Oxfam America, 5, pp.1-44.
- Cutter, S.L., Emrich, C.T., Morath, D.P. and Dunning, C.M., 2013. Integrating social vulnerability into federal flood risk management planning. *Journal of Flood Risk Management*, 6(4), pp.332-344.
- Dahal, Madan Kumar. 2009. "Taxation in Nepal: Structure, Issues and Reforms." *Economic Journal of Nepal* 32, no. 1: 1-13.
- Datta, Ajoy, Shailendra Sigdel, Katie Oven, Nick Rosser, Alexander Densmore, and Samin Rijal. 2018. "The role of scientific evidence during the 2015 Nepal earthquake relief efforts." *Overseas*

- Development Institute Report, London: UK. Last accessed on June 23, 2018 at <https://www.odi.org/sites/odi.org.uk/files/resource-documents/12042.pdf>.
- Dauber, Michele Landis. *The sympathetic state: Disaster relief and the origins of the American welfare state*. University of Chicago Press, 2013.
- Davis, M. and Seitz, S.T. 1982: Disasters and governments. *The Journal of Conflict Resolution* 26 (3), 547-568.
- De Soto, H., 2003. *The mystery of capital: Why capitalism triumphs in the West and fails everywhere else*. Basic Civitas Books.
- Denzau, A.T. and North, D.C., 1994. Shared mental models: ideologies and institutions. *Kyklos*, 47(1), pp.3-31.
- Derthick, Martha. "Where federalism didn't fail." *Public Administration Review* 67, no. s1 (2007): 36-47.
- Dhungana, Sujana. 2017. "Nepal's competitiveness is marred by its infrastructure limitations." *The Himalayan Times*, February 13. Available at <https://thehimalayantimes.com/business/nepals-competitiveness-marred-infrastructure-limitations>.
- Dixit, Ashutosh Mani. 2017. "Infrastructure Finance Strategies for Sustainable Development in Nepal." This is the national study produced for the workshop on infrastructure financing strategies for Nepal held on 24 January 2017. The workshop organized by The National Planning Commission Government of Nepal, and UNESCAP. Available at SSRN: <https://ssrn.com/abstract=2924424>.
- Djalante, R., Holley, C., & Thomalla, F. (2011). Adaptive governance and managing resilience to natural hazards. *International Journal of Disaster Risk Science*, 2(4), 1-14.
- Doner, R.F., 2009. *The Politics of Uneven Development: Thailand's Economic Growth in Comparative Perspective*. Cambridge University Press.
- Drury, A. Cooper, and Richard Stuart Olson. "Disasters and political unrest: An empirical investigation." *Journal of Contingencies and Crisis Management* 6, no. 3 (1998): 153-161.
- Drury, A.C., Olson, R.S. and Van Belle, D.A., 2005. The politics of humanitarian aid: US foreign disaster assistance, 1964–1995. *The Journal of Politics*, 67(2), pp.454-473.
- Dussaillant, F., & Guzmán, E. (2014). Trust via disasters: the case of Chile's 2010 earthquake. *Disasters*, 38(4), 808-832.
- Dynes, R. R. (2002). The importance of social capital in disaster response
- Easton, David. "An approach to the analysis of political systems." *World politics* 9, no. 3 (1957): 383-400.
- Eckstein, H. (1975). Case study and theory in political science. In F. J. Greenstein & N. W. Polsby (Eds.), *Handbook of political science* (Vol. 7, pp. 79-137). Reading, MA: AddisonWesley.
- Edwards, Bob, and Michael W. Foley. "Civil society and social capital beyond Putnam." *American Behavioral Scientist* 42, no. 1 (1998): 124-139.
- EERI. (2016). *EERI Earthquake Reconnaissance Team Report: M7.8 Gorkha, Nepal Earthquake on April 25, 2015 and its Aftershocks*. Earthquake Engineering Research Institute.
- El Louadi, M.E., 1998. The relationship among organization structure, information technology and information processing in small Canadian firms. *Canadian Journal of Administrative Sciences*, 15(2), pp.180-199.
- Engle, N. L., and Lemos, M. C. (2010). Unpacking governance: building adaptive capacity to climate change of river basins in Brazil. *Global Environmental Change*, 20(1), 4-13.
- Epstein, K., DiCarlo, J., Marsh, R., Ray, I., & Måren, I. (2017). *Coping Strategies of Smallholder Farming Communities after the 2015 Nepal Earthquake: Insights into Post-Disaster Resilience and Social–Ecological Change*. Case Studies in the Environment. University of California, Berkeley.
- Fauvelle-Aymar, C., 1999. The political and tax capacity of government in developing countries. *Kyklos*, 52(3), pp.391-413.
- Feldman, Maryann P. "The new economics of innovation, spillovers and agglomeration: A review of empirical studies." *Economics of innovation and new technology* 8, no. 1-2 (1999): 5-25.
- Fligstein, N. and McAdam, D., 2011. Toward a general theory of strategic action fields. *Sociological theory*, 29(1), pp.1-26.

- Fligstein, Neil, and Doug McAdam. A theory of fields. Oxford University Press, 2012.
- Flint, Colin. Introduction to Geopolitics. Routledge, 2012.
- FNCCI, Federation of Nepalese Chambers of Commerce and Industry. 2017. "Infrastructure: Sector Overview." Available at <http://www.fncci.org/infrastructure-153.html>.
- Fomby, T., Ikeda, Y., & Loayza, N. (2009). The growth aftermath of natural disasters. The World Bank.
- Freeman, Linton C. 1977. A set of measures of centrality based upon betweenness. *Sociometry*, 40: 35–41. doi:10.2307/3033543.
- Freeman, Linton C. 1978. Centrality in social networks conceptual clarification. *Social networks* 1(3): 215-239.
- Fuchs, Sven, Christian Kuhlicke, and Volker Meyer. "Editorial for the special issue: vulnerability to natural hazards—the challenge of integration." *Natural Hazards* 58, no. 2 (2007): 609-619.
- Fukuyama, F. *Trust: Social Virtues and the Creation of Prosperity*. (Simon and Schuster, 1996): 26.
- Fukuyama, Francis. "Social capital, civil society and development." *Third world quarterly* 22, no. 1 (2001): 7-20.
- Fukuyama, Francis. 2011. *The origins of political order: From prehuman times to the French Revolution*. Farrar, Straus and Giroux.
- Galbraith, J.R., 1973. Organization design: An information processing view. *Interfaces*, 4(3), pp.28-36.
- Gaire, Hom Nath. 2014. "Infrastructure Development in Nepal." *New Business Age*, December 15. Available at <http://www.newbusinessage.com/MagazineArticles/view/1030>.
- Gaspar, John T., and Andrew Reeves. "Make it rain? Retrospection and the attentive electorate in the context of natural disasters." *American Journal of Political Science* 55, no. 2 (2011): 340-355.
- Gawronski, V. T., & Olson, R. S. (2013). Disasters as crisis triggers for critical junctures? The 1976 Guatemala case. *Latin American Politics and Society*, 55(2), 133-149.
- GDELT, Global Database on Events, Locations, and Tone. 2017. Available at www.gdeltproject.org.
- Gellner, Ernest. *Nations and nationalism*. Cornell University Press, 1983.
- George, Alexander L., and Andrew Bennett. *Case studies and theory development in the social sciences*. MIT Press, 2005.
- Gerring, John. "What is a case study and what is it good for?." *American political science review* 98, no. 2 (2004): 341-354.
- Gerring, John. "Is there a (viable) crucial-case method?." *Comparative Political Studies* 40, no. 3 (2007): 231-253.
- Gibson, James L. "Social networks, civil society, and the prospects for consolidating Russia's democratic transition." *American Journal of Political Science* (2001): 51-68.
- Goldstone, J.A. and Useem, B., 2012. Putting values and institutions back into the theory of strategic action fields. *Sociological Theory*, 30(1), pp.37-47.
- Goodsell, Charles T. "Insights for public administration from the terrorist attacks." *Administration & Society* 34, no. 3 (2002): 255-260.
- Government of Nepal. *Primer Minister's Disaster Relief Fund, 2015-2016*. <http://pmrelief.opmcm.gov.np/default.aspx>
- Gregory, R. J. (1999). Social capital theory and administrative reform: Maintaining ethical probity in public service. *Public Administration Review*, 63-75.
- Grindle, Merilee S. 1997. *Getting Good Government: Capacity Building in the Public Sectors of Developing Countries*. Cambridge: Harvard University Press.
- Gupta, A.S., 2007. Determinants of tax revenue efforts in developing countries (No. 7-184). *International Monetary Fund*.
- Gupta, J., Termeer, C., Klostermann, J., Meijerink, S., van den Brink, M., Jong, P., ... & Bergsma, E. (2010). The adaptive capacity wheel: a method to assess the inherent characteristics of institutions to enable the adaptive capacity of society. *Environmental Science & Policy*, 13(6), 459-471.
- Gurr, Ted Robert. "Why minorities rebel: A global analysis of communal mobilization and conflict since 1945." *International Political Science Review* 14, no. 2 (1993): 161-201.

- Hagelsteen, M., & Becker, P. (2013). Challenging disparities in capacity development for disaster risk reduction. *International Journal of Disaster Risk Reduction*, 3, 4-13.
- Healy, Andrew J., and Neil Malhotra. 2009. "Myopic Voters and Natural Disaster Policy." *American Political Science Review* 103(Jan.): 387-406.
- Heinemann, F., and Tanz, B. (2008). The impact of trust on reforms. *Journal of Economic Policy Reform*, 11(3), 173-185.
- Helmer, M. and Hilhorst, D., 2006. Natural disasters and climate change. *Disasters*, 30(1), pp.1-4.
- Holland, John. *Hidden order: How adaptation builds complexity*. Basic Books, 1996.
- Holland, John H. *Emergence: From chaos to order*. OUP Oxford, 1998.
- Holland, John H. "Studying complex adaptive systems." *Journal of Systems Science and Complexity* 19, no. 1 (2006): 1-8.
- Holland, John H. *Signals and boundaries: Building blocks for complex adaptive systems*. Mit Press, 2012.
- Horwich, George. "Economic lessons of the Kobe earthquake." *Economic development and cultural change* 48, no. 3 (2000): 521-542.
- ICG (International Crisis Group). 2016. "Nepal's Divisive New Constitution: An Existential Crisis." April 4, 2016. Last accessed on June 25th, 2018 at <https://www.crisisgroup.org/asia/south-asia/nepal/nepal's-divisive-new-constitution-existential-crisis>.
- Ingram, J. C., Franco, G., Rumbaitis-del Rio, C., & Khazai, B. (2006). Post-disaster recovery dilemmas: challenges in balancing short-term and long-term needs for vulnerability reduction. *Environmental Science & Policy*, 9(7-8), 607-613.
- Ingram, H., Schneider, A.L. and DeLeon, P., 2007. Social construction and policy design. *Theories of the policy process*, 2, pp.93-126.
- IRIN. 2012. "Sharing the natural resources in a federal Nepal." IRIN, Kathmandu, Nepal, 18 July. Available at <http://www.irinnews.org/report/95887/analysis-sharing-natural-resources-federal-nepal>.
- Iyengar, R. 2015. "Nepal Has Finally Passed a New Constitution After Years of Political Turmoil." <http://time.com/4037788/nepal-constitution-sushil-koirala-protests-madhesi-tharu/>
- Jackson, Matthew O. "Average distance, diameter, and clustering in social networks with homophily." In *International Workshop on Internet and Network Economics*, pp. 4-11. Springer, Berlin, Heidelberg, 2008.
- Jackson, Matthew O., and Alison Watts. "The evolution of social and economic networks." *Journal of Economic Theory* 106, no. 2 (2002): 265-295.
- Jackson, Matthew O., and Leeat Yariv. "Diffusion of behavior and equilibrium properties in network games." *The American economic review* 97, no. 2 (2007): 92-98.
- Jennings, M. Kent. 1999. "Political Response to Pain and Loss: Presidential Address, American Political Science Association, 1998." *American Political Science Review* 93 (1): 1-13.
- Kahn, Matthew E. "The death toll from natural disasters: the role of income, geography, and institutions." *The Review of Economics and Statistics* 87, no. 2 (2005): 271-284.
- Kantha, Pramod. K. (2015). Nepal's Protracted Transition: Explaining the Continuing Political and Economic Impasse. In *The Political Economy of Conflict in South Asia*, pp. 75-92. Palgrave Macmillan UK.
- Kaphle, Anup. 2013. "Nepal election puts Maoists, and a nation's disillusion, in spotlight." *Washington Post*, November 16.
- Kapucu, Naim, Montgomery Wart, Richard Sylves, and Farhod Yuldashev. "US Presidents and Their Roles in Emergency Management and Disaster Policy 1950-2009." *Risk, Hazards & Crisis in Public Policy* 2, no. 3 (2011): 1-34.
- Kathmandu Post. 2015. "Nepal tourism generated 487k direct jobs in 2014." April 2015.
- Katz, Daniel, and Robert L. Kahn. 1996. "Organizations and the System Concept." In *Classics of Organization Theory*, 4th ed., ed. J. M. Shafritz, and J. S. Ott. Fort Worth: Harcourt Brace College Publishers. 274-286.
- Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. "The worldwide governance indicators: methodology and analytical issues." *Hague Journal on the Rule of Law* 3, no. 2 (2011): 220-246.

- Kawachi, I., B. Kennedy, K. Lochner, and D. Prothrow-Smith. 1997. "Social Capital, Income Inequality, and Mortality." *American Journal of Public Health* 87(9): 1491-98.
- Kellenberg, Derek K., and Ahmed Mushfiq Mobarak. "Does rising income increase or decrease damage risk from natural disasters?." *Journal of Urban Economics* 63, no. 3 (2008): 788-802.
- Kelman, Ilan. 2006. "Acting on disaster diplomacy." *Journal of International Affairs*, 215-240.
- Keys, N., Bussey, M., Thomsen, D. C., Lynam, T., & Smith, T. F. (2014). Building adaptive capacity in south east Queensland, Australia. *Regional Environmental Change*, 14(2), 501-512.
- Kingdon, J.W. 1995. *Agendas, alternatives, and public policies*. Boston: Little, Brown.
- Knight, Jack. *Institutions and social conflict*. Cambridge University Press, 1992.
- Kreps, Gary A. "Future directions in disaster research: the role of taxonomy." *International Journal of Mass Emergencies and Disasters* 7, no. 3 (1989): 215-241.
- Kunwar, Ramesh Raj, and Bhawana Limbu. "Tourism and Earthquake: A Case Study of Nepal and Turkey." In *Building Better Tourism with Renewed Strength, XXth NATTA Convention*, pp. 16-31. 2015.
- Kurtz, Marcus J. *Latin American state building in comparative perspective: Social foundations of institutional order*. Cambridge University Press, 2013.
- Lai, Chih-Hui, and Ying-Chia Hsu. 2018. "Understanding activated network resilience: A comparative analysis of co-located and co-cluster disaster response networks." *Journal of Contingencies and Crisis Management*. 1-14.
- Lake, David A. "Escape from the state of nature: Authority and hierarchy in world politics." *International Security* 32, no. 1 (2007): 47-79.
- Lambiotte, R., J.-C. Delvenne, M. Barahona. 2009. "Laplacian Dynamics and Multiscale Modular Structure in Networks."
- Landy, Marc. "Mega-Disasters and Federalism." *Public Administration Review* 68, no. s1 (2008).
- Latapy, Matthieu. 2008. Main-memory Triangle Computations for Very Large (Sparse (Power-Law)) Graphs. *Theoretical Computer Science*, 407 (1-3), pages 458-473.
- Leetaru, Kalev. 2012. Fulltext Geocoding Versus Spatial Metadata for Large Text Archives: Towards a Geographically Enriched Wikipedia. *D-Lib Magazine*, 18(9/10). doi:10.1045/september2012-leetaru
- Lieberman, E.S., 2002. Taxation data as indicators of state-society relations: possibilities and pitfalls in cross-national research. *Studies in Comparative International Development*, 36(4), pp.89-115.
- Lin, T. H. (2015). Governing natural disasters: state capacity, democracy, and human vulnerability. *Social Forces*, 93(3), 1267-1300.
- Liu, J., Dietz, T., Carpenter, S. R., Folke, C., Alberti, M., Redman, C. L., ... & Taylor, W. W. (2007). Coupled human and natural systems. *AMBIO: a journal of the human environment*, 36(8), 639-649.
- Loayza, N. V., Olaberria, E., Rigolini, J., & Christiaensen, L. (2012). Natural disasters and growth: Going beyond the averages. *World Development*, 40(7), 1317-1336.
- Lynch, Colum. 2013. "Cholera outbreak in Haiti in 2010 tied to U.N. peacekeepers, report says." *Washington Post*, July 25.
- Mahoney, J., 2000. Path dependence in historical sociology. *Theory and society*, 29(4), pp.507-548.
- Manandhar, Mohan Das, George Varughese, Arnold M. Howitt, and Erica Kelly. 2017. "Disaster Preparedness and Response During Political Transition in Nepal: Assessing Civil and Military Roles and the Aftermath of the 2015 Earthquakes." *The Asia Foundation Program on Crisis Leadership Report*. Last accessed on June 23, 2018 at <https://asiafoundation.org/wp-content/uploads/2017/04/Disaster-Preparedness-and-Response-During-Political-Transition-in-Nepal.pdf>.
- Mann, Michael, 1984. The autonomous power of the state: its origins, mechanisms and results. *European Journal of Sociology*, 25(2), pp.185-213.
- Mantzavinos, Chrysostomos, Douglass C. North, and Syed Shariq. "Learning, institutions, and economic performance." *Perspectives on politics* 2, no. 1 (2004): 75-84.
- March, James G., and Herbert A. Simon. "Organizations. 1958." NY: Wiley, New York (1993).

- March, James G., and Johan P. Olsen. "Organizational Learning and the Ambiguity of the Past." *Ambiguity and choice in organizations* 408 (1976).
- Marwell, Gerald, Pamela E. Oliver, and Ralph Prahl. "Social networks and collective action: A theory of the critical mass. III." *American Journal of Sociology* 94, no. 3 (1988): 502-534.
- McAdam, Doug, Sidney Tarrow, and Charles Tilly. "Methods for measuring mechanisms of contention." *Qualitative sociology* 31, no. 4 (2008): 307.
- McGillis, S. and Spoon, J. (2017). Drawing Lessons from a Catastrophe at “the Roof of the World”. *Research & Strategic Partnerships: Quarterly Review*, 4(1), 1-4.
- McGinnis, Michael D., 2011. An introduction to IAD and the language of the Ostrom workshop: a simple guide to a complex framework. *Policy Studies Journal*, 39(1), pp.169-183.
- Milgram, S. 1967. The small world problem. *Psychology Today* 2, 60–67.
- Miller, J.H. and Page, S.E., 2009. *Complex adaptive systems: An introduction to computational models of social life* (Vol. 17). Princeton university press.
- MOF, Ministry of Finance. 2015. “Public Expenditure and Financial Accountability (PEFA) Assessment: Nepal PFM Performance Assessment II as of FY2013/14.” Government of Nepal, Kathmandu, Nepal. Available at <http://www.fcgo.gov.np/uploads/publications/2017-06-06/PEFA-II-Final-Report-May-2015-1.pdf>.
- MOF, Ministry of Finance. 2017. “Development Cooperation Report: Fiscal Year 2015/16.” Government of Nepal, Kathmandu, Nepal. Available at <http://www.mof.gov.np/ieccd/newsbook/20170416160028.pdf>.
- MOL, Ministry of Labor and Employment. 2016. “Labor Migration for Employment: A Status Report for Nepal: 2014/2015.” Government of Nepal, Kathmandu, Nepal. Available at http://www.ilo.org/kathmandu/whatwedo/publications/WCMS_500311/lang--en/index.htm.
- Moore, M., 2007. How does taxation affect the quality of governance?. <https://opendocs.ids.ac.uk/opendocs/handle/123456789/4044>
- Natsios, Andrew S. 1995. "NGOs and the UN system in complex humanitarian emergencies: conflict or cooperation?" *Third World Quarterly* 16(3): 405-420.
- NBSM. n.d. “Nepal Budget 2072/73 (2015-16): Tax Perspective”. NBSM & Associates Chartered Accountants. Kathmandu, Nepal. Available at <http://www.nbsm.com.np/assets/kcfinder/upload/files/NBSM%20Nepal%20Budget%202072.pdf>
- Nelson, D. R., Adger, W. N., & Brown, K. (2007). Adaptation to environmental change: contributions of a resilience framework. *Annual review of Environment and Resources*, 32.
- Newman, Mark. *Networks: an introduction*. Oxford university press, 2010.
- Nolte, Isabella M., and Silke Boenigk. 2011. "Public–nonprofit partnership performance in a disaster context: The case of Haiti." *Public administration* 89(4): 1385-1402.
- Norris, F. H., Stevens, S. P., Pfefferbaum, B., Wyche, K. F., & Pfefferbaum, R. L. (2008). Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness. *American journal of community psychology*, 41(1-2), 127-150.
- NPC, National Planning Commission. 2015. “Sustainable Development Goals, 2016-2030: National (Preliminary) Report.” Government of Nepal, Kathmandu, Nepal. Accessed at <http://www.undp.org/content/dam/nepal/docs/reports/SDG%20final%20report-nepal.pdf?download>.
- OECD (2013), *Government at a Glance 2013*, OECD Publishing, Paris, https://doi.org/10.1787/gov_glance-2013-en.
- OECD, Organization for Economic Cooperation and Development. 2016. “Revenue Statistics 2016: Tax Revenue Trends in the OECD.” Available at <https://www.oecd.org/tax/tax-policy/revenue-statistics-2016-highlights.pdf>.
- Olson, R.S. 2000: Toward a politics of disaster losses, values, agendas, and blame. *International Journal of Mass Emergencies and Disasters* 18 (2), 265-287.
- Open Nepal. *Citizen Feedback in Earthquake Affected Areas, 2015-2016*. <http://opennepal.net/>
- OPHI, Oxford Poverty and Human Development Initiative. 2015. “Report from Oxford Department of International Development.” Accessed at www.ophi.org.uk.

- Ostrom, Elinor. *Governing the commons*. Cambridge university press, 1990.
- Ostrom, Elinor. *Understanding institutional diversity*. Princeton University Press, 2005.
- Pahl-Wostl, C. (2009). A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes. *Global Environmental Change*, 19(3), 354-365.
- Parsons, M., Glavac, S., Hastings, P., Marshall, G., McGregor, J., McNeill, J., ... & Stayner, R. (2016). Top-down assessment of disaster resilience: A conceptual framework using coping and adaptive capacities. *International Journal of Disaster Risk Reduction*, 19, 1-11.
- Pelling, M. 2001: *Natural Disasters?* In Castree, N. and Braun, B., editors, *Social nature*. London: Blackwells, 170-188.
- Pelling, M., & Dill, K. (2006). 'Natural disasters' as catalysts of political action. *Media Development*, 53(4), 7.
- Pelling, Mark, and Kathleen Dill. "Disaster politics: tipping points for change in the adaptation of sociopolitical regimes." *Progress in Human Geography* 34, no. 1 (2010): 21-37.
- Perry, Ronald W., and Michael K. Lindell. 2003. "Preparedness for emergency response: guidelines for the emergency planning process." *Disasters* 27(4): 336-350.
- Peters, B. Guy, and John Pierre. "Governance without government? Rethinking public administration." *Journal of public administration research and theory* 8, no. 2 (1998): 223-243.
- Pfeffer, Jürgen, and Kathleen M. Carley. 2012. "Rapid modeling and analyzing networks extracted from pre-structured news articles." *Computational and Mathematical Organization Theory* 18(3): 280-299.
- Podolny, Joel M., and Karen L. Page. "Network forms of organization." *Annual review of sociology* 24, no. 1 (1998): 57-76.
- Pollack, Sheldon D. *War, revenue, and state building: financing the development of the American state*. Cornell University Press, 2009.
- Powell, W., 2003. *Neither market nor hierarchy. The sociology of organizations: classic, contemporary, and critical readings*, 315, pp.104-117.
- Provan, Keith G., and Patrick Kenis. 2008. "Modes of network governance: Structure, management, and effectiveness." *Journal of public administration research and theory* 18(2): 229-252.
- Puri, Bhavana. 2011. "An Analysis of Tax Structure in Nepal." M.A. Thesis in Economics, Tribhuvan University, Kathmandu Nepal.
- Putnam, R. D. (1988). *Diplomacy and domestic politics: the logic of two-level games*. *International organization*, 42(3), 427-460.
- Putnam, R. (2001). *Social capital: Measurement and consequences*. *Canadian journal of policy research*, 2(1), 41-51.
- Putnam, R. D. (Ed.). (2002). *Democracies in flux: The evolution of social capital in contemporary society*. Oxford University Press, USA.
- Rapert, M.I. and Wren, B.M., 1998. *Reconsidering organizational structure: a dual perspective of frameworks and processes*. *Journal of Managerial Issues*, pp.287-302.
- Raschky, Paul A. "Institutions and the losses from natural disasters." *Natural Hazards and Earth System Sciences* 8, no. 4 (2008): 627-634.
- Reeves, Andrew. "Political disaster: Unilateral powers, electoral incentives, and presidential disaster declarations." *The Journal of Politics* 73, no. 4 (2010): 1142-1151.
- Regan, P.M. and Norton, D., 2005. *Greed, grievance, and mobilization in civil wars*. *Journal of Conflict Resolution*, 49(3), pp.319-336.
- Regmi, Kapil Dev. 2016. *The political economy of 2015 Nepal earthquake: some critical reflections*. *Asian geographer* 33(2), 77-96.
- ReliefWeb. 2015. *Nepal: National Disaster Response Plan*, 27 June 2015. Last accessed on June 1, 2018 at https://reliefweb.int/sites/reliefweb.int/files/resources/npl_bkgd_disaster-resp-structure_2015.pdf.
- Ribot, J. C. (1995). *The causal structure of vulnerability: Its application to climate impact analysis*. *GeoJournal*, 35(2), 119-122.
- Roberts, P.S., 2013. *Disasters and the American state: How politicians, bureaucrats, and the public prepare for the unexpected*. Cambridge University Press.

- Rosenthal, Uriel, Arjen Boin, and Louise K. Comfort. *Managing crises: Threats, dilemmas, opportunities*. Charles C Thomas Publisher, 2001.
- Rothstein, Bo, and Eric M. Uslaner. "All for all: Equality, corruption, and social trust." *World politics* 58, no. 01 (2005): 41-72.
- Ruhl, J. B., and Daniel Martin Katz. "Measuring, monitoring, and managing legal complexity." SSRN (2015).
- Saban, Liza Ireni. 2015. "Entrepreneurial brokers in disaster response network in Typhoon Haiyan in the Philippines." *Public Management Review* 17(10): 1496-1517.
- Saegert, S., and G. Winkel. 1998. "Social Capital and the Revitalization of New York City's Distressed Inner-City Housing." *Housing Policy Debate* 9 (1): 17-60.
- Schneider, Sandra K. 1990. "Book review: *Disaster relief: The politics of intergovernmental relations*, by R. M. Stratton." *Publius: The Journal of Federalism* 20 (4): 170-71.
- Shneiderman, Sara, Luke Wagner, Jacob Rinck, Amy L. Johnson, and Austin Lord. 2016. "Nepal's Ongoing Political Transformation: A review of post-2006 literature on conflict, the state, identities, and environments." *Modern Asian Studies* 50(6): 2041-2114.
- Scott, James C. *Seeing like a state: How certain schemes to improve the human condition have failed*. Yale University Press, 1998.
- Searle, J.R., 2005. What is an institution?. *Journal of institutional economics*, 1(1), pp.1-22.
- Seybolt, T.B., 2009. Harmonizing the humanitarian aid network: Adaptive change in a complex system. *International Studies Quarterly*, 53(4), pp.1027-1050.
- Sharma, T. M. and Duwadi, Rammani. 2013. "Tax Compliance and Enforcement Trends in Nepal." Presented at the 4th IMF-Japan High Level Tax Conference, Tokyo, Japan, April 2-4. Available at <https://www.imf.org/external/np/seminars/eng/2013/asiatax/pdfs/nepal.pdf>.
- Shively, Gerald and Ganesh Thapa. 2017. Markets, Transportation Infrastructure, and Food Prices in Nepal, *American Journal of Agricultural Economics*, Volume 99, Issue 3(1): 660-682, <https://doi.org/10.1093/ajae/aaw086>.
- Shrestha, Prakash Kumar. 2000. Some Aspects of Indirect Taxes in Nepal. *Economic Review*, 12(3): 29-43.
- Shumshere, Ashok. 2009. "Tax System in Nepal: Valid Reforms Essential." *The Himalayan Times*, November 26. Available at <https://thehimalayantimes.com/opinion/tax-system-in-nepal-valid-reforms-essential/>.
- Skidmore, M. and Toya, H., 2002. Do natural disasters promote long-run growth?. *Economic inquiry*, 40(4), pp.664-687.
- Skidmore, Mark, and Hideki Toya. "Natural disaster impacts and fiscal decentralization." *Land Economics* 89, no. 1 (2013): 101-117.
- Skocpol, Theda. *Protecting soldiers and mothers*. Harvard University Press, 1995.
- Skowronek, Stephen. *Building a new American state: The expansion of national administrative capacities, 1877-1920*. Cambridge University Press, 1982.
- Slater, Dan. *Ordering power: Contentious politics and authoritarian leviathans in Southeast Asia*. Cambridge University Press, 2010.
- Smith, Alastair, and Alejandro Quiroz Flores. "Why Earthquakes Rock Democracies Less." *International Affairs* (2010).
- Stinchcombe, A.L., 1990. *Information and organizations* (Vol. 19). Univ of California Press.
- Stith, Richard. 1996. Unconstitutional Constitutional Amendments: The Extraordinary Power of Nepal's Supreme Court. *Am. UJ Int'l L. & Pol'y* 11: 47.
- STRATFOR. 2015. "India Tries to Shape Nepal's New Constitution." <https://worldview.stratfor.com/article/india-tries-shape-nepals-new-constitution>
- Strömberg, David. "Natural disasters, economic development, and humanitarian aid." *The Journal of Economic Perspectives* 21, no. 3 (2007): 199-222.
- Sylves, Richard T. 2008. *Disaster Policy and Politics: Emergency Management and Homeland Security*, CQ Press, Washington, DC.

- Teinkin, K., and W. Rohe. 1998. "Social Capital and Neighborhood Stability: An Empirical Investigation." *Housing Policy Debate* 9 (1): 61-88.
- Thapa, Manish. 2016. "Out of Barracks: Civil-Military Relations in Disaster Management A Case Study of Nepalese Army's Humanitarian Response during 2015 Earthquake in Nepal." An Ideas for Peace report by the UN University for Peace, San Jose, Costa Rica. Last accessed on June 23, 2018 at <https://www.upeace.org/uploads/file/Ideas01.pdf>.
- Tierney, K., 2006. Social inequality, hazards, and disasters. *On risk and disaster: Lessons from Hurricane Katrina*, pp.109-128.
- Tilly, Charles. "The formation of national states in Europe." Princeton: Princeton University (1975).
- Tompkins, E. L. (2005). Planning for climate change in small islands: insights from national hurricane preparedness in the Cayman Islands. *Global Environmental Change*, 15(2), 139-149.
- Tompkins, E., & Adger, W. N. (2004). Does adaptive management of natural resources enhance resilience to climate change? *Ecology and society*, 9(2).
- Toya, Hideki, and Mark Skidmore. 2007. "Economic development and the impacts of natural disasters." *Economics Letters* 94 (1): 20-25.
- Toya, Hideki, and Mark Skidmore. 2014. Do Natural Disasters Enhance Societal Trust? *Kyklos* 67 (2): 255–279.
- UNDP, United Nations Development Program. 2014. "Nepal Human Development Report." Available at http://www.hdr.undp.org/sites/default/files/nepal_nhdr_2014-final.pdf.
- UNISDR (2017) Report of the open--ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction. Geneva: United Nations Office for Disaster Risk Reduction. Available at https://www.preventionweb.net/files/50683_oiewgreportenglish.pdf.
- UNOCHA, "Flash appeal for response to the Nepal earthquake," 2015. www.reliefweb.int
- Upreti, Bishnu Raj. 2004. Resource Conflicts and Conflict Resolution in Nepal. *Mountain Research and Development*, Vol 24, No 1: 60–66. Available at <http://lib.icimod.org/record/11520/files/5259.pdf>.
- Uslaner, E. M. (2016). Disasters, Trust, and Social Cohesion. Last accessed on August 20, 2018 at http://r-cube.ritsumei.ac.jp/repo/repository/rcube/7644/IILCS_28_1_USLANER.pdf
- Waldner, David. "Process tracing and causal mechanisms." *Oxford Handbook of Philosophy of Social Science* (2012): 65-84.
- Wang, E.T., 2003. Effect of the fit between information processing requirements and capacity on organizational performance. *International Journal of Information Management*, 23(3), pp.239-247.
- Wang, XiaoHu, and Naim Kapucu. "Public complacency under repeated emergency threats: Some empirical evidence." *Journal of Public Administration Research and Theory* 18, no. 1 (2007): 57-78.
- Wasserman, Stanley, and Katherine Faust. 1994. *Social network analysis: Methods and applications*. Cambridge University Press, Cambridge, UK.
- Watts, Alison. "A dynamic model of network formation." In *Networks and Groups*, pp. 337-345. Springer Berlin Heidelberg, 2003.
- Watts, Duncan J., and Steven H. Strogatz. 1998. Collective dynamics of 'small-world' networks. *Nature* 393, no. 6684: 440-442.
- Weber, Max. "The theory of social and economic organization, trans." AM Henderson and Talcott Parsons (New York, 1947) (1947): 132.
- WFP, World Food Program. 2009. "The Cost of Coping: A Collision of Crises and the Impact of Sustained Food Security Deterioration in Nepal." United Nations. Available at https://reliefweb.int/sites/reliefweb.int/files/resources/1295211F858E4D878525762B005E5451-Full_Report.pdf.
- White, Philip. 1999. "The role of UN specialized agencies in complex emergencies: a case study of FAO" *Third World Quarterly*, 20(1): 223–238.
- Wildavsky, Aaron. 1972. Why Planning Fails in Nepal. *Administrative Science Quarterly*, 17(4): 508-528.
- Wisner, B., P. Blaikie, T. Cannon, I. Davis. 2004. *At Risk: Natural Hazards, People's Vulnerability and Disasters*, Routledge, Abingdon, UK.

- Wolbers, Jeroen, Julie Ferguson, Peter Groenewegen, Femke Mulder, and Kees Boersma. 2016. Two Faces of Disaster Response: Transcending the Dichotomy of Control and Collaboration During the Nepal Earthquake Relief Operation. *International Journal of Mass Emergencies and Disasters* 34(3): 419-438.
- Wood, Reed M., and Thorin M. Wright. "Responding to Catastrophe: Repression Dynamics Following Rapid-onset Natural Disasters." *Journal of Conflict Resolution* 60, no. 8 (2016): 1446-1472.
- Woolcock, M. (1998). Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and society*, 27(2), 151-208.
- World Bank. 2012. "World Development Indicators." Washington DC: The World Bank. Accessed at <http://data.worldbank.org/sites/default/files/wdi-2012-ebook.pdf>.
- World Bank. 2014. "Global financial development report: Financial inclusion." The World Bank, Washington, DC. Available at <https://openknowledge.worldbank.org/handle/10986/16238> License: CC BY 3.0 IGO.
- World Bank. 2016a. "Migration and Remittances Factbook 2016: Third Edition". World Bank Group, Washington, DC. <https://openknowledge.worldbank.org/handle/10986/23743> License: CC BY 3.0 IGO.
- World Bank. 2016b. "Strengthening Connectivity in Nepal." World Bank. Available at <http://www.worldbank.org/en/news/feature/2016/02/17/strengthening-rural-connectivity-in-nepal>
- World Bank. 2017a. "World Bank Doing Business Data – Ease of Doing Business in Nepal." Available at <http://www.doingbusiness.org/data/exploreeconomies/nepal#paying-taxes>.
- World Bank. 2017b. "The World Bank Data – Nepal." Available at <https://data.worldbank.org/country/nepal>.
- World Highways. 2014. "Nepal Plans Road Infrastructure Expansion." Available at <http://www.worldhighways.com/sections/key-projects/features/nepal-plans-road-infrastructure-expansion/>.
- Yi, Hongtao, and John T. Scholz. 2016. "Policy Networks in Complex Governance Subsystems: Observing and Comparing Hyperlink, Media, and Partnership Networks." *Policy Studies Journal* 44(3): 248-279.
- Yin, Robert K. *Case study research: Design and methods*. Sage publications, 2013.