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Making a difference? The influence of humanitarian assistance on social vulnerabilities. A case study of the Nepal earthquake 2015.

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Affirmation

I certify, that the master thesis was written by me, not using sources and tools other than quoted and without use of any other illegitimate support. Furthermore, I confirm that I have not submitted this master thesis either nationally or internationally in any form.

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Wenn jemand sucht, dann geschieht es leicht, daß sein Auge nur noch das Ding sieht, das er sucht, daß er nichts zu finden, nichts in sich einzulassen vermag, weil er nur an das Gesuchte denkt, weil er ein Ziel hat, weil er vom Ziel besessen ist. Finden aber heißt: frei sein, offen stehen, kein Ziel haben.

- Hermann Hesse, Siddhartha

Abstract

Reducing vulnerabilities has become a central concern for humanitarian actors in recent years, as annually thousands of people, facing unequal access to resources and power, are harmed in natural disasters. Nevertheless, little is known how humanitarian assistance contributes to reducing social vulnerabilities in natural disasters in the global south. Thus, this thesis pursues this question by analysing the 2015 earthquake in Nepal with help of the PAR model.

The PAR model determines vulnerability by a number of spatially and temporally distant "root causes", which are translated through "dynamic pressures" into the manifestations of vulnerability at a local scale, phrased "unsafe conditions". Theoretically underlaid with New Institutional Economics and enhanced with Foucault's works on power, the PAR model serves as a systematic tool to uncover the causes, processes and manifestations of vulnerability pre- and post earthquake. Through a mixed method approach, three root causes of vulnerability have come to the fore: the hierarchical caste system, the patriarchal system and political instability, all of which hinder access to resources, social power and political power. The low risk awareness and preparedness on parts of the state, coupled with almost no earthquake-resilient building code enforcement and corruption, have, amongst other factors, led to unsafe living conditions. Especially notable within these unsafe conditions are the limited knowledge about building codes, the weak local economy leading to few job opportunities and thus little income, the social cohesion shaped by caste affiliations, and lack of trust in government and (I)NGOs.

The earthquake on April 25, 2015, causing the death of 8,790 people and the destruction of nearly half a million houses, triggered a wide-ranging humanitarian response. Twenty months after the earthquake, it is assessed what effects remain. The results show that, while vulnerabilities on the micro level have been partly resolved, the humanitarian crisis has not had any long-term positive influences on the caste system, gender inequalities, and the internal quarrels of politicians and their parties. However, institutional changes require time, and thus, these results are only preliminary and have to be re-evaluated in future studies.

Keywords: Humanitarian assistance, social vulnerability, accountability, PAR model, Gorkha earthquake 2015

Zusammenfassung

Der Abbau von Vulnerabilitäten ist in den letzten Jahren zu einem zentralen Anliegen der Humanitären Hilfe aufgestiegen, da jährlich tausende Menschen durch den ungleichen Zugang zu Macht und Ressourcen von den Auswirken von Naturkatastrophen betroffen sind. Trotzdem weiß man noch wenig, welche Rolle Humanitäre Hilfe bei dem Abbau von Vulnerabilitäten im Rahmen von Naturkatastrophen im Global Süden spielt. Unter Anwendung des PAR Modells, und anhand des Erdbebens 2015 in Nepal geht diese Arbeit dieser Frage nach.

Das PAR Modell ist ein Erklärungsmodell, welches Vulnerabilität auf eine Anzahl von räumlich und zeitlich distanzierten "Grundursachen" zurückführt, die durch "Druckfaktoren" in die Manifestation von Vulnerabilitäten, "Unsicherheiten" genannt, auf einer lokalen Ebene übertragen werden. Theoretisch mit der Neuen Institutionsökonomie unterlegt und erweitert mit Foucault's Arbeiten über Macht, bietet das PAR Modell ein systematisches Werkzeug um die Ursachen, Prozessen und Ausprägungen von Vulnerabilität vor und nach dem Erdbeben zu untersuchen. Durch einen „Mixed Method" Ansatz, werden drei „Grundursachen" von Vulnerabilitäten festgestellt, das hierarchische Kastensystem, das patriarchale System und die politische Instabilität, welche den Zugang zu Ressourcen und sozialer und politischer Macht beschränken. Das mangelhafte Risikobewusstsein auf Seiten des Staates, zusammen mit den selten durchgesetzten erdbebensicheren Bauvorschriften und der Korruption haben unter anderem zu „Unsicherheiten" geführt. Besonders herausragend bei den „Unsicherheiten" ist das limitierte Wissen über Bauvorschriften, die schwache lokale Ökonomie, welche zu wenig Arbeitsplätzen und geringem Einkommen führt, der soziale Zusammenhalt, welcher stark durch Kastenzugehörigkeit geprägt ist, sowie das mangelnde Vertrauen in die Regierung und (I)NGOs.

Das Erdbeben am 25. April 2015, welches zu dem Tod von 8.790 Menschen führte und der Zerstörung von fast einer halben Million Häuser, löste einen umfassenden humanitären Einsatz aus. Zwanzig Monate nach dem Erdbeben wird untersucht, was zurückgeblieben ist. Die Ergebnisse zeigen, dass während Vulnerabilitäten auf der Mikroebene vereinzelt reduziert wurden, die humanitäre Krise aber keinen Beitrag zu einer langfristigen, positiven Beeinflussung auf das Kastensystem, Genderungleichheit und die internen Machtkämpfe von Politiker*innen und ihren Parteien geleistet hat. Allerdings benötigen institutionelle Veränderungen Zeit und hierdurch sind diese Ergebnisse nur vorläufig und müssen durch zukünftige Studien re-evaluiert werden.

Schlüsselwörter: Humanitäre Hilfe, soziale Vulnerabilität, Rechenschaftspflicht, PAR Modell, Gorkha Erdbeben 2015

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List of abbreviations

ALNAP	Active Learning Network for Accountability and Performance of Humanitarian Action
CNDRC	Central Natural Disaster Relief Committee
CHS	Core Humanitarian Standard
CGI	Corrugated galvanized iron
DFID	Department for International Development UK
DUDBC	Department of Urban Development and Building Construction
DDRC	District Natural Calamity Relief Committee
GDP	Gross Domestic Product
HDI	Human Development Index
HAP	Humanitarian Accountability Partnership
CFP	Inter-Agency Common Feedback Project
IOM	International Organization for Migration
(I)NGO	(International) non-governmental organisation
LDRC	Local Natural Calamity Relief Committee
MoHA	Ministry of Home Affairs
NBC	National building code
NRA	National Reconstruction Authority
NST	Nepal Standard Time
NIE	New Institutional Economics
OCHA	Office for the Coordination of Humanitarian Affairs of the United Nations
PDNA	Post Disaster Needs Assessment
PAR	Pressure and Release
RDC	Relief Distribution Committee
SFVI	Social Flood Vulnerability Index
SoVI	Social Vulnerability Index
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
VDC	Village District Committee
WFP	World Food Program

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Chapter 1 Introduction

1.1 Background and problem statement

Each year natural disasters in the global north as well as the global south cost thousands of lives and destroy the livelihoods of the surviving population. While losses are undeniably high in both north and south, the share of deaths caused by natural disasters has been disproportionately higher in countries of the global south than the global north (Kahn, 2005). Income and fatalities have been proven two be linked in a reciprocal way, and thus, countries of the global south, characteristically disposing over less income than countries of the global north, are more likely to face a higher number of fatalities and losses as a share of the exposed population and gross domestic product (GDP) (see Jongman, Winsemius, Aerts, Coughlan de Perez, van Aalst, Kron, Ward, 2015).

This situation is not expected to change in the future. Studies about global flood exposures show that countries of the global south will also deal in the coming years with higher exposure rates, leading to even more deaths (Hallegatte, Green, Nicholls, & Corfee-Morlot, 2013; Jongman, Ward, & Aerts, 2012). From the twenty most vulnerable cities worldwide, sixteen are located in countries of the global south (Hallegatte et al., 2013). With the on-going population growth, more people will push into hazard zones, and the global exposure alone for flooding is estimated to rise from an US-$ 46 trillion in 2010 to US-$ 158 trillion in 2050, and the largest relative increase will be observable in North Africa and Sub-Saharan Africa (Jongman et al., 2012). An in-depth understanding of the physical and socioeconomic drivers of this global risk divergence in combination with the various natural hazards is still missing (Jongman et al., 2015). Known so far is, that the cause is not a difference in the likelihood of occurrence, since there is no systematic relationship between the frequency of a disaster and a countries' income (Sawada & Takasaki, 2017), but, amongst others, diverging social vulnerabilities. These social vulnerabilities cannot be separated from the natural aspect of hazards – to do so leads to the failure of understanding the additional burden of natural hazards, and how they can be prevented or mitigated. Thus, the way in which assets, access to resources and social and political power are distributed between different social groups needs to be linked to natural hazards (Wisner, Blaikie, Cannon, & Davis, 2004). Detecting the broader patterns of society and reveal vulnerabilities helps to understand the impacts of disasters. Further, the understanding of patterns and causes of vulnerabilities can be used to break the vicious circle affected people are caught in. This circle is created through the

intensifying effect disasters have on people's already high vulnerability and their consequentially further eroded capacity to cope and recover. In the humanitarian response, that often follows natural disasters in the global south, this understanding of vulnerability can applied and the causes of vulnerability be tackled. Thus, humanitarian assistance can contribute to break the vicious circle, as it not only covers immediate rescue and relief operations, but also preventing and strengthen preparedness to future disasters.

However, the effectiveness of humanitarian assistance in regard to the reduction of vulnerabilities often remains questionable, as the latest humanitarian responses to natural disasters such as the earthquake in Haiti 2010 and the tsunami in Indonesia 2004 show (see for example Johnston & Main, 2003; Telford & Cosgrave, 2007).

The failures in these disasters have been acknowledged, and the outcry for more effectiveness and accountability has long been heard. Also triggered by the upward trend of humanitarian funding[1], the so-called "accountability revolution", initiated several projects and networks already in the late 1990s to establish professional and technical standards ensuring greater accountability (Mitchell, 2003): The Code of Conduct for the Red Cross and Red Crescent Societies and non-governmental organisations (NGOs), the Sphere Project with its creation of minimum standards, the founding of the Active Learning Network for Accountability and Performance of Humanitarian Action (ALNAP), and the Humanitarian Accountability Partnership (HAP) (now the CHS Alliance) (Roßbach, 2013). However, with a multitude of initiatives, the understanding of what accountability is has drifted into slightly different directions. For this thesis, the underlying definition of accountability is oriented along the CHS Alliance's understanding that accountability is "the process of using power responsibly, taking account of, and being held accountable by, different stakeholders, and primarily those who are affected by the exercise of such power" (CHS Alliance, 2014, p. 19).

However, despite these standards, still little to no research exists which looks into the effectiveness of humanitarian assistance, and even less that analyses its accountability. In general, the field is characterized by a deficit of research, and the insufficient critical analysis is explained with the logic that its utmost urgency does not allow for a critical reflection (Lieser & Dijkzeul, 2013). Consequently, the question of whether the humanitarian

[1] In 2006 the international humanitarian assistance amounted 8 billion US-Dollars, in 2010 17 billion US-Dollars, and in 2015 28 billion US-Dollars (Development Initatives Ltd, 2016; Taylor, Stoddard, Harmer, & Haver, 2012).

[2] The understanding of livelihoods is based on the concept of Chambers and Conway (1991, p. i), , who define it

community is applying new standards and lessons learnt from previous disasters is central in making humanitarian assistance more accountable, and thus, more effective. Therefore, in this thesis it is assessed whether the humanitarian assistance in the specific case of one of the latest big natural disasters, the 2015 earthquake in Nepal, has achieved its objectives and has reduced risks and vulnerabilities, strengthened capacities and resilience, supported recovery and addressed chronic poverty (Brown, 2015).

1.2 Research Questions

The Gorkha earthquake on 25 April, 2015 caused the death of almost 9,000 people and immense damage in Nepal. It heavily affected the already deeply socially divided society that has to deal with an increasing number of natural disasters such as droughts, floods, hailstorms and landslides, which destroy the livelihoods of mainly the poor. The international humanitarian community reacted promptly to the earthquake, starting large-scale search and rescue operations and relief efforts under the leadership of the Nepalese Government. International organisations, (international) NGOs ((I)NGOs), foreign governments and private individuals donated, in sum, 169 million US-Dollars, making Nepal the eleventh largest recipient of international humanitarian assistance in 2015 (Development Initatives Ltd, 2016). The money was intended to help affected people, reconstruct infrastructure, and erect shelters. It also aimed at increasing preparedness, resilience and ensuring that people are less at-risk for future disasters (CHS commitment three) (CHS Alliance, 2014). This is essential, as disasters caused by natural hazards affect the same regions and communities time and again, and Nepal's people are at a constant risk for further natural disasters (Development Initatives Ltd, 2016). Thus, the objective of this thesis is to find out if humanitarian assistance has laid the foundation to break this pattern by reducing pre-existing vulnerabilities. To be able to assess the humanitarian assistance's influence on the vulnerability of people, the post-disaster situation has to be linked to the pre-disaster vulnerability situation. Vulnerability in this thesis is understood as a persons' or a group's capacity to anticipate, cope with, resist and recover from the impact of a natural hazard (Wisner et al., 2004). In this regard, vulnerabilities are seen in relation to an earthquake, as vulnerability varies depending on the specific hazard.

The guiding research question is:

> *How has the humanitarian assistance since the earthquake 2015 influenced the social vulnerability of affected people in Nepal?*

In order to be able to answer the above question, four sub-questions are posed:

1) *Which groups of people are characterized with a high degree of vulnerability towards earthquakes in Nepal?*

The susceptibility to disasters varies, leaving some people more exposed to risk than others. Often, this exposure and lack of coping capacity is linked to one's class, caste, ethnicity, gender or age, which are often linked to one's economic situation. Poor households with limited assets, in particular, are at a significant disadvantage to cope with crisis. Thus, to understand how people's vulnerability has been influenced, it has to be known who is especially vulnerable in the first place.

Vulnerability often manifests itself in the daily restrictions people face, such as a lack of financial resources, limited access to education, low-paying jobs or, in the case of earthquakes, lack of earthquake-safe housing. In order to address vulnerabilities, the ways they are expressed have to be understood. Not only this, but also the dynamics leading to these manifestations and underlying causes have to be taken into account; they often involve an asymmetrical distribution of power and deeply embedded unequal social structures. Thus, a further sub-question is:

2) *How do vulnerabilities towards earthquakes become evident, and what are their underlying dynamics and causes?*

To answer this question, the Pressure and Release model (PAR model) by Wisner, Blaikie, Cannon and Davis (2004) is applied as a tool to systemically understand the vulnerability of people, which is rooted in social, political and economic processes. After understanding the root causes, dynamic pressures and unsafe conditions that lead to the susceptibility of people, the situation after the earthquake can be assessed and analysed. Thus it is asked:

3) *How has the social vulnerability of affected people been influenced by the earthquake?*

By establishing a picture of the situation before the earthquake, positive, neutral, or negative changes caused through the earthquake can be assessed. As it is often difficult to find the

probable cause of alterations, general developments triggered by the earthquake are summarized to be able to understand the following key aspect:

4) *How has the humanitarian assistance contributed to altering vulnerabilities?*

This last sub-question aims to achieve an understanding of the influence of the humanitarian response on the previously-defined root causes, dynamic pressures and unsafe conditions. These findings help to understand what influence humanitarian assistance can have on people's vulnerability to future disasters.

1.3 Structure

As a first step, it has to be clarified what the tasks of humanitarian assistance are, and its role in natural disasters (chapter two). Therefore, this thesis starts with giving a short overview of the development and principles of humanitarian assistance, and what accountability can mean in this context. After having established a basic knowledge of humanitarian assistance, a theoretical discussion about vulnerability and its linked concepts follows. This discussion leads to the explanation of the Pressure and Release (PAR) model, on which this thesis is based. The explanation provides a profound understanding of what root causes, dynamic pressures and unsafe conditions are – the three pillars by which this thesis is structured. The theoretical input that guides the PAR model, in this case, comes from New Institutional Economics (NIE) and thus, this economic perspective is outlined thereafter. As this theoretical stream has certain shortcomings regarding power relations, aspects of Foucault's work on power are shortly introduced, to round up the theoretical and conceptual aspects of this thesis.

Next, the methodology is explained (chapter three), and with it the research methods, the data analysis process and the methodological considerations that arose and define the researcher's role.

The second part of the thesis, which focuses on the results of the case study, starts with a description of the case study area and the disaster in question (chapter four). The fifth chapter presents the results of the application of the PAR model on vulnerability to earthquakes in the Gorkha district, Nepal, and with this, the answers to the first two sub-research questions

(chapter five). Starting with a detailed explanation of the root causes of vulnerability, it continues with the dynamic pressures and unsafe conditions, and the groups of people vulnerable to earthquakes who have not been mentioned up to that point. Knowing how vulnerability is caused and expressed, and its causes, the third and fourth sub-questions can be tackled, namely how vulnerabilities have been altered due to the earthquake and what role the humanitarian assistance has played regarding this change (chapter six). This chapter follows a reverse order, starting with the unsafe conditions and ending with the effects on the root causes.

In the third part, which entails the discussion, conclusion and outlook, the results of chapter five and six are linked to the theoretical discussion of chapter two. Thus, the opportunities and limitations of humanitarian assistance in changing the social vulnerability of affected people in natural disasters can be better understood. The thesis concludes with summarizing the answers to the research questions, the limitation of this study and an outlook for further research.

Chapter 2 Theories, models and frameworks

To connect vulnerability research with humanitarian assistance requires the use of multi-layered concepts as both, vulnerability and humanitarian assistance, influence and are influenced by a multitude of factors. Thus, the model and plurality of theoretical concepts applied in this thesis all have in common to be interdisciplinary, incorporating economic, political and social aspects, and are presented hereafter, after first giving an introduction to current issues in humanitarian assistance.

2.1 Humanitarianism in crisis

Humanitarian assistance is "intended to save lives, alleviate suffering and maintain human dignity during and after man-made crises and disasters caused by natural hazards, as well as to prevent and strengthen preparedness for when such situations occur" (Development Initatives Ltd, 2016). It shall follow the principles of humanity, impartiality, neutrality and independence. These principles, shaped by Henry Dunant, the founder of the international Red Cross and Red Crescent Movement, have characterized the humanitarian assistance since its beginning. However, in light of the highly political environment in which humanitarian assistance takes place, it has become a controversial topic as to whether these 'traditional' principles can still be adhered to.

Humanitarian assistance is led by high ethical standards, normative frameworks and various actors following diverse objectives and interests, thereby calling into question the idea that there is "one" humanitarian system. It is shaped by a conglomerate of heterogeneous interests and actors, resulting in a dilemma between fulfilling the ethical standards of humanitarian assistance and the political and cultural realities. This crisis has resulted in the development of two diverging schools of thought: the "traditional", principled humanitarian assistance and the new humanitarianism. While the first believes that it is not possible to provide humanitarian assistance following the principle of impartiality and denounce the causes of the humanitarian emergency at the same time, the second is characterized through advocating for political measures to alleviate the causes. The decisive difference from Dunant's understanding is the acceptance that humanitarian assistance can never be "apolitical", and that the principle of neutrality does not fit into present times (Lieser, 2013; see Walker & Maxwell, 2009).

In general, the ideas in people's minds about how humanitarian assistance should work have always been unrealistic. The belief is that once a sudden disaster threatens the lives of hundreds of people or a crisis intensifies to massive suffering, and local authorities are unable to cope with the scale of the disaster, the international humanitarian community becomes active. International bodies release an appeal and a plan of action. The Office for the Coordination of Humanitarian Affairs of the United Nations (OCHA) issues an emergency appeal. The Red Cross and Red Crescent Society do the same. International and national NGOs follow, and funds are be raised, supplies shipped, and experts flown into the country to master the task of alleviating suffering. Once the crisis recedes, partly due to the effective relief, the international system retracts – in theory (Walker & Maxwell, 2009). In reality, humanitarian assistance is confronted with a complex, complicated situation, diverging interests, and governmental restrictions, making a mission last not a couple of months, but seven years on average (Mahmood, 2015).

After the failure of the international community in Rwanda in 1994, this ideal image had come to face reality. It has led to the realization that humanitarian assistance is not, per se, "good" and therefore inviolable, but that is has to fulfil certain quality standards, and thus triggered the aforementioned "accountability revolution" (Roßbach, 2013). With this debate about accountability various concepts, understandings and regimes arose. One of the common understandings is that "accountability can be understood as an institution, referring to a set of rules (both formal and informal) that define accountability relations, responsibilities and sanctions that link principals to agents" (Chan & Pattberg, 2008). This definition takes up the understanding that accountability is dynamic; that it is embedded in social structures (Whitty, 2008). Discussing accountability raises five questions: Who is accountable to whom, what are agents responsible to account for, through what process is accountability assured, by what standards is allegedly accountable behaviour judged, and what are the potential effects of breaching those standards? (Marshaw, 2006)

Regarding the first question, the debate has formulated various forms to define accountability relationships, for example, internal/external, horizontal/vertical and downward/upward accountability. Internal accountability refers to the responsibility to oneself, in other words, an organisation's accountability to its internal rules, values and missions – usually implemented through an internal hierarchy, whereas external accountability relates to the responsibility towards others. Horizontal accountability is the responsibility to report

"sideways", such as other (I)NGOs; vertical accountability is the responsibility to report, for instance, to governments (Ackerman, 2004). The here applied definition of the CHS Alliance, which defines accountability as the process of using power responsibly and being answerable towards different stakeholders, especially those affected by the exercise of such power, directs particularly at downward accountability. This form of accountability means to be held responsible for actions to beneficiaries. This aspect has long been ignored, and organisations have mostly focused on upward accountability – accountability towards governments and donors, which has, amongst others, led to the bad performance in named disasters.

To tackle bad accountability performance, various approaches can be distinguished: for example, the results-based approach, the principle-based approach and the accountability-to-affected-people approach. Regarding the first, the results-based approach, business management techniques are applied to the humanitarian sector. Audits, imported from the financial sector, shall promote the measurement of performance. The second focuses on principles and law; it is based on holding people accountable for their actions, and the internationally recognized Code of Conduct should serve as a guideline for people's behaviour in humanitarian emergencies. The third interprets accountability as a consultation and participation of affected populations, which is thought to be empowering, and therefore more effective (Mitchell, 2003). The HAP/CHS Alliance has strongly promoted this approach and places communities and people affected by crisis at the centre of humanitarian action (CHS Alliance, 2014). Accountability should not be owed to private or government donors, multilateral technocratic donors or local authorities, but to the affected people. Simultaneously, affected people should not be victimized, as this goes hand in hand with disempowerment, control, manipulation and abuse (Davis, 2013).

After clarifying to whom one can or should be accountable, and in what approaches this results, the accountability debate requires the analysis of who can be held responsible for what. The humanitarian assistance structure consists of four major actors: governmental bodies for funding and carrying out international development and humanitarian activities (such as USAID, DFID), multilateral organisations (such as the World Food Program (WFP), United Nations Children's Emergency Fund (UNICEF), International Organization for Migration (IOM), OCHA), the Red Cross and Red Crescent Movement, and international and national NGOs (Walker & Maxwell, 2009). While these actors are directly held accountable for their actions, one important actor is often neglected: the government of the affected

country. Accountability is intrinsically related to power, and the "highest" level of power comprises states and political actors (Mitchell, 2003). However, power is not something actors "have", rather it manifests itself in social processes, in actions that structure society (see section 2.4 for a more elaborated view on power). Most domestic legislations foresee that they are responsible themselves for coordination relief activities undertaken on their soil. (I)NGOs have to coordinate with relevant government departments or ministries and adhere to national laws and standards, for example, building codes. Thus, national governments should also be held accountable for the quality of the humanitarian assistance delivered by external agencies (Ford, 2013).

In the end, the accountability of humanitarian aid will continue to be insufficient if affected people are not in the centre. Mechanisms which safeguard the interests of donors are still stronger than those that serve the affected people. Institutional changes are necessary to implement better accountability (Otto, 2013). The Inter-Agency Common Feedback Project (see section 4.1.3) is one attempt that tries to fulfil this demand, thus its collected data serves as a tool to evaluate the humanitarian response after the 2015 earthquake in Nepal.

Accountability and effectiveness of humanitarian assistance – accountability is a key driver of effectiveness (Brown, 2015) – are easier when the objectives of the humanitarian response are clearly defined. The definition of humanitarian assistance quoted above did not only include the immediate alleviation of suffering, but also improving preparedness and resilience and reducing vulnerabilities. Humanitarian actors have realized that increasing coping capacities is a crucial part of humanitarian assistance. Focusing on vulnerable groups and reducing their vulnerability is essential in order to support a disaster-prone country sustainably. As this thesis focuses on the influence of the humanitarian system on people's vulnerability, a profound understanding of the vulnerability debate is necessary. Therefore, in the following chapter, an introduction to the most important aspects of vulnerability and connected concepts is given.

2.2 Cornerstones of disaster analysis

Depending on the research discipline, various approaches exist to define, measure and analyse vulnerability, making it a highly disputed topic. Each of these disciplines, working with the concept of vulnerability, brings along its own ontologies, methods and contexts, which, on the one side, fosters the understanding of the various facets of vulnerability, and, on the other, isolates closely linked systems and leads to confusion (Cutter, 1996). The following chapter aims at giving an introduction to how vulnerability research started, developed and diversified, starting with natural hazards and risk.

2.1.1 From 'acts of god' to complex interactions between nature and society – the concepts of hazard and risk

In former times, hazards were seen as "acts of god", as punishments for moral misbehaviour. Consequently, they were perceived as something inevitable, preventing attempts to reduce negative consequences. With the spread of secularism, this view changed to hazards being "acts of nature", and efforts were taken to reduce their negative impacts. An influential step towards structural adjustments was the rise of technologies for weather forecasting and storm warnings by the end of the nineteenth century. Science began to focus on finding and understanding physical causes for the magnitude and frequency of natural hazards. However, this purely technical view was challenged in the 1950s by the behavioural paradigm, which centred on the question: "Why do natural hazards create deaths and economic damage in the MDCs, and how can changes in human behaviour minimise risk?" (Smith, 2013, p. 4). Thus, the understanding of hazards as something purely physical was superseded by the introduction of a social perspective, and, in the 1970s, the concept of vulnerability was introduced. Emphasis was now put on understanding underlying historical and socio-economic causes for vulnerability, especially in the more-affected countries of the global south. Since the 1990s, the debate around hazards has acknowledged the complex and complicated interactions between nature and society, and has understood that both perspectives need to be combined. Today, the focus is put on reducing hazard impacts by implementing sustainable, long-term solutions adapted to local needs (Smith, 2013).

A natural hazard has various dimensions; it has a space dimension, a time dimension and it can vary in intensity and severity (Wisner et al., 2004). It is a natural process that harms the anthroposphere and its associated values. It is the presence of values that turns a natural

process into a hazard (Fuchs, 2014) and geophysical processes alone are not always the cause of a so-called ”natural hazard”; often human action plays a role (Hufschmidt, 2011). Keith (2013, p. 13) describes a hazard as “a potential threat to humans and their welfare” and the cause of future danger, whereas the actual exposure is named “risk”. Risk is the likely consequence, and is often measured as the product of probability and loss.

$$R(x) = P(x) * D(x)$$

However, this “classical” equation does not take into account varying vulnerabilities. Thus, other definitions of risk evolved, for example, the IPCC (2014, 4) sees risks in context of climate-related impacts as a result from “the interaction of climate-related hazards (including hazardous events and trends) with the vulnerability and exposure of human and natural systems”. This relationship can be written as:

$$R = H * V * E$$

Wisner et al. (2004, p. 49) introduced a pseudo-equation where exposure does not play a role, and risk is explained through multiplying hazard by vulnerability:

$$R = H * V$$

Including vulnerability is important, as risk does not arise in a socio-economic vacuum. While one society can be facing the same hazard, for example an earthquake, the risk to this specific hazard might vary for different groups within the society, and the cause for this is often found in power asymmetries. A high degree of vulnerability makes people more likely to face disasters, as these are “a result of the complex interaction between a potentially damaging physical event (e.g. floods, droughts, fire, earthquakes and storms) and the vulnerability of a society, its infrastructure, economy and environment, which are determined by human behavior” (Birkmann, 2013b, p. 10). A disaster is occurring once a potential hazard has translated into an actual happening, causing exceptional damage and/or loss of human life, and recovery is unlikely without external aid (Smith, 2013; Wisner et al., 2004). Disasters and, with them, vulnerabilities should be traced back to their roots and general causes, and disaster analysis requires a paradigm shift away from a purely natural and technical analysis towards the inclusion of socio-economic dynamics. How vulnerabilities are created in this context is key in reducing negative consequences of future disasters.

2.1.2 An overview on understandings of vulnerability

The commonplace meaning of vulnerability is susceptibility to damage or injury. Most dimensions of vulnerability share this common understanding, but highlight in their analysis different aspects, such as an institutional, economic, physical or social dimensions. As each aspect stems from a different problem definition, they bring along their own tools and objectives. For example, the concept of institutional vulnerability looks into the susceptibility of institutions and assesses their capacities to reduce risks. As institutions are complex (see section 2.3 for a definition of institutions), so is this dimension of vulnerability. Economic vulnerability research investigates the "exposure of an economy to exogenous shocks, arising out of economic openness, while economic resilience is defined as the policy-induced ability of an economy to withstand or recover from the effects of such shocks" (Briguglio, Cordina, Farrugia, & Vella, 2008, p. I). Thus, this branch of vulnerability research can help to formulate policies that aim at overcoming the adverse consequences of economic vulnerability. In physical vulnerability research, vulnerability is perceived as the degree of loss to a given element, or set of elements, within the area affected by a hazard (UNDRO, 1984), and aesthetic, functional and structural damages caused by a natural hazard are assessed. This research helps to better understand the risks to physical assets, and design adaption and mitigation measures. Social vulnerability, which is the object of investigation of this thesis, comprises the vulnerability of people, which is linked to their socio-economic characteristics. This variety of dimensions of vulnerability can also be observed in the various existing definitions, depicted in table one. While Mitchell (1989) starts with a physical-centred definition, parallel to the development described in the previous chapter, Cutter, Cannon and Wisner follow a few years later with a people-centred definition. Several organisations also combine the institutional, economic, physical and social dimensions of vulnerability in their approaches.

Table 1. Definitions of vulnerability

Source	Definition
Mitchell (1989)	Vulnerability is the potential for loss.
Alexander (1993)	Vulnerability is a function of the costs and benefits of inhabiting areas at risk from natural disasters.
Cutter (1993)	Vulnerability is the likelihood that an individual or group will be exposed to and adversely affected by a hazard. It is the interaction of the hazards of place (risk and mitigation) with the social profile of communities.
Watts and Bohle (1993)	Vulnerability is defined in terms of exposure, capacity and potentiality. Accordingly, the prescriptive and normative response to vulnerability is to reduce exposure, enhance coping capacity, strengthen recovery potential and bolster damage control (i.e. minimize destructive consequences) via private and public means.
Cannon (1994)	Vulnerability is a characteristic of individuals and groups of people who inhabit a given natural, social and economic space, within which they are differentiated according to their position in society into more or less vulnerable individuals or groups.
Wisner (1994/2004)	By vulnerability the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard are meant.
IPCC (2007)	Vulnerability is the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity.
IFRC (2017)	Vulnerability in this context can be defined as the diminished capacity of an individual or group to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard. The concept is relative and dynamic.
UNISDR (2017)	The conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.

2.1.3 Models of vulnerability

As indicated in table one, there is no one understanding of vulnerability, but a multitude of definitions. These varying definitions can be assigned to two schools of thought formed over the years, the "human ecology school" and the "structural school". As a consequence of two diverging schools and numerous definitions, different models have been developed to understand and assess vulnerability.

Two lines of thinking have fundamentally shaped vulnerability research: the "human ecologist school" on the one side, and the "structural paradigm" on the other. The first represents the position that humans can and have to adapt to hazards to reduce their negative effects, which are a result of false human adaption. The latter entails a more political angle and is associated with Sen's (1981) entitlement approach. It argues that social, economic and political structures are decisive for losses caused by natural disasters, especially in countries of the global south. Thus, vulnerability research has to focus on these structures as well as cultural context, and to understand the everyday living conditions. Structural thinkers focus on finding the barriers that restrict access to resources to counter natural disasters. Therefore, it is the lack of choice that is causing the inability to cope with disasters, which stands in contrast to the view of the human ecologist school that it is a matter of the choice in favour of or against adaption measures (Hufschmidt, 2011). These differing lines of thinking are expressed in different models that slightly vary in their approaches to understanding and measuring vulnerability. Hufschmidt (2011) has categorized the most well-known concepts into three research fields: the 'Human Ecology", the 'Climate Change and Global Environmental Change' field, and 'Development and Livelihood'. Table two provides an overview of seven influential models on vulnerability within these three streams. This list is just a selection and does not display the full width of existing models on vulnerability.

Table 2. Models of vulnerability

Authors	Model	Concept of vulnerability	Stream*
Cutter (1996)	Hazard-of-a-place model	Vulnerability is understood as a biophysical risk as well as a social response within a specific geographic space.	"Human ecology[1]"
Alexander (2013)	Alexander's model	Vulnerability represents the potential harm incurred by a person, asset, activity or assemblage of items that is at risk. Six vulnerability types can be distinguished in this model: Economic, technological, delinquent, newly generated and total vulnerability.	
Turner et al. (2003)	Socioecological model	Vulnerability is understood not by exposure to hazards alone but that it also resides in the sensitivity and resilience of the system experiencing such hazards. Assessing vulnerability means understanding the coupled human-environment system and its linkages.	"Climate change and global environmental change[2]"
Cannon (2008)	Five components model	Vulnerability is understood as a set of socioeconomic conditions, and comprises five components: livelihood strength and resilience, wellbeing and baseline status, self-protection, social protection and governance.	"Development and livelihood"
Cardona (1999), Bogardi and Birkmann (2004)	BBC model	Vulnerability is a process and should be examined from a social, economic and environmental perspective.	
Wisner et al. (1994)	PAR model	Vulnerability is caused through "root causes" (found in the political and economic system), and is processed through "dynamic pressures" into "unsafe conditions). The reduction of vulnerability can only be achieved through tackling the root causes and dynamic pressures.	
Wisner et al. (1994)	Access model	Coupled with the PAR model, it does not start with the chain of causations leading to a disaster, but begins the analysis with the occurrence of a disaster. The model is based on the assumption that access to capabilities, assets and livelihood opportunities enables people (or not) to reduce their vulnerability.	

*according to Hufschmidt (2011)

[1] other relevant contributors are Ian Burton et al. (1978, 1993), Robert Kates et al. (1970) or Gilbert Fowler White et al. (2001)

[2] further influential works stem from Neil Adger (2006), Carl Folke et al. (2002), Rodger Kasperson et al. (2005), Barry Smit et al. (2000, 2006)

All models are valid for the whole quantity of hazard types and societal contexts, and include multiple dimensions of vulnerability (Hufschmidt, 2011). However, they vary in their understanding of resilience and exposure. Alexander's model and the Cutter's "Hazards-of-a-place" model have in common that they do not regard resilience as a component of vulnerability, but as an independent construct. In the "climate change and global environmental change" stream, vulnerability is designed with the help of exposure, sensitivity and adaptive capacity, which equal resilience. The "development and livelihood school" can again be differentiated by its understanding of resilience: while "exposure" and "resilience" are placed within the domain of vulnerability, as they are in the "Climate Change and Global Environmental Change" field, this stream separates resilience from (adaptive) capacity. Capacity, in this understanding, means adapting as well as coping. In contrast to the second stream, exposure plays a rather subordinate role in explaining vulnerability.

While the models within the various streams share a common understanding of resilience and exposure, they often diverge in their approach to assessing vulnerability. For example, in Cutter's hazard-of-a-place model, various elements (such as social fabric, hazard potential, geographic context social, biophysical and place vulnerability) interact to produce the vulnerability of specific places and the people who live there (Cutter, 1996). In this model, vulnerability of places are paramount, whereas in Alexander's model places play a subordinate role and vulnerability is "mainly the result of social, economic, political, and cultural factors in decision making, vulnerability is constructed socially" (Alexander, 2013, p. 980). Special in Alexander's model is the description of six types of vulnerability: 1. economic (people lack adequate occupation), 2. technological (riskiness of technology), 3. residual (lack of modernization), 4. delinquent (vulnerability caused by corruption, negligence), 5. newly generated (vulnerability caused by changes in circumstances), and 6. total (life is generally precarious). Wisner (2016, p. 11) even states that the last three are a "taboo within disaster risk studies, hazard studies, and the climate change and development communities".

The socio-ecological model by Turner et al. (2003) has yet another approach. It sees vulnerability to rest "largely within the condition and dynamics of the coupled human–environment system exposed to hazards, and vulnerability analysis must be comprehensive, treating not only the system in question but also its many and varied linkages" (Turner et al., 2003, p. 2077). Thus, Turner et al. (2003) place an emphasis on human-environment interactions.

Cannon (2008), in his five components model, neglects environmental interactions, and instead highlights the importance of identifying in advance those who may suffer from disasters. In his five components, livelihood strength and resilience, wellbeing and baseline status, self-protection, social protection and governance, socio-economic characteristics are determinant for vulnerability.

The BBC-framework was created by Bogardi and Birkmann (2004) and Cardona (1999) under the frame of the United Nations University's Institute for Environment and Human Security, and places vulnerability within a feedback loop system linking it to the sustainable development discourse (Birkmann, 2013b).

The PAR model and the Access model were both developed by Wisner et al. (2004). The PAR model, to which this case study relates, defines unequal access to resources, political power and social power as the causes of vulnerability, which are expressed in root causes and translated into unsafe conditions via dynamic pressures. The Access model also deals with the question of access however, it focuses on the "ability of people to deal with the impact of the hazards they face in terms of what level of access they have (or do not have) to the resources" (Wisner et al., 2004, p. 11).

2.1.4 Measuring social vulnerability

This range of models and understandings shows that vulnerability has various facets, which are also reflected in the multitude of methods, metrics and indices that exist to assess vulnerability. Many of the above-described concepts, such as the PAR or Access model, entail a qualitative approach to assessing vulnerability. A qualitative approach often implies the investigation of social aspects of vulnerability through the existing variety of qualitative methods. It has the advantage that it can reveal underlying causes of vulnerability and take special local requirements into account. However, the results are often difficult to compare with other countries or regions and do not trace developments over time. This is an advantage of quantitatively measuring vulnerability, as it often results in comparable indices. But these quantitative measures have to be met with caution, as vulnerability is a multidimensional concept, and it is difficult, and maybe even impossible, to formulate a single equation to assess vulnerability (Birkmann, 2013a).

To measure vulnerability quantitatively, often a combination of indicators such as Gross Domestic Product (GDP) is used and linked to vulnerability. A vulnerability indicator is defined as "a variable which is an operational representation of a characteristic or quality of a

system able to provide information regarding the susceptibility, coping capacity and resilience of a system to an impact of an albeit ill-defined event linked with a hazard of natural origin“ (Birkmann, 2013a, p. 57). To develop an index, a combination of indicators is used. As vulnerability is not a clearly defined concept and each perspective brings along its own foci, various indices and methods have also been created to account for this. Thus, the list of vulnerability indices and assessments is long and only a very small fraction is described in table three.

Table 3. Measuring vulnerability

Authors	Approach
SoVI, by Cutter, Boruff, and Shirley (2003)	The SoVi is a comparative assessment of the relative levels of vulnerability between places. It comprises 42 independent country-level variables.
Adger et al. (2004)	Health, education, and particularly governance indicators are regarded to provide an assessment of vulnerability to climate hazards.
Social Flood Vulnerability Index (SFVI), by Tapsell et al. (2002)	The SFVI tries to shift away from economic assessments and engineering concerns. It is based on three social groups (the elderly aged 75 and over, single parents, the long-term sick) and four financial deprivation indicators (unemployment, overcrowding in households, non-car ownership, non-home ownership).
Buckle, Marsh, Smale (2000)	Not personal or demographic characteristics are regarded as the most important in determining vulnerability, but social, economic and cultural factors, profoundly embedded in the community are key for understanding and reducing vulnerability.
Kuhlicke et al. (2011)	The objective is to better understand which socio-economic–demographic variables influence and define the unequal distribution of capacities. To assess this different methods are combined: participant observation, interviews with key informants, focus groups, standardised questionnaire surveys, feedback and discussion about results.

One of the most prominent indices regarding social vulnerability is the Social Vulnerability Index (SoVI), developed by Cutter, Boruff, and Shirley (2003). Evolved in the United States of America, it includes the socioeconomic status, development density, age, race, gender, rural, race, economic dependence, ethnicity, migration, gendered employment. The SoVI is an advancement of Cutter’s hazards-of-a-place model and aims to examine the components to be able to make predictions about disaster impacts.

Another approach was developed by Adger, Brooks, Bentham, Agnew, and Eriksen (2004). Their objective was to reconcile different views and definitions of vulnerability by combining the approaches of climate change, natural hazards and disaster management research in order

to develop a framework which relates risk, vulnerability and adaptive capacity and also addresses the problem of timescale. They used data from the Emergency Events Database (EM-DAT), and developed predictive indicators of vulnerability (Adger et al., 2004; Tapsell, Tunstall, & Green, 2005).

Also driven by the intention to develop a more all-encompassing assessment framework, Buckle, Marsh, and Smale (2000) included multiple levels of social life (individual, family, group, organization, community and infrastructure and services) and multiple perspectives on vulnerability and resilience in their analysis.

In contrast to these approaches to assess social vulnerability for all kinds of natural hazards, some existing indices only assess social vulnerability in regard to one specific threat, such as floods in the Social Flood Vulnerability Index (SFVI). This index was developed by the Flood Hazard Research Centre (Tapsell et al., 2005).

One concept that demonstrates that assessing social vulnerability can also include qualitative methods was developed by Kuhlicke, Scolobig, Tapsell, Steinführer, and De Marchi (2011) in the context of three case studies of flood events in Europe. In the case studies, a common set of comparable indicators are applied, in combination with a qualitative approach. One of the findings was that it is not possible to identify a common set of socio-economic-demographic indicators to explain social vulnerability of groups for all disaster phases, proving that vulnerability is a product of locally specific context (Kuhlicke et al., 2011).

2.1.5 The applied concept of vulnerability

A multitude of definitions, models and assessment methods have been presented, all having its own advantages and disadvantages. They vary in their suitability to different contexts, as some have been developed through case studies in the global north and some in the global south. The understanding of vulnerability in this thesis follows the one of Wisner et al. (2004, p. 11), who describe vulnerability as "the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard". Wisner et al. state that only people can be vulnerable, not buildings (susceptible, unsafe), economies (fragile), nor regions (hazard-prone) (Wisner et al., 2004). This does not imply that the conditions of buildings, slopes, and lifelines are not important – they are very important. However, when concentrating on these alone there is a risk of neglecting the influences of political and economic structures on someone's vulnerability (Wisner et al., 2004). Thus, the introduction of buildings codes and improved

hazard maps do not entirely reduce the vulnerability of people. Only an integrated approach, taking into account an entire range of factors, can fully accomplish the dissolution of vulnerabilities.

To grasp people's vulnerability, one has to understand how the system generates economic, social and political differences in the position of individuals or groups of people that leave some more exposed to risk than others. Therefore, it is crucial to analyse the socio-economic and political structures and understand everyday processes that maintain vulnerabilities. These processes and structures are not static, but are constantly changing, and thus vulnerabilities have to be constantly re-assessed.

Characteristics that lead to aforementioned varying positions in society are produced by a combination of factors. The key factors include class, occupation, caste, ethnicity, gender, disability, health status, age, immigration status and the nature and extent of social networks (Turner et al., 2003). This is by no means an exhaustive list, but has to be adapted to local contexts. NGOs have produced checklists referring to these factors so that they are able to quickly assess particular needs and vulnerabilities. While this might be helpful in cases of emergencies, it does not help them understand why and how these characteristics have produced a higher susceptibility to losses. Finding empirical correlations is important, but it is only the first step, and it must be determined which underlying processes have caused these correlations. For instance, increased domestic violence against women after a hurricane cannot be reduced to the female gender making people more vulnerable, but gender in a specific situation coupled with the pre-disaster situation (Wisner et al., 2004).

People that are facing a marginalized position in society and are vulnerable to certain hazards tend to be poorer. However, it is too simplistic to claim that 'the poor' are always more vulnerable to disasters than the rich, although in general poor people suffer more from hazards than rich people (Wisner et al., 2004). This does not consequentially mean that vulnerability is synonymous with poverty, but only that vulnerability and poverty are undeniable linked.

Vulnerable groups do not only find it hardest to anticipate, cope with and resist the impacts of a natural hazard, but are also the ones that face the most challenges in reconstructing their

livelihoods[2], which makes them more vulnerable to the effects of subsequent hazards (Wisner et al., 2004). Thus, understanding how livelihoods are comprised is a crucial aspect of vulnerability analysis and should also be considered in recovery support. This approach also helps to identify and point out people's capabilities, keeping in mind that disasters alter capabilities and preferences in the short- and long-term, and people should not only be displayed as passive actors or victims, incapable of bringing about change. New capabilities and networks might also arise in the event of a hazard: "The individual, household, kinship network and larger collectivities may develop implicit or explicit strategies to manage risk, which themselves constitute an important element in well-being and provide the basis for action when vulnerability is made a reality by the disaster event itself" (Wisner et al., 2004, p. 15).

Summing up, vulnerability is

- multi-dimensional (including several of the social, economic, environmental, political and institutional spheres)
- multi-scalar (in regard to time, space, and units of analysis such as individual, household, region, system)
- dynamic (characteristics of vulnerability change over time) and
- time-dependent (vulnerability in terms of damage to life and property at time of hazard event, but also to future livelihoods) (Birkmann, 2013b; Hufschmidt, 2011; Wisner et al., 2004).

One of the only models that includes these dimensions and provides a foundation for assessing political, social and economic structures to find the root causes of vulnerability is the PAR model.

[2] The understanding of livelihoods is based on the concept of Chambers and Conway (1991, p. i), , who define it as "people, their capabilities and their means of living, including food, income and assets. The assets are divided into tangible ones, being resources and stores, or intangible ones, being claims and access" The five capitals covering human capital, natural capital, financial capital, social capital, and physical capital are combined to pursue livelihood strategies which are framed by institutions and structures (Scoones, 1998).

2.2 The conceptual framework

Disasters are socially constructed and closely linked to the political, social and economic conditions. They are the consequences of unresolved development challenges (Yasir, 2009). The PAR model, despite its limitations, which are explained later on, provides a suitable framework for analysing political, economic and cultural contexts causing vulnerability.

2.2.1 The PAR model

The PAR model is applied in this case study as a tool to systemically understand vulnerability that is rooted in social, political and economic factors and processes, which are linked to the impact of a hazard. It was chosen because this model goes beyond measuring the vulnerability of people, but identifies underlying causes (Birkmann, 2013b). It looks at power asymmetries and how they were caused. As Nepal's society is structured by deeply embedded social hierarchies that restrict equal access to power and resources, it provides a suitable framework for understanding local contexts and how vulnerabilities are produced within them.

In the PAR model, Wisner et al. (2004) explain a disaster with two opposing forces: on the one side, the processes causing vulnerabilities, on the other, the natural hazard (see figure one). In this nutcracker-like model, pressure is exercised on both sides, leading to a disaster. To reduce the negative impacts of disasters, the model aims at understanding root causes, dynamic pressures and unsafe conditions, which form vulnerability (Anderskov, 2004). Thus, it focuses on understanding vulnerability and is rather indifferent to technical approaches to mitigate hazards.

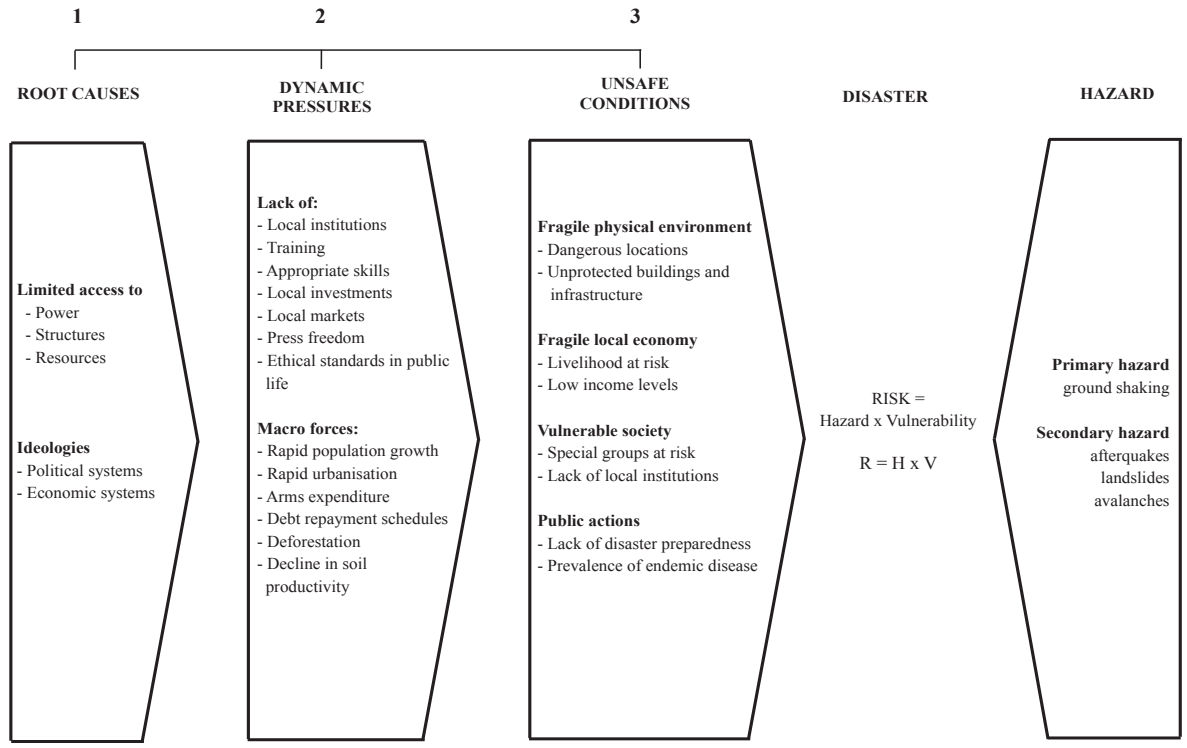

Figure 1. PAR Model after Wisner et al.

Source: Adaption from (Wisner et al., 2004)

Root causes, dynamic pressures and unsafe conditions are the three levels that are used to explain vulnerability. They vary in regard to the ”distance” between the process or cause and the people impacted by a disaster. The most remote are *root causes*, which reflect the exercise and distribution of power within a society, and are closely linked to good governance. These root causes arise in a centre of economic or political power, creating a *spatial* distance to the affected people. Further, they are *temporally* distant, as they arise as a result of historical development, and they are distant in that they are *intangible*, as root causes are embedded in cultural assumptions, ideology, beliefs and social relations.

Unequal distribution of and limited access to power, structures and resources are the main root causes that give rise to vulnerability. Furthermore, the dominating political system is influential, and, with it, so are the function of the state, the capabilities of administration and the legal system. Another ideological element causing vulnerability on a ”distant level” can be the economic system. For instance, people who only have access to insecure livelihoods and resources or who live in ”exposed” environments (such as isolated, steep or semi-arid locations that are high-hazard zones) tend to be of minor importance to centres of economic

and political power (Wisner et al., 2004). Thus, people often lack the resources and the power to reduce their own vulnerability. Institutions that are the product of an unequal economic and political system are barriers as well. They are labelled *dynamic pressures* in the PAR model and are generally described as "the processes and activities that 'translate' the effects of root causes both temporally and spatially into unsafe conditions" (Wisner et al., 2004, p. 53). Dynamic pressures are an effect or outcome of underlying economic, social and political patterns. Foreign debt, structural adjustment programs or rapid urbanization could be dynamic pressures. However, dynamic pressures are not negative, per se; the local and historical context determines for which group of people they turn out to be negative.

While root causes are a result of the past and dynamic pressures are one of the present, *unsafe conditions* can best be seen as a product of both the past and present (Kelman & Rauken, 2012). They are described as the "specific forms in which the vulnerability of a population is expressed in time and space in conjunction with a hazard" (Wisner et al., 2004, p. 55). For example, an unsafe condition could be to live in an earthquake-prone zone, not having the financial resources for safe buildings. However, unsafe conditions can also be intangible, such as having limited access to support networks or limited knowledge about how to behave in the case of a hazardous event.

Unsafe conditions lead to vulnerability of affected people. Most of the time, this vulnerability is reflected and caused by inadequate livelihoods, which are not resilient to any disturbances. Understanding the livelihood of people is essential to understanding how vulnerability is created and how people deal with hazards. This insight into livelihoods is only possible if local people are included in the process and have the chance to explain and reflect upon their constraints and needs. Examples of constraints or dynamic pressures could be unequal access to land, population growth, urbanization, economic pressure or war, and the resulting poverty is intrinsically linked to vulnerabilities. Thus, dealing with vulnerability always implies dealing with poverty as well. However, one element is seldom the only cause of vulnerability, but often it is an entire range of factors and processes; thus it needs an encompassing view in which no element is neglected. In addition, one should refrain from generalizations; for example, urbanization does not always lead to unsafe conditions. Furthermore, political, economic and social systems are dynamic, and thus the assessment of vulnerability has to be constantly reviewed; with shifts in these systems, root causes, dynamic pressures and unsafe conditions are likely to change as well (Wisner et al., 2004).

Policy-makers and decision-takers rarely advance enough in their attempts to tackle the root causes, but tend to merely address immediate pressures and unsafe conditions (Wisner et al., 2004). Thus, vulnerabilities of people cannot be positively affected, as this would require the change of political and economic systems (Hufschmidt, 2011).

2.2.2 Restrictions of the PAR model

The strength of the PAR model lies in explaining vulnerability; its weakness lies in measuring it. While other models work, for example, with indices, the PAR model follows a different path. It is based on a thorough analysis of socio-economic characteristics, which can be a lengthy and maybe even endless process. Thus, it is a useful tool to explain vulnerability, however, measuring vulnerability is one of its shortcomings. To get a good understanding of vulnerability in context of this model, a great deal of data needs to be collected and analysed, and a thorough examination of the country's and regional history is required. Especially in the limited possibilities a master thesis provides, the analysis is restricted to a short timeframe, and consequently only looks at preselected historical, societal and economic aspects leading to root causes.

Vulnerability, as understood in this model, can only be reduced through changing these root causes. However, confronting policy makers with the challenge of changing deeply embedded social structures as the only way to reduce people's vulnerability might result in little motivation, and thus, little success in tackling vulnerability at all. Further, with no clear "measurement", policies tackling vulnerability are difficult to formulate and their success is even more challenging to measure. While the PAR model provides a framework for understanding the underlying processes leading to vulnerability, for tracking how vulnerability has developed over time this model is rather unsuitable. Thus, the PAR model shows serious operational limitations.

Concluding that the causes of vulnerability lie in the past, and that vulnerability can only be reduced through influencing the root causes, the reduction of vulnerability is a lengthy process, as underlying persistent institutions need to be changed. In this thesis, I follow the rationale that knowing about root causes while beginning to improve unsafe conditions and alter dynamic pressures can be a start in reducing vulnerability, as otherwise, important advancements would be missed.

Another shortcoming of the PAR model, is that it only helps marginally in predicting the severity of a disaster on people's lives, which is also another aspect of its operational limitations. It thinks of environment as another disaster category, and thus disaster severities are difficult to estimate. Technical adaptations, intentional or unintentional, to natural disasters are not considered in this model, despite their major role regarding their influence on the severity of a disaster. Further, not only for a pre-disaster, but also post-disaster this model demonstrates certain restrictions. While it acknowledges the factor of time as it includes processes in its framework, it is nevertheless static; adaptions after a damaging event are not included in the model (Birkmann, 2013b).

On another note, the PAR model does not clearly relate to concepts that most models include, such as resilience, adaption or adaptive capacity. These concepts are often mentioned as key identifiers for vulnerability (Hufschmidt, 2011). Not explicitly including these concepts is not a shortcoming; nevertheless their subordinate role should be mentioned.

2.3 The theoretical foundation (New Institutional Economics (NIE))

Vulnerability is a result of a continuous process of reinforcement and its reduction entails changes impacting the causal institutions. Thus, the PAR model is complemented with the theortical direction of NIE, as this economic perspective provides a theoretical base for understanding the role of norms, rules, and values, and how these can be influenced.

NIE originates in political economy, as does the PAR model of Wisner et al. (Jones & Murphy, 2009). Political economy is not applied as a theoretical base in this case, since the cornerstones of analysis of this theory do not suit a profound understanding of humanitarian contexts. Political economists often focus on economic and political aspects, disregarding cultural and sociological issues, as do other closely connected theoretical streams that have been discarded for the same reasons, for example the regulation theory.

Conversely, NIE includes institutional and cultural factors often not found in mainstream economic theory. This theoretical stream is openly interdisciplinary, combining insights from politics, sociology, anthropology and psychology (Hodgson, 1998). This interdisciplinarity is necessary to outline the institutions that shape the vulnerabilities of the research context and the ways to positively influence them.

In this thesis, the definition of institutions of North (1993, p.5f) is followed:

> *"Institutions are the rules of the game of a society or more formally are the humanly-devised constraints that structure human interaction. They are composed of formal rules (statute law, common law, regulations), informal constraints (conventions, norms of behavior, and self imposed codes of conduct), and the enforcement characteristics of both."*

Examples for institutions are language, markets, customs, beliefs, norms, or religion, and must be distinguished from organisations, which are groups of individuals held together to achieve a common objective (North, 1993).

New institutional economics can be divided into various schools; the two major streams are the transaction cost perspective, mainly influenced by the works of Ronald Coase, Elinor Ostrom and Oliver Williamson, and the historical and political economy perspective with representatives such as Douglas C. North and Daron Acemoğlu. Property rights, hierarchy and organisation, and public choice are further schools of thought (The Ronald Coase Institute, 2017). This thesis builds on the historical perspective, referring mainly to North and Hodgson.

Theories focusing on the role of institutions developed just after the First World War in the dominant economics departments of American universities. This "old" school of institutional economics was dominated by the works of Thorstein Veblen, John Commons, and Wesley Mitchell. The formation of "New" Institutional Economics was initiated in 1937 by Ronald Coase's work on transaction costs. However, the term "New Institutional Economics" was only introduced in 1975 in a paper from Oliver Williamson on "Markets and Hierarchies, Analysis and Antitrust Implications: A Study in the Economics of Internal Organization" (Hodgson, 1998).

New Institutional Economics are nested within a modified neo-classical framework – both theories build on scarcity (which leads to the competition postulate), view economics as a theory of choice subject to constraints, and emphasize the role of prices in the analysis of institutions. However, the deviating features are, above all, the diverging views on transaction costs, the existence of path dependence, the acknowledgement that institutions play a role and the notion that individuals are socially and institutionally constituted (Hodgson, 2000; North, 1993). To the first point, in neo-classics, markets are only efficient when it is costless to transact. As humans are imperfect, they are unable to possess encompassing knowledge and

information, and thus transaction costs do exist. To structure exchanges, human-formed institutions impose constraints on interactions. Institutions reduce uncertainties in human exchange, although efficiency must not be a necessary characteristic of them. Second, history matters, as institutions have been shaped by it and are a result of the past. North (1993, p.3) further reasons that "institutional path dependence exists because of network externalities, economies of scope, and complementarities that exist with a given institutional matrix". The third point is a consequence of the first: since transaction costs are unequal to zero, institutions are necessary to reduce unpredictability, thus institutions matter (North, 1993). Fourthly, individuals are affected by their institutional and cultural situations and institutions determine choice and behaviour in fundamental ways (Hodgson, 2000).

Institutional theory does not intend to generate an all-embracing, general theory, but aims at analysing complex phenomena with specific theoretical tools. It "moves from general ideas concerning human agency, institutions, and the evolutionary nature of economic processes to specific ideas and theories, related to specific economic institutions or types of economy" (Hodgson, 1998, p. 168). In the centre of interest rests habits, rules, and their evolution. Institutions are constantly reinforced by individual habits, which, in turn, are reinforced by institutions. This mutually reinforcing relationship endows institutions with a stable, inert and persistent character. This invariance over long periods of time, often outlasting the lifespan of individuals, makes institutions a reasonable basic unit for medium and long-term analysis (Hodgson, 1998).

Individuals create mental models to interpret their world, and the characteristics of these models are culturally derived. The intergenerational transfer of knowledge, values and norms, which differ between societies and ethnic groups, is a decisive factor for how individuals perceive and interpret the world around them. Thus, there is immense variation in these mental models regarding how the world works (North, 1993). Institutions, such as norms and value systems, help to transform information into useful knowledge, and thus institutions provide a cognitive framework for interpreting sense data. Simultaneously, institutions constrain and influence our behaviour. "Jointly with our natural environment and our biotic inheritance, as social beings we are *constituted* by institutions. They are given by history and constitute our socio-economic flesh and blood." (Hodgson, 1998, 189) The shared conceptions and expectations of societies, ethnic groups, etc. sustain and are sustained by institutions. Institutions do not ultimately have to be socially optimal, but can persist because

a mutually sustaining network of social sanctions makes individuals conform out of fear (Bardhan, 2001).

As has been explained above, one of the goals of humanitarian assistance is to reduce vulnerabilities, which requires institutional changes. To achieve this, it is usually easiest to motivate donors, recipient governments and affected people to transform the rules that structure unproductive situations. Creating effective rules is always a challenge, and this challenge requires that all involved actors, including donors, assistance providers and recipient governments, understand the issues individuals are dealing with and how the attributes of a society affect possible success (Ostrom, Gibson, Shivakumar, & Andersson, 2001).

North (1998) defines three fundamental ideas on institutional change, which focus on improving economic performance, but can also be transferred to a humanitarian context:

(1) Institutions comprise formal rules, informal norms and their enforcement characteristics. While formal rules can be changed overnight, the change of informal rules requires time.

(2) Polities shape (economic) performance, because they shape the "rules of the game". In the centre of development, policy, and in this case humanitarian assistance, has to stand the creation of polities that will create and enforce efficient property rights. North (1993) acknowledges the lack of experience and theory about institutional change in countries of the global south; however, he suggests some implications:

    a. Political institutions need the support of organisations that have an interest in their perpetuation. Therefore, one part of reform includes the creation of such organisations.
    b. Successful reforms require the change of both institutions and the belief system of people. Addressing the mental models of actors is essential, as these shape choices and thus behaviour
    c. Changing norms so that these support and legitimize new rules is a lengthy process. During this process, instability might occur.
    d. Long-run economic growth cannot be achieved without simultaneously developing a rule of law and the protection of civil and political freedoms.

e. Informal rules are a necessary but not sufficient condition for good (economic) performance.

(3) Policy should be guided by a flexible institutional matrix, and adaptive efficiency should be the main principle.

Economic change is an incremental process that occurs through gradually modifying norms of behaviour. This happens because "individuals perceive that they could do better by restructuring exchanges (political or economic)" (North, 1998, p. 6). The source of this changed perception does not ultimately have to be endogenous; it can be exogenous as well. However, the fundamental trigger of change is learning, which is the greatest motivation to change and thus has the best chances of success (North, 1998).

To implement changes in norms, belief systems, and rules, power relations have to be regarded in the analysis as well. New Institutional Economics often disregards asymmetric power relations and their consequences for a situation. But as vulnerabilities are often embedded in the context of a pre-existing distribution of economic and political power, which tends to persist after disasters, a profound analysis requires their incorporation.

2.4 The role of power

In an effort to incorporate issues of power, parts of Foucault's work are combined with the preceding model and theoretical framework. Foucault's concept of power is chosen, as it acknowledges the role of history, sees power as relational and does not follow a rigid approach.

In the centre of Foucault's work is the constitution of the modern subject and its undistorted relationships in the context of the historically changeable world order. His work builds on the desire to comprehend how it is that we have come to understand the world the way we do (Haugaard, 2002). As one of the most important thinkers of poststructuralism and postmodernism, he claimed not to have developed a theory or methodology, but rather an analysis of power relations that does not comprise a closed system. Foucault constantly developed new conceptual approaches and methods (Kneer, 1998). Nevertheless, his works can be organized into three distinct phases: the archaeology, the genealogy, and the care-of-the-self. In the first, the analysis of the forms of discourse and knowledge are pursued, the second is concerned with power relations and the third focuses on how human beings turn

into subjects in the domain of sexuality. The general theme of Foucault research is not power, but subjects that are placed in complex power relations (Foucault, 1983; Haugaard, 2002). "Subject", according to Foucault, can be interpreted in two ways: "subject to someone else by control and dependence; and tied to his own identity by a conscience or self-knowledge" (Foucault, 1983, p. 213). Both meanings involve a form of power, one that subjugates and another that makes subject to.

Foucault has formulated various characteristics of power. His basic idea follows the belief that power is always relational. It is not something one can "possess", it can neither be given, nor exchanged, nor recovered. Power can rather be exercised, and exists only in action. The relationship of power is defined by its mode of action. "[I]t acts upon their actions: an action upon an action, on existing actions or on those which may arise in the present or the future." (Foucault, 1983, p. 220) Power can only be exercised over free subjects. Free, in terms of Foucault's understanding, means that individual or collective subjects can freely choose their behaviours, reactions and diverse comportments. Where there is no possibility to decide freely, there is no power; slavery is not a power relationship.

Power is not something that is exclusively localized in the government and the state, but is exercised throughout the social body. In this social body, it is omnipresent at all levels. All relations (production, kinship, family, sexual relations) are conditioned through power; thus nothing exists "outside" of power relations and power is everywhere. Power is a procedure that forms human beings, marks their own individuality, imposes a law of truth on them and forms subjects.

Furthermore, power is not always repressive, negative and coercive, but can also be productive and a positive force. Its exercise is strategic and war-like (Foucault, 1980, 1983; Kneer, 1998).

Foucault has distinguished different types of power, such as pastoral power, sovereign power and disciplinary power. Pastoral power is a result of modern Western states integrating a new political shape on old power techniques originating in Christian institutions. This form of power is salvation-oriented, it offers oblation, is individualized and linked to the production of a political and civil collective. Sovereign power refers to the obedience to the law of the central authority figure or king. It was gradually superseded by disciplinary power, which regulates the behaviour of individuals in the social body. This regulation is exerted by controlling the organisation of spaces, of time, and people's activity and behaviours through a

complex system of surveillance. Discipline itself is not power, but a way in which power can be exercised (Foucault, 1983; O'Farrell, 1997).

A further central feature of Foucault's ideas about power is that mechanisms of power produce different types of knowledge. However, he does not equate power with knowledge: "The exercise of power perpetually creates knowledge and, conversely, knowledge constantly induces effects of power." (Foucault, 1980, p. 52) Thus, power is (mutually) constituted through accepted forms of knowledge, scientific understanding and "truth". Truth is another major theme in Foucault's work that he understands as an event which takes place in history. "It is something that 'happens', and is produced by various techniques (the 'technology' of truth) rather than something that already exists and is simply waiting to be discovered." (O'Farrell, 1997)

To analyse power, according to Foucault, it should not be asked how it manifests itself, but instead by what means it is exercised and what happens when individuals exert power over others. One aspect of power relationships can be examined by focusing on defined institutions. This analysis of institutions has to be undertaken from the standpoint of power relations, rather than vice versa. Institutions are designed to make sure they are preserved, and if power relations are analysed from the standpoint of institutions, one may seek the explanation and the origin of the former in the latter. Further, the study of power relations cannot be reduced to institutions, as power relations are rooted in the system of social networks. Thus, the analysis of power relations has to include the society, their historical formation, the source of their strength and their weakness, and the conditions necessary to transform some and abolish others.

2.5 Bringing it all together – How the PAR model, NIE and Foucault interact

Vulnerability is described above as multi-dimensional, multi-scalar, dynamic and time-dependent. Thus, to profoundly understand vulnerability and to do justice to these characteristics, the underlying theory, concept and model applied in the analysis have to fulfil the same attributes. The PAR model, NIE and Foucault's ideas about power principally satisfy these requirements. They each take into consideration political, economic and societal aspects and draw insights from various disciplines, regard multiple levels, are dynamic and acknowledge the relevance of history.

Next to the interdisciplinary nature the PAR model, NIE and Foucault's power concept share, the second essential common feature is the acknowledgement of path-dependence. Conceding that history matters was one of the differentiation criterions from neoclassical economics leading to the theoretical formation of NIE. This path-dependence is particularly reflected in the informal institutions that have become an integral part in the analytical process of NIE. History is a key issue not only in NIE, but also in the PAR model. Similar to NIE, which regards historically influenced institutions as the starting point of analysis (see Williamson, 2000), the PAR model sees the underlying causes of vulnerability, the root causes, as determined through the country's or region's history.

The cause of disasters, according to Wisner et al. (2004), begins with the historically formed "political and economic systems at national and international scales", which influences the "social systems and power relations". The social system, in relation with power asymmetries, leads to the formation and reproduction of social categories such as "class – gender – ethnicity – age groups – disability – immigration status", which are the base along which unequal access to opportunities and unequal exposure to hazards are categorized (see figure two).

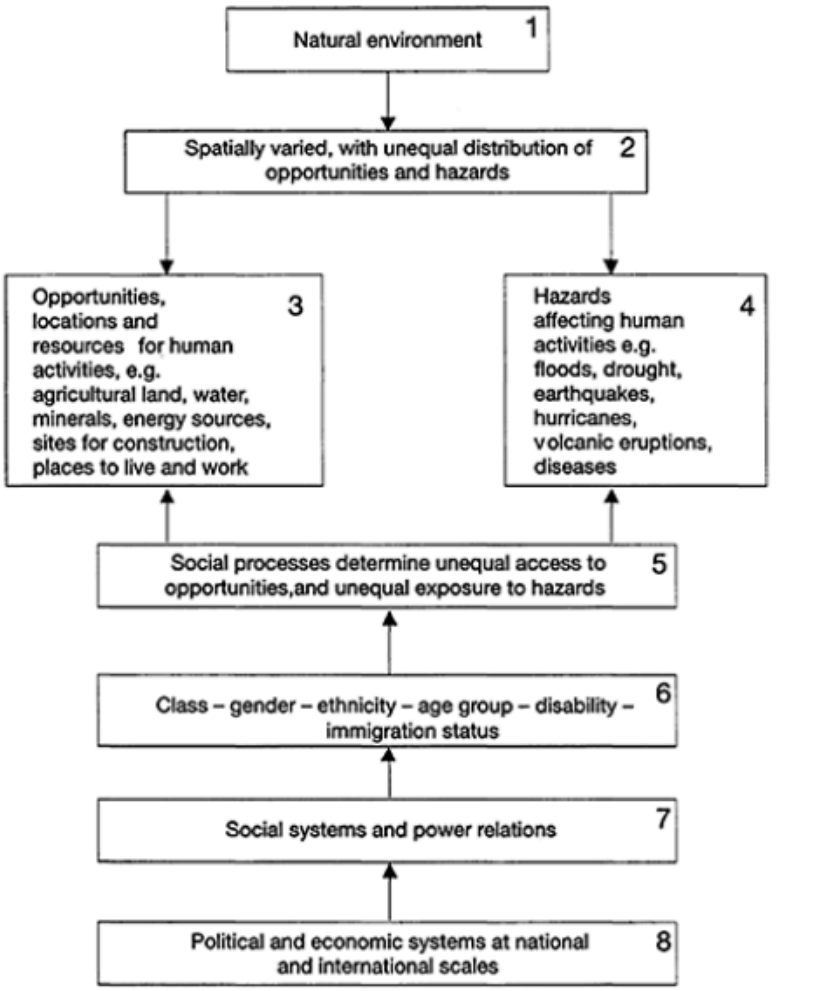

Figure 2. The social causation of disasters

Source: (Wisner et al., 2004)

Thus, the social, political and economic systems cause limited access to resources and opportunities. As these systems are a product of history, so are vulnerabilities.

Further, the social, political and economic system is organized through historically shaped institutions of an informal and formal nature. Unequal access to resources and power is produced and reproduced through the belief system, customs or rules of a society, or in the case of language, as one means of communication. Thus, the combination of the PAR model with a theory on institutions, both of which highlight the role of history, provides the necessary foundation to analyse how inequality is caused and shaped, as well as how it can be altered.

However, while the alteration of institutions is key to address vulnerabilities, the PAR model entails shortcomings in regard to specific actions to reduce vulnerabilities (see section 2.2.2).

Whereas NIE theorists acknowledge that understanding “mechanisms through which informal institutions arise and are maintained would especially help to understand the slow change in Level 1 institutions” (Williamson, 2000, p. 597), and influential NIE theorists such as North (1991, p. 111) have asked the question, “What is it about informal constraints that gives them such a pervasive influence upon the long-run character of economies?". Despite these efforts to explain what actions and processes lead to a change of institutions, no answers have been found. Due to the embeddedness of informal institutions, they are the slowest to change; it often takes centuries or millennia until they are reformed (Williamson, 2000). Not enough is known about how this change works, and thus the underlying causes of vulnerability remain challenging to change in a set time-frame.

Informal institutions not only comprise rules, norms and customs, but also religions. As is explained in the further course of this thesis, religion plays an essential role in the PAR model, and particularly in this application of the PAR model. The incorporation of the role of religion in an economic model makes NIE exceptionally fitting for this case, and in general, in every vulnerability analysis combined with the PAR model.

Another determining aspect causing vulnerability is asymmetrical power relations (see figure two). Limited access to power presents one of the major causes of vulnerability in the PAR model, however, NIE have a theoretical shortcoming of explaining unequal access to power. Thus, an underlying concept to understand this aspect is needed, and Foucault’s ideas work well within this frame. He acknowledges that, although power is pervasive, it is not equally distributed. Power is diffused through all social life and is embodied in actors, but manifests itself in social processes. For analysing power, Foucault suggests an “ascending analysis of power” that does not start from the top, as Marxism proposes, but moves from the local and particular to its general expression. This merges well with the PAR model, which allows the flexibility of starting with the analysis of vulnerability on a micro-level. Further, Foucault’s conception that resistance is possible in situations of domination, even in a prolonged, static state, augurs well for social change, and thus the reduction of vulnerability (O'Farrell, 1997).

Within an institutional analysis, two main steps can be identified, according to Foucault: first, the initial structure is investigated, meaning the factors that affect the structure of the situation; second, the way a situation changes over time is investigated. This approach is very well-suited to an analysis of vulnerability and thus, is applied in this thesis. In a first step, the

initial situation of vulnerability is the focus, while, in a second, it is asked how vulnerability has changed after the onset of a disaster.

A concept of power is not only necessary to complement the PAR model, but is also essential in understanding the aforementioned concept of accountability. “To apply accountability principles is to define who has the power to call for an account and who is obligated to give an explanation for their actions.” (Newell & Bellour, 2002, p. 2) Power cannot only be received, it also has to be given, and thus, even the bearers of power need some form of public support, consent, or at least cooperation. According to Foucault, means to display power and to discipline dissent can be rituals, executions, trails and hearings (Newell & Bellour, 2002). These means are again embedded in institutions – in the customs and norms of a society, and thus, power is linked to the role of institutions closing the circle between the PAR model, Foucault’s concept of power and NIE.

Concluding, the applied theory, concept and model can be utilized to understand the creation and preservation of vulnerability through everyday processes. NIE, the Par model and Foucault’s concept on power have in common that they regard these processes as changeable, as they are constantly reinforced in everyday actions. How these everyday processes that form vulnerability are assessed is explained in the following chapter on methodology.

Chapter 3: Methodology

Vulnerabilities become evident in the daily restrictions people face on multiple levels. The thesis' goal is, first, to assess these and, second, to analyse how the earthquake and the subsequent humanitarian response have influenced the restrictions and the causes and processes behind them. The methodology behind this analysis is explained hereafter. First, the research process is described, second, the way the data is analysed and third methodological considerations are raised.

3.1 Research process and methods

One defining part of the research process is the epistemological approach the researcher adopts. Thus, the epistemological interest is explained first of all. Afterwards the mixed method approach is described, followed by its defining principle, triangulation, and then the applied methods with its individual characteristics are elaborated.

3.1.1 Epistemological approach

The thesis' epistemological interest lies in understanding not only unsafe conditions, but also the underlying processes and root causes, covering a macro, meso and micro level, and with it, the realities in which they are constructed. This thesis adopts social constructivism as its epistemological approach; it views knowledge as constructed as opposed to created, and society is seen as existing as a subjective and an objective reality. It is objective in the way that humans constantly interact with the social world, leading this social world to influence people, resulting in routinisation and habitualisation. Repeated actions become patterns that are reproduced without much effort. Thus, habitualisations become embedded in routines, which again form knowledge and are institutionalized by society. Future generations interpret these institutions, or types of knowledge, as objective, and through the reaffirmation of institutions by everyday actions, this perception becomes further manifested (Andrews, 2012). Thus, from a social constructivist view humans are observer, participant and actor at once, constructing a reality fitting to them, which becomes institutionalised and through this objectified over time (see Berger & Luckmann, 1991). Other epistemological approaches contradict this view, following other ideas how knowledge and the world are "created". Realism, for example, assumes that what is observed and concluded from data is a true and faithful interpretation of a knowable and independent reality. In contrast, relativists belief that

nothing can ever be known for certain. Multiple realities exist, “none having precedence over the other in terms of claims to represent the truth about social phenomena” (Andrews, 2012). Both realism and relativism are rejected here, as the first is seen as naïve, the second as contradicting itself, and thus, a social constructivist view is followed.

3.1.2 Mixed method approach

To carry out a multilevel analysis, various perspectives, positions and viewpoints have to be combined. A mixed method approach which intellectually and practically synthesizes qualitative and quantitative research appears to be most suitable for this task. Called the “third methodological or research paradigm (along with qualitative and quantitative research)” (Johnson, Onwuegbuzie, & Turner, 2007, p. 129), the mixed method approach takes into account both qualitative and quantitative viewpoints that need to have the same methodological perspective and combines the advantages of both approaches.

Qualitative research demonstrates an insightful character, as it provides detailed description and analysis of the quality of human experiences; quantitative research transfers human experiences into numerical categories. This fundamental difference is further reflected in the four aspects: the selection of research participants/the sampling, data collection, data analysis and the conceptual framework.

The first aspect analyses the different approach that undergirds the sampling approach between the methods. While samples in qualitative research are included due to theoretical considerations, purposive aspects and less technical requirements, quantitative research demands for large, randomized samples to avoid biased results or error. Both of these approaches have their advantages – while qualitative research provides detailed insights into the living realities of humans by choosing information-rich samples, the large sample size of quantitative research prevents bias and subjectivity and can lead to better generalizations.

The second category deals with the different ways data is collected. Qualitative data collection methods comprise, for example, interviews, case studies, and ethnographic research; quantitative methods include pre-coded surveys or other formulaic techniques. Thus, while qualitative methods are more flexible, quantitative methods allow for more samples.

The third aspect regards the analysis of the data collected. Qualitative data analysis can reveal social practices and connect the data to contexts, thus giving it a context-specific meaning. Quantitative analysis aims at finding universal cause and effect relationships.

The fourth and last category aims at the different role of the conceptual framework of research. In qualitative research, theory and methods are inseparable, having a give-and-take relationship between social theory and methods. How data is collected is not detached from what data is collected, whereas quantitative research separates methods from theory (Marvasti, 2004).

While all this sounds very opposing, there is much overlap between these two approaches, in practice and theory. For example, both build on an observable reality. "Regardless of their methodological and theoretical differences, qualitative and quantitative researchers agree that social research should be based on the stuff of the real world: interactions, interviews, documents, or observations from, and related to, the social world that we all agree is out there." (Marvasti, 2004, p. 8) Choosing a method shall depend on the task and the goal of research – it is a tool for doing research, and not a decision between right and wrong or truth and falsehood. A mixed method approach combines both qualitative and quantitative methods, blending their advantages and thus, making a decision between them unnecessary.

The mixture of the two diverse types of data provides an encompassing understanding of the research problem that often cannot be reached applying one method alone. Mixed method research is "cognizant, appreciative, and inclusive of local and broader socio-political realities, resources, and needs" (Johnson et al., 2007, p. 129), and combines local as well as nationwide contexts. Further, a mixed method researcher can enjoy the structure of quantitative research and the flexibility of qualitative inquires. However, on the negative side, the mixture of both approaches requires extra time be spent collecting and analysing data (Creswell, 2003).

The collection of data can follow a sequential, concurrent or transformative procedure (Creswell, 2003). In this case study, a sequential procedure was followed, meaning that the data collection process started with quantitative methods and was, after a first analysis of the quantitative data, followed-up with qualitative methods for deeper understandings of raised issues. Thus, different methods for data collection were used, and this data came from different sources and different investigators. Thus, one can speak of triangulation, which is one of the several rationales of multi-method research.

3.1.3 Triangulation

Triangulation "refers to the use of more than one approach to the investigation of a research question in order to enhance confidence in the ensuing findings" (Lewis-Beck, Bryman, & Futing Liao, 2004, p. 1142). It originated in navigation and surveying, where measurements taken from two separate locations make it possible for a third measurement or location to be derived or predicted. Transferred to social sciences, triangulation implies combining at least two sets of insights with the goal to face problems of bias and validity. The aforementioned deficits of qualitative and quantitative methods can be overcome by combining both methods and thus exploiting their individual strengths (Blaikie, 1991; Creswell, 2003). Methods triangulation is not the only form of triangulation. In this case study, several forms of triangulation were applied in addition to method triangulation: data triangulation, investigator triangulation and theory triangulation (see chapter two). This means that different methods are used, data is collected at different points in time, in different social situations, from different people and more than one theory is applied to include various perspectives. The richness and complexity of perspectives and viewpoints enhances the credibility of research findings (Flick, Kardorff, Keupp, Rosenstiel, & Wolff, 1995). However, what it does not do, as Fielding and Fielding (1986) critically remark, is lead to a more 'objective truth'. Rather, it achieves a profound, in-depth understanding of the research subject.

The analysed data is based on five sources/methods: literature review, quantitative datasets, focus group discussions, expert interviews and participatory observations. Thus, method triangulation, investigator triangulation, as well as data triangulation are realized.

3.1.4 Policy Analysis

As the conceptual framework applied in this thesis comprises an investigation of institutions (see section 2.3), an analysis of policies is also essential in this context, as they are one important structural component of understanding institutional structures, together with laws and organisations. "Policies can be seen as setting out the overall direction to governance, while laws create the formal or unofficial 'rules of the game' and authorize the organizational structure necessary to implement policy." (De Stefano et al., 2015, p. 1124) Policies transform goals, missions or objectives into formal guidelines, and policy analysis is a way to address possible means and ends. Its advantage is that it helps to solve difficult policy problems arising in the complex world of society. Further, policy analysis enhances the knowledge for

coping with an uncertain future. It is not interested in analysing the status quo, but in seeking the results of innovative ideas, thus facilitating planning. These features make policy analysis a tool for social change, and outweigh the downsides of this time-, talent- and money-intensive approach (Wildavsky, 1969).

Policies often become explicit in documents, and thus, policy analysis mainly comprises reviewing non-personal, public documents. Library materials, documents from informants and other sources can provide insights, sometimes even conflicting ones, into the formation of main policy directions. In pursuit of such insight, studies, scholarly papers, newspaper articles and books were reviewed. These documents were analysed with help of a content-analysis approach (see section 3.2), which is the most suited for public documents, in contrast to the more unstructured analysis approach required for personal documents (C. Patton, Sawicki, & Clark, 2015). The findings in the literature were later confirmed in the empirical data collection phase.

3.1.5 Quantitative datasets of the Inter-Agency Common Feedback Project

Next to the qualitative data, gained through the policy analysis, expert interviews and participatory observation, the quantitative datasets of the Inter-Agency Common Feedback Project add important quantitative insights into the research topic. The distinction between qualitative and quantitative data is, that the former uses words and open-ended questions, instead of numbers and closed-ended questions as does quantitative data to seek answers (Creswell, 2003). While closed-ended question can often be of disadvantage when trying to understand complex situations that cannot be answered within a predefined list of answers and the causes and motivations behind these answers remain in the dark, quantitative data helps to measure the incidence of various views and opinions. Its goal is to assess and measure. As standardized questionnaires make it possible to collect big sample sizes in a significant shorter timeframe than, for example, semi-structured interviews, the results reflect the opinions of a greater share of population. Thus, the quantitative datasets provide a valuable addition to the collected qualitative data.

The analysed dataset are part of the Inter-Agency Common Feedback Project. Shortly after the earthquake, humanitarian partners developed and published the ‘Nepal Earthquake Flash Appeal and Action Plan’. One of the objectives of this action plan is “an inter-agency common service that is established so that affected people have access to information and are

able to provide feedback to ensure a more effective humanitarian response" (OCHA, 2015). The idea behind this is to provide people with the necessary access to reliable, timely, and accurate information so that communities are able to develop their own recovery and rebuilding strategies. A major part of this idea is to ensure that communication goes both directions. Not only should information be provided, but people's needs, opinions, and suggestions should also be listened to (OCHA, 2015). Thus, next to several other activities, the conduction of rapid assessment was introduced. These assessments focus on the performance of the humanitarian community. Led by the United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA) and carried out by Accountability Lab together with the Local Interventions Group, data has been regularly collected in all officially affected districts since the earthquake. For the thesis' case study, only the data collected in the Gorkha district is analysed. An overview of the number of datasets and dates of collection in Gorkha is given in table four.

Table 4. Overview of used datasets of the CFP

Name	Sample size*	Data collection
Round 1	97	July '15
Round 2	101	August '15
Round 3	100	September '15
Round 4	100	October '15
Round 5	100	November '15
Round 6	100	December '15
Round 7	100	January/February '16
Reconstruction Round 1	140	April '16
Reconstruction Round 2	150	June '16
Food Security and Livelihood Round 1	150	May '16
Food Security and Livelihood Round 2	150	June '16
Protection Round 1	150	June '16

*of Gorkha district

Source: own elaboration

In the first phase of the CFP, monthly rounds were carried out (from July 2015 to January 2016), and in the second phase, focus rounds on reconstruction, food security and livelihood, and protection were conducted. In the first phase, each month the same questions with slight adaptations were asked; in the second, questions were posed relating to the specific focus. All

closed questions use a 1-5 Likert scale[3] to quantify answers. Many questions are followed by an open-ended question to understand why the respondent gave a particular answer.

The study applies a random sampling technique in which the Village District Committees (VDCs) in each district are selected randomly, and, within each VDC, three wards are randomly chosen to survey ten respondents (for further information on the local administrative structure see section 4.3). The respondents are selected upon a 'spin the pen approach', meaning that, from a certain entry point, a pen is spun and every third house in the direction of the pen is surveyed. Despite the attempts to keep the sampling as random as possible, inaccessible VDCs (very mountainous areas) have not been part of the sample (UN Resident and Humanitarian Coordinator's Office, 2016), which has to be kept in mind when interpreting the data.

The data is disaggregated by age, gender, ethnicity/caste, disability and geographical location. However, I have disregarded the breakdowns of age, ethnicity/caste, disability and geographical location due to the insufficient sample size within the breakdowns. All questions analysed in chapter six show no statistically meaningful difference between genders, thus this breakdown is not elaborated. For this thesis I performed all calculations myself and the conclusions expressed do not necessarily coincide with the ones of the Inter-Agency Common Feedback Project.

In addition to the survey, twenty-three focus group discussions in the fourteen officially affected districts were held in November/December 2016. Of these focus group discussions, four were carried out in Gorkha focusing on reconstruction needs, safer building practices, information needs, reconstruction plans and protection issues, and the original transcripts have been made accessible for me to serve as a further data source. In these focus group discussions six to ten people met to informally discuss a topic of interest. A moderator led through the discussion by providing a guiding direction. The benefit of this method lies in simultaneously collecting the opinions of a large amount of people, making it a time- and expenses-saving method (Longhurst, 2010). However, it has to be regarded that in contrast to individual interviews group dynamics play an important role and individuals may dominate the discussion. In this case, it lies in the responsibility of the moderator to give everyone the chance to speak.

[3] A Likert scale is a rating format for surveys. Respondents rank their agreement or disagreement with a question or statement with a five-point bipolar response.

3.1.6 Expert Interviews

In addition to the qualitative data material and focus group results, semi-structured interviews were conducted during a field stay in Nepal in December 2016. Semi-structured interviews are conversational and informal in tone. While the interviewer prepares a questionnaire, this questionnaire is not followed rigidly and the interviewee has the chance to elaborate issues they feel are important. Thus, the advantage of this method lies in the possibility to explore a desired field of interest in detail. Through open nature of semi-structured interviews, they can generate more information than structured interviews. Semi-structured interviews contribute to collect a diversity of experiences and "offer a route to partial insights into what people do and think" (Longhurst, 2010, p. 112). In this case, these advantages of semi-structured interviews outweighed the disadvantages of this method, that comprise the lack of standardisation, requiring acts of interpretation for their evaluation, and the great time expenditure for preparing, conducting and analysing the interviews (Michael Quinn Patton, 2002).

The sampling combined experts with differing backgrounds, nationalities and occupations. This diversity contributed to gain varying insights into the research topic and thus, led to higher-quality data (M. Q. Patton, 1990). Experts are seen as people who have a specific knowledge of the processes of the humanitarian response, and its interpretation of underlying and related dynamics and contexts. The interviewed experts stem from: 1.) INGOs, who have access to great financial resources and sources of knowledge and experience, however less cultural insights, 2.) NGOs, with opposite characteristics, 3.) international organisations that dispose over knowledge on coordination and broader contextualisation of humanitarian efforts, and 4.) research organisations, with special insights into the topic and limited dependence of national parties and politicians. The specific organisations were selected through already established contacts of an INGO based in Vienna that was involved in the early stages of the CFP.

Nine expert interviews were conducted in Kathmandu and Gorkha, each lasting between 30 to 60 minutes, with:

- two different representatives of one major multilateral organisation,
- representatives of three known, international, non-governmental, humanitarian and development organisations (INGOs),
- representatives of three local, non-governmental organisations (NGOs) and

- one representative of a national research organisation, implementing a project on the earthquake recovery on behalf of an international research institute.

The interviews covered the topics reconstruction, social relations, politics, migration and, if suitable, the humanitarian assistance of their specific organisation. Apart from one case, the question guideline was not presented to the interviewee in advance.

In the interview analysis, it was borne in mind that the interviews included questions that implicated a critique of the humanitarian system, the government and, in some cases, a critique of the (I)NGO in question. Thus, the answers are analysed considering that (I)NGOs were careful about harming themselves, their donors, or any of their (governmental) partners. Nearly all interview partners asked to remain anonymous.

3.1.7 Participatory observation

Participatory observations made over several days in Gorkha are the last methodological component. Participatory observation involves spending time, living, and/or working with people or communities to get a better understanding of their living realities, motives and thinking. This method can be easily realised since it involves the simple skill of observing the world around us and participate in it, and this plainness is also one of its greatest advantages. Impressions, experiences and feelings are recorded in a field diary and accompanied with photos and videos (Laurier, 2010). No formal steps accompany the observation, participation and capturing process, which can be an advantage, but also a great disadvantage, as thus, it is subjected to arbitrariness, subjectivity and lack of reciprocity.

To encounter these disadvantages all impressions were recorded in a field diary, enabling later interpretation and analysis with the content method after Mayring (see section 3.2). The notes, collected during the four-day field stay, served as a tool to document phenomena and dynamics not addressed in any interviews. The field stay was organised through a local NGO and the impressions I gained through accompanying the conduction of a field survey in two rural, mountainous VDCs and the participation in a mason training, proved to be valuable insights into local living realities.

3.2 Data analysis

Understanding the complexity of vulnerability involves the comprehension of multi-level dynamics. Thus, this research tries to find an integrative approach by combining various disciplines and following a transdisciplinary research principle. “Transdisciplinarity relates to complete integration of two or more disciplines with the possibility of forming a new discipline” (Sumner & Tribe, 2007, p. 4). Hence, views from sociology, political sciences, anthropology, economics, and geography are merged to comply with the entanglement of vulnerability in the various disciplines.

Vulnerability analysis requires, amongst other factors, the understanding and interpretation of social relations. Human actions are historically influenced, dependent on the individual situation and have a subjective meaning. They are defined by cultural roles, norms, social hierarchies and symbols but do not follow them rigidly, as their individual role and their ascribed roles in society are also decisive. Thus, every social interaction is an interpretation in itself and social research is an even greater act of interpretation. Hence, there is no guarantee for a valid generalization of the research results (Mayring, 2002). Following this idea, that the collected data about vulnerability needs to be embedded in its discursive situation in which it is located leads to the application of a discourse analysis. This analysis investigates the social production of meaning, and several different approaches exist to discourse analysis. For this case study, the qualitative content method after Mayring is applied, to prevent arbitrariness during the analytical process. This method follows a rules-based, systematic process, in which the material is broken down into units, which are processed sequentially. Categories, which are revised throughout the work process, are developed, and aggregated into analytical aspects. This process is systematically guided by three working steps: summarize, explicate, and structure. In a fourth step, the resulting category system is analysed with regard to the research question, and later in combination with the presented theories (see Mayring, 2002). This procedure is followed for analysing the expert interviews and the resulting analytical aspects are arranged in a way that they comply with the PAR model. Thereafter, theories are adopted to be able to draw the final conclusions.

This categorizing process in context of a discourse analytical investigation helps to detect rules of the discourse and thus, rules of the constitution of meaning and production of social reality (Glasze, Husseini, & Mose, 2009). The qualitative content method after Mayring is chosen as it helps to filter texts for descriptions of social situations and leads to a

systematically and theory-driven analysis of large quantities of texts. It builds on the Grounded Theory, developed by Glaser and Strauss 1971, however, this approach is not applied here, as it aims at the investigation of open questions and not at finding a general set of hypotheses (Ehnert, 2009).

To analyse the quantitative ordinal data of the CFP, descriptive statistics are used. The answers on the 1-5 Likert scale are grouped, so that answer option '1 – Not at all' and '2 – Not very much' are summed and rated as negative, and '4 – Mostly yes' and '5 – completely yes' as positive answers. Answer option '3' is considered a neutral position.

3.3 The role of the researcher – methodological considerations

The interpretation of the data is as unbiased as possible, nevertheless, influences from personal experiences can never be prevented. My background, social class, gender, and nationality have shaped the research as well as the understanding of the researched power structure, as research is an interactive process. I am an "Outsider" to the cultural and social context the research takes place in. According to the Insider-Outsider doctrine, investigated by Merton (1972), the Outsider is excluded in principle from gaining access to the social and cultural truth as he_she is excluded a priori. He_she is structurally incapable of comprehending alien groups, cultures and societies. "Unlike the Insider, the Outsider has neither been socialized in the group nor has engaged in the run of experience that makes up its life, and therefore cannot have the direct, intuitive sensitivity that alone makes empathic understanding possible." (Merton, 1972, p. 15) Strictly following this doctrine means that only black scholars can understand blacks, only French scholars can understand French society and only scholars from the Dalit castes can understand Dalits. However, this limited perspective can prevent comprehensive understandings, as Outsiders can bring in needed perspectives. "[S]ociological understanding involves much more than acquaintance with. It includes an empirically confirmable comprehension of the conditions and often complex processes in which people are caught up without much awareness of what is going on." (Merton, 1972, p. 41) To analyse and understand these complex processes requires a theoretical and technical competence that dissolves the lines between Insiders and Outsiders, and brings the researcher's skills and knowledge to the fore. Further, we are all Outsiders and Insiders in various social situations, and as long as the researcher becomes aware of its own subjectivity and the complexity and constant presence of power structures, subjectivity is less

of an ”issue”. Validating the results by comparing them to similar studies and to reciprocate them – to share and discuss the gathered information – can further strengthen the reliability of results (Mayring, 2002).

As it is the thesis’ goal to understand, not to explain, vulnerability and its post-earthquake changes, a positivistic understanding of research is rejected. The focus lies not on finding cause-effect relationships, but on understanding, as it is a prerequisite for explaining. There is no stable or unchangeable reality, and unequal power structures are not only under investigation but have also shaped the research process (Dannecker & Englert, 2014). Language is one way to reinforce power asymmetries. Therefore, I refrain from terminologies such as “third-world countries”, “industrialized countries” or ”developing countries”, and instead use the term ‘global south’, due to the lack of a better alternative. Further, terms such as ”high-castes” or ”low-castes” are not seen without critique; thus they are put in quotation marks and are not intended to reinforce the social hierarchies existing in Nepal.

Chapter 4 Case study region and the 2015 earthquake

To understand the role and potential influence of humanitarian actors on the vulnerability of affected people after disasters, the 2015 Gorkha earthquake is chosen as a case study. This catastrophe presents a good example for further analysis as it was caused by a sudden-onset disaster, followed by a high media presence and the involvement of numerous humanitarian actors, ranging from governments all over the world, to small national and big international NGOs and organizations. The earthquake affected numerous regions in western and central Nepal and thus, due to its limited scope, this thesis focus on the area of the epicentre and one of the most affected districts, Gorkha. Hereafter, the socio-economic characteristics of the case study region are described, followed by a brief overview over the geological features of the earthquake and the disaster effects. Section 4.3 looks at the humanitarian assistance that followed the earthquake including the most important stakeholders.

4.1 The case study region

Gorkha is located in western Nepal on the slopes of the Himalaya, bordering with Tibet. The district covers an area of 3,610 km^2 (about the size of Carinthia), and the last census estimated a population size of 25,600 inhabitants. The district comprises 72 Village District Committees (VDCs) (see section 4.3.1 for further elaboration) (Central Bureau of Statistics, 2012). Most people live in the southern part of Gorkha, as the north is very mountainous and difficult to access.

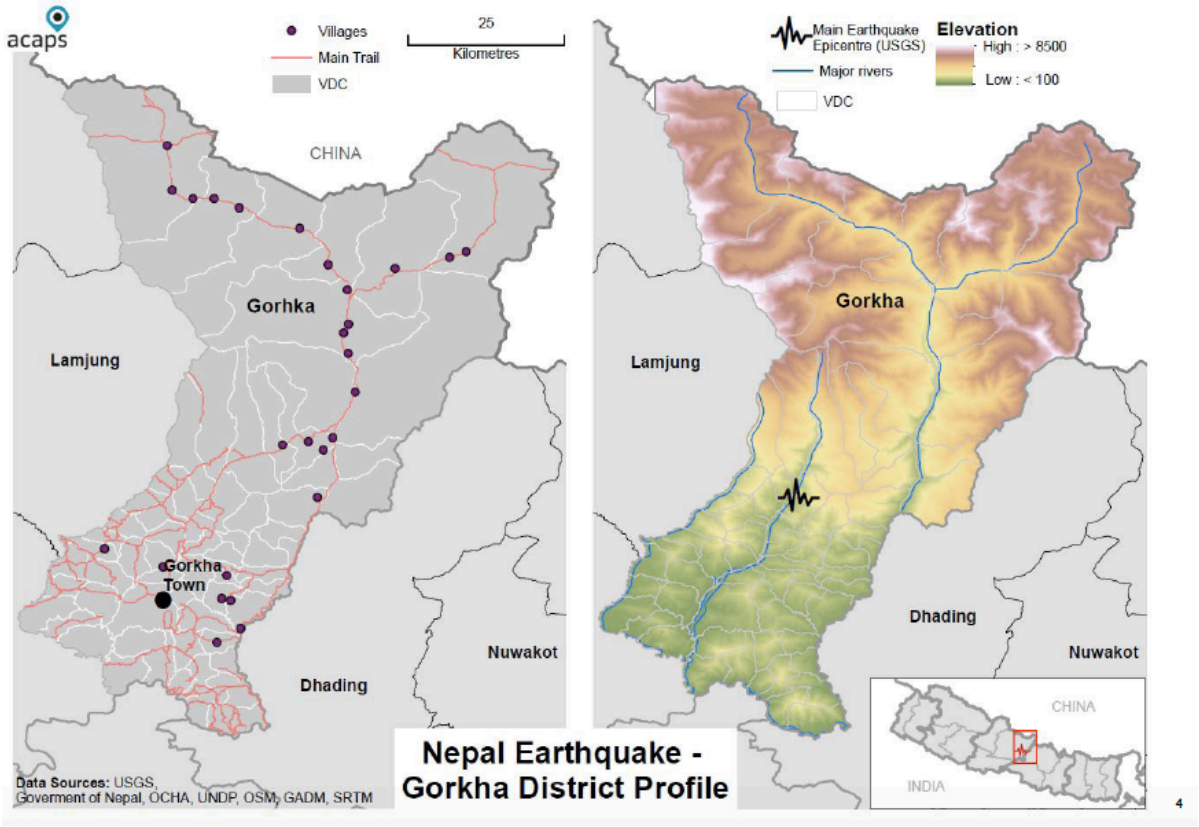

Figure 3. Gorkha district

Source: (ACAPS, 2015)

The capital of the district is Gorkha town, located in the very south (see figure 3), where also the only hospital of the district can be found. Additionally to the hospital, ten VDCs maintain health posts (USAID & Nepal Family Health Programme, 2011).

In regard to education, poverty, and income, Gorkha or the Western Development Region (WR)[4] respectively, is very comparable to nationwide values, as can be seen in table five. Healthwise, despite having a slightly lower human development index, the life expectancy in Gorkha is greater than compared to the national level. In regard to the economy, the lower GDP per capita makes the worse off situation of the district in the country evident. Not only regarding the economy, but also politically, the home of the founder of the kingdom of Nepal has lost its significance (Interview INGO #3, 2016). However, despite its negligible economic

[4] The Western Development Region (WR) is one of the five development regions of Nepal spanning from the Himalaya to the Terai. It comprises 16 districts, one of them being Gorkha (UNFCO Bharatpur Nepal, 2011).

and political role in the country, it attracts many tourists, as some of the highest peaks of Nepal are located here.

Table 5. Indicators on education, health, development and economy

		National	Gorkha
Literacy rate	Female literacy rate	42.8%	45.7%
	Male literacy rate	65.5%	64.4%
Education	Primary level	42.31%	48.3%
	Lower secondary & secondary	30.9%	29.8%
	School Leaving certificate and equivalent	9.1%	7.8%
	Certificate and above	8.6%	4.9%
	No schooling or other	9.1%	9.3%
Health Indicators	Life Expectancy at birth	69	72
	Measles vaccination coverage of infants	88%	67%
Development Indicators	Human Development Index	0.509	0,45
		National	**WR***
	Human Poverty Index	35.4%	33.2%
	GDP/Capita (PPP US-$)	1.597	1.477

*Western Development Region

Source: adaption from (Central Bureau of Statistics, 2012; Nepal Earthquake Assessment Unit, 2015; UNFCO Bharatpur Nepal, 2011)

One important feature regarding earthquakes is housing construction. In Gorkha, the majority of houses have been built with mud-bonded brick/stone walls (see table six); the typical roof has been made of corrugated galvanized iron (CGI). Houses with reinforced concrete cement proved to be the ones that were most resistant to the earthquake; however, in poor areas they are rarely encountered (Nepal Earthquake Assessment Unit, 2015; ShelterCluster.org, 2015).

Table 6. Housing characteristics in Gorkha

	National	Gorkha
Type of housing foundation		
Mud-bonded bricks/stone	44%	88%
Cement-bonded bricks/stone	18%	3%
RCC with pillar	10%	5%
Wooden pillar	25%	3%
Percentage of households who own their housing unit	85%	91%

Source: adaption based on (Central Bureau of Statistics, 2012; Nepal Earthquake Assessment Unit, 2015)

4.2 The Gorkha earthquake

On April 25, 2015 at 11:56 a.m., Nepal Standard Time (NST), an earthquake with the magnitude of M_w 7.8 struck Nepal, which has not experienced a natural shock of this magnitude for over 80 years. It caused widespread damage and destruction, and the death of thousands of people. The geological causes of the earthquake, and the effects on people and infrastructure are described hereafter.

4.2.1 Overview of the 2015 earthquake

The epicentre was located in western Nepal, on the southern slopes of the Himalaya, 76 km northwest of the capital Kathmandu in the Barpak Village District Committee (VDC), Gorkha district.

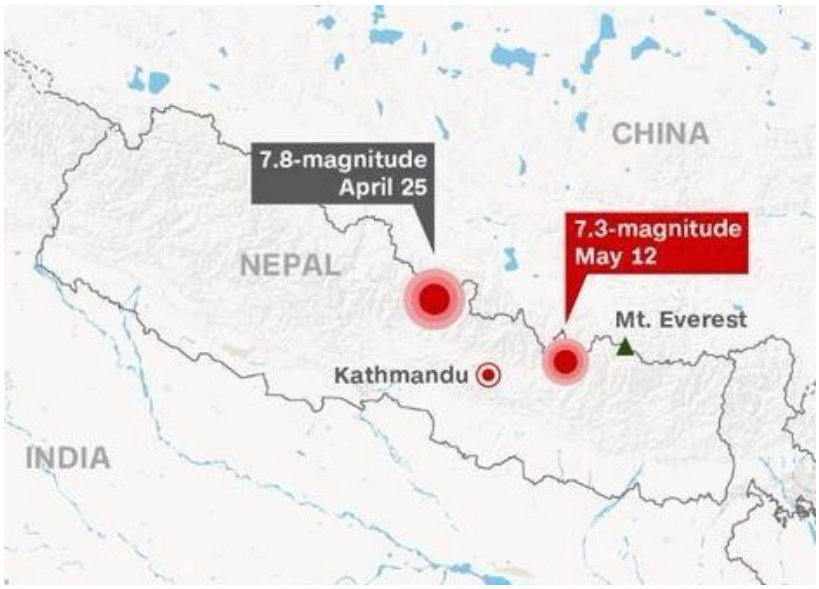

Figure 4. Location of earthquakes

Source: (Schultz, 2015)

It affected fourteen districts (Gorkha, Sindhupalchowk, Dhading, Kavre, Dolakha, Nuwakot, Ramechhap, Sindhuli, Rasuwa, Kathmandu, Lalitpur, Bhaktapur, Makwanpur and Okhaldhunga), which are located in west and central Nepal (Ministry of Home Affairs, 2015). All regions, with the exception of the Kathmandu Valley, are essentially rural and depend heavily on agriculture. While the earthquake damaged a relatively small area of agricultural land, it did destroy many stockpiles of stored grains for upcoming sowings, creating an urgent need for seeds (Inter-Agency Common Feedback Data, 2015-2016).

Numerous buildings and infrastructure were destroyed, and secondary events such as landslides, rock falls and avalanches were triggered. Approximately 300 aftershocks with magnitudes greater than M_w 4.0 followed the main quake, making the rescue and disaster response more difficult and putting people in even more precarious situations. The most severe aftershock occurred seventeen days after the main shock, on May 12, 12:51 p.m. NST. The second time, the epicentre was located 75 km northeast of Kathmandu, and had a magnitude of M_w 7.3 (Goda et al., 2015; National Planning Commission of the Government of Nepal, 2015; Zhao, 2016).

To date, 8,790 deaths and 22,300 injuries have been reported. The earthquake has affected approximately eight million people, one third of Nepal's population, and the total economic loss has been estimated to be a third of Nepal's gross domestic product (National Planning

Commission of the Government of Nepal, 2015). The following chapter gives an overview of the geological features of the earthquake, the damage it caused in all of Nepal, and specifically in Gorkha, and describes the humanitarian response that followed the earthquake.

4.2.2 Geological features

Nepal is located in the Mediterranean-Himalayan seismic zone and thus is exposed to frequently occurring strong earthquakes, as it accommodates approximately half of the tectonic convergence between the overriding Eurasian plate and the subducting Indian plate. This uplift is responsible for the Himalaya (see figure five). The two plates converge at a speed of 20 mm/a, causing significant stress. Therefore, every 500 years a slip of approximately ten meters would be necessary to accommodate the movement of the plates. As the typical rupture length lies between 200 km to 300 km, about ten earthquakes of a M_w 8 magnitude would be necessary to span the 2,000 km width of the convergence zone. Distributing these earthquakes over a time span of 500 years, a major earthquake would be likely to occur every 50 to 70 years. However, earthquakes do not follow a regular pattern, and thus frequencies can vary significantly (Bilham, 2004).

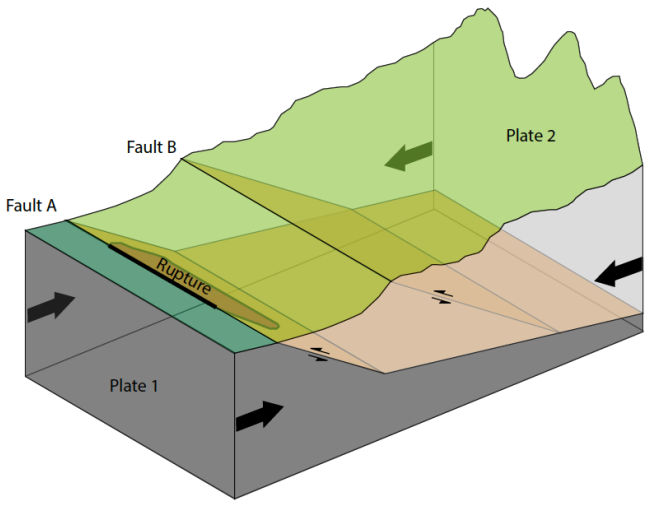

Figure 5. Convergence zone of Eurasian and Indian plate

Source: (Oven et al., 2016)

According to the United States Geological Survey, the fault length and width of the Gorkha earthquake in 2015 was 220 and 165 km respectively, the maximum slip 3.11 m. The additional shallow nature of the earthquake, which had a mere depth of 20 m, led to its high damage potential (Goda et al., 2015; Zhao, 2016).

4.2.3 Disaster effects

The earthquake caused widespread destruction. Next to the irretrievable loss of human life, it led to an estimated loss of 706 billion Nepalese Rupees (NPR) or US-$ 7 billion. The Post Disaster Needs Assessment (PDNA) (2015, p. XIV), which was carried out by the Government of Nepal in support of the World Bank, the United Nations, the European Union, JICA and ADB, calculated that "if all other capital formation activities were stopped, it would take Nepal more than one year to rebuild the fixed capital that was destroyed by the earthquakes".

The most affected sector was housing and human settlement. Nearly half a million houses have been destroyed, and more than a quarter million partially damaged. The reason for this massive destruction lies in the seismic vulnerability of the prevailing unreinforced masonry houses. More than half of all constructions (58%) are low-strength stone or brick masonry with mud mortar, lacking seismic-resilient features, which do not fulfil building codes. These building types prevail in poor rural areas, which were more heavily affected than towns and cities. The second most common building type, cement-mortared masonry and reinforced concrete, were better off but still suffered damage (National Planning Commission of the Government of Nepal, 2015).

The destruction of human settlement also included public buildings, most of all schools. Due to the earthquake, 28,000 classrooms collapsed and 7,000 schools need to be reconstructed (Plan International, Save the Children, Terre des hommes, Unicef, & World Vision, 2016). In Gorkha, 57% of all schoolrooms were damaged or destroyed (Nepal Earthquake Assessment Unit, 2015). This high number shows how much worse the death toll would have been if the earthquake had not struck on a Saturday, when schools are closed in Nepal.

Not only were houses destroyed, but 2,900 historical and cultural monuments, many at least a century old. Seven out of ten World Heritage Sites in Kathmandu were damaged or destroyed. This presents an irreversible loss of cultural heritage and has adverse effects on incomes from tourism.

4.3 The humanitarian assistance after the earthquake

The Nepalese government as well as humanitarian agencies and neighbouring countries responded quickly to the earthquake, dispatching hundreds of helpers to the affected regions. To coordinate the 330 humanitarian agencies and governmental actors involved in the earthquake response, strict structures have been in place, which are described hereafter (Austin, Grosso, & O'Neill, 2016).

4.3.1 Structural aspects on the disaster response and overview of stakeholders

In case of any natural calamity, the Central Natural Disaster Relief Committee (CNDRC), which is incorporated in the Ministry of Home Affairs (MoHA), is responsible for coordinating and overseeing the disaster response on a national level. On a district and local level, these activities are replicated by the District Natural Calamity Relief Committee (DDRC), the Local Natural Calamity Relief Committee (LDRC) and the Relief Distribution Committee (RDC) (see figure six) (Save the Children, 2016).

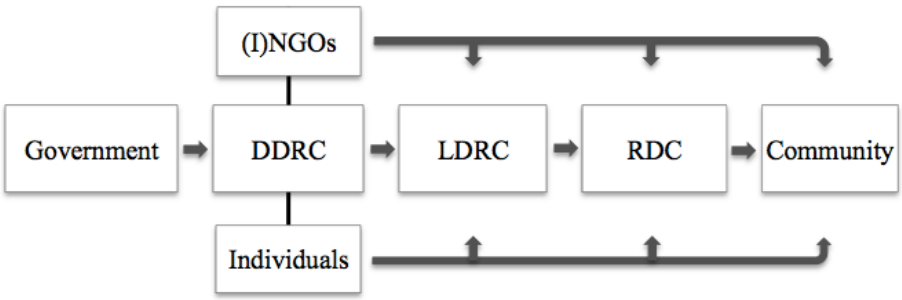

Figure 6. Mechanisms of relief distribution

Source: own elaboration

The government enforces a "one-door policy" in disasters (Ministry of Home Affairs, 2015), meaning that before starting any relief work, all non-governmental humanitarian agencies have to approach the DDRC, from which they take orders about where to work and whom to assist (Interview INGO #2, 2016). Thus, all humanitarian efforts are organized via local authorities, and no humanitarian organization is allowed to start any relief work without their permission (Interview INGO #1, 2016). While the DDRCs is responsible for organizing and having the oversight over relief efforts in the districts, the LDRCs and RDCs are responsible for assessing losses and damages, organization of help teams, evacuation, and handing out help kits and cash (Government of Nepal, 1982).

These structures are orientated along the Local Self Governance Act from 1999, which has structured the country into three administrative levels: districts, villages/municipalities, and wards. Each district is divided into several VDCs, and the amalgamation of communities is called a ward. In theory, elected officials govern each VDC with a VDC secretary who assists in bureaucratic matters. As there have been no local elections for twenty-two years, the VDC secretaries have taken over all tasks, however, they are not as accountable to people as political representatives (Interview National Research Institute, 2016). In the Gorkha earthquake, these VDC secretaries carried out a central role in coordinating local relief efforts. Political parties assisted in planning and executing the government's relief processes and their (unelected) representatives were included in DDRCs, LDRCs, and RDCs (The Asia Foundation, 2016b).

Summing up, the most important stakeholders in the humanitarian assistance after the earthquake comprise, on the national governmental side, DDRCs, VDC secretaries, LRDCs and RDCs; on the foreign governmental side, multilateral organizations (such as UN OCHA, WFP) and foreign governmental development organizations (such as DFID), who often only act as donors, and on the non-governmental side, INGOs, NGOs, private organizations, as well as affected people. For differentiating between these diverse stakeholders and to categorize them an interest-influence matrix can help. According to their interest and influence, the stakeholders are placed on a matrix, which helps to make power dynamics explicit (Reed et al., 2009).

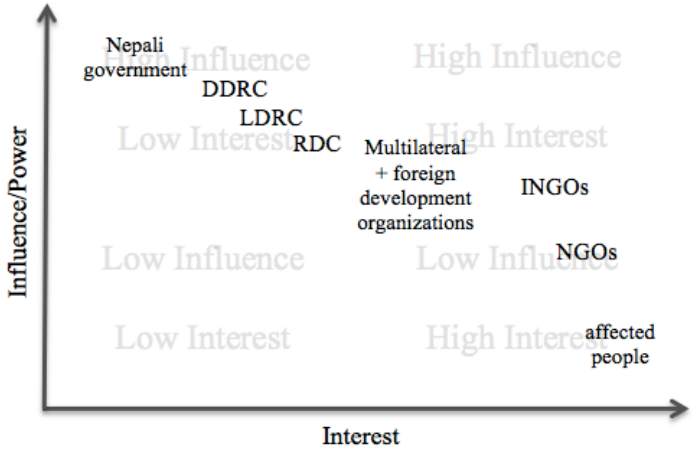

Figure 7. Influence-Interest Matrix

Source: own elaboration

The interest-influence allocation in figure seven shows that affected people have the least influence over the humanitarian situation; Nepali governmental stakeholders have the most, while having the least interest. As the humanitarian assistance was organized via a "one-door"-policy, multilateral and foreign development organizations, as well as INGOs are depended on the government's decisions, and thus, have less power than governmental actors. The matrix depicts a facile allocation, and serves only as an orientation about existent power asymmetries in the humanitarian response after the earthquake.

4.3.2 The humanitarian assistance after the earthquake

The humanitarian response to the Gorkha earthquake can be divided into three major phases: the immediate response phase, relief and early recover and long-term recovery aid. The length of these phases and the focus of the projects depend on the individual agencies. While most projects by humanitarian actors officially end in 2018, it is likely that they will be extended, as reconstruction efforts lag behind and there remains much to do to restore the country and decrease vulnerabilities for future earthquakes (Interview INGO #1, 2016; Interview NGO #2, 2016).

Immediate Response phase (April – July 2015)

The earthquake immediately received worldwide attention, and international and national teams were deployed to the affected regions. Some organizations categorized the disaster on an "orange 2" level, however, after reaching the field, it was raised to a "red 3" emergency. Next to governmental assessments about the damages, (I)NGOs conducted rapid needs assessments to be able to design a response strategy and response plan (Interview INGO #1, 2016). It was found, that approximately 240,000 people were homeless in Gorkha alone after the earthquake. Thus, the most urgent needs comprised shelter, food and medicine and humanitarian agencies focused on distributing tarpaulins, tents and food and the restoration of health centres (Nepal Earthquake Assessment Unit, 2015). Next to these relief items, many (I)NGOs concentrated on multi-purpose cash distributions, usually amounting US-$ 150. However, the distribution of relief goods and cash was hampered by the remoteness of many villages, and helicopters were in continuous use. Remoteness was not the only problem, but in general, the scale of the disaster challenged the ability of the government to coordinate such a huge disaster response; some (I)NGOs admitted that "it was bigger than the capacity of the

international community as well as the government. So initially…there were some hick-ups in the coordination" (Interview INGO #1, 2016).

Next to the one-door policy, the disaster response was characterized through a blanket approach. In a blanket approach, assistance is provided only depended on the damage done to the house, instead of specifically targeting vulnerable groups of people. The government followed a blanket approach in its response, and requested all other humanitarian actors to do the same. While in the immediate response phase almost all actors followed this approach, as the situation required time-sensitive actions, approximately after one month many (I)NGOs started to target vulnerable groups (Interview INGO #1, 2016; Interview NGO #2, 2016).

The earthquake occurred just before the monsoon season, which additionally arrived early that year. The monsoon rains destabilized the steep slopes typical for Nepal's topographical structure and led to many landslides, cutting off roads and burying people and houses. The heavy rain presented a problem for many people not having adequate shelter, but often only tarpaulins and tents (Save the Children, 2015).

Relief and early recovery (July-October 2015)

Once the monsoon rains lessened, and people and aid organizations were positive to intensive efforts, a fuel crisis hit Nepal. From September 2015 to February 2016, almost no fuel was available, trapping people in rural areas, hospitals were forced to close and medicine ran out. Prices increased tremendously, creating further problems for the already vulnerable population (Montgomery, 2016). One reason for this shortage was the blockade of the India-Nepal border. As more than 300 petroleum tankers enter Nepal through this border on a daily base, this blockade caused an enormous shortage of fuel, and thus relief and reconstruction efforts were delayed (Khanal, 2015). Additionally, power black-outs were common, and people had only electricity for a couple of hours each day (Varughese, 2016).

Further difficulties arose from the on-going political and economic disputes that have characterized Nepal for years, which contributed to the fuel shortage. A major political event was the new constitution, decided upon by the parliament at the end of September 2015. The new constitution, passed after decades of disagreement, was opposed by many Nepali as having major deficiencies regarding the inclusion of marginalized groups (Haviland, 2015;

Phuyal, 2015). The following protests and economic blockades, which resulted in the death of several people, further complicated the recovery process (Anderson & Baruah, 2016).

The humanitarian efforts in this recovery phase continued to focus on cash assistance, distribution of materials for shelter reconstruction such as CGIs, and additionally hygiene promotion and psychological support (Interview INGO #2, 2016).

Long-term recovery (since October/November 2015)

In addition to the on-going fuel crisis and political protests in the country, winter was about to set in and the recovery phase's main challenge was to prepare the displaced population for the upcoming winter that sets in around December. Winterization projects focused on repairing and constructing temporary shelters for affected people, and the delivery and distribution of relief supplies to meet the needs of people during the winter {Interview INGO #2, 2016; Interview NGO #2, 2016; Save the Children, 2015).

In January 2016, a long overdue step in the recovery phase was completed when the National Reconstruction Authority (NRA) was formally inaugurated, eight months after the disaster. While the NRA was already formed after the disaster, political quarrels immobilized their work in the months following it, and only after another party came into power could their ordinance be passed (Interview National Research Institute, 2016). Only then could the official reconstruction process be started, as the NRA reversed "an earlier position and endorsed guidelines that allow INGOs and NGOs to work in reconstruction" (Anderson & Baruah, 2016).

However, the reconstruction of homes, infrastructure and historical sites will not be enough; change needs to happen on multiple levels and "has to be backed by a strong focus on social inclusion and equity" (Anderson & Baruah, 2016). To understand how the vulnerability of people has been created and where this change needs to start, the following chapter applies the PAR model to the Nepalese context with regard to an earthquake. This will be the foundation in understanding, in the subsequent chapter, how the humanitarian aid after the Gorkha earthquake 2015 has influenced people's vulnerability, and if it has achieved this multiple-level change.

Chapter 5 People's vulnerability and its causes

Understanding the negative consequences of a disaster requires that it be seen in the context of prevailing power asymmetries and inequalities. In the case of Nepal, these are deeply embedded in society and lead to varying degrees of vulnerability. This means that people are affected differently according to their socio-spatial characteristics. Simultaneously, vulnerabilities have to be interpreted in relation to a specific disaster, as some vulnerable groups might be more susceptible to a certain type of natural disaster than others. In the following, the vulnerability of people in western and central Nepal to earthquakes is analysed, using the Gorkha earthquake as a reference event.

As a systematic approach to assess vulnerability towards earthquakes, Wisner et al. (2004) suggest to first trace the space-time characteristics of the earthquake and, secondly, to connect these to the space-time characteristics of human activities (who was where when the earthquake struck). As a third step, the structure of access to resources, knowledge and its application, and the seeking out and utilization of help is analysed.

The first step, to define the space-time characteristics of the Gorkha earthquake, was already attended to in detail in chapter four. The earthquake occurred in western Nepal, in the Gorkha district, and affected fourteen districts in western and central Nepal. It struck just before noon, at 11:56 a.m. on a Saturday. While the death toll is undeniably high, it could have been much higher if it had struck at night, with many more people being at home. Instead, most people spent their day working outside, as most families live off of agricultural production (Norlha, 2015). In addition, schools were fortunately closed that day; otherwise, the many collapsing school buildings would have increased the number of dead or injured children.

Not only the timing of the earthquake, but also temporal characteristics, such as the frequency of earthquakes in the region, are important components of the analysis, as they can influence risk-awareness and adaption. The last major earthquake, the Bihar earthquake, occurred in 1934, with a magnitude of M_w 8.4 and an estimated 8,500 to 12,000 deaths (Government of Nepal, 2010). Studies have been carried out in cooperation with the Nepalese government to estimate the impact if the historical Bihar earthquake were to strike in Kathmandu valley today.[5] One such study comes to the conclusion that, in this event, up to 60% of all buildings

[5] For example:

- The Study on Earthquake Disaster Mitigation in The Kathmandu Valley, Kingdom of Nepal, JICA and

in the Kathmandu valley would be damaged or destroyed, 95% of all water pipes would be damaged, 40,000 people would be likely to die and 95,000 people would be injured (Government of Nepal, 2010). While the report claims that the "information was used to help develop a safer Nepalese building code" (Government of Nepal, 2010, p. 53), Robert Piper, the Humanitarian Coordinator of Nepal of the UN, writes in an article (2013) that "a building code to regulate construction standards in this earthquake-prone area exists on paper only, with just a fraction of construction meeting minimum standards (…). The valley has only 12 fire engines, mostly vintage models and mostly out-of-service". Thus, despite the alarming results of the recent studies, and the ensuing promises made, the precarious situation before April 2015 hints to little engagement on the part of the government to strictly carry out regulations and new standards. The missing actions in disaster preparedness can, firstly, be traced back to the unstable political situation, with its annual changes of government, and secondly, to a lack of funding and expertise (Piper, 2013).

In a third step, Wisner et al. (2004) advise to investigate people's access to resources, their capabilities and their knowledge. This includes taking into account the country's history, culture and societal and political structure, and through this, finding the root causes of existing vulnerabilities. How these vulnerabilities have been created, what the dynamic pressures and the unsafe conditions are resulting from the earthquake are described hereafter. How these vulnerabilities have been influenced after the earthquake is described in chapter six.

5.1 Root causes of vulnerability

Root causes comprise limited access to resources, social power and political power (see figure one), and can be traced back to the ideologies that shape the local political and economic system (Anderskov, 2004). Thus, root causes refer to a macro level, which is rather distant to the individual's living situation, and mainly involve the distribution of power related to society as a whole (see chapter two). In Nepal, the only official Hindu nation of the world, society is structured through a highly hierarchical system, which shapes the access to resources, social services and political positions. The social exclusion is primarily based on

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MOHA, Government of Nepal, 2002

- Government of Nepal (2010). Nepal Hazard Risk Assessment: Asian Disaster Preparedness Center (ADPC) Norwegian Geotechnical Institute (NGI) Centre for International Studies and Cooperation (CECI).

caste and ethnic affiliation, which has influenced all aspects of life for centuries and can be identified as one of the main root causes of vulnerability.

5.1.1 The caste system as a root cause

Caste is not only a determinant for social exclusion but also shapes the configuration of economic and political institutions in Nepal. Hereafter, it is explained how the strong hierarchical structure has come into being, and how the economic, political and cultural institutions have reinforced the exclusiveness of access to power in Nepal, creating an unequal society with differing vulnerabilities. Further, the attempts to combat this system legally are described.

The discriminatory caste system is entrenched in several South Asian societies and dates back to the prehistory of the subcontinent. In Nepal, the first step to formally categorizing individuals into a strict social hierarchy was the Civil Code (Muluki Ain), implemented in 1854 by the Prime Minister Junga Bahadur Rana. It described four castes, or varnas, following the Hindu religious scripture and customary practice. The base for this was the Manusmriti, a document from the 1st century CE, and the categorization followed the inter-generational inheritance of occupation. The social hierarchy was structured in the following four castes:

(1) Tagaddhari ("sacred thread wearing", or "twice-born"; including intellectuals such as Brahmin and Chhetri)

(2) Matawali ("liquor drinking", i.e. indigenous people/Janajati)

(3) Pani nachalne choi chhito halnu naparne ("touchable low castes", castes from whom "water is not acceptable", including Muslims and foreigners)

(4) Pani nachlne choi chito halnu parne ("water unacceptable and purification required if touched" or "untouchable low castes") (OHCHR-Nepal, 2011; UNRC Office Nepal, 2013)

Within these four main castes, many subgroups exist. In the 2011 Census, 125 castes/ethnic groups were identified, of which no group is numerically predominant (Central Bureau of Statistics, 2012; Save the Children, 2016; World Bank, 2006). They not only comprise Hindu caste groups, but also non-Hindu ethnic, indigenous and religious minorities that were incorporated into a modified caste hierarchy despite their socially, culturally and linguistically

distinct characteristics (Pradhan, 2014). The differentiation into castes/ethnicities and the hereby implemented hierarchy (see figure eight) led to the practice of caste-based discrimination, which still structures the Nepalese society. Brahmins and Chhetris, as well as the usually urban-based and well-educated Newars, dominate the societal order, and Janajatis, Muslims and Dalits remain at the bottom of hierarchy (Bennett, 2005). Brahmins, Chhetris and Newars are also the ones who control policy decision-making. From 1951 to 2005 65.2% of all ministers belonged to these three so-called "upper-castes" while they only made up 35.5% of the Nepalese population in 2001 (Bhattachan, Sunar, & Bhattachan, 2009).

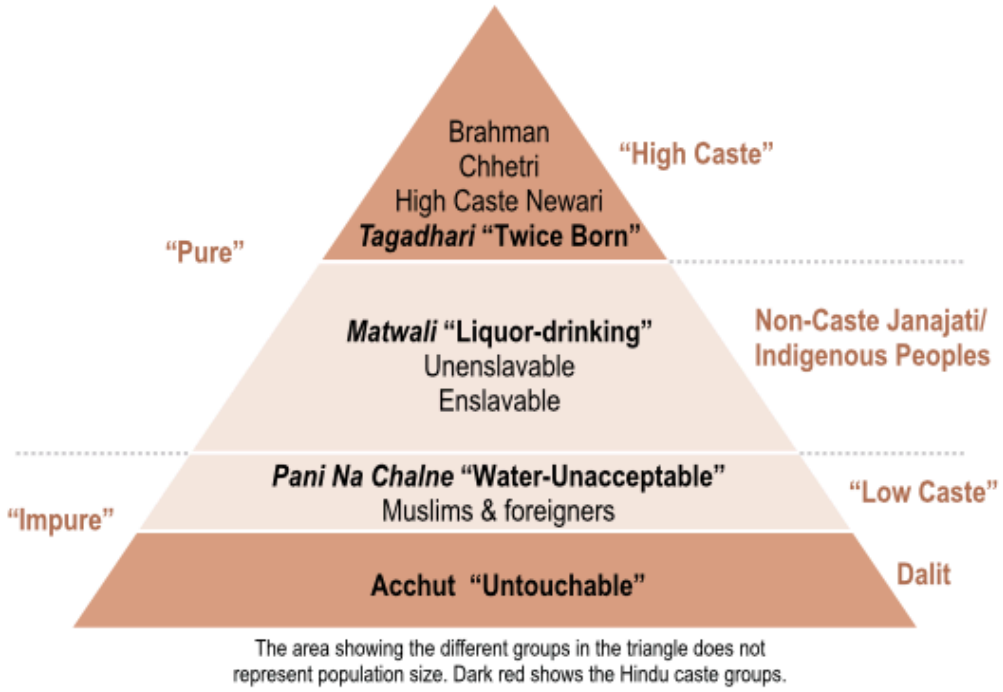


Figure 8. The Nepal caste pyramid according to the Muluki Ain of 1854

Source: (World Bank, 2006)

In the Western Development Region, to which the Gorkha district belongs, so-called 'higher castes" make up the biggest share of the population (32.7%), followed by non-caste Janajatis (28.1%), Dalits (12.2%) and Muslims (4,5%) (see table seven).

Table 7. Distribution of castes in the WR

Varna	Caste	Share of population
'High Caste'	Brahmins	18.8%
	Chhetri	11%
	Newars	2.9%
Non-Caste Janajati	Magar	16.7%
	Gurung	6.2%
	Tharu	5.2%
'Low Caste'	Muslims	4.5%
Dalits/'Untouchables'	Kami	6.7%
	Sarki	2.8%
	Damai	2.7%

Source: (Central Bureau of Statistics, 2012)

Especially Dalits, the untouchables, face social, economic and political discrimination on a day-to-day basis. However, Dalits are not a homogenous group, and the intensity of practices of caste-based discrimination against them varies. Dalits are comprised of two distinctive regional groups: Hill Dalits and the Madhesi or Terai Dalits. In the mountainous regions, discrimination against Hill Dalits is not as strong as it is in the lower regions of Nepal. Further, there is not one Dalit caste; twenty-two Dalit castes can be identified, of which each has their own social hierarchy (Bhattachan et al., 2009). This thesis refers to the situation of Hill Dalits, and sub-castes within the Dalit caste are neglected, despite acknowledging that Dalits are a heterogeneous group with differing living situations.

Discrimination against "lower castes" is diverse. In Nepal, 200 different forms of caste-based discrimination have been identified (Bennett, 2005) which run across all levels, from the public to the private sphere, and mainly, however not exclusively, affect Dalits. In the public sphere, the discrimination manifests itself in many aspects, such as the denial of access to public places and services such as water sources and temples. At social gatherings, Dalits are not served food with others. The untouchability practiced by non-Dalits against Dalits presents a serious restrain for Dalits in obtaining health services. Though this practice is on the decline in the health sector, it has still not been fully eliminated and often depends on the sub-caste of Dalits (Bhattachan et al., 2009). Discrimination in education is also common, leading to a poor educational status of Dalits. Their literacy rate is, at 33.8%, far below the National Literacy Rate of 54.1%. Many Dalit children are outside the school system to begin with, and the ones attending school are more likely to drop out than children from "higher

castes". This can be explained by the discriminatory treatment in schools; for example, Dalit children reported being forced to sit separately on back benches, deprived of educational materials, not greeted by non-Dalit students and, in one case, Dalit children were left to stand in the back of the classroom (Bhattachan et al., 2009; OHCHR-Nepal, 2011).
In government offices caste-based discrimination is widespread, resulting in Dalits' underrepresentation in public positions. The political sphere is dominated by "high-caste" males and lacks opportunities for Dalits to participate. In the General Election in 1990, only one Dalit candidate won one of 205 seats, and in 1991, no Dalit candidate was successful (Bhattachan et al., 2009), despite Dalits making up approximately 15% of the population, according to the 2001 Census. This structure excludes Dalits from decision-making processes, and political power remains in the hands of Brahmins, Chhetris and Newars. A study done by the United Nations Resident Coordinator's Office District reports that "most [Dalit] people interviewed did not express interest in party politics. Those who became member of a political party expressed disappointment regarding the discriminatory practices that take place within the party structures" (UNRC Office Nepal, 2013).

Discrimination is not only widespread in the public sphere; it also marks private life. For instance, inter-caste marriages are not accepted in society. Marrying a partner from another caste is not embraced on either side and can have serious consequences for the whole family, with some even being forced to migrate from home villages and towns due to the resulting social pressure.

Caste-based discrimination also affects economic perspectives; the prevalence of poverty is significantly higher among Hill Janajatis and Muslims compared to the national average, and almost half of all Dalits live in poverty (World Bank, 2006). They have the lowest per capita income (US-$764, compared to Newars US-$1,848), and a lower Human Development Index value (0.239, compared to Brahmins 0.441). Dalits face worse access to capital assets, such as land and, with it, livestock (Bhattachan et al., 2009). However, these prevailing caste-based occupations are slowly dissolving and Dalits have started to work in traditional non-Dalit occupations (UNRC Office Nepal, 2013).

While constitutional reforms tackling caste-based discrimination have been established, they have not triggered a deeper social and institutional change, and have only led to slight improvements. The first constitution guaranteeing a right to equality regardless of caste was

in 1951; only after the 1990 constitution was caste-based discrimination made a punishable criminal offence [6]. The constitution in 2007 further strengthened anti-caste-based discrimination by specifically prohibiting racial discrimination and untouchability in any form, and, for the first time, entitling victims to compensation. A further significant step in combatting discriminatory practices by criminalizing them was the Caste-based Discrimination and Untouchability (Offence and Punishment) Act (Untouchability Act) in 2011 (OHCHR-Nepal, 2011).

Despite these legal frameworks, caste-based discrimination remains widespread and often unpunished. It is frequently viewed as a social rather than criminal issue. Attempts on the parts of officials, police and the legislature to follow-up and punish caste-based discrimination are rare; instead they prefer to settle by negotiation. "The police have often stated that to register such cases as criminal offences would affect the »social harmony« that has allowed Dalit and non-Dalit communities to live together for centuries. " (OHCHR-Nepal, 2011). Additionally, victims are often unaware of their own legal rights, and that caste-based discrimination and untouchability are criminal offences. In all of the cases where First Information Reports categorize the crime as caste-based discrimination and the cases were made known to the OHCHR, the victims were helped by a local human rights defender (OHCHR-Nepal, 2011).

Dalits and other so-called low-castes have little to no political influence, representation or power. The social hierarchy one is born into fixes the population into predefined units, and there are no means to change it. The caste defines birth, marriage, death and any key cultural, social, economic and political engagements. Dalits have weak access to education, and policies and laws have not yet produced any significant social change. However, recently there is a slightly positive trend. National human rights institutions have been founded (such as the National Dalit Commission, National Human Rights Commission), and despite facing many obstacles, like the lack of a legal mandate, they address and try to reduce inequalities (OHCHR-Nepal, 2011). Further, attention to the situation of marginalized groups is drawn through protest marches organized by various NGOs, which sometimes result in violent altercations with the police (International Dalit Solidarity Network, 2015; Interview NGO #3, 2016).

[6] Article 11 (4): "No person shall, on the basis of caste, be discriminated against as untouchable, be denied access to any public place, or be deprived of the use of public utilities. Any contravention of this provision shall be punishable by law."

Though only the various forms of discrimination against Dalits have been described thus far, it cannot be said that they are the only subgroup facing disadvantages in Nepalese society. Muslims and the indigenous Janajatis, including Gurung and Tamang, are all exposed to various forms of commonly-practiced types of caste-based discrimination and they are also unable to ascend the ladder of social hierarchy. Nevertheless, the situation Dalits face as far as interaction with the rest of society is uncontestably the most difficult. As it would extend beyond the scope of this master thesis to go into the detail of the living situation of all socially disadvantaged groups in Nepal, it is focused on that of Dalits.

The unsuccessfulness of attempts to increase social justice on the ground proves how deeply the prevailing social hierarchy is entrenched in Nepal. In a society where social justice prevails all advantages and disadvantages[7] would be distributed appropriately according to Miller (1999). Whereas in the Nepalese society "lower-caste people" enjoy fewer advantages than they ought to enjoy. The engrained nature of such a system shows that it is not a result of decades but of hundreds of years, and changes in institutions and mind-sets have been slow thus far. Until everybody agrees to treat others as equal in an unselfish manner will take time. Until then power imbalances remain and access to resources is based on caste, gender and class. Further, an examination of legal milestones and how they are exercised in the latter decades confirms that the challenge is not to amend laws, but to influence formal and informal institutional mechanisms that preserve caste-based discrimination (Bennett, 2005). The social deprivation of members of certain castes has hampered their ability to cope with crises. They have limited access to knowledge and education, fewer economic possibilities, and, on a macro-social level, weaker social networks. The caste system is a root cause for vulnerability, as it is the main reason for the unequal distribution of power within the society. It has been established over a long period of time and has, since its origin, interfered with the governance of the Nepali state. While the caste-system is highly influential and determines the life realities of the Nepalese, it is not the only category structuring Nepalese society and causing power asymmetries.

[7] Advantages would comprise money and commodities, property, jobs, education, health care, etc.; disadvantages or burdens are for example military service, hard, dangerous or degrading work. Social justice involves the means to obtain welfare, not with welfare itself and has to do with the relative value of the advantage received by different people (Miller, 1999).

5.1.2 The patriarchal system as a root cause

Gender, age, disability and language are further lines of differentiation — this list is not exhaustive and will never be, as every local context is different, and thus diverse categories prevail with distinctive relevance. The creation of these categories happens simultaneously, and do not work as an "add-on" (see Degele & Winker, 2007). Women have the longest history as a disadvantaged group (Bennett, 2005), however, their gender cannot be used as the single category for understanding women's situations, as it does not completely display the "full basis" of discrimination. The living situation of a Hill Dalit women cannot be compared with the one of a Madhesi Dalit women; that of a Chhetri women cannot be compared with that of a Muslim women, and that of a Madhesi indigenous women cannot be compared with that of a Hill Janajati women. Ethnicity, language, religion, culture, region, and not to mention, marital status, have to be taken into account; thus, women do not form a homogenous group. For example, women from "higher-class castes", such as Brahmin and Chhetri, and, among indigenous peoples, Newari women, have better access to the public sphere than so-called "lower-caste women". Nominally seen, Brahmin and Chhetri women are over-represented in positions in the state sector, and women belonging to Dalits, indigenous groups, and Madhesi remain excluded (Bhattachan et al., 2009). Naturally, the patriarchal system that prevails in Nepalese society discriminates all women. They experience worse access to education, public speaking and decision-making opportunities, and are faced with greater economic insecurity. However, special attention has to be given to those who face multiple layers of discrimination. For example, Dalit women have a literacy rate of 34.8%, and Dalit men, 59.9%. Their gender status within their caste and region limits their access to and control over land, credit, inheritance, recognized nationality[8] and other resources, compared to men of the same caste and women of other castes (OHCHR-Nepal, 2011). Thus, access to resources, capabilities and voice is dependent on the interlocking of caste, gender and ethnicity.

Being a woman adversely affects one's ability to cope and recover from a disaster, as women have less access to resources and fewer rights. Women are more vulnerable than men, especially pregnant women, and gender is a further category along which power asymmetries are exercised. The patriarchal system, which institutionalizes male dominance, is another root cause. In such a system, men hold key power positions to which access is deprived for women. Nevertheless, this does not imply that women are powerless and have no rights or

[8] Women are constitutionally denied the right to pass their citizenship to their children (World Bank, 2006).

influences (Lerner, 1986). Further, as made clear above, a women's situation and the institutionalized restrictions she faces have to be seen in the context of further discriminatory categories, such as caste or religion.

However, the constitution of 2015 promised the end of discriminations relating to class, caste, region, language, religion and gender, and to foster the representation of women, Dalits and minority groups in the federal parliament and local governance structures. There have been attempts to keep this promise (Save the Children, 2016). Following the promulgation of the constitution, the positions of the president (Bidhya Devi Bhandari), Speaker of the House of Representatives (Onsari Gharti Magar), and Chief Justice (Sushila Karki) were, for the first time, given to women. These appointments are a first, and long overdue, step to include women in power positions; however, it remains questionable whether this practice will be replicated in governance structures at all levels.

While equal rights for women have been a topic in Nepalese politics for years, discrimination against lesbian, gay, bisexual, trans-sexual, and inter-sexual people has only slowly become a subject of discussion. The Supreme Court and the constitution recognize their equal rights, nevertheless discrimination and exclusion remain widespread in Nepal (Pradhan, 2014).

Numerous frameworks exist on paper which abolish and/or punish discrimination based on class, caste, ethnicity, religion or gender. Nevertheless, these have only marginally improved the situation of vulnerable groups. Save the Children (Save the Children, 2015) states, in a vulnerability case study of Nepal, that

> *"the challenge for the Government of Nepal and its international partners is translating these national-level policies and commitments into meaningful participation of vulnerable and marginalised groups in decision-making bodies at the national level and below, and ensuring that targeted efforts are made at the ground level to address their particular vulnerabilities and needs."*

The caste and patriarchal systems are root causes of vulnerability, as both produce a structure in which power is not distributed equally, and certain groups within society are disadvantaged. Together with ethnicity, they form "three interlocking institutions that determine individual and group access to assets, capabilities and voiced based on socially-defined identity" (Bennett, 2005). A discriminatory aspect is inherent in the caste and gender systems, and only when both are challenged can vulnerabilities be dissolved.

5.1.3 Political instability as a root cause

While these two systems structure Nepalese society in all aspects and, with it, assign individuals to groups which face different degrees of discrimination and vulnerability, a further aspect that can be identified as a cause of vulnerability is the instability of the political system. In the last two centuries, Nepal has changed its governing system several times, eroding trust in government and creating a space in which nepotism, corruption and unaccountability can thrive. Politicians are caught up in their own quests for power, looking very little to the future. The political tussle between the king, political parties[9] and the Maoists hampers efforts to improve social equality in Nepal's society (Bennett, 2005). Little thought is given to sustainably reducing vulnerabilities or to preparing for disasters which could leave vulnerable groups even further behind. Even when thought is given, little action follows. With the extraordinarily frequent changes of government, this comes as no surprise. To understand the cause of the political impermanence and the political and economic situations today, one has to look to Nepal's historical development.

Nepal emerged as a state when King Prithivi Narayan Shah, ruler of the small kingdom of Gorkha, conquered the Kathmandu Valley in 1768, moved his court there and declared a new state: Nepal. The Shah dynasty continuously expanded territorial boundaries and signed the Treaty with the British East India Company in 1815, which fixed the still-valid territorial boundaries. Nepal's process of nation-building was not an uncontested one, and the creation of one national identity remained limited in its success, based mainly on the differentiation of its two mighty neighbours: China and India. Even though the Shahs occupied the throne, the political power was within the Rana family. In 1846, tensions escalated and a bloody massacre followed, ending with Jung Bahadur Rana on the throne, who eliminated all political rivals. As he became prime minister, the monarch of the Shah family lived in prison. The prime minister had all the country's political and administrative power, and the position became monarchical, to be passed down within the Rana family. In the year 1947, the British declared India an independent country; in the same year, the Nepali National Congress, a political party, was founded in Kalkutta, and plotted a revolution to overthrow the Rana rule. Plans were made for the abduction of King Tribhuvan, who was in Rana custody. On November 6, 1950, he fled to India and rebel forces invaded the country. In January of the following year, the leading Ranas agreed to reinstall King Tribhuvan, the extraordinary

[9] The main three political parties comprise the Nepali National Congress, the Communist Party of Nepal–Unified Marxist Leninist (CPN-UML), and Unified Communist Party of Nepal–Maoist (UCPN-M).

powers of the prime minister were revoked, and a coalition cabinet was to be formed, composed of Ranas and "representatives of the people". Thus, the Rana hegemony was terminated (The Asia Foundation & Enabling State Programme, 2012; Whelpton, 2005).

The following forty years were characterized by three interacting forces: the monarchy, the political parties, and the Indian government, which was sympathetic to the Nepali Congress Party. The first parliamentary elections were held in 1959, but soon the democratic experiment came to an end when King Mahendra, successor of King Tribhuvan, took sole control over the state. A partyless "Panchayat" system was established and was in place until 1989, when the king gave in to rising pressure. In 1991, the first democratic elections were held (Whelpton, 2005). Nevertheless, the political instability endured. The newly formed Communist Party of Nepal (Maoist) was a cause of continuous distress, and triggered a civil war lasting from 1996 to 2006, which cost about 12,000 lives. Numerous new governments were formed during this period, each lasting no longer than a year.

A massacre in 2001 interrupted the political rule once more. The Crown Prince Dipendra killed King Birendra and Queen Aishwarya before committing suicide. The king's brother was put in his place and, four years later, after numerous violent outbreaks caused by the Maoist movement, he dissolved the government, resurrected the hegemony of absolute monarchy, and declared a state of emergency due to the need to get the Maoist movement under control. However, he was forced to reinstate the parliament not long after due to international and national pressure, and, in 2008, Nepal became a secular republic, and the time of the Hindu Kingdom was over (BBC News, 2017).

The political situation today remains tumultuous. After the promulgation of a new constitution in 2015, people expected more political stability, and a triggering of economic growth and development. Instead, the political instability has left many problems unsolved. Unemployment pushes 1,500 young Nepalis to seek employment abroad every day, many people affected by the earthquake still live in temporary shelters, having not received promised money, and health and education facilities still need to be rebuilt. Politicians and parties are busy with power struggles; in the last eight years there have been nine governments. It took seven years to draft the constitution that was finally signed in 2015; its implementation, however, has been stalled, and the demands of the Madhesi parties, ignored (Bhattarai, 2016). Local elections are pending; there have been none since 1996, leading to

the questioning of the accountability of decision-makers (Interview National Research Institute, 2016).

This short introduction to Nepal's political development illustrates how instable the country's administration has been. Unsurprisingly, this has led people to have little trust in it, and little has been done to establish equality and reduce power asymmetries. In addition to not having significantly improved the living situation of disadvantaged people, the political instability can be identified as a reason why the country is little prepared for disaster. Thus, while not being a system that creates disadvantaged groups and power asymmetries per se, it can nevertheless be identified as a root cause, as it causes unsafe conditions and dysfunction of the state. Much like the discriminatory caste system, it is not isolated from the patriarchal system, but connected to both caste and gender.

The multiple effects the political instability had, and still has, led to a limited access to resources. The lack of accountability of politicians in taking action to mitigate and adapt to risks for possible events in the unknowingly distant future increases the vulnerability of already disadvantaged people; it can even lead to the creation of new vulnerable groups of people when combined with other characteristics that influence the capacity to cope with a disaster.

Hereafter, a short overview is given of these characteristics. The description of root causes above has naturally included how vulnerability is created for two major disadvantaged groups: so-called "lower-caste" people and women. However, caste and gender are not the only determinant characteristics for an increased susceptibility to disasters. Other categories through which vulnerability arises exist as well but have not yet been named, although the full picture of vulnerability towards earthquakes of the Nepalese people cannot be understood, or improved without them.

5.1.4 Further causes of vulnerability

Age, disability and geographical remoteness are further categories along which vulnerabilities are created. For a rough classification in dominant and subordinate groups see table eight.

Table 8. Dimensions of exclusion

Social Category Status	Gender	Caste	Ethnicity	Language	Religion	Geo-political	Health status	Age
Dominant	Men/ Boys	Brahmin, Chhetri	Caucasoid	Nepali	Hindu	Parbatiya (Hill dweller)	No disability	Middle-aged adults
Sub-ordinate	Women/ Girls	Dalit	Janajati/ Mongoloid	Other	Non-Hindu	Madhesi (Plains dweller)	Disability	Children and older people

Source: adaption from (World Bank, 2006)

In the Gorkha district, a survey revealed that people consider, next to so-called "lower-caste" people and women, elderly-headed households, child-headed households, chronically ill people, disabled people, and unaccompanied children as the most vulnerable (Nepal Earthquake Assessment Unit, 2015). Age, in this respect, is an indicator of vulnerability, as children and older people tend to be more vulnerable than other age groups. In Gorkha, 44.5% of the population is aged under 19, and 12.7%, above 60 (ACAPS, 2015). Children are more affected by crisis, as are the elderly, who are more likely to suffer from chronic illness; this age distribution shows that a great percentage of the Gorkha population belongs to a group predisposed to vulnerability. Most men of working age (according to the 2011 Census, 18% of men have migrated to work outside the district) migrate abroad to support their families, leaving behind women, children, and older people. If members of these vulnerable groups are in charge of looking after households on their own, their capacities to recover from a disaster is often even lower because of their disadvantaged position in society. The 2011 Census showed that 37% of households are female-headed (study after the earthquake estimated 22%, probably due to returning male family members). Eleven per cent of households include people with physical disabilities (Nepal Earthquake Assessment Unit, 2015). These figures show that the number of people predisposed to vulnerability because of social characteristics such as age, gender, and disability, is relatively high in the Gorkha district.

While geographical remoteness is not a socio-economic characteristic for identifying social vulnerability, it is certainly a factor that can hamper the recovery process, as was the case with the Gorkha earthquake. The problem starts with having little information on remote and very remote areas in the mountainous regions of Nepal. When collecting demographical data for a census, for example, these areas tend to be neglected due to limited accessibility. The lack of data on the existence of villages and/or their demographic composure leads to limited awareness during the emergency response. For example, one report states that needs assessments overlooked remote villages, partly because of their unknown existence or because they were difficult to access (blocked roads, landslides, etc.) (The Asia Foundation, 2015b). The International Red Cross, for example, distributed relief materials at a central location and affected people were requested to travel to these sites. People arriving from remote locations reported that they travelled the whole day to arrive at a distribution site to be informed that no goods were left (Save the Children, 2016).

Again, age, household-status, disability, language and geographical remoteness cannot be seen as categories implying vulnerability unrelated to each other, or to caste, ethnicity, religion, gender and region. Thus, the description of vulnerable groups above is a generalization, and every living situation has to be seen in its individual context. Further, it has to be understood how these categorizations have evolved, and are established and replicated in politics, in legislature, in the economy and the social sphere. Only with this knowledge can the unsafe conditions which vulnerable groups face be linked to the root causes. Only thus can a context-adapted, constantly self-reflecting humanitarian response sustainably challenge causes of vulnerability and improve the situations of affected people.

5.2 How root causes translate into vulnerability of people

This concise introduction to Nepal's cultural, political and historical background illustrates the power asymmetries that prevail on all levels. Nepal's culture exhibits a deeply entrenched hierarchical system; its history is defined by power struggles between political elites and (only increasingly within the last three decades) Nepalese people, and the political system has undergone various revolutions between a monarchy and parliamentary system.

The power imbalances have led to varying capacities to anticipate, cope with, resist and recover from natural hazards between groups of people. These vulnerabilities become evident

in unsafe conditions. Root causes, dynamic pressures and unsafe conditions have been implicitly named before, and their allocation within the PAR model is a result of the previous analysis. The causes, pressures and conditions described hereafter do not follow a hierarchical order, nor is the list meant to be exhaustive (for a first overview see figure nine). Instead, it is more appropriate to see them as a network, as the vulnerabilities in Nepalese society are a result of their interactions with varying local contexts.

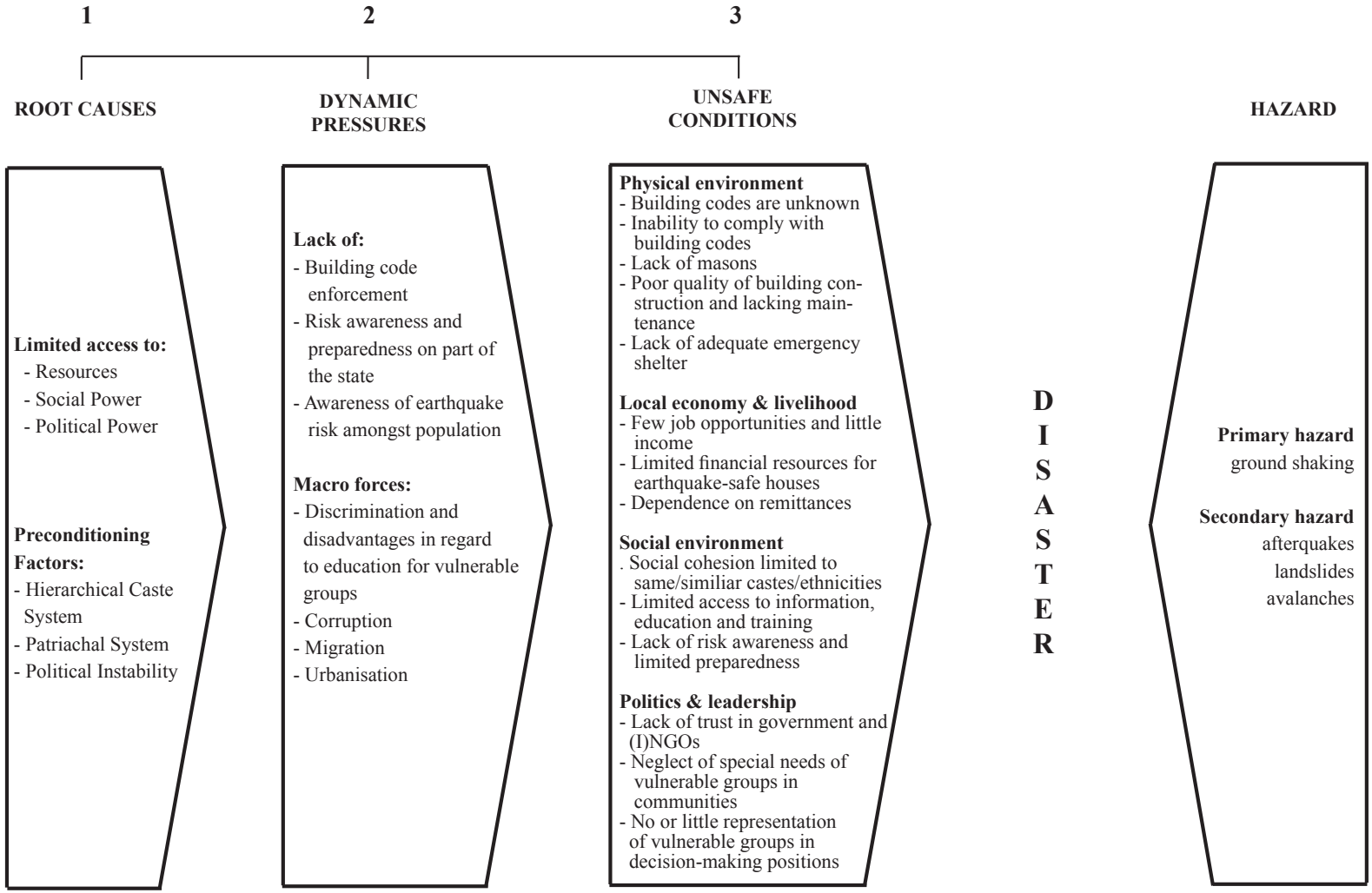


Figure 9. PAR Model Earthquake Nepal

Source: own elaboration

5.2.1 Dynamic pressures

The root causes of the existing vulnerability that became evident after the Gorkha earthquake can be traced back to two primary dimensions: the political and cultural system. The political instability, with Nepal's constantly changing government and repeated dissolution of democratic institutions, has led to a lack of trust in Nepalese politics and the economy. With governments not lasting a year on average in the last decade, accountability is low and future-oriented thinking and planning in politics is sparse. The caste system, coupled with a patriarchal system, leads to the strong social hierarchy that is defined from birth onward and affects all areas of life in an unalterable manner.

These causes translate into dynamic pressures, which take the form of processes and activities shaped by the underlying social and political patterns. The described root causes lead to various processes that create unsafe conditions for affected people:

- The previously named lack of accountability leads, among other factors, to a lack of building code enforcement. While earthquake-safe building codes exist to a certain degree, they are sparsely implemented. Even after former destructive earthquakes no measures were taken: History shows that "[e]xperiences were not institutionalized and internalized by the government in any of its policies in order to minimize possible problems in the future" (Parajuli, Bothara, Dixit, Pradhan, & Sharpe, 2000, p. 1). Furthermore, the Nepalese administration has not ensured that adequate disaster plans and risk adaption measures exist.
- In general, risk awareness of, and hence preparedness for, earthquakes, is low in the political arena and within the population, despite the high death toll resulting from the last big earthquake three generations ago.
- Discrimination in education is widespread leading to fewer children of "lower-caste groups" being enrolled in school in comparison with "higher-castes". People of vulnerable groups have fewer years of schooling, less training, and are thus less likely to get better jobs, creating a vicious circle (Bhattachan et al., 2009).
- Corruption[10] is a widespread problem in Nepal[11]. Linked to the political instability of the country, it creates unequal access to resources and is caused and further reinforces power

[10] The definition of corruption in this thesis follows the one of Transparency International (Regmee & Bhattarai, 2014, p. 6): Corruption is "the abuse of entrusted power for private gain. Corruption can be classified as grand, petty and political, depending on the amounts of money lost and the sector where it occurs."

asymmetries. It adversely affects the local economy, the political system and the social fabric. Corruption can be found on multiple levels, such as legislation, judiciary, police, public services or taxation (GAN Integrity, 2016). Despite Nepal's official zero tolerance towards corruption, especially in the public sector, corruption and impunity are a major problem. Further, there is a wide gap between the law, prohibiting any corruption, and practice in judiciary (Regmee & Bhattarai, 2014). Not only are political parties and the government involved in corruption, but some (I)NGOs have also been perceived as corrupt, leading to lack of trust towards NGOs and the government.

- The Nepalese economy, which is especially weak in rural areas such as Gorkha, forces people of working age to migrate internationally and nationally to support their families through remittances. On average, 56% of the population receives remittances (Gurung, Tamang, Thapa, Sanner, & Magar, 2015). People mainly migrate to the Middle East, Malaysia or India. Those with only little economic resources go to India, as this is cheapest option, however, wages are the lowest. Others often sell a piece of land to be able to pay the agents that go from village to village to recruit young men to work abroad (Interview National Research Institute, 2016). People left behind usually include women, children and the elderly, who are all characterized with high degrees of vulnerability. With most families living off of agriculture, their income would otherwise depend on one source. Access to higher-paid jobs is often denied to so-called "lower-caste people", (Bhattachan et al., 2009), as is the case for positions with decision-making power. Thus, vulnerable groups are scarcely represented, if at all, in public offices, and cannot advocate for their special needs regarding risk adaption and disaster response (Save the Children, 2016).
- Nepal is among the ten least urbanized countries in the world, while simultaneously being one of the ten fastest urbanizing ones (UN Desa 2014). The centres of agglomeration are primarily the Kathmandu valley and Pokhara (Bakrania, 2015), which have both been affected by the Gorkha earthquake. Rapid urbanization often goes unplanned, thus building codes and lifelines are neglected, resulting in rising vulnerability (Fowler, 2015). One major driver of unplanned urban development in Nepal was political instability. The Maoist insurgency caused many people from conflict-affected areas to flee into the cities, where they purchased land and built houses without taking into account the National

[11] Nepal ranks in 131st place out of 176 in the corruption perception index in 2016. The score has slightly increased from 27 in the year of the earthquake to 29 in the following year. However, a survey shows that 85% of people see corruption as a problem in the country (Martini, 2016; Transparency International, 2017).

Building Codes (NBC), proper road constructions or public water supply. The absence of a stable government, even post-conflict, has worsened the situation (Oven et al., 2016).

5.2.2 Unsafe Conditions

These present dynamic pressures channel the root causes resulting from Nepal's past into several unsafe conditions — the form in which vulnerability is expressed. The vulnerabilities are related to one specific hazard, in this case, an earthquake. Unsafe conditions can be of intangible and tangible nature, and are dependent upon the initial level of well-being of people (Wisner et al., 2004). In this case, the unsafe conditions are organized into four fields: the physical environment, local economy & livelihood, social environment and politics & leadership.

Physical environment

The physical environment includes the quality of buildings, their maintenance, infrastructure buildings and urban planning. A study in 2000 found that more than 98% of the buildings in Nepal are built by their owners who follow the advice of local masons. During the time of the study neither of them was aware of the disastrous consequences an earthquake could have on the building construction, nor were they having any access to information related to safer building practices and knowledge on how to incorporate simple earthquake-resisting features. The NBCs were unknown and despite most municipalities requiring building permits, these municipalities did not provide any strength criteria. Further, the study states that "[t]here are no existing groups within the central or local government or within training institutions in Nepal which have the necessary level of experience of implementing, supporting and/or enforcing design rules" (Parajuli et al., 2000, p. 3). These findings show, that first, the very limited knowledge and thus enforcement of the NBC especially in rural areas such as Gorkha led to many buildings being constructed with no earthquake-resistant features, and second, that there is a high backlog on side of authorities in attaining necessary knowledge and experience.

Furthermore, building material is of low quality and houses are badly maintained. Not only are residential buildings not constructed to be earthquake-safe, but neither are public buildings like schools, as was shown when hundreds of school buildings were destroyed by the Gorkha earthquake. For infrastructure buildings, such as bridges, an NBC does not even exist (Oven et al., 2016). Lack of infrastructural planning also becomes evident in the lack of

adequate emergency shelters. This scarcity forces people to camp outside after an earthquake, despite the great risk of aftershocks. Unsafe buildings are the main cause of death from earthquakes.

Though 3,000 new engineers graduate in Nepal every year, too few stay in the country to facilitate building code implementation, as there are barely any jobs and the compensation is better abroad. The same problem applies to masons (Oven et al., 2016). This is a major problem in the construction sector in Nepal and specifically in Gorkha. Prior to the earthquake no mason trainings were offered in Gorkha. There are no schools for studying engineering in the district and thus, interested young people have to migrate to bigger cities such as Kathmandu or Pokhara and after having lived there the reluctance to return to rural areas increases and the temptation to go abroad and work for higher wages is great (Interview National Research Institute, 2016; Interview No. 2 Multilateral organization, 2016).

Local economy & livelihoods

The local economy is weak, especially in remote areas. Few job opportunities exist, poverty prevails, and financial resources are limited for constructing earthquake-resistant buildings. Agriculture is the almost sole source of income, making the population highly dependent on the monsoon, and thus incomes have to be secured by remittances from family members. Further, the financial capital to recover from disaster is scarce, increasing the vulnerability of people.

Social environment

The social environment mainly refers to intangible assets like community cohesion, social status, access to knowledge and preparedness. Due to the strong social hierarchy, the community support, which can be an important capability in disasters, is limited to same castes or similar-ranking castes in Nepal. This inhibits the formation of strong communities that are able to reunite forces in case of disasters.

Marginalized people and those living very remotely face worse access to information, education and training. Their literacy rates are below the national average, and their lack of training results in obtaining only badly paid and physically demanding jobs (see section 5.1.2). The access to information is often limited for rural people due to the reduced accessibility or inaccessibility via roads. Some communities are only reachable via a multi-

day hike, and cell phone coverage in these areas often does not exist, leaving people cut off from many information channels (Field Visit to Gorkha, 2016).

Not only in areas with limited access to information, but overall in Nepal risk awareness and disaster preparedness is low. This can be traced back to the little efforts of the government to raise risk awareness and preparedness within the population and the lack of disaster plans, of awareness trainings on how to respond, and of coordinated emergency response in the Gorkha earthquake intensified the vulnerability of people.

Politics & leadership

The level of distrust towards the government and (I)NGOs is high. Politicians are seen as corrupt and inefficient, and the distrust in the political system comes to no surprise when looking at the instability of recent governments and Nepal's troublesome political history. Additionally, many (I)NGOs do not enjoy a good image amongst the population. "Many [NGOs] are vehicles for money laundering and embezzling, organizations that exist to grow personal wealth, rather than to help others." (Wu & Xu, 2016) The distrust towards (I)NGOS is rooted in the longstanding disappointment about their work, that has not brought the country forward despite years of commitment. The humanitarian system is perceived as inaccessible and unapproachable by the general public, showing the failure of the thousands of (I)NGOs acting in Nepal to listen and engage with people (Interview National Research Institute, 2016; Interview No. 2 Multilateral organization, 2016).

Local authorities often are often so-called "higher-caste males" and thus policies to strengthen the needs of marginalized people are not pushed forward. These societally privileged groups do not only enjoy better access to decision-making power, but are also often the ones that coordinate recovery assistance, and reports have stated that some act according to political favouritism (Interview No. 2 Multilateral organization, 2016; Save the Children, 2016).

These unsafe conditions, clustered in four areas, lead to vulnerability of people towards earthquakes. As it is shown they are tangible as well as intangible and only some can be directly linked to the previously described dynamic pressures. However, they all have in common that their root lies in the caste system, the discriminatory treatment of women and the political instability the country has faced for years. In the following chapter these pre-earthquake unsafe conditions, dynamic pressures and root causes are reanalysed – however

this time their development or “non-development” after twenty months of humanitarian assistance is the focus. This comparison provides an understanding on how humanitarian agencies have influenced people’s vulnerability and its causes after the earthquake.

Chapter 6 Aid effectiveness – Unsafe conditions, dynamic pressures and root causes after the earthquake 2015

The earthquake on April 25, 2015 represents a major catastrophic event in Nepalese history. It disrupted the livelihood of numerous people and, with one third of the countries' population being affected, it has constituted a huge challenge for the state, not only in the immediate aftermath but also for the years to come. The international and national humanitarian response to this disruptive event was and is likely to change the country and thus the causes of people's vulnerability. The influence that the earthquake, and with it the humanitarian aid, has had on the unsafe conditions, dynamic pressures and root causes thus far is analysed hereafter.

6.1 Unsafe Conditions

Unsafe conditions are the forms in which vulnerability is expressed. They can be tangible, for example the non-earthquake-safe buildings or insufficient financial income, or of intangible nature, for example unawareness of building codes or limited social cohesion. The unsafe conditions leading to high vulnerability towards earthquakes are analysed analogous to the structure in section 5.3: physical environment, local economy & livelihoods, social environment and politics & leadership.

6.1.1 Physical environment

As the half million destroyed houses and the numerous people that died in their collapse show, poorly designed and constructed buildings proved to be the most fatal unsafe condition in the 2015 earthquake. In Nepal, many buildings have been planned and constructed with little or no regard for seismic safety (Parajuli et al., 2000). Buildings of the poor, in particular, have been built with low quality material and few earthquake-safe features. Thus, to be better prepared for future earthquakes, reconstruction should follow the principle "build back better"; only then can the vulnerability of affected people be diminished in the long term. How the humanitarian aid provided by the government and (I)NGOs have influenced the reconstruction process and how they have incorporated and implemented this principle is one of the key questions to understand how vulnerabilities and their causes have been altered after the earthquake.

"Build back better" – Building code enforcement through cash assistance

The missing experience on the side of authorities in developing, supporting and enforcing earthquake-safe designs became evident in the reconstruction phase after the earthquake. While shelter materials were provided immediately by numerous (I)NGOs and the government, and some (I)NGOS later engaged in constructing semi-permanent shelters (Interview INGO #1, 2016; Interview INGO #2, 2016; Interview NGO #2, 2016), an interviewee stated twenty months after the earthquake that the "reconstruction has not even really begun yet" (Interview NGO #1, 2016). In the case of public infrastructure, the government has not even attempted to quickly rebuild schools, health posts, etc., but plans to be "able to rebuild public infrastructure in five years" (Interview National Research Institute, 2016). In Gorkha, only 15% of the public infrastructure has been rebuilt so far (status: October/November 2016) (The Asia Foundation, 2016b).

The delay in reconstruction started with the institutional wrangling that accompanied the constitution of the NRA. As described in section 4.3, the NRA was officially established in January 2016, eight months after the earthquake, though it already had come into existence in July 2015. However, as the ordinance for its constitution was dismissed due to political quarrels, the NRA was paralyzed for seven months, during which the party leadership, and as a consequence the personnel composition of the NRA, changed (Interview National Research Institute, 2016). Despite the start of the official reconstruction process being in mid-January, the biggest reconstruction program, the "Nepal Rural Housing Reconstruction Program" did not distribute any money until October 2016, just before the Dashain festival, partly due to the inconsistent and politically motivated previous assessments of earthquake damage to private houses. In the new assessment done by the NRA, the level of damage was classified into five categories. Damage grades three, four and five comprise houses that need to be reconstructed; damage grades one and two, houses that need to be retrofitted. While the people being listed in category three to five are eligible for a government cash grant, twenty months after the earthquake the government has neither decided if they provide a grant for retrofitting houses nor developed any guidelines on retrofitting. To be generally considered for a government grant, land ownership documents have to be produced and those who have bought land off a trust, regardless of how many years in the past, are excluded, a priori. Trust land is very common in Gorkha and the rest of Nepal, as temples owned vast areas of land in the past. In Kathmandu, for example, trust land makes up twenty-five per cent. The government has realized that this barrier, for only private land bought from the state to be eligible, is a

bureaucratic futility, nevertheless it has not amended the law (Interview National Research Institute, 2016). This government cash grant is the most important means for people to reconstruct/retrofit permanent housing, and the indecision and insensitivity of the government is a cause of great frustration and delay in reconstruction (Interview National Research Institute, 2016).

The government grant is provided in three instalments: the first amounts 50,000 NPR (US-$ 460), the second, 80,000 NPR (US-$ 730) and the third, 70,000 NPR (US-$ 640) (Interview National Research Institute, 2016). After political infighting and a change of government, in September 2016 the NRA approved an increase in the amounts to 150,000 NPR for the second tranche, and 100,000 NPR for the third. However, the Cabinet has not yet approved these changes (The Asia Foundation, 2016c). The instalments are meant for ensuring that the foundation, the walls and the roof are constructed earthquake-safe. To receive the follow-up instalments, after completing the major steps, engineers must inspect if the building complies with the earthquake-safe features released by the government (Interview No. 1 Multilateral Organization, 2016). The follow-up tranches will only be released if the construction follows the NRA guidelines, and in order to receive the third, beneficiaries have to build either a toilet or a bio-gas plant, or install solar power (The Asia Foundation, 2016c).

So far, the first instalment has been deposited in government bank accounts for those who fit the criteria for reconstruction. However, the problems that accompany this first transfer are manifold. One problem concerns accessing the money. Many people could not access the grant due to missing documents like identity cards (a common problem in rural Nepal, intensified by destruction of documents in collapsed houses), or the refusal to disburse the tranche to women when the money is listed in their husband's name. Many married men have migrated to work abroad, and banks refuse to hand the money to wives whose husbands are not physically available, creating a major problem for these women (Focus Group Discussions, 2016; Inter-Agency Common Feedback Data, 2015-2016; Interview NGO #1, 2016). Another problem is geographical remoteness; people living in the northern mountainous villages in Gorkha have to travel up to a week to reach a branch of the government bank or banks (I)NGOs work with, which, again, presents a problem for single (parent) households (Field Visit to Gorkha, 2016; Interview National Research Institute, 2016).

Next to these problems in accessing the grant, the information policy on how the government grant works in the first place is extremely poor. Many people are unaware that the government cash grant is intended as an incentive to include earthquake-resistant features in reconstructed houses. Most expect the grant to fully cover for the costs of reconstruction. Due to these misunderstandings, the frustration that the money is not enough to build an earthquake-safe house is significant (Interview National Research Institute, 2016). The Chief Engineer of Gorkha, the Division Chief of the Department of Urban Development and Building Construction (DUDBC), and the NRA's District Level Project Implementation Unit argue that the minimum costs to reconstruct a house according to the NRA guidelines are at least 600,000 NPR, excluding transportation costs. Thus, the question rises how people are supposed to find additional financial resources, as they often do not have access to low-interest loans by private banks (The Asia Foundation, 2016c).

The missing information not only causes frustration but leads to people mishandling the reconstruction; many do not draw money from their accounts in the belief that they could accumulate the instalments before starting reconstruction (Interview No. 2 Multilateral organization, 2016). This ignorance, coupled with lacking financial resources and missing technical knowledge, is likely to lead to only a small number of people receiving the second instalment: "a year down the line I expect a lot of people who got the first trance and who didn't get the second" (Interview No. 1 Multilateral Organization, 2016). The government is said to be well aware of this problem, and even to take advantage of this situation: "The government knows that there are not going to be many second instalments, that's why they kept the first instalment as low as possible (…). There will be a very low number of people who are going to be eligible" (Interview National Research Institute, 2016).

The poor provision of information on the side of the government means that many people not only do not know how the grant works, but, even simpler, when the money is accessible:

> *"The government said they had dispersed the grant to some 370.000 households, which actually meant that they had dispersed the first tranche into dummy bank accounts the World Bank has set up in the name of the beneficiaries but no one has bothered to tell them that the money is there. So it has been accessed by 17.000 people out of 370.000." (Interview No. 1 Multilateral Organization, 2016)*

The ambiguity about the accessibility continues: the government is still not clear about the time of the second transfer nor when or if people whose houses have been listed as retrofit cases get financial help (Interview No. 2 Multilateral organization, 2016).

Lack of qualified workforce

A further problem that is hampering timely reconstruction is the lack of engineers. Every VDC is required to employ an engineer to inspect if house owners are eligible for the second instalment. Most of these engineers are new graduates with little experience, and the country is in desperate need of engineers for these positions. Numerous complaints have been raised that, even with many new graduates, there is still a lack of engineers, and the ones that have been hired cannot keep up with the work. As a result, many house owners have to wait weeks or months for an inspection (Interview National Research Institute, 2016; Interview No. 2 Multilateral organization, 2016).

Needs regarding reconstruction

The government cash grant is not the only recovery support that is supplied. (I)NGOs provide cash assistance for reconstruction as well. However, this financial support is, in general, given by INGOS to those who are thought to be most vulnerable. Local NGOs tend to pursue the government's way to disregard vulnerable groups and apply a blanket approach based on the government's assessment. How these two approaches, which have structured the humanitarian aid after the earthquake are reasoned and how they impact society is explained in section 6.3. In general, the support provided by humanitarian agencies is not considered to be sufficient. In mid-April 2016, in the first round of the CFP focusing on reconstruction, ninety-four per cent reported that they "require additional support on top of the support they have received or expect to get to rebuild using safer building practices". Two months later, in the second round, this number had even risen slightly to ninety-six per cent (Inter-Agency Common Feedback Data, 2015-2016), showing that insufficient financial resources is a major constriction for applying safer building practices.

Other reconstruction needs, next to sufficient financial resources, are building materials and technical knowledge (Inter-Agency Common Feedback Data, 2015-2016). To counter the missing technical knowledge (I)NGOs offer mason and carpenter trainings. These trainings usually follow the standard format developed by the DUDBC (Interview NGO #2, 2016). They comprise a seven-day course, which is carried out by a hired governmental engineer. In

these trainings, participants are introduced to the rules of thumb on how to construct an earthquake-safe building in theory, coupled with practical sessions. To organize the trainings, (I)NGOs work closely with the VDC secretary who, together with the ward representative, selects participants. In the one mason training visited, no female participant took part, and upon inquiry, it was confirmed this is usually the case (Field Visit to Gorkha, 2016). In general, the selection criteria for participants are subject to criticism, not only due to the lack of female participation. Attending a mason or carpenter training offers new livelihood perspectives; many have taken advantage of this and transferred to municipalities because of the better wages offered. Young participants, in particular, are drawn to the bigger towns and cities. Migration of newly trained-masons to towns and cities in Nepal, as well as out of the country, is a problem (Interview No. 2 Multilateral organization, 2016). Approximately 300,000 young Nepali migrate to work abroad each year, and most of them work in construction (Interview No. 1 Multilateral Organization, 2016). Thus, without a better selection of participants and incentives to stay in the country and work in remote communities, mason and carpenter trainings indeed enhance livelihood perspectives but will not efficiently counter the lack of skilled workers in Gorkha.

Because of the high demand of skilled labour power in Nepal after the earthquake, wages have doubled. The same trend can be observed for reconstruction materials. (I)NGOs contributed to this development by being willing to hire workers for double the price for their cash-for-work programs immediately after the earthquake, and thus higher wages became a trend in Gorkha (Interview No. 2 Multilateral organization, 2016). This has made it difficult for local people to afford skilled workers (Focus Group Discussions, 2016).

Awareness of safer building codes

Skilled masons are an essential help for building houses, especially when there is an interest in reconstructing in an earthquake-safe manner. However, as before the earthquake, most people still construct their houses themselves, though there is now a demand for consulting with trained masons for technical guidance (Interview National Research Institute, 2016). Nevertheless, it is almost as important to inform the local population about earthquake-safe building practices as it is to train masons about building codes. Humanitarian agencies have realized this and have taken action to spread information on how to rebuild safer houses. People report that they receive this information mostly through NGOs (for example in form of social mobilizer), radios, VDC secretaries and community members (Focus Group

Discussions, 2016; Inter-Agency Common Feedback Data, 2015-2016). The CFP data reveals that in mid April 56% and beginning of June 63% were "mostly" or "completely" aware of safer building practices (see figure ten).

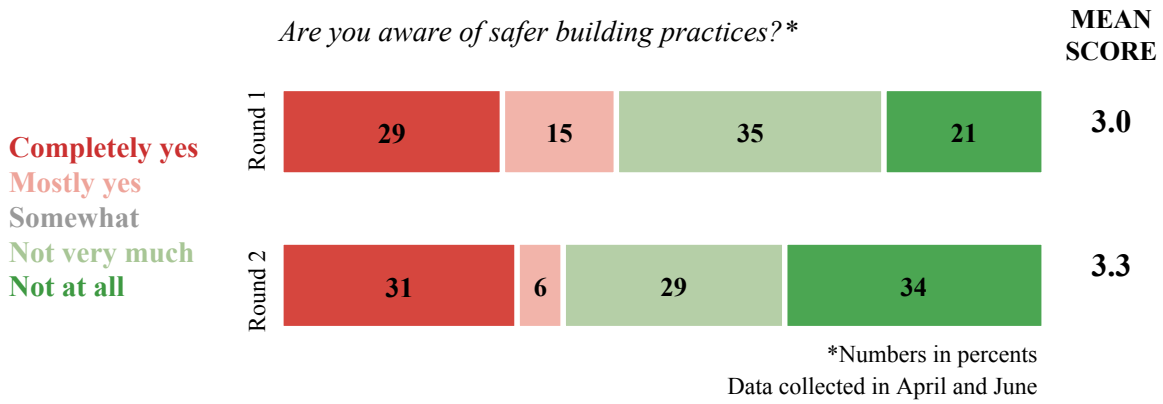


Figure 10. Awareness of safer building practices

Source: based on (Inter-Agency Common Feedback Data, 2015-2016), own calculation

In the first round, twenty-one per cent planned not to use these practices (Inter-Agency Common Feedback Data, 2015-2016); in the second, the number reduced to four per cent. This shows that more than half of the affected people are aware of safer building practices and a vast majority intends to apply them, which is a positive development in comparison to the situation prior to the earthquake. Nevertheless, these numbers have to be interpreted with caution. Awareness cannot be equated with the knowledge of how to apply earthquake-safe guidelines, as a study from the end of 2016 found:

> *"More than 50 per cent of the citizens interviewed in Gorkha had heard that only earthquake-resistant houses were eligible of the cash grant. However, none could explain what 'earthquake-resistant' meant. Very few citizens understood the concept and the specifics of building earthquake-resistant houses. Most were unsure about costs and how to build them." (The Asia Foundation, 2016c, p. 26)*

Thus, it must be evaluated in the future reconstruction process if the intention to reconstruct earthquake-safe actually leads to the implementation of safer building practices in light of restricted financial resources.

In addition to financial limitations in enforcing earthquake-safe features, the seventeen official earthquake-safe building models do not cover the culturally-diverse building types that exist throughout the country:

> *"Many people that live on the northern side of Gorkha were suggested house models by the reconstruction authority that do not actually reflect their cultural and traditional practices. So their problem is that they cannot stay in these houses, for example they are meant for so-called high caste people, and they say our design is different." (Interview National Research Institute, 2016)*

To be required to build a house one does not identify with is a major concern of affected people, as they are less willing to invest in a house that does not fit their needs. The seventeen building models that are the only ones considered earthquake-safe by the government do not reflect the countries' cultural diversity and local resources. "The state failed to understand houses, not just house structure but also the emotions and feelings people give to the house". (Interview National Research Institute, 2016). In Nepal, a house has a high emotional value. Nepali people cherish their houses; they are the most important possession one can have (Interview National Research Institute, 2016). Thus, reconstruction is not only about permanent shelter, but also about identity and self-esteem. It is found to be the most important issue in rebuilding the country after the earthquake, and one of the major aspects to reduce vulnerabilities.

With all these delays and the difficulty for (I)NGOs to get the NRA's approval to construct private permanent houses, many (I)NGOs have focused only on providing mason trainings and cash assistance. Only few have engaged in building houses, and if they have, they have mostly constructed semi-permanent shelters that are supposed to last three to five years (Interview INGO #2, 2016). "The only reconstruction-related assistance observed in the districts has been carried out by NGOs (domestic and international) and foreign governmental development agencies, but this activity has been minimal." (The Asia Foundation, 2016b, p. 18) Even one and a half years after the earthquake, seventy per cent of people in severely hit districts live in temporary shelters, facing the harsh conditions of winter for a second time. People from marginalized groups (low income, from minority religions, illiterate or disabled) are overrepresented amongst the people living in temporary shelters, and tend to be unable to prepare their shelters for the upcoming monsoon (The Asia Foundation, 2016c).

The unsafe conditions of the physical environment explained in section 5.2.2 have been only slightly diminished. Some show a marginal improvement, however, most do not, or require further monitoring with the progressing reconstruction process and it is too soon to draw final conclusions. In the following, it is concluded how the described reconstruction process of

governmental and non-governmental actors have influenced the unsafe conditions of the previous chapter.

- *Building codes are unknown*: As the numbers show (see figure ten), the majority of people are aware about safer building practices, which is an improvement compared to the initially cited study which found there was no awareness or access to information prior to the earthquake. This development is probably due to the fact that there was an earthquake, making people more aware about the risks. (I)NGOs and the government did attempt to raise awareness and spread information about building codes. However, one third of respondents still claim to be "not aware at all" about building codes. Further, it must be investigated if those who claim to be "aware" have fully understood how to implement safer building practices and are willing to do so.
- *Inability to comply with building codes:* Most houses prior to the earthquake consisted of mud-bonded bricks, which were the most likely to collapse. People living in this type of house could not afford better building material. This has not changed after the earthquake. Although the government cash grant is meant to ensure that people are able to afford the extra costs of constructing a house earthquake-safe, it has shown that people with low income do not have the financial possibilities to reconstruct a house in the first place. With the government cash grant scheme, poverty is penalized. The situation of the poor will worsen, as only those with savings or access to financial markets are able to comply with the standards and, thus, to access the second and third tranche. Thus, the inability of poor people to comply with building codes due to financial limitations remains.
- *Lack of masons:* This issue has been recognized and efforts have been made to train masons. Nevertheless, people feel that there are still not enough masons, and the selection criteria to participate in these trainings have to be revised to counter the lack of masons and to give marginalized people the chance to improve their livelihoods.
- *Poor quality of building construction and lacking maintenance:* It has to be seen if better quality material is used with building guidelines. However, as long as financial restrictions regarding reconstruction remain, poor people continue to be unable to afford better quality material.
- *Lack of adequate emergency shelter:* There are no known efforts for better infrastructure construction including emergency shelters. However, the government

has only limitedly started to rebuild public buildings yet, thus there remains a small chance that these efforts might follow.

6.1.2 Local economy & livelihood

Having a secured and sustainable livelihood can increase the capacity to cope with crisis. Even before the earthquake, many people were lacking a reliable source of income in Gorkha, and the region's economy was weak and not very diversified. For most of the affected people, agricultural production is the major source of income. Many families improve their earnings through tiny grocery shops, eateries or wage labour. The earthquake disrupted almost all livelihoods; however, the impact varied by its source (The Asia Foundation, 2016b). How the unsafe conditions are influenced through the earthquake and humanitarian agencies in regard to the local economy & livelihoods is addressed hereafter.

The economic climate after the earthquake

Most households have mixed sources of income. Agricultural produce is the primary livelihood; this includes mostly subsistence farming, and less commonly, cash crops and sale of livestock. The earthquake had a severe impact on farming, as landslides swept away many terraces, and the risk and fear of further landslides was great (The Asia Foundation, 2015a). It destroyed seed and fodder storages, creating continuous need in the following months (Inter-Agency Common Feedback Data, 2015-2016). Further, draft animals were killed in the earthquake, causing many farming activities to be even more difficult. Farmers are often poor and therefore unable to compensate for losses through savings (The Asia Foundation, 2016a). Nonetheless these adverse effects, the timing of the earthquake could have been much worse: it happened in a month in which rice and wheat planting had not begun yet, and little work was required on those fields. Thus, communities could set their focus on constructing temporary shelter in the first few weeks (The Asia Foundation, 2015a). Meanwhile, twenty months after the earthquake, farmers have restarted their agricultural activities and indicate that they have seen recent improvements in their livelihoods (The Asia Foundation, 2016a).

Next to agricultural activities, many engage in wage labour to improve the families' income. In the aftermath of the earthquake, especially skilled labourers not involved in reconstruction efforts (such as tailors) suffered economic losses, while new opportunities in reconstruction arose for unskilled workers. With increasing demand for unskilled and skilled workers in

construction, wages have risen as well. With reconstruction slowly proceeding, this demand for labour is expected to remain stable or even increase (The Asia Foundation, 2016b).

Small businesses, for example grocery shops or restaurants, are a further source of income. If shops or restaurants were not severely destroyed in the earthquake, business owners were able to quickly reopen them, and the influx of aid providers and local people replacing lost items affected their businesses positively. However, the ones that were completely destroyed suffered greatly. These business owners lost their livelihoods, and there have been no compensation schemes. (The Asia Foundation, 2016a, 2016b). The people working in tourism, for example by running hotels and restaurants in Gorkha, are doing better than before due to the influx of aid workers, and, in the fall season of 2016, the general tourism was expected to return to near-normal levels for the first time (The Asia Foundation, 2016a).

In general, the CFP data shows that people are greatly concerned about their livelihoods. In mid-May 2016, when the first round focusing on "Food and Security" was conducted, two-thirds of people expressed concerns; in the second round, in mid-June 2016, this group of people increased to three-quarters (see figure eleven). The people who are concerned are mainly worried about the lack of jobs, their missing skills, their lack of resources to begin with a new livelihood, the missing information on where to find a job and the damage to water resources (Inter-Agency Common Feedback Data, 2015-2016). This indicates that job opportunities and skill trainings are still scarce.

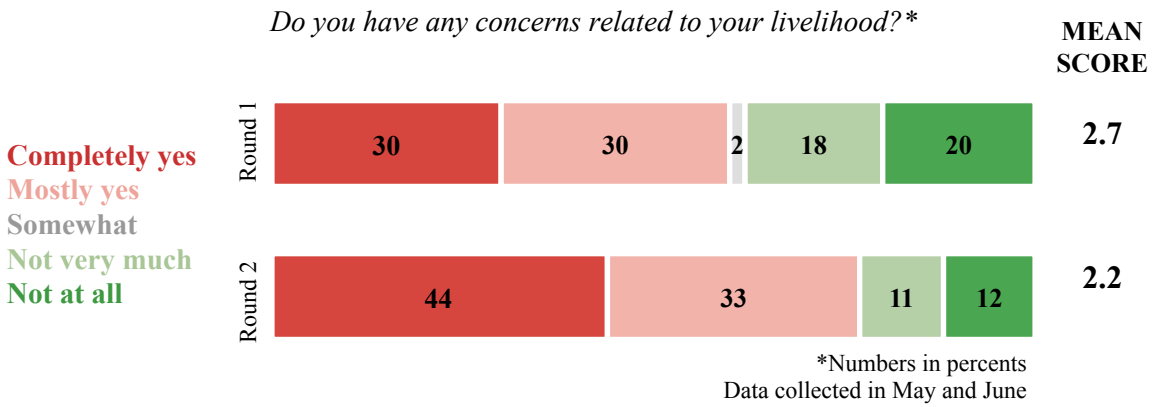


Figure 11. Concerns about livelihood

Source: based on (Inter-Agency Common Feedback Data, 2015-2016), own calculation

In addition to showing great concern about their livelihoods, almost all people (round 1: 93%, round 2: 88%) are convinced that their source of livelihood would not survive another disaster (see figure twelve). This shows how fragile livelihoods still are.

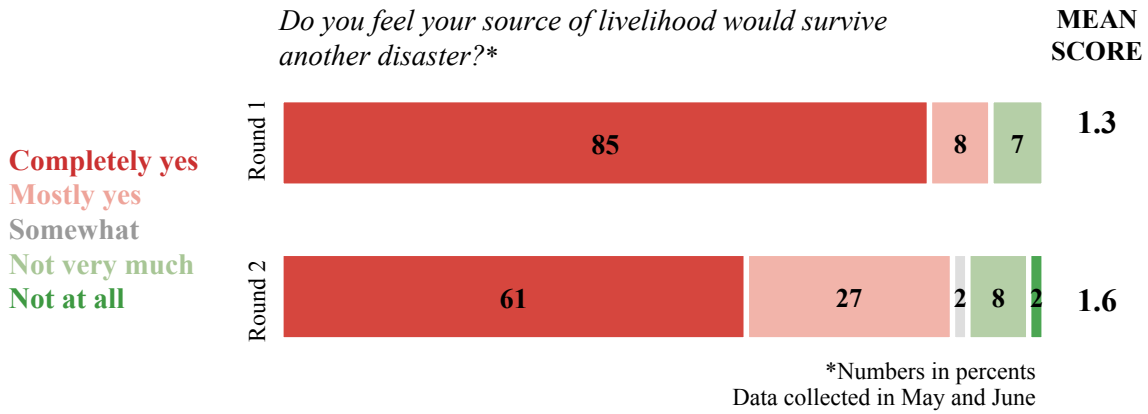


Figure 12. Survival of livelihood

Source: based on (Inter-Agency Common Feedback Data, 2015-2016), own calculation

This low coping capacity is traced, in both rounds of interviews, to the lack of savings, the absence of a preparedness plan to respond to another disaster and missing shelter.

Financial limitations

The sentiment that livelihoods would not survive another disaster because of limited financial resources implies that this limitation persists as an unsafe condition. That the answer "no place to accommodate" is in third place illustrates that people see non-earthquake-resistant houses as a great barrier for securing their livelihoods. With the lack of financial resources to retrofit/reconstruct their houses earthquake-safe, people mainly rely on the government to provide the financial resources (Inter-Agency Common Feedback Data, 2015-2016). However, how likely this expectation is to fail is shown in section 6.1.1.

Continuing dependency on remittances

Next to the weak local economy and limited financial resources of families, the dependency on remittances was named as a further unsafe condition. Many households have at least one family member who is working abroad and, thus, remittances comprised an important share of the income before the earthquake, and still do. Especially in the weeks and months following the earthquake, remittances presented a reliable source of income that remained unaltered by the earthquake and disruption of other livelihood sources (Interview National Research

Institute, 2016). Thus, families receiving high remittances were better off. Nevertheless, many remittances were not enough to rebuild houses, as they are often used to pay back loans taken to finance the migrant's travel expenses (The Asia Foundation, 2016b). If migration after and because of the earthquake, and the amount of remittances sent home, has changed is yet to be confirmed. People were asked if any family members were required to migrate to support the families' recovery. In mid-May, 2016, only thirteen per cent answered "yes". This number increased to twenty-seven per cent by mid-June, 2016 (Inter-Agency Common Feedback Data, 2015-2016). How this trend develops has to be further observed.

To summarize, more than one and a half years after the earthquake, most people have been able to resume their livelihood activities. Some areas are worse and others are better off after the earthquake, but the number of people facing hardships has increased.

- *Few job opportunities and little income:* Most families live off of farming, subsidized by wage labour or small businesses. Farmers' livelihoods have recovered, however they are struggling in comparison with other groups, and their living situations have worsened. Apart from reconstruction jobs for unskilled construction workers, masons and carpenters, opportunities and incomes have not improved.
- *Limited financial resources for earthquake-safe houses:* The lack of financial resources for earthquake-safe houses is a major threat to people's livelihoods. This problem remains, despite all humanitarian efforts.
- *Dependence on remittances:* Remittances were the only constant source of income in the weeks and months immediately following the earthquake. However, they are often not enough to finance reconstruction efforts to build earthquake-safe houses, and it is not clear how migration is affected by the earthquake in the long run.

In general, the humanitarian assistance had a limited effect on the local economy and livelihoods of people. The efforts of a few humanitarian agencies were reduced to offering skill trainings, which were too low in number to make a real difference. People are still greatly concerned about their livelihoods and feel incapable of coping with future disasters.

6.1.3 Social environment

Strong social networks are a decisive factor for quick recovery and disaster preparedness. Sharing of labour in repairing or rebuilding of houses, provision of credit, exchanging experiences and information, and feeling of (social) safety can help people cope. How the earthquake and humanitarian assistance have influenced these social relations in Gorkha is analysed hereafter.

Social ties and community cohesion

The social cohesion between different castes had been weak prior to the earthquake. Different castes/ethnicities used to live in separated communities, thus, they were not only socially but also spatially separated. The earthquake changed this. Many people lost their homes, and entire communities were destroyed and had to relocate, shaking up the previous spatial segregation. Earthquake victims from all castes were forced to eat together, to live together. To understand how social relations have evolved after the earthquake, three aspects are analysed: the perception of fairness of aid provided, social tensions and violence in communities.

Some humanitarian agencies applied a blanket approach, some targeted vulnerable people. While, with a blanket approach, aid is provided only depending on the damage, a targeted approach takes socio-economic characteristics into consideration, focusing on the most vulnerable. Both approaches can have lasting effects on the relations between different social groups. Therefore, a decisive factor is if the humanitarian aid is perceived as fair by the affected people, and can thereby prevent prejudices and jealousy. Based on the CFP data, people judged the humanitarian aid as mostly fair, as can be seen in figure thirteen. While in July 2015 almost one-third of people indicated that the aid provided was “not very fair” or “not at all fair”, this number decreased with minor ups and downs to two per cent in January 2016, resulting in the variation of mean scores from 3.5 to 4.1, respectively (Inter-Agency Common Feedback Data, 2015-2016).

Is support provided in a fair way?

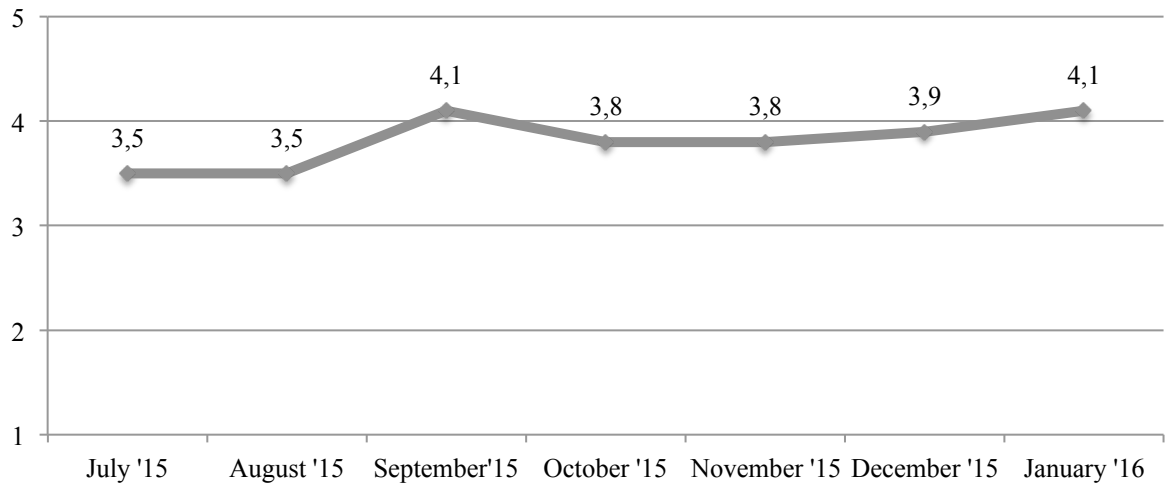


Figure 13. Trend of mean score on fairness of aid

Source: based on (Inter-Agency Common Feedback Data, 2015-2016), own calculation

The people perceiving aid as unfair stated, as a reason, that it was mostly based on a first-come-first-serve principle, on distances—meaning that people living in remote areas were disadvantaged, and on party and caste affiliation (see figure fourteen). However, due to the differing sample size, the percentages have to be interpreted with caution.

The sum of the top two reasons why people feel treated unfairly

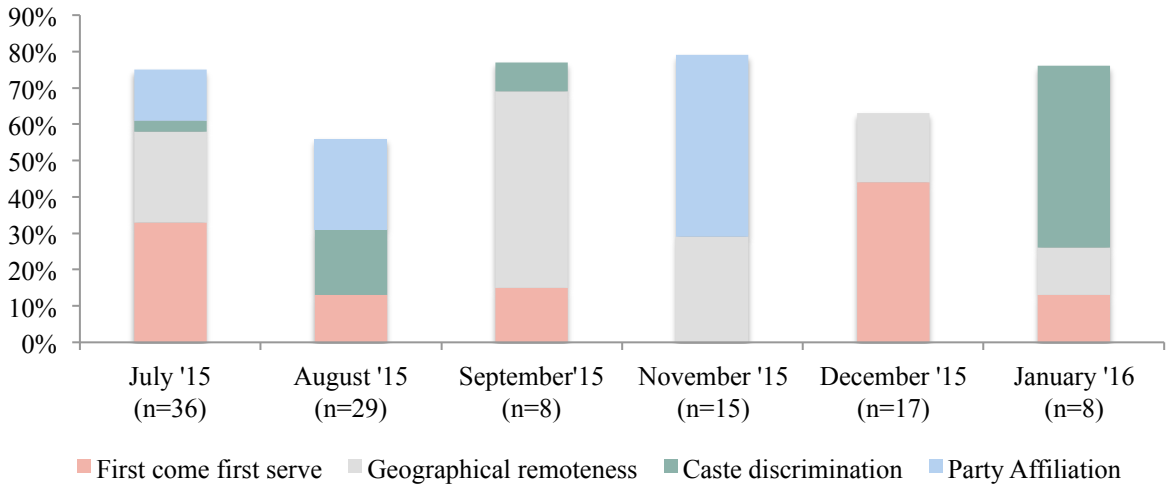
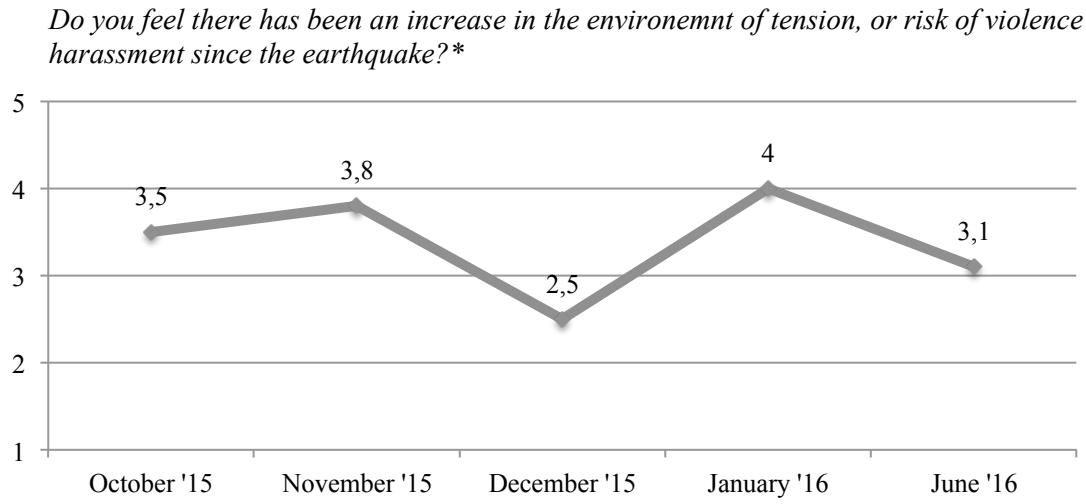


Figure 14. Reasons for unfair treatment

Source: based on (Inter-Agency Common Feedback Data, 2015-2016), own calculation

From this data, it can be concluded that the assistance provided by humanitarian agencies was not perceived as generally unfair. With only very few people feeling that its distribution was based on caste affiliation, it can be assumed that the humanitarian aid did not have an adverse affect on the relations between different castes.

A slightly worse picture of the social cohesion in communities can be determined by looking at the perceptions in regard to tensions in the community (see figure fifteen). Particularly in the winter, the mean score dropped when respondents were asked about tensions related to earthquake recovery.



*In June '16 the quesion asked slightly differed: Do you feel there is any tension within your community related to earthquake recovery and reconstruction support?

Figure 15. Trend of mean score of environment of tensions in the community

Source: based on (Inter-Agency Common Feedback Data, 2015-2016), own calculation

Displacements or resettlements of people and delays in recovery are often the cause of these tensions, which are expressed regarding smaller issues, especially water sources:

> *"The social cohesion that we saw in a few places after the earthquake has kind of deteriorated. For example, there is one place where the Brahmins, so-called higher caste people allowed lower caste people to come and settle and live there to a very minor rent. Now after a year they are like 'maybe they need to go to their own places' and that is being reflected on small issues, like water issues. They don't want to be touched by them, they complain that they are dirty and they shouldn't be close to the house." (Interview National Research Institute, 2016)*

It can be observed that the initial welcoming attitude of so-called high castes towards other castes/ethnicities has deteriorated over the months. However, the reported incidents were minor and social tensions remained mainly unaffected by the earthquake (Interview NGO #1, 2016).

While social tensions are a minor problem in communities, violence is a big issue. Ninety per cent of interviewed people report that there is a problem with violence in their community (see figure sixteen), mainly in the form of domestic violence.

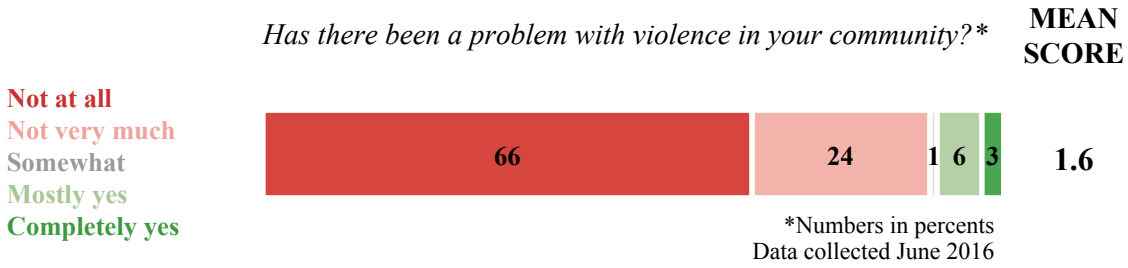


Figure 16. Violence in the community

Source: based on (Inter-Agency Common Feedback Data, 2015-2016), own calculation

Access to information, education and training

A major concern and cause of people's vulnerability is the limited access to education, which has been a problem for decades. After the earthquake, the access to education became even worse. Due to the hundreds of destroyed school buildings and the slow recovery process (see section 6.1.1), many children are still taught in temporary shelters that do not fulfil the children's needs, especially those of girls due to their monthly needs (Interview No. 2 Multilateral organization, 2016). Further, parents mostly consider school as an unsafe place (see figure seventeen), and naturally the reluctance to send their children to school is growing.

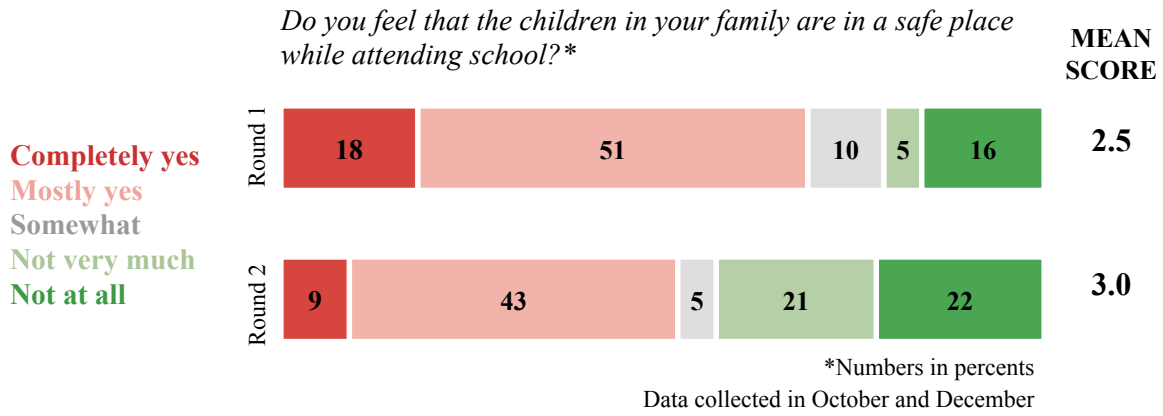


Figure 17. Safety of children at school

Source: based on (Inter-Agency Common Feedback Data, 2015-2016), own calculation

Closed access to education and improper school winterization is seen as a major concern for children (Inter-Agency Common Feedback Data, 2015-2016). (I)NGOs wanting to rebuild schools are missing a clear directive from the government with the guidelines for reconstruction (Interview National Research Institute, 2016), thus, even from the non-governmental side, education is unintentionally neglected.

Limited recovery and risk preparedness

People were living in unsafe conditions and showed little preparedness for such a devastating event as the Gorkha earthquake in 2015. With the earthquake came the realization that such an occurrence can be a major threat to people's lives and livelihoods, and risk awareness has therefore risen. The translation of risen awareness into better preparedness includes various aspects such as earthquake-safe shelters, emergency plans, community cohesion, etc. However, being prepared for another disaster requires having recovered from the previous one, and having the ability to handle everyday live. Looking at preparedness in Gorkha, it is very apparent that it is heavily dependent on climatic conditions. Particularly in the first winter following the earthquake, people felt ill-prepared due to poor shelters that could not keep out the snow, and due to a lack of warm clothes and blankets. While people's preparedness has improved since, about one year after the earthquake more than one-third of people still did not feel prepared for the upcoming season; this inhibits their ability to prepare for future disasters (see figure eighteen).

Are you prepared for monsoon/winter?

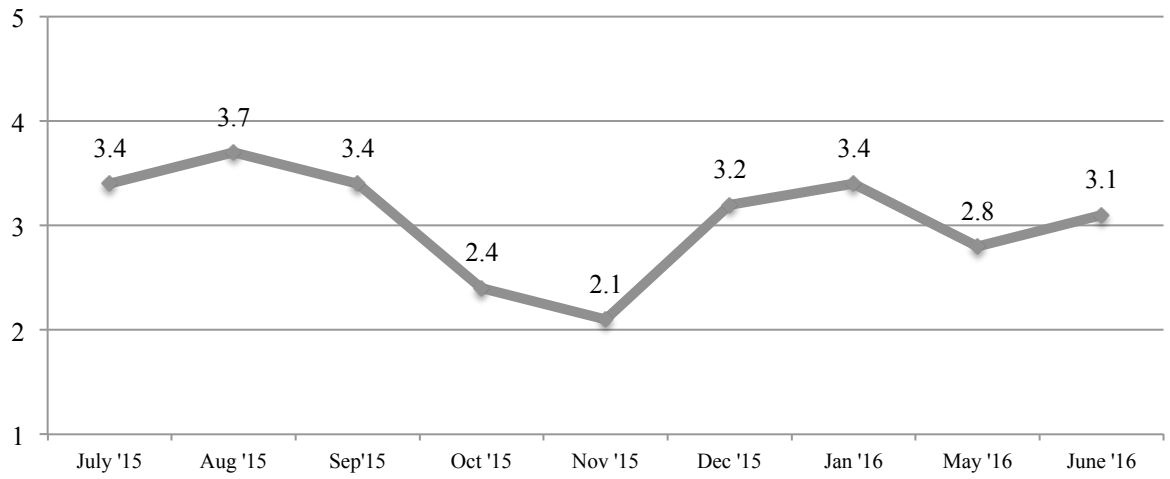


Figure 18. Trend of mean score on preparedness

Source: based on (Inter-Agency Common Feedback Data, 2015-2016), own calculation

On the side of (I)NGOs, there are attempts to not only provide affected people with the necessary items, but also to train them how to behave in future earthquakes. So-called disaster response trainings are offered in cooperation with the military and have received very positive feedback (Interview NGO #2, 2016). However, few of these trainings are offered, and thus will not suffice to ensure people are better-prepared.

Overall, it can be concluded that the earthquake has altered the social environment only very marginally. The humanitarian aid after the event has neither improved nor worsened social relations very much. Thus, unsafe conditions in the social sphere remain largely unchanged:

- *Social cohesion limited to within castes/ethnicities:* One-and-a-half years after the earthquake, social relations are mainly unaltered in comparison with before the earthquake. While in the months after the earthquake social cohesion between different castes grew, mainly through sharing a trying experience, this development was reversed over the ensuing months. Caste affiliation still adversely affects community cohesion and how this develops with the delayed reconstruction process remains to be seen.
- *Limited access to information, education and training:* The destruction of school buildings and negligible efforts to reconstruct permanent earthquake-safe houses not only prevents some children from receiving an education, but also make parents

doubtful about their children's safety at school. Thus, the access to education has been adversely affected, and efforts of humanitarian agencies to improve this are lacking.

- *Lack of risk awareness and limited preparedness:* While risk awareness has risen in Gorkha, people are not better prepared for an earthquake than they were before.

6.1.4 Politics & leadership

The representation of vulnerable groups in decision-making processes is fundamental to ensure that decisions take into consideration the needs of these marginalized groups. Vulnerable groups were neither appropriately represented nor was much regard paid to their needs prior to the earthquake (Save the Children, 2016). The earthquake challenged the government on a national as well as district level, and, as with every crisis, the opportunity arose to change established leadership roles, governing bodies, and structures. Whether this opportunity was used is discussed below.

Lack of trust in government and (I)NGOs

Corruption has caused lack of trust in the government as well as (I)NGOs. The humanitarian and development system enjoyed little confidence on the side of the population in pre-earthquake times and was judged to be too bureaucratic and inefficient. The earthquake could have been a chance to alter this image and regain trust, but, due to several difficulties, these entities failed to do so.

First, favoritism interfered with the distribution of government aid and many affected people reported that only party affiliates were listed as people in need.

> *"They [those responsible for creating the eligibility lists] will give just the name of the beneficiaries close to them, who are affiliated to the same parties. In many focus group discussions we have found that. It is unfair the work of political parties because they are providing the list of the name, who are just affiliated with their parties, or who just are near to them. Nepotism, favouritism. And it ultimately is related to the cause of tension." (Interview No. 2 Multilateral organization, 2016)*

Complaints about the distribution of aid based on party affiliation were especially raised in the immediate months after the earthquake. However, authorities realized this problem, and in later assessment these complaints about favouritism and corruption decreased, but still, the distrust remains.

Second, the image, that the government and (I)NGOs are inefficient in their doing, was reinforced in the first months after the earthquake. As can be seen in figure nineteen, affected people were rather unsatisfied with the government's and (I)NGO's work. In the first months after the quake, often one quarter to one third of respondents indicated that they were "not satisfied at all" or "not very satisfied" with the government/(I)NGOs.

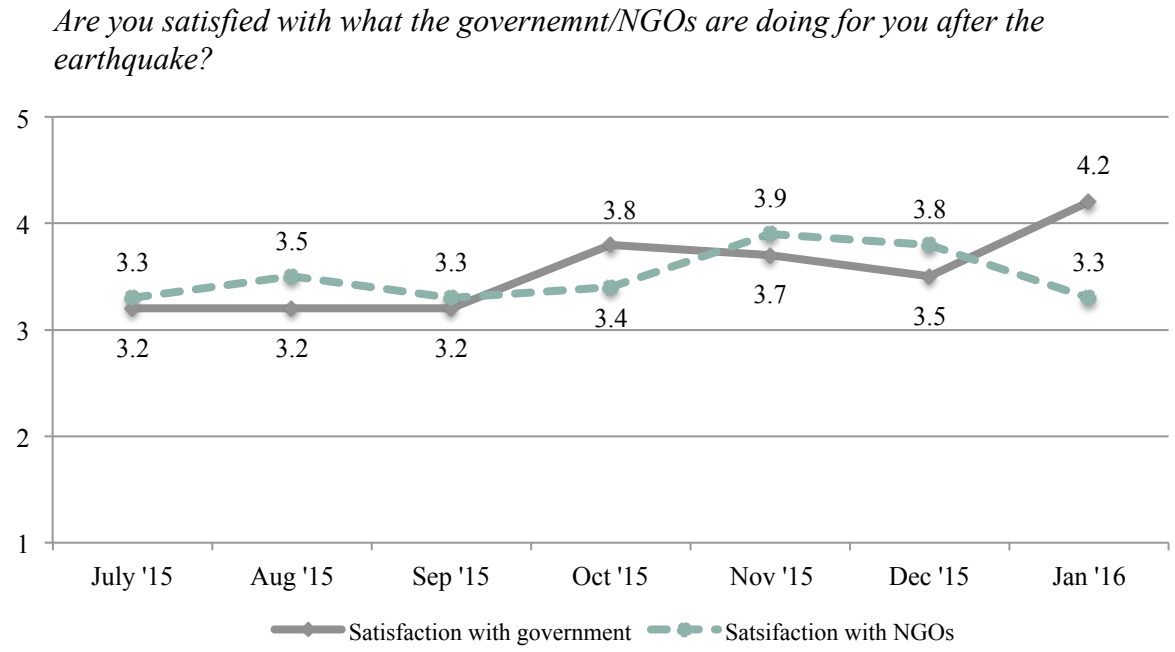


Figure 19. Satisfaction with government's and NGO's work

Source: based on (Inter-Agency Common Feedback Data, 2015-2016), own calculation

Amongst the reasons, why, for example, (I)NGOs caused discontent, is that people show little trust towards them, and promised relief was not received (Inter-Agency Common Feedback Data, 2015-2016). This confirms the previously bad image of (I)NGOs, and they continue to be seen to "spend too much money on administration and don't reflect enough" (Interview National Research Institute, 2016).

Interestingly, the score on the satisfaction on the government's work strongly increased in January, and maybe the government's system, which is seen as bureaucratic, corrupt and delayed (Interview National Research Institute, 2016), has improved in people's eyes. It would be important to observe how this score develops, especially in light of the delayed reconstruction process, to know if this score remains an outlier.

The third barrier, for an improving the image of the government and (I)NGOs, presented the one-door policy implemented by the government. It gave the humanitarian agencies a limited

scope, and the government has remained the most prominent aid provider. (I)NGOs were not only restricted through the one-door-policy but also with a lengthy process to receive permits to provide aid:

> *"They [(I)NGOs] just could not get permits sometimes. (…) NGOs have to go through a very strict and bureaucratic process, even to offer assistance. That has become a very big challenge. Even for Oxfam and the big NGOs, INGOS, it is really a challenge to get government permits." (Interview National Research Institute, 2016)*

The difficulty in acquiring permits has hampered the work of many (I)NGOs, and has led to frustrations on the side of the people (Interview National Research Institute, 2016). In addition, the aid provided often did not match the needs perceived to be most urgent by the affected people (The Asia Foundation, 2016a). Over time, humanitarian agencies slowly adjusted their assistance in their limited range of possibilities. However, in general, the trust in the effectiveness of humanitarian aid could not, and, in light of the slow reconstruction process, very likely will not improve.

Neglect of special needs of vulnerable groups

The blanket approach applied by the government and some local NGOs was justified with the statement that "the earthquake did not discriminate, thus the humanitarian assistance should not either" (Interview INGO #2, 2016; Interview NGO #2, 2016). However, people belonging to vulnerable groups were disproportionally affected by the earthquake: about forty-one per cent of damaged houses belonged to Dalits and indigenous communities, twenty-six per cent to female-headed households and twenty-three per cent to senior citizens. The elderly may not have the manpower, and single-mothers not the time to repair or reconstruct their homes. Further, women, Dalits and ethnic minorities, are less likely to be the official house- and landowner, putting them at risk to not be eligible for reconstruction programs. A blanket approach can exacerbate vulnerabilities and entrench social disadvantage (Save the Children, 2016). While there have been efforts to target these vulnerable groups by non-governmental and governmental actors, the needs of marginalized people have not been adequately addressed. Organizations representing vulnerable groups have only been poorly involved in humanitarian clusters at national and district level, which has been a missed opportunity to give a voice to vulnerable groups. This can be seen as a continuance of a nationwide pattern (Save the Children, 2016).

No or little representation of vulnerable groups in decision-making positions

In Nepal, the exclusion of vulnerable groups in decision-making processes, not only in regard to governmental and administrative positions, but also specifically in the humanitarian response, leads to a questioning of the impartiality and inclusivity of policies. Considering that there have not been local elections anywhere in Nepal since 1996 further queries the accountability to affected people.

The unelected VDC secretaries, who were mainly in charge of coordinating the response, have worked closely together with representatives of political parties. Thus, parties have exerted some influence over local-level decisions about relief distribution in the first months after the earthquake, although their role has been neither formal nor clear. With RDCs becoming less active and the NRA in place, political parties have reduced their interference in earthquake recovery and have resumed their normal activities (Interview National Research Institute, 2016).

Now, the nature and level of political activities is largely back to pre-earthquake times (The Asia Foundation, 2016a). Still, there have not been any elections nor are any planned. Access to decision-making positions remains barred for vulnerable groups, and with their living conditions being worse than before the earthquake, they are even less likely to participate in politics:

> *"Indigenous groups, women, other marginalized groups don't have that much say. Which is also why in the process people don't feel very included; every decision is made by some male, high caste person. (...) They [vulnerable groups] don't bother because they are busy with making sure they have enough food on their plate, rather than talk about politics (...) comparatively many people in the village were interested about politics, now they are just...they have lost everything in the earthquake, they don't even have houses." (Interview National Research Institute, 2016)*

The humanitarian assistance has failed to actively involve vulnerable groups. It has not taken the chance to break up and positively influence prevailing power structures and engage vulnerable people in decisions affecting them. Overall, none of the aspects involving the political sphere have changed positively in the humanitarian response phase.

- *Lack of trust in government and (I)NGOs:* People remain sceptical about governmental and non-governmental activities, mainly due to the delay in reconstruction.

- *Neglect of special needs of vulnerable groups in communities:* While many (I)NGOs have specifically targeted vulnerable groups, the main aid provider, the government, has not, and still ignores the fact that marginalized people have been more intensely affected and show little coping capacity
- *No or little representation of vulnerable groups in decision-making positions:* The increased hardships faced by vulnerable groups after the earthquake make them even less likely to actively participate in politics. Further, the humanitarian response has missed the opportunity to change the system in a way that gives a voice to vulnerable groups and lets them represent themselves.

All in all, a pretty depressing picture emerges from analysing how the earthquake and the subsequent humanitarian aid have influenced the unsafe conditions thus far. Many unsafe conditions have not been addressed by humanitarian agencies, which could be attributed to governmental restrictions, or to unawareness and ignorance.

Furthermore, a new unsafe condition must be added after the earthquake: water scarcity. Not being a great concern in the immediate aftermath, it has slowly become a pressing issue that causes problems on various levels. It adversely affects social relations and livelihoods, and, thus, also politics. Some people had to dislocate and give up their livelihoods because of the drying up of water sources after the earthquake (Interview No. 2 Multilateral organization, 2016). Water scarcity is not only an urgent problem in Gorkha, but in many affected districts, and has hopefully been recognized and addressed by governments as well as humanitarian agencies.

6.2 Dynamic Pressures

Dynamic pressures are the links between root causes and unsafe conditions, and can be allocated on a meso-level. They involve processes and activities that are generated by the root causes and translated into the described unsafe conditions that people face. Regarding the earthquake in 2015 and the humanitarian response, they comprise the enforcement of building codes by the state, public disaster preparedness, the discrimination in education that vulnerable groups experience, migration and urbanization.

Building code enforcement

Though the government cash grant has created an incentive for people to comply with the NBCs and reconstruct in an earthquake-safe manner, the many barriers such as limited access to information, insufficient financial capital and lack of skilled labour have led to only a weak enforcement, to date. The grant is the only control mechanism the government has set up to check if building codes are applied, and the offered mason trainings are not enough to ensure the widespread distribution and application of knowledge. In general, the lack of information about how the governmental reconstruction process is planned has left people confused and frustrated. The NRA, and with it the government, has been very indecisive, and have shown no coherence in their policy so far. The reconstruction authority has transformed the humanitarian crisis into a bureaucratic process, displaying a high degree of cultural insensitivity (Interview National Research Institute, 2016). Thus, it has to be seen how the reconstruction process and the enforcement of building codes develop in the NRA's five-year reconstruction plan.

Disaster preparedness

Prior to the earthquake, there was little public awareness about earthquake risks. While this has naturally changed due to the actual earthquake, the question remains if the state has transformed this awareness into better risk preparedness. In terms of earthquakes, this is closely connected to earthquake-safe building practices, which were assessed in section 6.1.1, and, as just described, are rather limited in their enforcement. But earthquake-resilient reconstruction is not the only aspect of risk preparedness. Having an effective disaster plan and the necessary structures and resources in place are essential. After the relief phase, frameworks such as the "Post Disaster Recovery Framework" were developed to clearly define roles and formulate the next steps to develop an earthquake-safer Nepal. If the goals set in these frameworks are realized, Nepal should be better prepared for future disasters. However, improvements have to be seen in perspective, as one NGO worker fittingly says: "what is improvement? You are starting at such a low level, so everything even a little better is an improvement" (Interview NGO #1, 2016).

While there might be better structures in place, the government has failed to convey these improvements to its people. That people trace their low coping capacity back to the absence of a preparedness plan (see section 6.1.2) demonstrates that the belief in the government's

abilities is low, and that the government has failed, so far, to reassure people that they have improved frameworks for future disasters.

Discrimination and disadvantages in education for vulnerable groups

The access to education has deteriorated. The 28,000 destroyed classrooms adversely affected education for children of all classes and castes. Nevertheless, children from families that are poor continue to encounter difficulties getting a good education. Establishing equal access to education is a slow process, and unfortunately it cannot be assumed that the earthquake has accelerated this process. Rather it has further disadvantaged children from poor families. Despite the absence of school fees, financial restrictions prevent school visits; children are required to help out on the fields, as their families' incomes have suffered and savings have dried up after the earthquake (Interview National Research Institute, 2016).

Corruption

As described in 6.1.4, favouritism and clientilism remained common in the immediate relief and the recovery process. Corruption, paralyzing the country's development before the earthquake, continues to be common. Ranging on 129th place in the Corruption Perception Index the year before the earthquake, Nepal's score dropped and it descended to 131st place in 2015, hinting at increased corruption in the aftermath of the earthquake (Transparency International, 2017). Especially in light of the large amounts of financial aid[12], corruption is a major problem for the country, hindering the reconstruction and harming relations to donors and their governments. Already "[b]ecause of the widespread corruption and bureaucracy within the government of Nepal, international donors like DFID have channelled their money into the big NGOs and UN agencies to deliver their programmes" (Cox, 2015). Thus, small national NGOs are unlikely to ensure grants for reconstruction work. Institutional changes necessary to combat corruption have not been realized so far, and thus, corruption remains a widespread issue in the country.

Migration patterns and urbanization after the earthquake

As has been analysed in section 6.1.2, the effects on migration have not been clear. Several people returned to Nepal after the earthquake to help reconstruct their families' houses. Some of the people remaining abroad are waiting for the actual start of the reconstruction process

[12] Mid November 2015, US-$ 200 million of aid have been distributed to Nepal – pledged have been US-$ 441 million, leading to a distribution gap of US-$ 241 million ("The 2015 Nepal Earthquake. Stories, Impact, and Next Steps," 2016).

before sending remittances. Men of working age who were in Nepal during the earthquake see migration as the best chance to support their families, though many have lost the resources to go abroad (Interview National Research Institute, 2016; Interview NGO #1, 2016). Thus, different, and partly opposing, dynamics influence migration and make the effects difficult to track. In general, it is unlikely that the number of people going abroad to work has been significantly reduced because of the earthquake or the resulting humanitarian aid. Instead, there might be a slight positive trend due to the increased economic hardships (Interview INGO #3, 2016; Interview National Research Institute, 2016).

The same applies to urbanization. In the immediate aftermath, people returned to their villages to help; however, by now many have taken up their lives in the cities again. Young people, in particular, continue to be drawn to bigger towns and cities, and the ones that are staying in rural villages often do so because they have to take care of family members (Interview NGO #2, 2016).

Thus, the earthquake, and with it the humanitarian aid, has had very limited positive influence on the dynamic pressures leading to vulnerability. Some aspects have even worsened, and the efforts of humanitarian agencies have not been widespread and effective enough to sustainably influence the dynamic pressures and thereby decrease the level of vulnerability. More time needs to pass, and a clearer trend could likely be identified by 2018, when most humanitarian agencies plan to have completed their activities.

- *Lack of building code enforcement*: Apart from the government's cash grant scheme, there is no monitoring of code implementation. Even though the government has set an incentive to fulfil the NBCs, it is sceptical itself about the compliance rate. The reconstruction process has not proceeded far enough to draw conclusion about the degree to which the implementation of building codes has improved.
- *Lack of awareness of earthquake risk in public:* Risk awareness has significantly improved.
- *No adequate disaster preparedness and lack of risk adaptation on part of the state:* Attempts exist to improve disaster preparedness, however, it is questionable if they will be efficiently implemented in the near future.

- *Discrimination and disadvantages in education for vulnerable groups:* Structural disadvantages remain, mostly due to the increased level of poverty of the already-poor.
- *Migration of people in their working ages:* No clear trend is yet observable, but migration is likely to have remained stable or slightly increased.
- *Urbanization:* The earthquake seemed to have no big influence on urbanization, but, as is the case with migration, a clearer trend will be unidentifiable until the end of 2017/2018.

6.3 Root causes

Root causes refer to the distribution of power and resources in a society. As discussed in detail in section 5.1, power and access to resources are mainly assigned along caste and gender in Nepal, due to its history. Further, the political instability has weakened the country for years. The influx of humanitarian agencies after the earthquake has increased the global presence in Nepal, and, with it, the attention of the international community on Nepal's government and society. If, and how, the humanitarian presence and its response to the earthquake has influenced the root causes of vulnerability is explained hereafter.

6.3.1 Hierarchical caste system

The hierarchical caste system is deeply entrenched in Nepalese society. The 2015 Gorkha earthquake was a far-reaching event that deeply affected a great share of the population. The subsequent humanitarian disaster shook up pre-existing social structures and presented an opportunity to challenge them. To what extent the hierarchical caste system was influenced by the earthquake and the humanitarian response is analysed by looking at changes in caste-based discrimination in the public and private spheres.

As described in section 5.1.1, people belonging to so-called "low-castes" have faced various forms of discrimination, comprising denial of access to public spaces, health services, well-paid jobs and education. The houses of "lower-castes" and indigenous groups were disproportionally affected in the earthquake, although people from all castes have lost their houses and were forced to live together under cramped conditions in temporary shelters. Sharing the same experiences and living closely together, contrary to the usual spatial

segregation, positively influenced social tensions and diminished hierarchical structures. However, once the response phase was over and people started to rebuild their houses, pre-existing caste-based discrimination and prejudices surfaced again (Interview National Research Institute, 2016). Now, about twenty months after the earthquake, caste-based discrimination in the public sphere is ordinary again and "water has become the most important factor for rising tensions" (Interview No. 2 Multilateral organization, 2016). With the scarcity of water, which has become a major problem, "lower-castes" face increased difficulties accessing public water sources.

Actually, the humanitarian response has triggered jealousy and resentments. "Most of the upper-caste people, they are complaining nowadays that they have been victimized because all of the INGOs have focused on the poor, not only poor, but low caste people." (Interview No. 2 Multilateral organization, 2016) The focus on vulnerable people of many humanitarian agencies has led to "upper-caste people" feeling discriminated against; they are not prioritized in a way they are accustomed to (Interview National Research Institute, 2016; Interview No. 1 Multilateral Organization, 2016). While the targeted approach that approximately ninety per cent of (I)NGOs followed (Interview INGO #1, 2016) led to tensions between castes based on jealousy, the blanket approach by government authorities contributed to widening social inequalities. As people from "lower-castes" are more likely to have insufficient financial resources to ensure earthquake-safe features, they are unlikely to be eligible for further tranches.

> *"The situation of the poor will become even worse because the one that does not have anything will not be able to be eligible to get more money. Which is kind of … you just basically penalizing poverty there because the people who have some own money can use that 50.000 and be qualified for more money." (Interview National Research Institute, 2016)*

Thus, poverty, which cannot be equalized with castes but is intrinsically linked to it, will worsen, which will also adversely affect social relations. While the government tried to prevent social tensions by applying a blanket approach, it actually fostered poverty and, thus, social hierarchies. Furthermore, the new constitution did not change much; neither do "lower-castes" have better access to public offices nor has the earthquake had any positive influence on the education of children from "lower castes". In the private sphere, no lasting positive effects in regard to caste-based discrimination can be observed either.

6.3.2 Patriarchal system

The limited access to resources, fewer rights and worse societal position make it more difficult for women to cope with disaster. This general tendency proved true in the Gorkha earthquake. Not only were women disproportionally affected in terms of death and injuries, but they also faced more challenges in the recovery process. The land is often not in their names, they do not have their own housing, they often do not have citizenship nor can pass it to their children. Because of these factors, their access to grants, loans and other resources is restricted (Interview NGO #1, 2016). The situation of women has worsened with the earthquake, especially of those whose husbands have gone to work abroad and have left their wives alone to reconstruct/retrofit the houses. Problems that have existed before the earthquake, for example, domestic violence, continue, or have gotten worse (Interview INGO #3, 2016; Interview NGO #3, 2016). The presence of international organizations was not sufficient to challenge the patriarchal structure and, thus, it remains unaltered. While women's societal status has stayed the same, the hardships faced by women have become more apparent: "The situation of women was exacerbating by the earthquake but it is not because of the earthquake that these problems exist. They have existed but the earthquake has brought them more to the fore." (Interview NGO #1, 2016)

6.3.3 Political instability

The disaster represented a major challenge for the government, and while some praise the way the government dealt with it, others condemn it. In actuality, the earthquake has neither led to more political stability nor triggered any policy change. Some voice that "the government is even more focused on their own issues now" (Interview NGO #1, 2016). The long-awaited constitution that was passed in October 2015 brought neither changes nor elections. Thus, the country has been without any democratic elections since 1996, and the wrangling between the three major political parties continues. On a positive note, however, the relief distribution after the earthquake has not been politicized on a national level, and has only led to minor conflicts between political parties (The Asia Foundation, 2016b).

In conclusion, the humanitarian response after the earthquake has had no lasting effect on the power imbalances prevailing in the Nepalese society and politics, and thus, the root causes of vulnerability have remained unchallenged. The access to power and resources is restricted to the elite of the country, which comprises "upper-caste" males. The hierarchical social

structures have stayed in place and unquestionably continue to dominate the life of the people. Actually, social inequality and caste- and gender-based discrimination have increasingly been brought to the fore in the light of the slow recovery process. Vulnerable groups face more obstacles in accessing information, education and loans. Especially Dalits, Janajatis, women (from these groups), people living in remote areas and displaced people experience resentment. The humanitarian crisis has not had any long-lasting positive influence on the quarrels of politicians and their parties, and has not contributed to creating a more stable political environment.

Chapter 7 Discussion

In this chapter, these disillusioning results are connected to the theoretical and conceptual frameworks described in chapter two. Through the interpretation of social vulnerability to earthquakes within the PAR model and the identification of the role of institutions and power relations, it can be assessed how their combination helps to overcome the individual restrictions of each model and theory. With help of this interpretation, it can be clarified what constraints the humanitarian response has faced in the case of Nepal. In conclusion, a connection to other debates and disasters is established.

7.1 Social vulnerability of earthquake affected people within the PAR model

The PAR model has been applied as a tool to systematically understand vulnerability of people towards earthquakes in Nepal. The model explains a disaster with two opposing forces: on one side the natural hazard, in this case earthquakes, and on the other the processes causing vulnerabilities, structured in root causes, dynamic pressures and unsafe conditions (Wisner et al., 2004). Finding and understanding these processes is the focus of this study, since only then can the negative impacts of disasters be reduced (Birkmann, 2013b).

The root causes, dynamic pressures and unsafe conditions vary regarding the "distance" between the process or cause of vulnerability and the people impacted by a disaster. On a macro-level, the root causes structure the exercise and distribution of power within a society. It is found in the case of Nepal that the hierarchical caste system and the patriarchal system are two dominant systems that impede the access to resources, political and social power for people belonging to "lower-castes" and for women. These two systems have in common that they are not only temporally distant, as results of historical development, but are also intangible, being embedded in cultural assumptions, ideologies, beliefs and social relations – both two typical characteristics of root causes (see Wisner et al, 2004). Further, the political instability, which has troubled the country for years, has led to internal power struggles and can be identified as a further root cause. Despite not being a system per se, it can nevertheless be named a root cause as it triggers various processes that have their bases in the dysfunction of the state. Since Wisner et al. (2004) state that the most important root causes that give rise to vulnerability include political processes, the function or dysfunction of the state cannot be neglected in the analysis. Further, similar to the discriminatory caste system, the political

instability within the country cannot be detached from the patriarchal system, and is connected to both caste and gender.

The manifestations of named root causes, the dynamic pressures, bring underlying unequal economic, social and political patterns into light. Defined as the "processes and activities that 'translate' the effects of root causes both temporally and spatially into unsafe conditions" (Wisner et al., 2004, 53), they can be allocated to a meso-level. The preceding analysis has resulted in the division of dynamic pressures into those that have been caused by a "lack of" and by "macro forces". The former unites the lack of building code enforcement, risk awareness and preparedness on parts of the state and awareness of earthquake risk amongst the population. Under the second, discrimination and disadvantages in regard to education for vulnerable groups, corruption, migration and urbanisation can be listed. These dynamic pressures are not, per se, "bad" or vulnerability-inducing. The local and historical context determines for which individuals they turn out to be negative (Wisner et al., 2004). For example, remittances, a result of migration, presented a stable and unaffected income for affected people after the earthquake, and those having family members working abroad were financially better off. Thus, in the process of analysis it has to be open-mindedly considered "how pressures play themselves out 'on the ground'" (Wisner et al., 2004, 54) to understand the way they affect people.

Social vulnerability towards earthquakes becomes apparent through various facets of intangible and tangible nature that can be categorized into physical environment, local economy & livelihood, social environment and politics & leadership (see for a detailed list figure PAR). These categories are essential for understanding vulnerability in this case. The first, the (not) earthquake-safe physical environment, is especially determinant in terms of earthquakes; the second is crucial as vulnerability is reflected and caused by inadequate livelihoods that are not resilient to any disturbances (Wisner et al., 2004). The third, the social environment, can enhance or hinder the social capacities to deal with disasters, and as long as vulnerable groups do not have the same access to decision-making positions, their vulnerability continues.

The results analysed with help of the PAR model yield a complex picture in which vulnerability is mainly driven by the hierarchical caste system, the patriarchal system and the dysfunction of the state, all closely connected with the historical and cultural development

and prevailing ideologies that have influenced the distribution of power and resources within the society. Thus, the results have to be further analysed in light of a theory of institutions that lay the foundation for the described unequal social, political and economic system.

7.2 The role of institutions in the creation of vulnerabilities

Institutions are humanly devised constrains that structure human interaction. Formal ones constitute laws and regulations, informal ones behaviour, norms, rules and customs (North, 1993). The preceding analysis has shown that unequal access to resources and political and social power is produced and reproduced through the belief system, norms, customs and rules of a society – in other words, institutions. Thus, NIE form a valuable foundation to analyse how vulnerabilities resulting from inequalities are shaped and how they can be influenced.

The underlying analysis has yielded three root causes – the political instability, and, even more strongly, the hierarchical caste and patriarchal systems. Particularly the latter two have been produced over long periods of time; they are products of history. They are formed and constantly form habits, rules and customs. Through everyday interactions, for example by denying someone access to public water sources because of their caste, by inhibiting the access to decision-making positions for women, by traditionally excluding Dalits from public festivals, these institutions are constantly reinforced. This provides them with a persistent character, typical for institutions (see North, 1993).

The caste and patriarchal system are constituted and reinforced by informal and formal constrains and norms. The formal foundation of the discrimination lying behind these institutions has been officially abolished, as elaborated in sections 5.1.1 and 5.1.2. Nevertheless, they endure, since the change of informal rules needs time. According to North (1993), successful reforms require the change of both formal institutions and the belief systems of people. While the formal background of institutions can be changed overnight, it is the alteration of informal constraints that takes time. Mental models, influencing choices and behaviour, have to be addressed (North, 1993). In this case, reshaping the hierarchical caste and patriarchal systems in people's heads, so that people refrain from everyday discriminations, is the greatest challenge. However, shaping only the hierarchical caste and patriarchal system is not enough – institutionalized behaviour can also be found on the meso- and micro level. For example, housing structures are strongly based on traditional building

types, often varying between different regions and sometimes even villages, and contribute to a region's identity. To incorporate earthquake-safe building features in these long-evolved building types requires convincing people to adapt their customs. Thus, humanitarian assistance has to address the belief systems of people in order to reduce vulnerabilities. In this regard, NIE not only provides a concept of how to better understand root causes, but also helps to guide their change.

7.3 Incorporating the role of power asymmetries

Restricted access to resources and political and social power stems from institutions creating inequalities. These unequal institutions are created through power asymmetries. Thus, vulnerabilities are intrinsically linked to power asymmetries and their analysis requires the understanding of power relations; thus, the results are connected to Foucault's ideas on power.

Power relations shape every interaction, and while analysing the institutions that form people's belief systems, power asymmetries always have to be paramount – according to Foucault (see section 2.4). Therefore, this analysis has begun with the power asymmetries that express the unequal access to resources, social power and political power, and only then led to the three root causes. Further, while these three causes expressed in long-existing institutions define this analysis and the structure of this thesis, it should not be forgotten that they are not the only shaping factors of people's living realities. Social networks play an influential role as well (see Foucault, 1983). Therefore, while ones' caste and gender may influence access to humanitarian assistance, vulnerability and coping capacity, the individual social network could "offset" previous factors. Again, these social networks are determined through power relations.

Power, in all contexts, shall not be analysed according to the question, "how does it manifest itself?", but by asking, "by what means is it exercised?" and "what happens when individuals exert (as they say) power over others?" (Foucault, 1983, p. 216). As power exists only when it is put into action, as Foucault (1983) states, relevant power relations in this case can be observed between the three main actors: government – (international) humanitarian actors – affected people. Explicit becomes the power relation "government – international humanitarian actors" in the one-door policy. This policy, determining that all humanitarian

efforts have to be coordinated by government officials (which are not democratically elected – see section 6.1.4) and committees, displays the asymmetric power relationship existing between the Nepalese government and international actors. Being heavily influenced by history and, in recent times, by neighbouring states (China, India) and other foreign governments (most of all Great Britain), it comes to no surprise that the country, which has only been a democratic republic for ten years, wants to make its mark as an independent, strong state, and (I)NGOs have had to accept their subordinate role. To concentrate the coordination of the humanitarian response in one actor can prevent chaos and misallocations; however, it can also, in the medium- and long-run, lead to an abuse of power and enhance corruption and inefficiency.

The relation between affected people and (international) humanitarian and governmental actors is characterized through a clear power asymmetry in disfavour of affected people. The means defining this relationship can be easily found in the dependency of affected people on distributed aid and their reduction to little more than aid receivers. “Political power becomes the most forceful and irresistible in situations of unreciprocated gift giving, where gifts turn into handouts, leaving people unable to decline or return the favor.” (Zhang) People in Nepal have answered this asymmetric relationship with a great degree of distrust towards (I)NGOs. While the subordinate role of “beneficiaries” is extremely unlikely to change, certain measures can slightly reduce power asymmetries by making actors more accountable, for example like giving people a voice in the process, attempted by the Interagency Common Feedback Project. Further, dissolving the “we-they” dichotomy between affected people and aid-givers can help as well. Categorizing people as victims, displaced, etc. through humanitarian assistance can reinforce hegemony and enhance disparities within society.

These power relationships mainly define the relief and recovery process and determine existing vulnerabilities, both now and in the future. However, in the formation of these vulnerabilities, the relationship between the Nepali state and its people plays an important role. The means of this relationship are laws and regulations, their execution and the services provided by the state. In this case, the asymmetric power relation is exercised through not providing equal opportunities to all individuals. While laws exist that guarantee equal rights to individuals, in reality not everybody has them or the power to defend them in front of the state. This has laid the foundation for the formation of vulnerability, and has now been manifested in the unequal educational and job opportunities, inadequate financial resources, and limited access to decision-making positions for vulnerable people. Thus, as long as the

means and effects of these asymmetries are not positively transformed, vulnerabilities cannot be diminished and some groups of people remain more exposed to natural hazards than others due to their socio-economic characteristics.

7.4 Overcoming theoretical shortcomings

To answer the research question, the PAR model is used as a tool to systematically investigate vulnerability. NIE, amended with Foucault's ideas on power, serves as a theoretical foundation. The analysis of existing literature, which preceded this case study, has not found any study with a similar combination of frameworks and theories. Instead, many vulnerability studies applying the PAR model do not specifically reflect their theoretical foundation, and no study on humanitarian assistance in combination with neither NIE nor the PAR model has been found. Thus, this case study represents a unique combination of theories and frameworks. Further, this combination helps to overcome the theoretical restrictions each framework/theory faces.

As is elaborated in section 2.5, the PAR model and NIE share many features (interdisciplinarity, time sensitivity, etc.), and it has been argued that NIE is suitable to form the theoretical foundation to this case study in combination with the PAR model. By supplying a theory on institutions, NIE provides assumptions on how formal and informal constraints have developed, structure the political, social and economic sphere and how to transform long-existing institutions. In this case, NIE has provided a framework to explain the social processes and phenomena in which the root causes, dynamic pressures and unsafe conditions are embedded. While the PAR model regards only the structures relevant for the creating of vulnerability, NIE tries to consider all kinds of social processes. Under its guidance, social structures in Nepal, relations and historical interdependencies with neighbouring countries and colonial powers have been considered in the analysis. The resulting three root causes of vulnerability are a product of history – they have developed over long periods of time. Their persistent character inhibits change and while the PAR model emphasises the need to change these to reduce vulnerability in the long term, North (1993) points out what is essential for this transformation. While these insights into institutional development refer to economic performance, they can be adapted to this case and are of crucial help. They can be a guideline to design humanitarian assistance in a way that addresses the root causes of vulnerability. All in all, NIE helps to overcome some

shortcomings of the PAR model. Nevertheless, some remain, and therefore Foucault's works on power need to be incorporated.

The PAR model incorporates and highlights the role of power asymmetries in the creation and manifestation of vulnerability. However, despite its central role in this framework, Wisner et al. (2004) do not provide a sufficient explanation of what power is and how to explicitly analyse power relations. Therefore, this model needs to be combined with a profound theory on power, which has to provide answers to the two questions above. Foucault's ideas on power fulfil these criteria. He explains power as diffused through all social life, and while embodied in actors, it manifests itself in social processes. This understanding of power guides first, the definition of pre-disaster vulnerabilities and second, how these have been influenced after the earthquake. Through putting a focus on social processes and detecting underlying power asymmetries, the shortcomings of a detailed power concept within NIE and the PAR model can be overcome. As not only Wisner et al.'s (2004) elaboration of their concept of power insufficient, more importantly, NIE's is even more so; thus, combining connecting these approaches undeniably demands the inclusion of a theory on power.

The combination of frameworks/theories has resulted in overcoming single restrictions. Nevertheless, many limitations remain unaddressed, and thus unsolved. For example, the results and their interpretation take place within the PAR model, and it is likely that this has resulted in the impression that tackling root causes (and limitedly dynamic pressures and unsafe conditions) is the only way to reduce vulnerabilities. Natural hazards in this context are perceived as unalterable. It is neglected that social actions can impact natural hazards directly and indirectly. The potential of hazard adaption and mitigation for reducing vulnerabilities is also not considered, and when interpreting the research results, this should be kept in mind. Further, the PAR model, even in combination with NIE, displays a great weakness in tracing changes over time. Despite acknowledging the factor of time, it is static, and changes are not easily identified and incorporated in the model. Nevertheless, Wisner et al.'s model is well-suited to understand that vulnerabilities are not equally distributed in society, and above all, not on a global scale. Further, almost no other model better explains how vulnerabilities are formed and expressed in society; therefore, its advantages outweigh the disadvantages, as long as it is underlayed with theories that alleviate its most dominant restrictions.

Thus, as described earlier, this thesis unprecedentedly combines the PAR model with NIE and Foucault's work, and points out new ways to systematically approach and understand vulnerability. Next to this contribution to the body of research on vulnerability, it also enhances that of humanitarian assistance. As illustrated in the introduction, research on humanitarian assistance is generally scarce, and its influences on humanitarian assistance itself are almost non-existent. Despite the hundreds of lives that could be impacted by research resulting in increased efficiency and accountability in humanitarian assistance, it is still an often-neglected field, which is surprising considering the rising amount of money dedicated to this sector (see section 1.1). Therefore, raising the question if and how humanitarian assistance can influence vulnerabilities is crucial for future disasters.

7.5 Vulnerability reduction through humanitarian assistance?!

The main objective of this thesis is to understand how humanitarian assistance can influence social vulnerabilities. However, firstly, the role and intentions of humanitarian assistance regarding vulnerability reduction is debated in order to be able to clarify their influences in the case of the 2015 earthquake in Nepal.

7.5.1 Introductory remarks – The role of vulnerability reduction in humanitarian assistance

Before trying to understand the influence of humanitarian assistance on social vulnerabilities, it first has to be established whether the objective of "reducing vulnerabilities" is reflected in the self-conception of humanitarian actors involved in the earthquake response. The universal definition of humanitarian assistance, as outlined in section 2.1, includes the strengthening of preparedness towards disasters. Disaster preparedness includes all systematic and conceptual measures that can be taken to prevent or reduce the negative consequences of natural hazards on society. The main objective is the reduction of exposure of people at risk – which comes along with diminishing vulnerabilities and strengthening coping capacities (Zentel, 2013). Looking at the various appeals and assessments of the Gorkha earthquake, it becomes clear that recovery efforts have aimed to reduce vulnerabilities and strengthen resilience: "Given the recurrence of disasters (…), it is only appropriate that recovery and reconstruction should be implemented in a way that it contributes to the resilience of the country, reflected in its economy, social cohesion and governance." (National Planning Commission of the

Government of Nepal, 2015) The intention was to diminish vulnerability not only in regard to earthquakes, but to the most pressing natural hazards. “Emphasis will be given to reducing vulnerability to existing hazards, the most important being reported as landslides and drought.” (OCHA, 2015) This demonstrates that the humanitarian actors have seen it as their task to ensure that recovery efforts do not recreate vulnerabilities that led to the disaster in the first place, but to reduce them in the long-term.

According to the PAR model, this cannot be achieved without tackling the root causes and thus, the underlying structures – a fact which has also been realized by major humanitarian actors. “Beyond ensuring that all houses are rebuilt to hazard-resistant standards, recovery and reconstruction aims to address the underlying processes that create vulnerability (even beyond the areas affected by the earthquake).” (National Planning Commission of the Government of Nepal, 2015) Through this approach, humanitarian actors have exemplified that they perceive it as their role to influence local structures where necessary. Thus, they have indirectly acknowledged that one of the main principles of humanitarian assistance, impartiality, cannot be followed when trying to improve the situation of vulnerable people. By implicitly accepting that humanitarian assistance cannot be apolitical, the “traditional” understanding has been abandoned, and the humanitarian actors of the earthquake response follow the school of new humanitarianism.

7.5.2 Reducing vulnerability through humanitarian assistance in case of the 2015 earthquake

After having established that organizations have recognized, first, the importance of reducing vulnerability in the context of humanitarian assistance, and second, that this reduction entails addressing the causing processes, the attention can be placed on the main research interest of whether humanitarian assistance can positively reduce social vulnerability. The results of this case study, described in chapter six, have yielded a rather unsatisfying picture.

The positive changes the humanitarian response has achieved all affect the micro level, the unsafe condition of vulnerability. For example, the awareness of building codes and risks has increased, the lack of skilled masons has been countered by numerous skill trainings implemented by international governmental- and non-governmental organizations and some humanitarian actors have erected earthquake-resilient and semi-permanent shelters, serving as

homes for affected people and school buildings. Altering root causes and other dynamic pressures has remained mainly out of the scope of the humanitarian assistance after the earthquake, and deep institutional changes on the level of the three main causes of vulnerability – the hierarchical caste system, the patriarchal system and the political instability – have failed to be realised. To some extent, they have even become more pronounced in the process. This is not an uncommon result of humanitarian assistance, as has been shown in studies of previous disasters (see for example Crawford, 2011).

It is undeniably negative that the humanitarian assistance of both international and national actors has had an intensifying effect on some causes of vulnerability. Therefore, it has to be understood why the humanitarian assistance, despite having the opposite intention, has led to this result and has not positively influenced the root causes. The described linkage between vulnerability and power asymmetries, described in section 7.3, and the difficulty to transform long existing institutions, described in section 7.2, are two possible explanations.

The power asymmetries that dominate Nepalese society, and to which humanitarian actors were also subordinate, have hindered the realisation of efforts to reduce vulnerability. Although post-crisis situations have been a turning point for many countries in the past, as they represent an opportunity to implement radical changes or reforms (Hilhorst, 2004), this is not the case in Gorkha. The earthquake has rather led to the reinforcement of existing power relations. These power relations, becoming explicit in all social processes, according to Foucault, have also become apparent in the interactions between humanitarian actors, affected people and governmental authorities, and the asymmetries existing in favour of the latter have frustrated both humanitarian actors and the Nepalese people.
To reduce vulnerabilities, the humanitarian response would have needed to dissolve power asymmetries between the government and the people, and within society. However, as they are subjected to power asymmetries as well, they face a difficult situation with limited opportunities.

Concluding, while the humanitarian assistance has made a difference in the lives of some, little to nothing has changed for many others, and their living realities have returned to the status quo. This frustrating conclusion is not uncommon – similar outcomes can be observed after other disasters, such as the 2004 tsunami in Sri Lanka, as described below (Lund, 2009).

7.6 Connection to other discourses and disasters

In light of the rather unsatisfactory achievements of humanitarian assistance as far as reducing vulnerability in the case of the Nepal earthquake, the next chapter thematises vulnerability reduction in previous disasters, after making a connection to other discourses and debates.

7.6.1 The environmental justice debate

Unequal exposure to natural hazards caused by one's socio-economic characteristics is not only widespread in countries of the global south, but is an issue in all societies. In the course of the environmental justice debate, research looks at environmental racism and classism to find reasons for differing risks amongst the population, mainly in countries of the global north (Chakraborty, Collins, Montgomery, & Grineski, 2014). Findings under the frame of the environmental justice debate show that, for example, the ethnic/racial minority status is decisive for exposure, and that vulnerable groups, having limited economic and political resources, are disadvantaged in the recovery process (Chakraborty et al., 2014; Muñoz & Tate, 2016). These findings are also reflected in this case study on the Gorkha earthquake, and to apply findings of this environmental justice research to countries of the global south could help to better understand factors of exposure. All disasters have in common that they further disadvantage already-marginalized groups; thus the relief and recovery process should be carefully designed so that it does not follow this pattern. Drawing conclusions from scientific debates, such as the environmental justice debate or social vulnerability research, can help to prevent this. It is also beneficial to look at previous disasters and their lessons learnt, and to understand how they have influenced vulnerability.

7.6.2 Comparison with other disasters

The 2004 tsunami in Sri Lanka might be the best example, as that disaster, of an even bigger scale with 277,000 deaths, was free from any financial constraints due to unprecedented donations (Telford & Cosgrave, 2007). Similar to the Nepal case, the root causes of vulnerability could not be diminished. Despite promoting the motto "build back better" and having extensive funds, the "response to the tsunami has rarely enhanced local preparedness nor significantly reduced structural vulnerabilities" (Telford & Cosgrave, 2007, p. 17). As in the Gorkha earthquake in 2015, women in Sri Lanka were more severely affected than men – in regards to the death count as well as in the recovery process: "women also experienced

difficulties in accessing the housing grant that was mostly issued in the names of male household heads“ (Khasalamwa, 2009, p. 81). Further, the reduction of structural vulnerabilities failed in Sri Lanka; despite the promise to enhance skills, improve technology and target vulnerable groups, interventions have focused merely on asset replacements (Khasalamwa, 2009). Humanitarian responses repeated some of the mistakes of the tsunami recovery following the Gorkha Earthquake, and learned from others. Asset replacements were substituted with cash assistance, a trend that prevails now in humanitarian responses. While the humanitarian assistance after the tsunami is described as a “third wave”, this cannot be said, in general, about the humanitarian response to the Gorkha earthquake.

> *“The tsunami’s third wave is symptomatic of this global aid industry, in that it moves in fast where disaster strikes, provides emergency relief, and moves on to the next disaster site without necessarily completing the tasks undertaken. Most importantly, in terms of social and political processes it does not build on any existing processes or leave behind any viable entities that add to the resilience and coping mechanisms of the affected populations.” (Silva, 2009)*

While, naturally, many of the 330 involved organisations have moved on to the next disasters, the big ones have remained, and their work will continue until 2018 and probably beyond. Further, the cultural insensitivity shown after the tsunami by many agencies cannot be observed in Nepal, and neither has the assistance ignored social and political realities. These aspects show that humanitarian assistance has learned, to a certain extent, from previous failures; nevertheless, it has also failed to reduce long-term vulnerabilities in the case of Nepal.

Chapter 8 Conclusion

With this thesis, an attempt is made to explore the influence humanitarian assistance can have on reducing vulnerabilities. To investigate this, the 2015 earthquake in Nepal is analysed with the goal to first establish what the causes and expressions of pre-disaster vulnerabilities are, and second, to trace how these have changed post-earthquake. The PAR model is chosen as a framework of analysis and thus, the analysis is structured into finding the root causes, dynamic pressures and unsafe conditions of vulnerability. To profoundly understand the dynamics behind vulnerabilities and how they are expressed, Foucault's idea about power relations and New Institutional Economics are combined with this model. The results show that the humanitarian assistance has only sporadically altered reduced vulnerabilities, and when it has, only on a micro-level.

8.1 Research questions: the answers

The research has been guided by four sub-questions which contribute to answer the main research question. The results to these questions are elaborated hereafter.

The **first subquestion** investigated *which groups of people are characterized with a high degree of vulnerability towards earthquakes in Nepal?*

Vulnerable people or groups of people are characterized by their limited capacity to anticipate, cope with, resist and recover from the impact of a natural hazard (Wisner et al., 2004). The profound analysis of pre- and post-disaster vulnerabilities with help of the PAR model shows that primarily people belonging to "lower-castes" and women are the most vulnerable. The Nepalese society categorizes individuals into a strict social hierarchy that consists of four main castes (and 125 subcastes/ethnicities). Those at the bottom of this hierarchy, so-called "lower-castes", face severe discriminations in almost all public and private matters. As everyone is born into "their caste", it is impossible to change the social status. The discrimination "lower-castes" experience in all political, economic and social aspects leads to a high degree of vulnerability.

Gender is another category along which discrimination is exercised in Nepalese society. While almost all women face more restrictions in everyday life than men, they do not form a heterogeneous group, and gender cannot be used as the only category for understanding women's situations, as it is always coupled with their caste, origin, religion, etc.

Caste and gender are two dominant categories influencing one's vulnerability, however they are not the only ones. Elderly-headed households, child-headed households, chronically ill people, disabled people and the geographically remote are also less able to anticipate and cope with crisis. This is a result of a study done after the 2015 earthquake. In the case study region, many men migrate to work abroad, and thus the percentage of elderly-headed households, single mother households, and child-headed households is disproportionally high. These households often dispose of less financial resources to reconstruct destroyed buildings, and thus make up a vulnerable group.

The **second subquestion** aims at *understanding how vulnerabilities towards earthquakes become evident, and what their underlying dynamics and causes are*.
The causes of vulnerability can be found in the just-described caste and patriarchal system. Together with the political instability that has troubled the country for years, they form the three root causes of vulnerability that restrict the access to resources, social power and political power. Nepal has changed its governing system several times, and in the last eight years there have been nine different governments. The last elections on a local level were held in 1996, although it is officially a "Federal Democratic Republic". This has eroded the trust in government and created a space in which nepotism, corruption and unaccountability can thrive, laying the foundation for vulnerability.

The processes translating these causes of vulnerability into unsafe conditions, which are the forms in which vulnerability becomes evident, mainly entail the lack of building code enforcement through state authorities, their pre-earthquake limited risk awareness, urbanization, corruption and migration.

These processes lead to the expression of vulnerability that can be organized in four different categories for better analysis: the physical environment, local economy & livelihood, the social environment and politics & leadership. Regarding the first aspect, especially striking is the low implementation of building codes due to ignorance and technical and personnel inability. The Nepali rural economy is fragile, and most people only dispose of a small portion of their income, and thus are unable to afford earthquake-safe housing structures (local economy & livelihood). The rigid caste system weakens community cohesion, and

access to information, education, and well-paid jobs often depends on one's caste (social environment). Regarding politics & leadership, there is little to no representation of vulnerable groups in decision-making positions, and people show little trust in the government and (I)NGOs.

With this understanding of the expressions and underlying causes of vulnerability, the post-disaster situation can be assessed in regard to the influence the earthquake had on existing vulnerabilities. In this sense the **third subquestion** assesses *how the social vulnerability of affected people has been influenced by the earthquake*.
Comparing pre-disaster with post-disaster vulnerabilities, it becomes apparent that most changes have only occurred on the micro-level; the unsafe conditions, and dynamic pressure and root causes have remained almost unaltered. Due to the fact that there was an earthquake, the awareness about risks and disastrous consequences automatically increased, and most changes are the result of this heightened awareness and the actions undertaken by governmental and non-governmental actors.

In regard to the physical environment, people have become more aware about safer building practices than before the earthquake. However, many people are still unable to comply with building codes. Although the government reconstruction cash grant is meant to ensure that people can afford the extra costs necessary to rebuild houses in an earthquake-safe manner, people with low incomes do not have the financial possibilities to reconstruct a house in the first place. Thus, despite the government cash grant scheme, the inability of poor people to comply with building codes due to financial limitations remains.
The pre-existing lack of masons and carpenters, worsened by the dramatically increased need for skilled workers after the earthquake, has been countered with the offer of mason trainings organized by governmental actors and (I)NGOs. However, people still think that there are not enough masons, and the selection criteria to participate in these trainings have to be revised to include marginalized people (for example "lower-castes" and women).

On the local economy level, the situation has rather worsened. Although farmers' livelihoods have recovered, they are struggling in comparison with other groups and their living situations have deteriorated. Apart from reconstruction jobs for unskilled construction workers, masons

and carpenters, opportunities and incomes have not improved and the lacking financial resources to reconstruct earthquake-safe is a major threat to people's livelihoods.

One-and-a-half years after the earthquake, social relations are mainly unaltered in comparison with before the earthquake. The months after the earthquake were characterized with rising social cohesion amongst different castes. However, this development has reversed and it remains to be seen how social cohesion develops in light of the delayed reconstruction process.
Negative influence can also be observed regarding access to information, education and training, as many school buildings were destructed and there are only negligible efforts to reconstruct permanent earthquake-safe schools.

On a positive note, risk awareness has risen. Nevertheless, people do not feel better prepared for an earthquake than before. And on a political and leadership level, little advancement can be recognized. People still feel sceptical about government and non-governmental activities, and the special needs of vulnerable groups in communities, recognized only by few (I)NGOs, are often ignored by state authorities.

These described changes all occurred on the micro-level; on the meso level, the dynamic pressures have been altered only in so far as risk awareness on the parts of the state increased, but this is a natural cause of the occurrence of an earthquake. The macro-level has not been affected at all and the hierarchical caste system, patriarchy and the political instability continue to be the main causes of vulnerability towards earthquakes in Nepal.

In a **fourth** and last step, the described influence the earthquake had on the pre-existing three levels of vulnerability is traced back to the actions undertaken in the frame of humanitarian assistance, and thus the research question is as follows: *How has the humanitarian assistance contributed to altering vulnerabilities?*
First of all, it is difficult, and maybe even impossible, to clearly trace back what has caused the previously-described single changes. However, when comparing the actions of the humanitarian assistance with the changes within the PAR model of vulnerability, the rough origins of these changes are identified. Thus, the humanitarian response has clearly contributed to raising awareness of building codes and risks by sending promoters to

communities, distributing leaflets, and broadcasting information via radio and TV. Further, the numerous skill trainings are mainly implemented by (I)NGOs with support of governmental engineers. Some humanitarian actors have erected earthquake-resilient and semi-permanent shelters, serving as homes for affected people and school buildings, and cash distributed by (I)NGOs has helped to recover livelihoods by enabling people to make necessary investments.

However, the humanitarian response has missed the opportunity to change the system in a way that gives a voice to vulnerable groups and lets them represent themselves. Efforts remained mainly on rebuilding and reconstructing the physical environment. Altering root causes and dynamic pressures has remained mainly out of the scope of the humanitarian assistance after the earthquake, and deep institutional changes on the level of the three main causes of vulnerability have failed to be realised.

Thus, the question, *how the humanitarian assistance since the earthquake 2015 has influenced the social vulnerability of affected people in Nepal,* can be answered by stating that it has influenced individual forms in which vulnerability becomes evident on the micro-level, but has not addressed the big picture, and the processes and causes behind these unsafe conditions remain untouched. However, it has to be borne in mind, that the causes of vulnerability, the caste system and patriarchal system, are two institutions that have developed over long periods of time, and the constant reinforcement though individual habits as well as public structures provides them with a stable, persistent character. Transforming gender and caste relations is a lengthy and challenging process, but also, according to the PAR model, the only way to reduce vulnerabilities in the long-term.

8.2 Limitations of this case study and the need for further research

When interpreting the results of this study, it has to be regarded that only one specific model of vulnerability was applied, and other models might have yielded different results. Further, only the situation of one district out of the fourteen officially affected districts was analysed, and thus the results might not be valid for whole Nepal. The twenty months that have passed between the earthquake and the time of research might not be enough to draw any final conclusions. Thus, the findings described resemble rather a first sketch that has to be further worked on to get a complete picture, especially in light of the recently-started reconstruction

process. In regard to education, it is too early to detect any long-term effects, and the negative tendencies could just be a temporary step backward.

Nevertheless, this case study provides insights into the direction the humanitarian assistance has taken after the 2015 Gorkha earthquake, and, by comparing with other disasters, it can contribute to the detection of the general strengths, weaknesses and potentials of humanitarian assistance. When humanitarian assistance is made transparent, accountability can be strengthened. This includes listening to and engaging with people's opinions; profound studies on accountability, therefore, must involve their voices. Only studies that follow this idea can contribute to increasing accountability in the humanitarian sector and facilitating a better understanding of the research problem in question. The Interagency Common Feedback Project, whose data is used here, is one example of an attempt to strengthen the accountability to affected people by regularly asking for their feedback. Incorporating people's opinions and investigating the cause-and-effect relationships behind their answers within an academic framework can contribute to the improvement of humanitarian assistance. It must, however, be acknowledged that generalizations drawn from such sensitive and unique cultural contexts as found in Nepal can be problematic, as every cultural context is unique and requires its own harmonized humanitarian response.

In light of the millions of people affected by natural hazards – 89 million in 2015, 142 million in 2014[13] – humanitarian agencies have a huge responsibility towards people. As the resulting disasters affect the same regions, countries and communities repeatedly and often on a cyclical basis (Development Initatives Ltd, 2016), reducing vulnerabilities is an essential part of humanitarian assistance. It has to be understood whether humanitarian assistance can contribute to reducing vulnerability. This requires more research pre- and post disaster, and studies of grander scale than this one. These studies have to be compared with the lessons learnt from previous disasters to contribute to learning effects. Further, attempts to give vulnerable people a chance to express their needs have to become common practice. The humanitarian aid industry has to recognize that disaster response and recovery is a long-term transformative process, requiring fundamental changes in the economic, political and social structure, and to reflect to what extent meddling with a foreign country's cultural, societal and political system is legitimate.

[13] The number of people affected by natural hazards exceeds even those affected by conflicts including crisis hot spots such as Syria, Yemen, Iraq, or South Sudan (65 million affected people in 2015) (Development Initatives Ltd, 2016).

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