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# **Disaster Risk Reduction Education Theory to Practice: A Case Study from Nepal**

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*A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of  
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## **Abstract**

The frequency of disasters in the world has been increasing every year. Disasters are the result of natural hazards that have social repercussions and impacts, especially on people living with poverty and marginalisation. Nepal is a socially diversified, multi-disaster-prone country, therefore the value and importance of disaster risk reduction (DRR) education is pivotal in reducing disaster vulnerability and losses. In the case of Nepal, the consequences of the 2015 earthquake and other recurrent small-scale disasters on the education system and communities suggest that attempts to support DRR education were largely insufficient, and unsuccessful in reducing social vulnerability and disaster risks.

Using a sociological disciplinary framework, this thesis aims to understand DRR education provision and practices in school curricula in addressing the common disasters and the recovery as perceived and experienced by relevant stakeholders. This thesis presents the argument that education governance plays a crucial role in developing and implementing DRR education interventions while addressing social vulnerability and disaster risks. It focuses on how well the existing provisions and practices of DRR are supportive in raising individual and community resilience to natural disasters. This study is based on a case study approach, utilizing semi-structured interviews, focus groups and document analysis as methods of investigation and data collection. Three public schools from the Bhaktapur district were selected for the study. A thematic analysis method was used to analyse the data. Building on previous studies, a new approach to DRR education was developed which suggests that governance, participation, relevant and organised content, and effective delivery are the major components of planning and implementing effective DRR education provisions in addressing social vulnerability and disaster risks. This study explores the crucial role that accessibility and availability of relevant, contextualised DRR education play in addressing local disaster issues in a sustainable manner. This study also identifies the pluri-scalar nature of governance in education and other systems, and the need for collaborative actions between various actors for effective DRR interventions to address the social issues of disasters in the country. It also explores the need for proactive roles of schools and communities in implementing DRR policies and procedures and for capacity development interventions to sustain DRR education. These key findings and recommendations may well be applicable beyond Nepal, and may resonate with other developing and developed countries.

## **Acknowledgements**

At the end of my work, I reflect on how my feelings and emotions made me uncertain, imbalanced and unprepared while encountering a 7.8 Richter scale earthquake just as I was planning to leave my country for further study. I experienced stress, anxiety and trauma.

I eventually started my study a month after the earthquake. The struggles, challenges and obstacles that my family and I faced during this period were totally covered by the love and care we received from some great people. I am thankful to Almighty God and Goddess for sending good people at each step of this journey.

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Yagya Raj Pant

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## **Dedication**

**To all the great people  
who have become part of my life and opened the light and strengths**

**To my wife**

**for inspiring me to initiate this journey, supporting me throughout it by doing all the  
physical hardships, and for raising unconditional love and hope**

**Especially dedicated to  
the memory of the victims of the Gorakha Earthquake 2015, particularly the 8,841  
people we lost from this incident.**



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# Chapter 1 : Introduction and background

“Each of us as a human being has a responsibility to reach out to help our brothers and sisters affected by disasters. One day it may be us or our loved ones needing someone to reach out and help.”

-Michael Hawkins<sup>1</sup>, American  
Red Cross

## Introduction

The central focus of this study is on the current state of DRR education provision and practices in schools in Nepal. This case study-based thesis seeks to identify and analyse the perception of various stakeholders<sup>2</sup> on the nature of development and implementation of relevant and contextualised DRR education. The aim of this research is to pinpoint problems in DRR education in Nepal in order to provide a framework for policy formation which can set out successful, targeted solutions in this area.

In the following section (part 1), I outline my personal background, perceptions, and the experiences of being a disaster victim, teacher, teacher trainer and a humanitarian actor, which enhanced my motivation and interest to carry out this study. In the next section of this chapter, I present the background of the study where I outline some relevant research on the DRR education sector, and highlight major gaps of significance to my study. Then I briefly introduce my research objectives, followed by an analysis of the disaster-prone context and need for DRR education in Nepal. This leads to an overview of the research process, followed by the significance of this study for the disaster-prone and developing context. This chapter ends with a brief outline of the structure of the thesis.

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<sup>1</sup> <https://andiquote.org/quote/2200/>

<sup>2</sup> Stakeholders here refer to individuals who are concerned with the development and implementation of the school curriculum. They contribute to school development in various ways, thus stakeholders here represent government officials, school leaders, teachers, parents, community representatives and non-governmental organisation actors.

## **Part I: Setting the scene**

### **1.1.1 Research motivation**

Scholars such as Fischer (2009), Patton (2002), and Mutch (2013) stress the importance of reflecting on a researcher's background when understanding qualitative research. Fischer (2009) emphasises that the disclosure of the socio-cultural and professional background of the researcher can help the reader to understand the researcher's perspectives while developing their understanding. Therefore, I would like to begin this thesis with a brief summary of my background and experiences.

#### **1.1.1.1 Personal experiences of disaster**

The first significant incident took place 35 years ago. I had already started my schooling at one of the well-recognised public schools established by my grandfather, the late Dr Laxmi Kant Pant. The school was situated in the far western part of Nepal. The incident happened in the late afternoon in the middle of the monsoon season. I was following my older brother, and we were just arriving at our home with our cattle. I saw my parents and my grandmother surrounded by some of our neighbours; they were in a very sad state and crying. I heard my mother saying, "How can I feed my children and family? The flood has taken away our "Thulo Khet"<sup>3</sup>. We had had a "Rupai"<sup>4</sup> the week before that incident. Along with my two older brothers, I had joined the family and helped to plant the rice. Despite my young age, I had lots of questions. How did the flooding occur? Why had the flood taken only our farm? Why were my parents broken from that incident? Would we not be getting enough food to eat this year? What would our farm look like after the flood had taken it away? What ways could we prevent our farm from flooding? I asked these questions of my older brothers; however, I was not satisfied with how they responded. My mother heard my questions, and before going to bed, with a sad face she promised me that she would take me to the farm tomorrow. The next morning, we went to see our "Thulo Khet" and when I saw a big pond of water covering the space where our farm had been, I realised why my family was shocked and crying. Years passed and several times, while going back to my birthplace, I needed to cross that site. Every time I went to see the place, I always missed my farm and the products — how beautiful they had been.

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<sup>3</sup> Thulo Khet means comparatively large farming land.

<sup>4</sup> Rupai relates to the preparation of mud paddy and the planting of rice.

The second incident I experienced was 4 years later. It was also during the monsoon season. In the middle of the night while we were sleeping, somebody knocked on our door and called “Gosai, Gosai”<sup>5</sup>. We all woke up, and my eldest brother opened the window and responded to them. There was a big crowd of so-called lower caste (Dalits<sup>6</sup>) community people, who lived five minutes’ walking distance from our house. Because of the continuous rain, stones were falling from the top of the hill onto the Dalit community. The people could not stay in their homes, and so they wanted to use the empty space that we had on our first floor. My dad invited them to do so. My brothers and I came down and heard fear and stress from our Dalit friends. The next morning, with my friends we went to the Dalit community and saw that the stones were still falling down the hill as it was still raining. I felt sorry for the Dalit community, and for all my friends who spent a couple of nights at other people’s places. I remember asking questions of my parents, such as, “Why were the Dalits the only victims of such a problem?” “Why were they suffering from the problem?”

The third incident I encountered was in 2007. It happened while I was working as an Education Officer with an international non- governmental organisation (INGO) in the most remote part of the country. I was on my way to do a school follow-up visit. When I arrived at the school, I saw some local labourers busy constructing a wall for the new school building; the work was being done under the District Education Office block support scheme. I went to greet them and had the opportunity to observe their work. I saw that one of the labourers was just filling the gap between the stones in the wall with dry mud instead of plaster. I was shocked, and immediately responded to his action, insisting, “This is a school building, not a simple fencing wall.” My concern was about their responsibility to maintain school safety. A labourer replied that they needed to finish the work soon and then find other work to survive. Poor construction would allow them to get more job opportunities, but if they built strongly, the building would stand for a long time and hence they would be jobless.

In addition, I worked very closely with one local NGO to effectively address the impacts of the Talcha landslide in July, 2007, and the Kampha landslide in the Mugu district in August, 2008. I realised from these incidents that disasters and society are interlinked. The power, authority, access to resources, social values and beliefs all influence DRR and disaster

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<sup>5</sup> Gosai is a word of respect used by the lower caste people to address an upper caste male.

<sup>6</sup> Dalits are people who have traditionally suffered from caste and untouchability-based prejudices and practices.

management actions. These experiences developed my interest in the field of the sociology of disasters.

The final incident I experienced was the devastating earthquake that hit the country at 11:56 am on 25<sup>th</sup> April, 2015. Mentally I was prepared for the evening flight to Auckland, New Zealand to pursue a PhD degree at the University of Auckland. I was returning back home after saying goodbye to some of my relatives near the city. I was inside a small shop getting my jacket that my wife had left for a small repair. The earthquake was about a minute long, a very strong 7.8 Richter scale earthquake. It was a terrible experience. Luckily, I survived, reached home safely, and found my family alive. With community members, I was involved in rescue and response actions in our local community, and then I went back home to prepare a temporary shelter for my family and neighbours. Because of the emergency situation called by the government, I postponed my travel plan for a month. During this period, I was engaged in earthquake response actions, and had opportunities to informally interact with community people, children and school teachers. I noticed that the elderly, children, families with financial constraints, menstruating<sup>7</sup> women, and families who had lost members and were conducting mourning rituals for 13 days were all suffering more during and after the earthquakes. I visited most of the schools near my home, and noticed that schools were unsure and not prepared to respond to the situation.

By observing and being involved in disasters and their aftermaths, I was able to identify the problem of a lack of disaster risk reduction education in Nepal. The people, particularly poor and marginalised groups, children and old people, encountered many risks and much suffering. I observed that school personnel had been attending DRR workshops and meetings for a long time, yet schools were not prepared to address potential crisis and emergency situations. School attendance of the poor and marginalised community children was significantly low (GoN, UNESCO and UNICEF, 2016). Teachers were struggling to convince community people how to respond in the aftermath.

### **1.1.1.2 Educational background**

My educational background and experiences are also linked to my research interest. After studying a bachelor's degree in education (B.Ed.), as a secondary level teacher I worked in a

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<sup>7</sup> According to social and religious beliefs, menstruating women and mourning people are still considered as impure for certain days.

private school located in the plains region of the country. This provided me with the opportunity to oversee the school curriculum and examine textbooks. I observed closely the role of the school in DRR sectors at the local level. I noted that parents and community people were unaware of the DRR concept, and that most of the teachers did not seem to be interested in this area. I grew up in a very remote part of Nepal and had my schooling there. I had very little learning exposure to the area of disaster and risk reduction in my time at school. Later, as an education practitioner, I worked with hundreds of schools and observed similar gaps. Experiencing and surviving various disasters as an adult has fuelled my passion to know more about how to incorporate DRR content to our curriculum, and in what ways we could deliver such knowledge and skills to students, families and communities to establish a disaster-resilient society.

Having had these disaster-related experiences, I realised that disasters are quite common in Nepal, but there is insufficient effort in the area of DRR. I concluded that schools and children in Nepal are highly vulnerable to disasters, however if we prepare well they can play a crucial role in addressing DRR issues in their community. This insight compelled me to focus my doctorate research in the area of DRR education.

This study has enabled me to gather various perceptions and concerns in a single document through an empirical study focusing on provision and practices of DRR education in Nepal. It could be argued that the DRR concept was introduced in Nepali education in 2007 (Action Aid, 2012) but was it adequate to widen the DRR understanding of students and community people? Who are the major actors that play crucial roles in addressing these issues? What is the nature of development and implementation of DRR education? Is it something prepared somewhere else and introduced into education because of the international influences in education? What are the barriers to, and challenges of, DRR education?

## **Part II. Introduction to the study**

### **1.1.2 Global views on disaster and disaster risk reduction (DRR) education**

According to the United Nations International Strategy for Disaster Reduction (UNISDR, 2009), natural hazards are natural processes or phenomena that may cause loss of life, injury, property damage, loss of livelihoods and services, social and economic disruption or environmental damage. Hazardous events can cause disruption or even disaster to communities when they are vulnerable to such events. The more familiar natural hazards

categorised by the United Nations are: avalanche, cold wave, cyclone, drought, earthquake, epidemic, flood, heatwave, insect infestation, landslide, mudflow, storm, storm surge, tornado, tsunami, volcano and wildfire. When hydro-meteorological, geological and other dangers have an impact on physical, economic and vulnerability factors, a natural disaster risk arises. UNISDR, (2009) has defined disaster as ‘a serious disorder of the functioning of a community or a society that involves extensive human, material, economic or environmental losses and impacts, and which exceeds the ability of the affected community or society to cope using its own resources’.

**Graph 1: Total number of reported natural disasters between 1900 and 2015**



EM-DAT: The OFDA/CRED International Disaster Database - [www.emdat.be](http://www.emdat.be) - Universite Catholique de Louvain, Brussels - Belgium

(Source: [http://www.emdat.be/disaster\\_trends/index.html](http://www.emdat.be/disaster_trends/index.html))

In recent times, as shown in the above graph, the frequency and impact of natural disasters has grown, posing increasing challenges to countries affected by them (Ferris and Petz, 2012; Shiwaku & Fernandez, 2011; Shiwaku, Shaw, Kandel, Shrestha & Dixit, 2007).

Research has shown that disasters are not neutral in their impact and more severely affect the most vulnerable groups, especially the poor and marginalised, children and the elderly (Blaikie, Cannon, Davis & Wisner, 2014). Studies also show that loss of human lives, mass resettlement of population, reduction of useful land, epidemics, death of cattle, destruction of crops, contamination of soil, water and air, increase of underground water level, destruction of communications, destruction of residential houses and other buildings, and blocking-up of

canyons are some of the main negative consequences of disasters. Unplanned urbanisation, environmental degradation, global climatic changes and a deficit of resources may endanger the world's future economy, population and the sustainable progress of developing countries (Ratiani, Kitiashvili, Labartkava, Sadunishvili, Tsereteli, & Gvetadze, 2011, p. 6).

The above graph shows that the number of disasters per continent is an increasing trend. For example, more than 1.5 billion people have been affected by disaster in various ways; over 700 thousand people have lost their lives, over 1.4 million have been injured, and approximately 23 million have been made homeless as a result of natural disasters (UNISDR, 2015). This evidence shows increased frequency and impact of natural disasters reported in the last century.

Since we cannot fully prevent natural disasters, there is a need for relevant mitigation measures to reduce the effect of disasters. Petal (2008) states that the impacts disasters have can be mitigated with knowledge and planning, physical and environmental protection measures, and response and preparedness. Such vulnerabilities need to be addressed properly through relevant and participatory disaster risk identification, risk reduction, preparedness and response measures (Benson & Bugge, 2008). Schools in particular are well placed to assist children in developing knowledge, skills and resilient attitudes which will enable them to cope with future disasters (UNISDR & Global Action for Disaster Risk Reduction and Resilience in Education Settings [GADRRRES], 2015). The work carried out by United Nations agencies, bilateral and multilateral organisations, various scholars and education practitioners in the area of disaster management has contributed much to the development of a wider theoretical understanding of DRR. The Hyogo Framework of Action (HFA, 2005) and Sendai Framework (2015) are the two major documents in disaster management and risk reduction. These documents have given a higher value to DRR. HFA (2015) highlights the use of knowledge, innovation and education to build a culture of safety and resilience at all levels. According to the United Nations International Strategy for Disaster Reduction (UNIDR, 2009), the term resilience implies “the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.” Some activities of the HFA identified to reduce vulnerability and increase resilience to disaster are: information management, education and training, research, and public awareness.

Since children's vulnerability to disasters is high, the provision of relevant disaster education means that children can be empowered and prepared to respond to disasters (Back, Cameron & Tanner, 2009; ASEAN/UNISDR, 2011; Ronan, 2015). To attain such an achievement, the education system needs to incorporate hazard and disaster-related content to develop the appropriate knowledge, attitudes and skills in individuals from a basic level. Children's vulnerability to disaster can be reduced through the provision of information and resources, encouragement to participate in disaster preparedness, recovery, response, and rehabilitation activities with proper safety and security at schools (Global Facility for Disaster Reduction and Recovery [GFDRR], 2014; Peek, 2008). The school curriculum can play a significant role in transferring the required disaster-related knowledge, attitudes and skills to pupils. Moreover, it is crucial to have pre-defined learning achievements with the provision of proper resources and learning experiences in disaster study, just as it is in other disciplines.

Furthermore, education can play a significant role in the prevention, mitigation, and understanding of the causal relationships among the associated factors that can cause a disaster (Smawfield, 2013, p. 3). Realising the importance of DRR education, there are several models in practice to deliver DRR knowledge and skills at schools and in communities. Disaster drills in schools (see Heath, Ryan, Dean & Bingham, 2007), infusion of DRR content in classroom lessons (see Johnson & Ronan, 2014; Selby & Kagawa, 2012), integration of DRR content in national curriculum (see Petal & Izadkhah, 2008), and community education (see Mulyasari, Takeuchi & Shaw, 2011).

### **1.1.3 Objectives of the study**

The overarching research question of this study is to explore stakeholders' perspectives on provisions, practices and effectiveness of DRR education school curricula to reduce social vulnerability and disaster risks in Nepal. This study aims to examine the relevant context of disaster risk and response by using the following sub-questions.

1. What are the current DRR education provisions and practices in Nepal?
2. How did this curriculum come to be developed?
3. Who are stakeholders, and what are their perspectives (at global, national, and school level) on the appropriateness of the DRR education for Nepal?
4. How can relevant authorities develop and implement a more effective DRR curriculum?

#### **1.1.4 The research process: an overview**

To answer my research questions, this study uses a qualitative research design and methodology with intensive field work carried out at three levels of education: local, district and central. This was done to understand the perspectives of various stakeholders on the provision and practices of DRR education in Nepal.

At the local level, three public secondary schools from Bhaktapur district were selected with the aim of capturing various features of education provision, including the DRR education practices representing specific vulnerabilities. The research participants included school principals, community leaders and representatives, the School Management Committee, the Parent-Teacher Association, and teachers. Semi-structured interviews, focus groups and document analysis methods were employed to collect data at the local level.

At the district level, interviews were carried out with the District Education Officer, DRR Focal Person, senior trainer of the Educational Training Centre, and local NGO representatives, while focus groups were held with the resource personnel.

At the central level, semi-structured interviews were carried out with senior officials from the Department of Education, National Centre for Education and Development, Curriculum Development Centre, Association of INGO in Nepal and INGO representatives. A thematic data analysis method is used to analyse and make sense of the data.

#### **1.1.5 Significance of the study**

The United Nations Child Rights Convention (UNCRC, 1989) and other child rights conventions advocate that all children deserve safe, accessible, and culturally appropriate learning facilities, regardless of class, creed, gender, or ability. Natural hazards can threaten children's safety; therefore children need to have the essential knowledge and skills to cope with such a situation. DRR education helps to prepare them as a change agent. As a result, children can subsequently educate their communities. Various studies, for example, Tatebe and Mutch (2014), show that children who have good disaster understanding and practice the relevant drills regularly seemed more confident and acted positively during and after a disaster. DRR education is essential in making children aware of their own survival and protection during and after a disaster crisis. This will also ensure children's rights are met in schools.

Recent disasters around the world have badly affected schools (UNISDR, 2015). These disasters disrupted the school calendar and kept students out of school for a long time. Moreover, when students are not able to attend school, they appear to be more vulnerable to abuse, neglect, violence and exploitation (GADRRRES, 2015). In such contexts, to address the psychological and emotional needs of both the students and education professionals, the education system should prepare future generations for disaster preparedness, recovery and response (Mutch, 2014; Towers, 2014; Shah, Henderson & Couch, 2019). Various studies, for example Ronan & Johnston (2005), mention the importance of such provision in education curricula. They argue that “a focus on educating youth, the adults of tomorrow, has considerable promise. However, in terms of more current concerns, youth also link into the family setting who, in turn, link into multiple community settings and groups” (Ronan & Johnston, 2005, p. 95). Thus, the provision of disaster education in school plays a significant role in sensitising the wider community and preparing everyone to prevent, mitigate and respond to disasters.

Education can play a key role in making students aware of hazards and risks; understanding how to avoid and mitigate potential hazards and how to protect themselves from hazards; and coping with the vulnerabilities that might result from a disaster itself (Selby & Kagawa, 2012). Therefore, schools are an important centre of community life and hence can play a significant role in minimising disaster related stress, anxieties and depression (Ratiani, Kitiashvili, Labartkava, Sadunishvili, Tsereteli & Gvetadze, 2011; Shiwaku et al., 2007; Ronan and Towers, 2014; UNISDR, 2005). When disaster strikes, all people, including students, school staff and families, go through mental and physical trauma (Mutch, 2015; Ronan, 2015; Shiwaku et al., 2007). To address such situations, United Nations General Assembly (UNGA, 2010) advocates that every member nation needs to ensure the right to education in any emergency situation through the provision of the best possible system of education. In this context, psychosocial support in educational institutions plays a significant role in creating a sense of normality for the disaster victims (Mutch, 2014; Peek, 2008; Sinclair, 2002). If children do not have both adequate knowledge and the mechanisms of response, it can lead to increased dropouts from school, or increased vulnerabilities inside and outside of school (Ronan, Crellin, Johnston, Finnis, Paton & Becker, 2008).

Disaster education is an investment in establishing a safer future. It helps to prepare individuals so that they can cope with the situation without having any loss. Therefore, there is a need for the right kind of disaster education for young minds too (Bhandari, 2014; Ronan

et al., 2008; Selby & Kagawa, 2012). To prepare and educate learners, Dufty (2014) states that a school curriculum needs to incorporate the ideas of disaster-related legislation, provide active citizenship and volunteerism, and integrate disaster content into the subjects. Tatebe and Mutch (2014) assert that schools practising DRR education, located across high to low economic status communities, played a pivotal role in community response and recovery. In the disaster response phase, they found that schools became emergency shelters and provided support to the communities; in the recovery phase, schools helped with community re-bonding. Moreover, children and community members appreciated the support provided by schools to students, staff and families as they felt it contributed towards their emotional and psychological wellbeing in the crisis. Realising the importance of education in DRR and the development of resilience to disaster, the ISDR Global Platform for DRR has already initiated discussions to integrate DRR into school curricula by 2015 (UNISDR, 2009; UNISDR, 2011). The sessions for the Global Platform for Disaster Risk Reduction contributed positively to improve the implementation of DRR through better communication and coordination amongst stakeholders. Moreover, these discussions and sharing of knowledge and practices are found to be useful for the effective implementation of HFA and Sendai Framework for DRR. Sociological inquiries similar to this study can contribute to theory, practice and policy innovation in the sociology of disaster, and hence in the DRR education field.

Training for DRR and disaster management is essential at all levels. It helps to present new knowledge and sharpen abilities (Back, Cameron & Tanner, 2009; Ronan, 2015; Sharpe & Kelman, 2011; Shiwaku & Fernandez, 2011, Tatebe & Mutch, 2015; Tuladhar et al., 2013). It also helps with establishing networking among like-minded people. Since training is not a one-off event, teachers need training during their service period. Teachers are change agents, so they need courage and confidence to address local crises effectively, thus they need relevant training and exposure too (Bhandari, 2014; Johnson & Ronan, 2014; Shiwaku et al., 2006). Moreover, teacher training must be practical rather than theoretical.

The role of a trained teacher is crucial to empowering all groups in establishing disaster resilient communities (Shiwaku & Fernandez, 2011). It is easy to collect the relevant knowledge and information about hazards and disasters from various sources, however, it is meaningless during the disaster time if the individuals do not have the required skills for mitigation and response (Perry & Lindell, 2003; Flint & Brennan, 2006; Brennan & Flint, 2007). Practising earthquake drills can make community members prepared to respond to an

emergency. However, in the context of Nepal, access to DRR education is limited to socially marginalised groups and most of them live in a high-risk area. Disasters and their consequences are social in nature (Nigg, 1995; Quarantelli, 1978). Moreover, in the context of Nepal, the existence of social inequalities, poverty, inequalities and social values and tradition influence these groups and create more disaster risks.

Teachers are the key people for implementing the curriculum (Taba 1962; Stenhouse, 1975; McGee, 1997). However, in Nepal, both in-service and pre-service teacher development provisions are lacking in disaster-related content. Most teachers are not even aware of the disaster content provisions in the curriculum (Curriculum Development Centre, 2015). Moreover, teachers have very limited support in this area at the local level (Tuladhar, Yarabe, Dahal & Bhandary, 2013). There may be other aspects, such as the local context, that need to be identified while addressing an appropriate and effective DRR curriculum in the school education at a national level. There are very few academic studies carried out in this field that describe the effectiveness of a current disaster-related school curriculum in Nepal (Shiwaku, Shaw, Kandel, Srestha & Dixit, 2006; Shiwaku, Shaw, Kandel, Srestha & Dixit, 2007).

The present study is envisaged as a significant empirical contribution to DRR curriculum development and teacher training provisions in disaster-prone education settings in Nepal. In addition, this study potentially paves the way for the local integration of these ideas which will contribute to protecting learners and education personnel from disaster-related death, injury, fear, and other psychological harm. The provision of education in post-disaster is to recover from the disaster, getting lifesaving and life enhancing skills so that students can also contribute to saving their community and their lives. Education helps to address the hazard-related challenges, and helps to prevent a hazard becoming a disaster. It also plays a crucial role in developing a feeling of normalcy for children, decreasing the psycho-social stress that is created during the crisis/disaster situation. Post-disaster is the ideal time to analyse how teachers, parents, school leaders and other agencies feel about the situation, and to ascertain their ideas for developing more practical and effective DRR and resilience in education settings.

### **1.1.6 Chapter organisation and overview**

This thesis is presented in 10 chapters.

The first chapter dealt with the researcher's identity, background, interest and experiences on the front line, and provided background information about DRR education provision and practices. This chapter then discussed the objectives and significance of the study, and gave a brief outline of the research process.

In Chapter 2, I present a broad review of the context of Nepal and DRR education-related literature. A more detailed literature review is presented at the start of each chapter. Firstly, I discuss the political and educational development context of Nepal, outlining how the social, political and historical changes in the country have shaped education development. I then address the emerging issues in education governance, including in DRR education and present current DRR and disaster management provision and practices in the country. The second part of the chapter reviews a body of literature related to global initiations of DRR education.

Chapter 3 outlines the theoretical approach to this study. It introduces the fields of the sociology of disasters, sociology of education and sociology of development. It establishes a link between the sociological concept of disasters, education and development to identify and analyse the social vulnerability and risk in the education setting. It then introduces the Dale, Robertson, & Bonal (2002) pluri-scalar education governance model of globalisation and neoliberalism as part of my theoretical framework.

The fourth chapter presents the methodological landscape of this study. This chapter discusses the research paradigm, research design, study samples and data collection, and analysis procedures. It also provides a brief description of the study location and institutions studied in the field. I also share the process of fieldwork that I adopted to carry out my research. I present the strategies that helped me to ensure credibility and rigour in this study and to address ethical issues.

The next chapters, 5, 6, 7 and 8, present the major findings of this study. In Chapter 5, I explore how various stakeholders conceptualise the value and importance of *disaster governance* to address social and political factors in a disaster context. It also identifies *curriculum governance* as one of the major parts of the DRR curriculum development process. In Chapter 6, I present how various stakeholders perceive the importance of *participation* in overall education and development. It explores *curriculum participation* as another major area of development of a relevant and contextualised curriculum. Chapter 7 deals with the need for relevant *curriculum content*, and explores the perceptions of

stakeholders in establishing wider learning opportunities in DRR education. In Chapter 8, I focus on the task of *curriculum delivery* by analysing and discussing the major themes derived from interviews with focus groups and various categories of stakeholders. These four outcome chapters establish a link between the four areas of curriculum governance, curriculum participation, curriculum content and curriculum delivery in the context of DRR education practices and provisions in Nepal.

Chapter 9 summarises and discusses the findings from this study. Recognising the lack of education governance as a core issue of DRR education, I employ the pluri-scalar education governance model by Dale et al., (2002) to discuss the findings. I discuss the findings using the concept of education governance actions (funding, ownership, provision and regulation) in the light of broader literature.

Finally, Chapter 10 analyses the social and educational perspective of disasters, barriers to DRR education, strengths and some limitations of the study, implications, and recommendations for further study.

## **Conclusion**

This chapter has highlighted how my disaster-related experiences, professional background as a teacher, trainer and humanitarian worker in the non-governmental sector has led to my interest in this study. It discussed the emerging field of DRR education in the context of disaster-prone developing countries, including Nepal. It highlighted an existing gap in the literature on DRR education provision and practices in the context of Nepal. It outlined the objectives of the study including the overarching research question and sub-questions. It presented a brief overview of my research process. It also highlighted the significance of the study in the context of a disaster-prone and developing country. It finally presented a snapshot of each chapter of this thesis. In the next chapter, I present the context and background of the study followed by discussion with the help of relevant literature.

## **Chapter 2 Context and background-related literature**

### **Introduction**

In the previous chapter, I shared my experiences and background that developed my motivation for the topic of my study. As my study is based on the disciplinary area of sociology, I present, in the first part of this chapter, an introduction to the country's context and a brief social, political and historical context of the country. This part finishes with the current policy and provision of DRR in Nepal. In the second part of this chapter, I explore global initiations of DRR education followed by the discussion of existing literature to justify the context and rationale to carry out this study.<sup>8</sup>

### **Part 1**

#### **2.1 A brief review of the geographical, historical, political and social situation in Nepal**

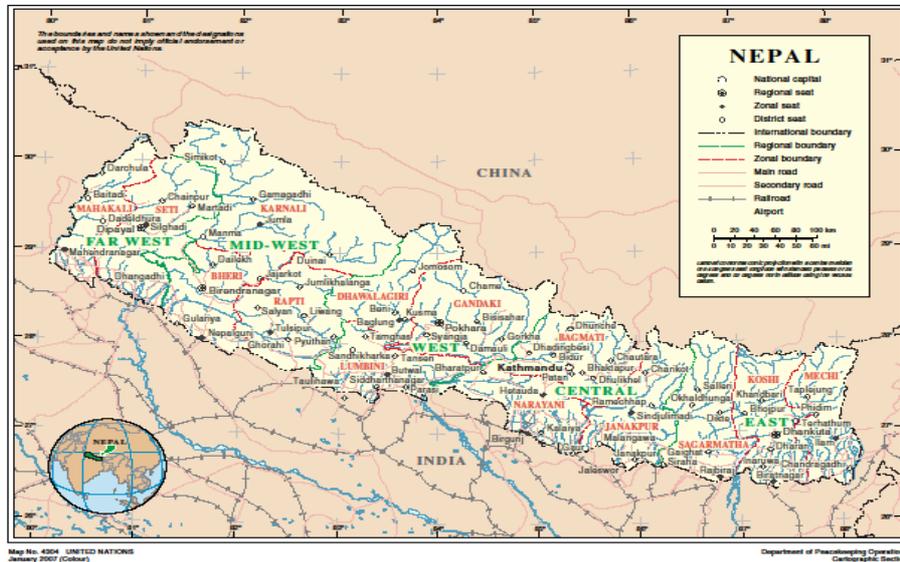
Nepal is a landlocked, mountainous country located between India and China, with an area of 147,181 square kilometres and a population of over 26 million (Central Bureau of Statistics - CBS, 2011). Nepal has a diverse topographical landscape, ranging from lowland areas 60 metres above sea level to places more than 8,800 metres above sea level. Within this elevation, about 86% of the total area is covered by hills and high mountains and the remaining 14% of land is the plain area adjoined to India in the south. The plains region is the southernmost part of Nepal. This has relatively low, flat and fertile land. Roughly 50% of the population live in the plains (CBS, 2011). The mountain region consists of river valleys, tectonic basins, glaciers, and rocky slopes.

Nepal is a disaster-prone country because of its geography. The country is highly vulnerable to droughts, floods, earthquakes, landslides, forest fires, storms and hailstorms, avalanches, glacial lake outbursts, floods and the effect of global warming (Ministry of Home Affairs-

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<sup>8</sup> Due to the conceptually broader nature of this study, I have presented a detailed literature review in the relevant findings chapters. The discussion chapter also includes relevant literature to discuss the major findings of the study.

MoHA, 2009; United Nations Development Programme- UNDP, 2010; UNDP, 2011). The following map shows the Plains, Hills and Mountains region of the country.



**Figure 1: Map of Nepal**

(Source: UN Cartographic Section)

These regions face various hazards and therefore are vulnerable to disasters. Out of the 75 districts, 49 are prone to floods and /or landslides, 23 are prone to fire, and a total of 64 districts are prone to disasters of some type (International Centre for Integrated Mountain Development, 2006). Similarly, the Ministry of Home Affairs (MoHA) and United Nations Development Programme (UNDP, 2010) state that Nepal has recently experienced increased intensity of floods, landslides, and longer droughts.

Vulnerable to multi-hazards, it suffers from hundreds of events each year with great loss of lives and livestock (Blaeser 2014; MoHA, 2009; Tuladhar et al., 2015). The Ministry of Home Affairs calculated disaster casualties in the past ten years and concluded that, on average, Nepal faces 900 natural disasters with 230 people killed yearly from disasters such as landslides and floods. This is particularly the case in the plains area of the south, due to the high frequency of hydrological disasters, coupled with higher population densities (MoHA, 2009).

The following table shows geological and hydro-metrological disasters that occurred in the country from 1971 to 2017 and their impacts. These hazards are distributed unevenly throughout the country (Aksha et al., 2018; UNDP, 2010).

**Table 2: Natural disasters and their impacts in Nepal 1971-2017**

Type of disaster	Number of incidents	Number of deaths	Number of injuries	Missing	Affected families	Destroyed and damaged houses
Epidemic	3,452	16,583	43,111	-	512,989	-
Earthquake	175	9,771	29,142	-	890,995	982,855
Landslides	3,246	4,980	1,871	174	558,264	33,617
Flood	3,950	4,445	554	42	3,710,065	216,190
Fire	8,721	1,605	1,619	-	259,953	86,261
Lightning	1,711	1,620	2,684	129	7,140	963
Wind storm	44	2	11	-	191	215
Cold wave	390	515	83	-	2393	-
Snow storm	5	87	-	7	-	-
Avalanche	2	16	7	3	-	-
Hailstones	131	9	24	-	3280	155
Others	29	26	51	2	36	1
<b>Total</b>	<b>21, 856</b>	<b>39,659</b>	<b>79147</b>	<b>357</b>	<b>5,945,288</b>	<b>1,320,257</b>

(Source: Ministry of Home Affairs, 2017)

During the period of 46 years (1971-2017), a total of 21,856 disaster events have been recorded. Hence, annually Nepal is exposed to about 500 disaster events (Nepal, Khanal, & Pangali Sharma, 2018). The above table also shows that small-scale disasters were most frequent during this period. The data reveals that because of the higher frequency, the small-scale disasters have more consequences than the large-scale disasters. Furthermore, people

mainly from ethnic minority groups and lower castes, including women and children of these regions, are the most vulnerable to disasters (Aksha et al., 2018; Fothergill & Squier, 2017; Tuladhar et al., 2015). Factors such as widespread poverty, lack of food, low levels of health and hygiene, low levels of education and unequal distribution of resources among social groups play pivotal roles in raising vulnerability to disasters. As an example, 350 people died from the cholera outbreak in July, 2009 in the Jajarkot district of the country. These people died because of poverty, poor sanitation, poor personal health and hygiene, and not getting basic medication. Recently, the first recorded tornado in Nepal hit a few of the communities of the Bara and Parsa districts of the plains of southern Nepal, killing 29 people and destroying their properties (Nepali Times, April 1, 2019).

The social context of the country has rendered some parts of the population much more prone to being vulnerable to disasters than others. There are a number of social problems which result in social stratification and discrimination. A caste system is still widely accepted in Nepal which represents a traditional system of social stratification of Nepal (Koirala, 1996). A caste system is a class structure of a group of people with a common bloodline, heredity or occupational area. There are four major occupational classes: *Brahmin (top rank)*, *Chhetri*, *Vaishya*, and *Sudra/Dalits (bottom rank)* (Parish, 1996). Caste-based discrimination became illegal in 1963. However, the lower castes still face exclusion and marginalisation in society (Stash & Hannum, 2001). The World Bank Report (2006; 2009) states that the caste system is an institutionalised process of exclusion in the social system. This thesis argues that socio-economic, political and geographical marginalisation exacerbates the exclusion of vulnerable communities in DRR and disaster management decision-making processes in Nepal. For example, as I shared in Chapter 1, a poor Dalit family, socially discriminated as an untouchable group, did not have access to a safe place to live, and did not have enough resources to survive and, therefore, they were more vulnerable than others.

Nepal has experienced various political changes in its history. Its modern political history began in the latter half of the 18<sup>th</sup> century after the King, Prithvi Narayan Shah, a ruler of Gorakha<sup>9</sup>, united all the small kingdoms. Parajuli (2000) explains that Prithvi Narayan Shah became the King of the unified Nepal in 1769 and is known as Rastranayak<sup>10</sup>. Nepal was then ruled by monarchs for 240 years. In a newly established nation, after the death of Prithvi

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<sup>9</sup> Gorakha was one of 24 kingdoms west of Kathmandu Valley.

<sup>10</sup> Rastranayak – one who gave the shape of the nation.

Narayan Shah, increasing power struggles created political instability in the country. The situation favoured one shrewd person, Jung Bahadur Rana, who was working in the country's security force (Parajuli, 2000). He became the Prime Minister of the country and established the Rana regime, making the Prime Minister and other government positions hereditary. That limited the power of the Shah monarch to a figurehead. The Rana regime was in control over 104 years. The Rana period (1846 – 1950) is marked as a dark age in the history of Nepal forever. This situation changed in 1951 when the power shifted back to the King, Tribhuvan Shah<sup>11</sup>, who led a movement to end the Rana regime with the help of the Nepali Congress party and India (Parajuli, 2000).

The following decade (1951 – 1960) remained unstable because of the changed context. King Tribhuvan died in 1955, and the first general election was held in 1959 when the leader of Nepali Congress, B.P. Koirala, became the first elected prime minister of Nepal. However, the country faced the challenge of sustaining the democracy, and a year later King Mahendra dissolved the parliament, placed the entire cabinet under arrest, and initiated the party-less Panchayat system which continued for 30 years with ongoing opposition from democratic forces (Parajuli, 2000).

The global movement of democracy in the late 1980s and early 1990s, and people's passion for democracy had an influence on the party-less political system of the country. As a result, multi-party democracy was established in 1990 with a constitutional monarchy (Hachhethu, 1990). However, the new political situation was also unable to contribute positively to advancing significant economic development in the country.

The country had to face not having a stable government. This instability was caused mainly because of a lack of political culture and trust among political parties. Every system and mechanism was highly politicised, which promoted favouritism and corruption. In the meantime, one of the political parties, which participated in the first election after the restoration of democracy, submitted 52 demands to the then-current government and gave an ultimatum to fulfil these demands. Underestimating their size and political agenda, the Government of Nepal did not respond to these demands.

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<sup>11</sup> King Tribhuvan is known as *Rastripita (father of the nation)* because of his contribution to establishing democracy in the country.

Finally, the Communist Party of Nepal (Maoists) started their armed conflict in 1996 which caused great loss for the country. The conflict killed about 13,000 people and destroyed economical and socio-cultural assets of the country. In such an unstable political context, the monarchy took power over authorities of the elected government and dissolved the parliament. However, as the monarch had isolated major political parties, his attempts to solve the political crises of the country were not successful. All major political parties agreed to carry out a combined movement to overthrow the monarchy and re-establish the dissolved parliament in 2006. A Comprehensive Peace Agreement was signed between the Government of Nepal and the Maoists. The parliament made major announcements which were followed by the election of a Constituent Assembly, declaration of a Federal Democratic Republic<sup>12</sup> nation, removal of 240 years of monarchy and an announcement of a secular country (Srivastava & Sharma, 2010). Following the end of the civil war, the second Constitutional Assembly recently crafted a new constitution and created seven provinces or states.

The federation, the province, and local bodies are the three levels of governance proposed by the new constitution. Nepal is divided into seven provinces and 744 local bodies (four metropolitan cities, 13 sub-metropolitan cities, 246 municipalities, and 481 rural municipalities). State and federal level elections were carried out recently, and now the country has a stable government after about two decades of political instability. However, there is still unrest, and political disturbances are instigated by a few dissatisfied groups in some areas. Moreover, the 2015 earthquake and the prevalence of other natural hazards, including floods and landslides, continue to challenge social, political, and economic developments of the country. Due to political instability (the product of conflict) and the constitutional reform, the state has not been able to equitably reduce vulnerability for all, and has focused development on the centre at the expense of the peripheral areas of the country. The disaster-prone context and the new political structure have also created, and continue to create, problems for education in the country. For example, a lack of proper resources for rebuilding and the possibility of political instability affect access to, and quality of, education.

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<sup>12</sup> A Federal republic democratic country is made up of smaller areas such as states or provinces. The citizens of the federal republic elect their own representatives to lead them. A true federal republic does not have a reigning monarch. ([www.reference.com/government-politics](http://www.reference.com/government-politics))

## **2.2 Education development context of Nepal**

Historical, social and political changes influence the education provisions of any country. The education system in Nepal was also highly affected by the social changes and political movements. The country has made widespread changes in the education system according to the different political positions (Caddell, 2007; Carney, 2003). The Vedic and Buddhist education practices were highly influential until the middle of the 19<sup>th</sup> century. The first Rana Prime Minister established the first English education school (later called Durbar High School) in 1853 in Kathmandu after returning from his trip to the UK. Education and development initiatives during the Rana period (1846-1950) were limited. Due to the centralisation of power and authority during the Rana and Panchayat systems, education was not easily accessible to all (Parajuli, 2008). Opportunities for education were limited to a small group of ruling elites. The political movement in 1950 overthrew the Rana regime and established democracy in the country. Certain educational development activities to map out a long-term education plan for the country were carried out, such as the establishment of a Board of Education, and of the Nepal National Education Planning Commission. As per the recommendations made by the commission, formal and non-formal educational opportunities were extended all over the country (Wood, 1959). In Nepal, various historical movements, especially the anti-Rana movement in 1950, the democratic period between 1951 and 1961, the establishment of the Panchayat system in 1962, and the fall of the Panchayat system in 1990 significantly influenced the education system of the country (National Education Commission [NEC], 1992).

The restoration of democracy in 1990 has played an important role in people's participation and empowerment. Politically, since 1990, the federal movement in the country in 2006 initiated education and development reform in a more systemic way. As the country experienced a decade-long civil war and political instability, the current federal political system and structures put more emphasis on education in addressing local needs and expectations. However, due to poor education governance, the quality of education is really a big concern (High Level National Education Commission report, 2019).

After the advent of democracy in 1951, some people got the opportunity for further study overseas and they returned afterwards to serve the country and formulate plans and policies (Rappleye, 2011). However, due to some political instability, King Mahendra took power and banned political parties by establishing the 'Panchayat' system in the country. The

comprehensive National Education System Plan, begun in 1971, contributed significantly to reforming the education system in Nepal. The National Education System Plan made the provision of a national uniform curriculum to promote *Nepali* language, *Hindu* religion, *national integration* (Burghart, 1996). After the establishment of a multi-party democracy system in 1990, the Government of Nepal formulated the National Education Commission to suggest future education plans and interventions to the government. The National Education Commission submitted its report to the Government of Nepal in 1992. The suggestions and recommendations from the Commission played a crucial role in reforming the education governance system in Nepal.

The role of government is crucial in education governance. The Government of Nepal placed emphasis on committed global agendas of education and received support from donor partners. Nepal has signed, and ratified, various human rights and education-related international conventions (United Nations, 2015). Relevant education initiatives were carried out under Education for All, Millennium Development Goals and Sustainable Development Goals. These global education movements influence national plans and policies. The World Bank and other bilateral and multilateral organisations entered the country to address the education and development agendas. After 1990, several education project interventions were carried out using external funding. The most recent School Sector Development Plan (2016-2023) is a jointly-funded education plan focused on quality. In 2010, the Government of Nepal implemented the National Framework of Child-Friendly Schools to ensure access to quality education for every child (Government of Nepal, 2010b). According to the framework, a child-friendly school is a learner and teacher-friendly school where a safe learning environment for every child in the school is ensured. Including child safety, this framework also demands the use of child-friendly pedagogies and learning resources. It also encourages wider community participation in school development and school safety. The country has made significant progress in the establishment of an adequate number of schools, however the quality of education is still poor. Under the federal system, the provincial and local governments are responsible for managing quality basic education. With the help of NGOs, some of the local government institutions have already initiated development of education plans and policies at a local level. However, due to a lack of resources and poor governance mechanisms, the effective implementation of these policies is still in question.

The education, DRR and development reform in Nepal has been influenced by historical, political and global forces. Global forces are concerned with the Western neo-liberal reform

and influences of major donor agencies such as the World Bank and USAID, while providing aid for development of the country. Giddens (1998) states that neo-liberalism refers to economic liberalisation, free trade, open market, privatisation, deregulation and enhancing the role of the private sector in modern societies. During 1980 in the UK and USA, significant portions of the budget were cut and allocated for the structural reform. Similar initiations were carried out in the developing countries due to the pressure of the funding institutions such as the World Bank. Countries were encouraged to transfer the ownership of public services from national to sub-national governmental entities, and from public to private sectors. Neo-liberalism encouraged various areas, including the education sector, to reform. Ball (1990) suggests that new governance initiatives in education increased educational opportunities and introduced market-based policy of schooling, promoting ideas of parents as customers and students as products. Moreover, globalisation processes have made quantitative and qualitative impacts in every nation (Daun, 2005; Hutchison & Wiggan, 2009). Globalisation pushes economic growth, but also contributes to raising poverty, marginalisation and inequality and therefore spreading risk and uncertainty (Cox, 1996, p. 22). After the restoration of democracy in 1990, federal reform in 2006 and post-federal institutional development provided a favourable environment in which to reform education governance in the country (Carney & Bista, 2007; Sharma Poudyal, (2013). The historical legacy of political development helped to shape education governance in various periods in the country (Carney, 2003; Parajuli, 2008).

### **2.3 Education sector governance in Nepal**

Decentralisation was adopted under the third five-year (1965-1970) plan in Nepal (NPC, 1965). Local people's participation in the planning and decision-making process under local government bodies has been practised since then. After the restoration of a multi-party democracy in 1990, the Local Self Governance Act (1999) and the Local Self Governance Regulation (1999) gave authority to local bodies to establish local governance.

The new constitution of Nepal (2015) defines the Federal State of Nepal as an “independent, indivisible, sovereign, secular, inclusive, democratic, socialism-oriented federal democratic republican state” (Government of Nepal, 2015). It emphasises the importance of governance and management of the educational system and the delivery mechanisms to meet the provision of free and compulsory basic education and free secondary education for all individuals.

The Local Government Implementation Act (2017) focuses more on guaranteeing free and quality basic education to all. It describes the roles of federal, provincial and local government in achieving the aim of education. According to this act, the federal government is responsible for developing relevant policies, standards and ensuring resources for education. The provincial government needs to oversee grade ten exams, the technical and vocational education in the province, coordination among like-minded organisations, and to carry out the bridging role between local and federal governments. The provincial governments are also responsible for developing additional standards and providing additional incentives to the marginalised communities to raise access to education. The local government agencies are responsible for managing school education, approving the new schools, regulating all the educational institutions of their location, developing plans and policies, resource management, monitoring and supervision.

Parajuli (2007) mentions that decentralisation in schools in Nepal helps to bring parents, the community and schools closer. The School Management Committee, Parent Teachers Association, Village Development Committee and Municipality, District Education Office, Village/or Municipality Education Committee, District Education Committee, and District Coordination Committee are the stakeholders of school governance at a local level in Nepal. The following (Table 3) shows the roles and responsibilities of various authorities in school governance.

**Table 3: Roles and responsibilities of education governance mechanism**

Actors	Roles and responsibilities
School	Carry out the daily routine of school to raise the quality of education.  School and teacher management, the preparation of school improvement plan.
Parents and community	Send children to school regularly  Provide support and assistance to the school (in the form of cash, kind and labour contribution).
School Management Committee	Oversee every aspect of school management.

	<p>Approve School Improvement Plan, and coordinate with others for its effective implementation.</p> <p>Supervise and monitor school activities.</p> <p>Make decisions, raise funds.</p>
Parents Teacher Association	<p>Conduct school social audits two times in a year.</p> <p>Assist school to raise the quality of education.</p>
Village Development Committee and Municipality	<p>Manage local schools.</p> <p>Supervise and monitor.</p>
Village/ Municipality Education Committee	<p>Develop the Village/Municipality Education Plan</p> <p>Assist schools to manage quality education.</p>
District Education office	<p>Oversee and manage the overall education programmes of the district.</p>
District Education Committee/ Coordination Committee	<p>Approve the district education plan before submitting to DDC, supervise and monitor, recommend establishing new schools in the district, teacher placement.</p>
Regional Education Directorate	<p>Oversee the regional education activities, however, now this institution is considered as the education authority of the provincial government.</p>
Department of Education	<p>Implement and manage education plans.</p>
Ministry of Education	<p>Prepare required rules and regulations.</p> <p>National education plan.</p>

(Source: Education Regulation, 1992)

The above table (Table 3) also shows the current decentralised education governance structures and practices of Nepal. However, because of wide-spread illiteracy, social and economic discrimination, limited capacity development opportunities and poverty, the

education governance authorities are not seen to be active in public schools in Nepal (Parajuli, 2008). The Government of Nepal introduced the Local Self-Governance Act in the education sector in 2003 and Nepal has adopted the Education for All plan of action 2001-2015 (Ministry of Education, 2009).

The Disaster Risk Reduction and Management Act (2017) mentions establishing disaster management and rescue committees at each ward of the local village and municipality by involving the representatives from ward citizenship forums, civil society and schools.

The Ministry of Education recently introduced the School Sector Development Programme (2016- 2021) which highlights the importance of safe schools (Ministry of Education, 2015). It accepts the Comprehensive School Safety plan and aims to mainstream disaster risk reduction in the education sector by strengthening school-level disaster management and resilience amongst schools, students and communities. A school self-evaluation check list is developed that helps to carry out the participatory School Improvement Plan development. The Department of Education (2016) mentions thirty-four indicators for holistic school development. Among these are five indicators (which are mentioned from thirty to thirty-four) under the DRR group. These are: the formation of a disaster management group or committee, self-evaluation, the development of a safety plan, preparation for the response, and the establishment of communication coordination exchange among community, family and public agencies.

The World Bank (2009) suggests that participatory school culture, planning and management, teacher and staff management, resource management and monitoring are the main areas of good school governance in the context of Nepal. School governance is responsible for incorporating effective DRR education in the school improvement plan. School Improvement Plans should have goals or objectives of DRR, provision of appropriate resources and methods to carry out the planned DRR actions. School governance also sets up initiatives for integrating DRR into the school curriculum and daily school activities.

## **2.4 How disasters risk and vulnerabilities have an impact on the education sector**

Disaster incidents affect students, teachers, school leaders and parents psychologically and physically (Shiwaku, 2004; UNISDR, 2005; Save the Children, 2016; Shaw, Espinel, & Shultz, 2007; Johnson & Ronan, 2014). Children face stress and anxiety with loss of

motivation and confidence (Save the Children, 2016). Moreover, disasters can cause destruction to school facilities and can disturb the academic calendar and the teaching and learning process (Inter Agency Network for Education in Emergencies [INEE], 2010; Petal, 2008). Severe disaster incidents sometimes force communities to leave their homes, therefore, the displacement of families can have a severe negative impact on children learning (Save the Children, 2016). Disaster recovery and rebuilding, especially in the case of severe disasters, normally takes a long time and more resources, hence the education sector faces long term impacts and challenges after disasters (INEE, 2010).

When a natural hazard becomes a disaster, children are among the most vulnerable population group, especially those attending schools in times of disaster. Disasters such as the October, 2005 earthquake in Pakistan, where over 16,000 children died in schools that collapsed, or the mudslide on Leyte Island in the Philippines, where more than 200 school children were buried alive, are just a few tragic examples of why more needs to be done to protect children before disasters strike (Briceno, 2005). Most of the schools in Nepal are vulnerable in the context of disasters. This situation is because of improper school construction, a lack of disaster preparedness and response plans, and limited provision of DRR content in the school curriculum, all leading to the education system being extremely vulnerable in the face of adversity (Gautam, 2010; Blaeser, 2014, Tuladhar et al., 2013). Since children are the most vulnerable groups during disaster situations, and because they normally have very limited access to information, their lack of knowledge and experience is a serious disadvantage when they must make decisions during disasters (Tower, Haynes, Sewell, Bailie, & Cross, 2014). To address this lack, schools, as the important centres of communities, have the essential tasks of the dissemination of information and the development of relevant skills (UNISDR, 2009). Moreover, since children spend most of their time in school, the school environment is also crucial. The dissemination of DRR information at all levels, the development of safe behaviour models and skills among students, and the development and implementation of relevant education programmes to address the issues of DRR, are all important areas in the context of the country.

Social, political, historical and cultural aspects of society contribute to disaster vulnerability and disaster risks (Quarantelli & Dynes, 1977). Social inequalities, traditions, power relationships, social norms and values are interlinked with disaster consequences and vulnerability. In the context of Nepal, because of deeply-rooted social inequalities and caste-based discrimination, certain social groups are more vulnerable to disasters. The unstable

political situation also contributes to creating risk and vulnerabilities. Social, political, historical and cultural factors also influence the education system. Because of social inequality, gaps among poor and rich, caste-based or gender-based discriminations and many other social issues, poor and marginalised groups have limited access to education. Since education plays a pivotal role in disaster risk reduction (see Fukuwa, 2005; Lintner, 2006; Mitchell, Tanner, & Haynes, 2009; Selby & Kagawa, 2012), poor and marginalised communities become more vulnerable because of not having access to DRR education.

Realising the importance of the role of education in DRR, the National Disaster Management Plan 2010 – 2014 further suggests the need for the implementation of disaster preparedness, such as the development of school safety plans and the implementation of DRR education in schools. This is reinforced by the Hyogo Framework for Action (2005 – 2015) which strongly advocates for the provision of disaster education in establishing a culture of disaster prevention. After adopting the Hyogo Framework of Action, DRR was mainstreamed into the Nepalese government's National Development Plan in 2007. Similarly, some INGOs such as Plan Nepal, UNICEF, Save the Children, Nepal Society of Earthquake Technology, and the Red Cross implemented activities which aimed to strengthen schools' preparedness for, awareness of, and ability to respond to disasters through training for teachers and students, the production of new resources, and support for safer school construction. The coverage of such interventions, however, was very limited and only a few hundred schools benefited from this initiative. There remains a lack of a comprehensive approach for school DRR intervention (Gautam, 2013), as well as a lack of appropriate coordination and collaboration action among relevant stakeholders (Blaeser, 2014). The multi-hazard-prone context of the country creates various challenges, which are not manageable with the resources that the country has.

## **2.5 Current policy and provision to address disaster issues in Nepal.**

The Government of Nepal ratified the Natural Calamities Act in 1982 which provided central, district and local level mechanisms to allocate and mobilise disaster relief funds. In a multi-hazard-prone context, it was realised that this act was not enough to address the broad spectrum of hazard mitigation and disaster risk management needed. A decade ago, advocacy initiatives were carried out to develop a new Disaster Management Act that would address the broader areas of disaster cycle management (MoHA, 2009; Tuladhar, 2012). Finally, a much-awaited Disaster Risk Reduction and Management (DRRM) Act was endorsed in 2017.

After this act, the country shifted its emphasis from a concentration on emergency relief to a wider response to disasters by including disaster risk reduction to strengthen preparedness, mitigation and prevention. In such a changed context, the implementation of the available DRR tools plays a crucial role in carrying out effective DRR interventions. However, this is still a forgotten area in the context of political instability and the lack of political will for DRR. Various supporting partners, who are assisting the government to respond to the 2015 Earthquake, claim that the progress made by the country on rebuilding and rehabilitation is very slow, which is mostly due to the unstable government and lack of political will and stability (NPC, 2016). Political stability plays a crucial role in implementing the existing legal provisions and preparing other needs-based policies and strategies at all levels (Twigg, 2009).

The Government of Nepal also developed the National Action Plan for Disaster Risk Management in 1996 (MoHA, 1996). Local level disaster management provisions were also introduced into legislation, in 1999, in the Local Self-Governance Act. After adopting HFA in 2005, from the NGO sector, initiatives were taken to develop the National Policy and UNDP assisted with developing the National Strategy (Jones et al., 2014; MoHA, 2011b). The Government of Nepal introduced the National Strategy for Disaster Risk Management in 2009. The establishment of a Nepal Risk Reduction Consortium was facilitated by UNDP in 2009 to assist the Government of Nepal to develop a long-term disaster risk management action plan (NRR, 2013). The Consortium also introduced five priority or flagship areas: school and hospital safety, emergency preparedness and response capacity, flood management in the Koshi river basin, integrated community based DRR, and policy and institutional support for disaster risk management (NRRC, 2011).

The Constitution of Nepal has made provision for disaster management functions in all the three tiers of government (Government of Nepal, 2015). In addition, there are several other policies and frameworks. For example, the National Disaster Response Framework, 2013; the Guidance Note on Disaster Preparedness and Response Planning, 2011; the National Guidelines for Search and Rescue, 2014; the District Disaster Preparedness and Response Plan and Standards Operating Procedures of the National Emergency Operation Centre, and the District Emergency Operation Centre, to assist disaster management issues.

The Constitution of Nepal (2015) mentions disaster risk management as a concurrent responsibility of government institutions of various levels (MoHA, 2017). Article 51 explains

about the provision of policies relating to the protection, promotion and use of natural resources. Sub- article 51 (G) 9 states there is development of policies to “advance warning, preparedness, rescue, relief and rehabilitation in order to mitigate risks from natural disasters”. The Constitution, under Article 267, outlines the rights of the government to mobilise the Nepal Army in natural crises. In Article 273, it gives authority to the president to declare a state of emergency in the case of a natural calamity or epidemic.

Disaster Risk Reduction and Management and National Council and Executive Committee are two types of DRM structures proposed by this Act. The Disaster Risk Reduction and Management Act (2017) consists of a more comprehensive approach to DRR and disaster management. It has proposed a multi-tier institutional structure of disaster management at various levels: national, provincial, district, local/municipal and community based. It also provides a Disaster Management Fund at local levels to respond to disasters effectively and efficiently. The Act has given search and rescue authority to security forces.

The Local Government Operation Act (2017) outlines the disaster management responsibilities of local authorities. It defines some crucial functions, such as the development of DRM-related local policy, local level planning, local level DRR interventions, running of community-based DRM interventions, and coordination and collaboration among like-minded organisations for effective DRR and disaster management. Under the decentralisation framework, this Act aims to empower the local government authorities for environment-friendly resilient development (MoHA, 2017).

The National Disaster Response Framework (2013) is concerned with disaster preparedness and response at national, regional, district and local levels. It also stresses the immediate actions that need to be carried out before, during and after a disaster event. Similarly, the National DRR Policy and Action Plan (2017-2030) follows the Sendai Framework DRR targets to reduce disaster vulnerability. The Government of Nepal has developed the required policies and plans. However, one of the challenges to date has been translating that policy into practice.

## Part 2

### 2.6 Global implementations about DRR curriculum provision

Education as a social science can contribute greatly to building foundations to understanding disasters (Building Research Institute [BRI] and National Graduate Institute for Policy Studies [GRIPS], 2007). DRR education provision contributes to minimise disasters' consequences and to develop the capacity to cope with disasters and adopt DRR actions. Education can address social, political, historical and cultural forces that contribute to shape the cause, course and consequences of every disaster (Oliver-Smith & Hoffman (1999). Moreover, as Cutter, Boruff, & Shirley (2003) state, social factors and forces create disaster risks to certain groups, and these factors affect people's ability to respond to the disaster. Thus, accessibility and availability of quality education is essential to minimising disaster risks of vulnerable groups.

Education plays a pivotal role in developing a safe and secure society. Disasters cause fatalities, injuries and damage, and there is empirical evidence that these situations can be overcome by disaster preparedness measures (Anderson, 1995). Various scholars, such as Haydon (2007); Jones, Aryal, & Collins (2014); & Fothergill & Squier (2017), suggest that because of the lack of opportunities to have comprehensive DRR knowledge and skills, children, elderly people, disabled people, women, and the poor and marginalised have a limited understanding of disasters, therefore are more vulnerable and are subsequently more affected when disaster strikes.

In the area of disaster risk reduction, when children and others are provided with adequate DRR knowledge and skills, it helps them to protect themselves, save others from danger and play a crucial role in family and community to reduce the disaster risks (Back et.al., 2009; Mitchell et al., 2008; ASEAN/UNISDR, 2011; Mutch, 2015; Haynes & Tanner, 2015). UNISDR adopted the Hyogo Framework of Action (HFA) in 2005 which aimed at achieving the goal of substantially reducing the losses caused by disasters by 2015. Priority 3 of HFA was associated with mainstreaming DRR in the education sector. It advocated the inclusion of DRR knowledge in relevant areas of the school curriculum, conducting local risk assessment and disaster preparedness programmes at school and community levels, and preparing students to minimise hazard risks at a local level. The UN General Assembly established the Global Platform for DRR in 2007 for the effective implementation of HFA. UNISDR (2010b)

states that the Global Platform put its efforts into integrating DRR into school curricula by 2015. From the HFA progress reports, one can say that the member countries have given emphasis to integrating DRR content in their school curricula, especially in primary schools (UNISDR, 2011).

The Global Education Cluster (2012) highlights the need and importance of DRR education to provide required disaster risk reduction knowledge and tools to people. DRR education provides relevant DRR knowledge and skills to empower people so that they can take relevant actions to reduce their own disaster risk and vulnerability (Nielsen & Lidstone, 1998). Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, (2008) argue that collaboration actions and sharing of resources including their DRR knowledge and skills among community people is helpful to get quick recovery from disasters. Therefore, provision of DRR education helps to develop skills and abilities of community people to cope with disaster situations.

Various studies identified that the policy level people, education practitioners, teachers and school leadership need to ensure that the children have enough learning opportunities to acquire DRR knowledge and skills to cope with the natural hazards that are potentially likely in their surroundings (UNISDR, 2005). More importantly, schools need to ensure that children can acquire the required resilient capabilities (UNISDR, 2005; UNISDR, 2007b; UNISDR, 2015; Tatebe & Mutch, 2015). The United Nations (2015) states that the provision of relevant curricular initiatives is required at national, regional and local level to address these needs. Relevant DRR curriculum refers to the provision of educational opportunities in the curriculum that help children to acquire knowledge, skills and attitudes to protect themselves from disasters. Selby and Kagawa (2012) conducted a meta-analysis of available DRR literature and other relevant resources. They presented thirty case studies from different countries. In their research, they found that there are still limited DRR education experiences, practices and integration. The study noted that in most contexts, teachers' participation in the curriculum development process is limited. It also notes that teachers mainly focus on theoretical ideas and give less importance to the practical application of DRR curriculum.

Aghaei, Sevedin, & Sanaeinasab (2018) carried out a systemic review of available literature regarding strategies for education of DRR. They used thematic analysis and found eight major categories of DRR educational strategies. These are: raising knowledge, educational needs assessment, educational planning, educational approaches, educational content,

educational tools, involved organisations, and educational learning barriers and challenges. They concluded that most of the countries have implemented DRR education activities; however these actions are not enough. They noticed that more effective and efficient teaching and learning strategies are needed to increase the effectiveness of DRR education activities at all levels of community. There is agreement in the literature that a DRR curriculum is needed in order to develop a wider understanding of DRR and build basic capacities so that future generations are prepared and able to cope with local DRR issues. Five dimensions of DRR education extracted from a comprehensive global mapping and analysis of DRR curriculum are: understanding the science and mechanism of natural disasters; learning and practising the safety measures and procedures; understanding risk drivers and how hazards become disasters; building community risk reduction capacity; and building an institutional culture of safety and resilience (UNESCO & UNICEF, 2014). The literature agrees that the provision of these dimensions in the curriculum provide wider DRR learning opportunities for learners. Additionally, the provision of learning technical skills such as how to assess hazards and risks at school is essential (Petal, 2008). It also enables families to assess hazards and risks in their homes. The research claims that the active engagement of children and youth in hazards mapping and risk analysis processes are very useful in reducing their vulnerability in disaster contexts (UNESCO & UNICEF, 2014). Moreover, a practical- based DRR preparedness education curriculum plays a crucial role in the reduction of vulnerability (Izadkhah & Hosseini, 2005; UNISDR, 2017; Morrissey, 2007).

The Sendai Framework (2015-2030) aims for the substantial reduction of disaster risks and loss of life, livelihoods and health, and for the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries. These selected studies establish the need for, and importance of, DRR education, and encourage the engagement of relevant stakeholders for its effective integration into the curriculum.

The Comprehensive School Safety Framework was introduced in 2012. It considered DRR education provision as one of the major pillars among three pillars of safe schools. In 2013, global platforms again urged for integrating disaster management into education at all levels, including higher education curricula (UNISDR, 2015). These global initiatives contributed positively to addressing the disaster-related issues in the education sector. The Sendai Framework of action, which was introduced in 2016, also commits to continuing the HFA initiations in DRR education areas. Among the priorities of action, priority action 3 of the

Sendai Framework supports the use of knowledge, innovation, and education to build a culture of safety and resilience at all levels.

Jones et al. (2014) state dedicated efforts made by global actors, including international non-governmental organisations, multilateral agencies and other donor communities, have helped the country make considerable progress in the DRR area. However, Selby and Kagawa (2014) argue that centrally controlled monitoring and other direct involvement in DRR intervention at a local level creates a problem with effective implementation of DRR education (p.37).

To support DRR global initiatives, several organisations, such as UNESCO, UNICEF, GADRRRES, Plan, Action Aid, and Save the Children, have advocated for the holistic integration of DRR into the school curriculum. These organisations are advocating that educational institutions need to update the curriculum of study to ensure DRR content remains relevant and of better quality in order to address the needs of the society. Child rights-based organisations, such as Save the Children, Plan, and UNICEF, have given priority to child-centred DRR activities in schools and communities to promote DRR education in a more relevant manner. On the basis of these initiatives, it can be said that DRR education content provision in the school curriculum needs to be focused more on raising the standards of living of the local people. Disaster risk reduction education curriculum provision can offer the learning opportunities about disaster management to students in schools.

The Global Alliance for Disaster Risk Reduction and Resilience in the education sector advocates for school safety and contributes significantly to extend DRR learning provision in school curriculum. The Inter-Agency Network for Education in Emergency (INEE, 2010) advocates for the provision of appropriate and relevant education in emergency situations. It suggests that school curricula need to address the learning needs of the participants. Schools must teach the benefits of establishing school as a centre to assist in reducing disasters risks, and of developing leadership skills in children and youths on disaster preparedness. There are nineteen standards developed by INEE to help to continue education in emergency and disaster situations, some of which describe relevant curriculum and teaching learning methods.

Given the importance of disaster preparedness education, several countries, for example the US, New Zealand, Australia and others, are mainstreaming DRR education and including extra-curricular activities in their school curriculum. The US Federal Emergency

Management Agency has developed teaching and learning resources such as “Ready Kids”, “Let’s Get Ready”, “Ready Classroom” resources for school children (Johnson, 2011). New Zealand has implemented its national school-based disaster preparedness education programme called “What’s the Plan, Stan?” (WTPS). This programme consists of learning and teaching resources, school emergency management and disaster drills. Johnson (2011) finds that schools have a positive impression of WTPS. These are global and national initiatives that have been taken in the field of physical and psychological impacts of disasters on children. DRR education practices and initiatives discussed above are grounded in some basic theoretical ideas, such as DRR education helps to raise hazard awareness and realistic risk perceptions, and develops protective actions for children and communities. Similarly, DRR education interventions empower children to take lead roles in DRR actions, and encourage them to transfer their learning to adults. Moreover, DRR educational activities help to reduce stress, anxiety, fear and trauma to individuals. Therefore, DRR education is given high priority in global-level strategies and actions. Various actors are involved in carrying out DRR interventions at various levels (Forino, Meding & Brewer, 2015). Thus, the role of governance is crucial in disaster management and the education sector. This study aims to investigate the influence of education governance on developing and implementing DRR education interventions at various levels to address social vulnerability and disaster risks in the disaster-prone context.

## **Conclusion**

The first part of this chapter presents the political and educational context of the study. It has summarised the political changes and education development initiatives carried out at various periods of time in the country: the autocratic Rana regime, the democratic period, the Panchayat period, restoration of democracy and republic state. I also discussed the disaster-prone context and its impacts on education development of Nepal.

The literature highlights the importance of DRR education specifically in disaster-prone countries, and establishes the need for studies that explicitly examine the local level DRR education provision and practices. The literature agrees that there are still lots of gaps in mainstreaming the DRR education provision; these scenarios are also related to Nepal. Similarly, reviews of some evaluation reports of current school DRR interventions give us ideas for further action and replication of success in new geographical areas (Action Aid, 2011; Shiwaku et al., 2007; Centre for Policy Research and Consultancy, 2007). To address

such gaps, further research needs to be carried out to identify an effective way of mainstreaming DRR in the education system to reduce social vulnerability and disaster risks.

In the current context of Nepal, no academic research has been carried out to identify the relevant and effective DRR education interventions to address social, political and historical factors relating to disasters. The second part presents an overview of DRR education initiatives at the global level. In the next chapter, I focus on the sociological disciplinary theoretical framework that I have used in this study.

## **Chapter 3 : Theory in context**

### **Introduction**

This chapter presents the framework I used in order to introduce and describe the theoretical aspects of my research study. Theoretical understanding is crucial to carrying out meaningful educational research. Merriam (1998) states that the theoretical framework for any study is derived from the orientation or stance that the researcher brings to the study. After reviewing context-specific and academic literature, I decided to use a sociological disciplinary framework in this study. Sociology allows us to see the world in a particular way, and the use of social science approaches in disasters research helps in exploring the disaster circumstances, including people, in disaster contexts (Portes, 2000; Stallings, 2002). The world I see is socially, culturally, politically and historically constructed; a sociological perspective in disasters matches my epistemological and ontological ideas. As these are more relevant to my methodological chapter, I have presented my position in the next chapter (see Chapter 4). In order to explore the disaster context of Nepal in more depth, I look at three sub-disciplines of sociology: the sociology of disaster, the sociology of education and the sociology of education governance in development contexts. Since these three disciplines are concerned with the study of disasters and consequences, DRR sits at the intersection of these three ideas. Furthermore, I use the sociological concepts of vulnerability, hazards and risks in DRR and disaster management.

This study is my attempt to understand the DRR education provision and practices at various levels in a disaster-prone context. Stakeholders such as scholars, practitioners, government officials and private sectors are involved in the disaster study area, and their contribution to this field is crucial in shaping disaster study as a multidisciplinary subject (Bates & Swan, 2007, p.8). The theoretical perspective I adopted provides me with a broad understanding of how various stakeholders at various levels perceive and experience DRR education provision and practices within the changing social and political context of Nepal. As my study is located in the disaster-prone, developing and changing social and political context of Nepal, the influence of globalisation and neo-liberalisation in education governance also comprises a part of my theoretical framework. This theoretical framework will help me to articulate the social and political factors that influence a disaster event. Moreover, it allows me to share the influence of the socio-political factors on DRR education inputs aimed at reducing the social vulnerability and raising social resilience to natural hazards.

In the following sections, I discuss the sociology of disasters, education and education governance in development. I explain how the education sector constructs concepts of risk, hazards and vulnerability, and how the sector contributes to addressing relevant and contextualised disaster needs.

### **3.1 The sociology of disaster**

Sociology relates to the study of society, social behaviours, social groups and their problems. Landis (1986) defines sociology as “the study of human society; it is the study of social behaviour and the interaction of people in groups”. Dixon, Rata, & Carpenter (2001) describe sociology as a study of social life and social organisation. It aims to describe and analyse stratification, differentiation and mobility aspects of societies. Since disasters and their consequences are associated with these aspects of societies, disasters are taken as social problems. In response to the increasing trend of disasters, disaster research has become even wider (Lindell, Tierney & Perry, 2001). The sociology of disaster aims to explore the surroundings of disasters and the people in the disaster context (Portes, 2000). Furthermore, Uekusa (2018) suggests that in the case of development of disaster research, sociology contributes “to revealing unarticulated human and social aspects and knowledge of disaster risks and hazards” (p.8). Sociological research on disasters introduced a wider and new concept of social vulnerability and disaster risks (Quarantelli & Dynes, 1977; Quarantelli, 1999; Phillips, 2014).

Schutt (2010) states that sociologists study disasters in order to identify the significance of social factors and their influence to determine origins, course and outcomes of natural disaster. The increasing trend of poverty and economic inequality globally contributes to raising vulnerability. It is important to increase disaster resilience with improvement in the social conditions and living standards of people.

Social research in disaster also relates to risk, social vulnerability and social resilience in policy discourse. Scholars point out that until the late 1940s, there was a lack of organised study about disasters and how the public respond to disasters (Drabek, 1989). Quarantelli (1963) studied how the community remains cohesive, maintains social control and remains active after disasters. For example, he explored the social situation immediately after a disaster event and what kinds of disaster response actions were carried out by the general

public and first responders. Moreover, he also completed a study about panic during a disaster and the involvement of citizens in disaster response, including search and rescue.

The nature and scope of the study of disasters means that disciplines such as engineering science, psychiatry, natural science, sociology and geography are interlinked with disasters (Masterson, Peacock, Van Zandt, Grover, Schwarz, & Cooper 2014). Among these fields, the sociology and geography disciplines aim to contextualise natural processes and the factors of disasters from the social, political and historical perspectives (Quarantelli, 1987). These disciplines bring together the social aspects with scientific ideas of disasters. Furthermore, a sociological lens to disasters helps to understand how disasters are mediated and influenced by factors like politics, history, culture/values and society.

In addition, a socio-ecological lens is also useful in analysing DRR education provision and practices from social, historical and political dimensions at various levels. The socio-ecological framework allows exploration of the dynamic interrelations among various factors at different levels. Therefore, this thesis also employs a socio-ecological lens in noting the importance of multiple “lenses” to analyse how they influence each other. Bronfenbrenner (1979) points out the importance of interrelations and influence among multiple dimensions and levels while analysing social systems. He considers five social systems: micro, meso, exco, macro and chrono systems to analyse the influences of various dimensions on an individual. The microsystem reflects relationships at household level, whereas the mesosystem points to interrelations between individual and community. Influences of larger social systems and structure on an individual come under excosystem. The macrosystem encompasses the influences of culture, values, customs, and social classes, whereas chronosystem deals with the historical influences of these dimensions on an individual. In the case of DRR, the roles of household, community, social structures and groups, and social values, customs and cultures are significant to the translation of relevant and context-specific knowledge and skills to individuals. Moreover, influences of historical changes in social beliefs, technologies and social circumstances are also crucial in developing required DRR abilities and resilience capacities in individuals.

Traditionally, disasters were considered as an “act of God or of nature”. However, research studies have now established a strong understanding of the interaction between humans and their environment (Susman, O’ Keefe, & Wisner, 1983). Scholars such as Quarantelli (1996), Drabek and McEntire (2003), and Matthewman (2015) consider disasters to be social

problems. Disasters are not neutral; they affect more severely people living in hazardous areas, especially those from poor and marginalised communities. Disaster sociologists believe that disasters are the product of social, political, economic, and historical factors of the territory. They believe that there are natural hazards but there is no such thing as a natural disaster. The negative effect of hazards on people and society is disaster (International Federation of Red Cross and Red Crescent Societies, 2014, p.1). The natural environment, unequal distribution of opportunities, and hazards are considered major social causes of disasters (Peak, 2015). Also, places and hazards, unequal access and opportunities due to class, gender, social systems, power relationships, political, economic and environment forces all interact in a disaster situation (Peacock & Ragsdale, 1997; Morrow, 1997). Enarson, Fothergill, & Peek (2007) states that there is no such thing as a “natural” disaster since all disasters are fundamentally human made (p.130).

From the sociological perspective, therefore, disasters are fundamentally a social event; the product of the interaction between the environment and human behaviour. Disaster is recognised as a failure of the social systems (and therefore a community or communities) to cope with the environmental event (Kreps, 1989). Quarantelli (1999) points out that disasters and their consequent responses are, by their very nature, unique social problems. Sociologists such as Matthewman (2015) state that socially oppressed groups are most vulnerable to disasters, the poverty and social disadvantages resulting from racism, sexism, inequalities and other forms of structural discrimination (p. 129-132). Wisner, Blaikie, Cannon, & Davis (2004) also discuss why certain groups are vulnerable to disasters in society. Under their pressure and release model, they describe the root causes of vulnerability (to assess the access and power): dynamic pressure (micro- and macro-level context pressure), unsafe conditions (physical, local economy, social relations, public action and institutions) and hazards (existence).

The sociology of disaster is, thus, a particular branch of sociology. From a social perspective, it can be said that disasters occur because of failure or weakness in a social system. The sociology of disaster posits that both natural as well as technological disasters and their consequences are interlinked with society. Drabek (2012) states that a disaster is a product of the interaction between risk, environment and a social system. He identifies disaster as being deeply rooted in the relationship between the social system and the created environment. For example, loss of property, lives and social assets from an earthquake that create a traumatic situation for victims is a product of interaction between the social system and the

environment. Thus, the perceptions, skills and abilities of individuals and communities, and the provision of a social system to minimise the risks and impacts of disaster, play a crucial role in DRR and disaster management.

This situation comes about not only because of the high impact of a natural disaster, but also because of the failure to develop and distribute essential services and the disruption of social networks which enable social actors to operate effectively during and after a disaster (Peacock & Ragsdale, 1997). Because of the possibility of severe consequences of disasters, the restoration of these services and systems are beyond the household and community capacity (Gladwin & Peacock, 1997). Therefore, the recovery interventions are the attempts to re-establish social networks through the collaborative actions of community groups and other organisations (Averch & Dluhy, 1997; Nigg, 1995; Peacock & Ragsdale, 1997).

The social, political and historical perspectives of disaster are concerned with how the social structures shape the dynamics of households and community for DRR and disaster management. For example, the influence of social inequity, associated with race, gender, age and class, determines the intensity of the impact of disaster in certain places. In the context of Nepal, the role and consequences of social inequality on the basis of gender, economic status, caste and remoteness are influential in disasters (Aksha et al., 2018). They also point out that these determinants play a crucial role in the ability of a community to respond to disasters and their consequences. Therefore, marginalised and deprived groups are more vulnerable to disasters.

Disasters are also constructed culturally (Hewitt, 1983, in Oliver-Smith & Hoffman 1999). The social context, values, and culture are linked with the sociological concept of disaster. Oliver-Smith and Hoffman (1999) explain disasters from the perspective of “objectively identifiable phenomena” or “subjective socially constructed process” (p.22). A disaster and its consequences on an individual, family or community are based upon preparedness and previous awareness initiatives. However, in this thesis, I argue that cultural perspectives play a crucial role in defining disasters and risks.

Wisner, Blaikie, Cannon, & Davis (2004) state that disasters impact on normal social functioning and therefore effective response and recovery help society to return to normal. Disaster risk reduction and disaster management, as used in this thesis, are not limited to sustaining normality; they also deal with addressing the local context and vulnerability to

establish a disaster resilient community. Although there is still lack of understanding about disaster resilience in the disaster discourse (Twigg, 2007; Mitchell & Harris, 2012), as discussed in Chapter 1, it is linked with the ability to cope with hazards (Wisner et al., 2004). The impacts and consequences of a disaster event need to be addressed properly. Panic, looting or other anti-social behaviours may take place during and after a disaster (Drabek & McEntire, 2003). In the case of the Gorakha Earthquake, 2015 in Nepal, some cases of looting were reported. Moreover, during the response and recovery phase several stories related to corruption were published in a national newspaper (The Kantipur Daily, 8<sup>th</sup> July 2015). Similarly, because of lack of access to systematic disaster education, it was noticed that people were afraid as a result of disaster-related rumours. The media in disaster situations plays an important role (Peacock & Ragsdale, 1997; Morrow, 1997). Moreover, the proper use of media is crucial for disseminating useful information for recovery and immediate response (Fischer, 1998). For example, in the context of the Gorakha earthquake, radios, televisions and newspapers played an important role in disseminating relevant DRR information.

There are a range of perspectives: some sociologists believe that the sociology of disasters posits that human beings are naturally prepared for disasters and the consequences of disasters can also be well predicted. Social unity is essential for overcoming such unexpected issues during and after a disaster. Some disaster sociologists also agree that a community eventually learns to adapt to such a situation and attempts to handle it properly and eventually, on the basis of such experiences, it starts to progress again (Gordon, Farberow, & Media, 2013). However, this does not always occur. For example, in the context of Nepal as a less developed country, disaster, stress and consequences are still in place four years after the Gorakha earthquake (The Kathmandu Post, 25<sup>th</sup> April 2018).

The sociology of disaster is also concerned with the influence of disasters on people's perception, attitudes, and emotions. Disasters can have significant consequences on people's lives. The real experiences and struggles to overcome such consequences can help individuals to develop risk perception. However, long-term suffering from such consequences can also create attitudinal and emotional problems for victims. Moreover, as described earlier, disasters can have an impact on family, community, gender, culture and class. Thus, sociology plays an important role in exploring the interrelationships among these areas in a disaster context. Fischer (2003) states that the social scientific study of the social structure

adjustment preceding and following the precipitating event of a disaster helps to explore social problems (p.95). Disaster researchers such as psychologists and sociologists are keen to study group and individual behaviours. From the sociological perspective, how social groups are affected by disasters and how they respond to disasters are important questions for them. Moreover, how social structures and groups respond to the changes prior to a disaster event, the precipitating event and disruption, after the actual disaster event, and the stage of returning to normalcy are also their areas of interest. Similarly, the analysis of social destruction can focus on the scale (severity level, numbers of people affected), scope (how widespread the disaster or problem, e.g. an entire society or city), range (single individual/group/state/national), and/or the time and duration for rebuilding (Cutter et al., 2003, Gladwin & Peacock, 1997).

Disaster sociologists such as Kreps (1989) and other associates studied the provision of structure, organisations and roles in disaster situations. The influence of emergent disaster-relevant networks and other relevant organisations in a disaster context play an important role in developing the thoughts and behaviours of individuals (Bosworth and Kreps, 1989). Other areas of interest to disaster sociologists are pre-disaster social structure, bureaucratic or governmental response mechanisms in a disaster and participation of people in disaster response and recovery (Nigg, 1995). Cutter et al. (2003) mention that provision and practices of involvement in the social system help to determine the social causes and consequences of disaster. The pre-existing social structure determines the cooperation and coordination in a disaster context. Small social gaps and inequalities contribute to a feeling of belonging and unity during and after disasters and emergencies, whereas wider social gaps create a lack of trust and isolation. Similarly, a decentralised bureaucratic system can play a crucial role in disaster response. Active and cooperative bureaucratic leaders take a supportive role to carry out these actions (Bosworth and Kreps, 1989). Thus, analysis of disaster and disaster management practices and provision can be carried out by using social, political and historical perspectives (Peacock, Morrow, & Gladwin, 1997, p. 27). In the following sections I discuss the concept of social vulnerability, hazard and risk.

### **3.1.1 Social vulnerability**

Social vulnerability is one of several worthy concepts for further elaboration within disaster sociology. The social vulnerability approach to disaster sees natural disasters as the trigger for risk that has built up over time. It aligns with the social construction of disasters. Since

risks are there, vulnerability to potential risk is there. Access to safe buildings, resources for long-term mitigation and self-protective measures, are socially-structured capacities which influence suffering and recovery capability (Nigg, 1995). Cutter (2005) explains that minimising social vulnerability is a crucial part in lessening impacts of disasters in the future.

Disasters occur in a specific situation when there is a hazard and vulnerability. Morrow (1999) and McCoy & Dash (2013) explore the issue that socially powerless groups have limited resource options and therefore tend to live in a vulnerable area, and so these groups comparatively suffer more than others. Cutter et al. (2003) point out that social/demographic factors play a significant role in generating social vulnerability to disasters for certain vulnerable groups. Therefore, social power relationship and differential disaster suffering are interlinked.

Schutt (2010) states that socially created vulnerabilities are largely ignored in the hazards and disaster literature because they are so hard to measure and quantify. However, disaster sociologists consider qualitative factors such as ethnicity, gender, age, disability, social capital (network, connections and ability to protect oneself against disasters), and socio-economic status relevant to assessing social vulnerability to disasters (Laska & Morrow, 2006). Social and racial inequalities during disaster are present in many countries. Social vulnerability involves the basic provision of health care, the liveability of places, overall indicators of quality of life, and accessibility to lifelines (goods, services, and emergency response personnel), capital, and political representation. In the context of Nepal, issues such as conflict-affected families, single mothers, landless families, unemployment, physical landscape, and the landscape of social inequality have increased the division between rich and poor.

Vulnerability is seen as a socially-mediated concept. Vulnerability consists of environmental, economic, political, and demographic factors that help to determine the ability of the individual to cope with disasters (Wisner et al., 2004; Juran & Trivedi, 2015). Disaster sociologists have developed various indicators to rate social vulnerability and mapping which helps to reveal the vulnerable social situation. Vulnerability assessment is understood as a major action for reducing disaster losses and strengthening a culture of disaster resilience (Birkmann, 2006; Cutter & Finch, 2008; Montz & Tobin, 2011; Hallegatte, Adrien, Mook & Julie, 2017). Such assessment is carried out on the basis of income, age, ethnicity, housing, health, disability, gender and family structure (Cutter et al., 2003).

In the context of a natural disaster people become vulnerable based on their position in society and their relationships within society (Peacock & Ragsdale, 1997; Dash et al., 1997). Aksha et al. (2018) note that the political and socio-cultural caste system and associated marginalisation, gender division in society, exclusion in decision-making processes, and lack of empowerment also determine the level of vulnerability. Similarly, the physical vulnerability of places such as areas near coasts, rivers, mountains and hills also determine the social vulnerability of that location (Aksha et al., 2018; Khatri Chettri, 2013). Sites of ecological and environmental vulnerability are more prone to the destruction of buildings and infrastructure. Environmental sources of vulnerability – how the buildings are built, existence of old weak buildings, and overcrowded places – also increase loss in disasters. Similarly, unplanned and informal settlements on hillsides and at the edge of rivers and slum areas also increase social vulnerability to disasters (Dixit, 2003; Dixit, Upadhya, Pokhrel, Dixit, Rai, & Devkota, 2007; Devkota, Maraseni, Cockfield, & Devkota, 2013).

Vulnerability reduction requires knowledge about the social, economic, and political context that influences vulnerability (Wisner et al., 2004; Cutter et al., 2003; Hewitt, 1997).

Similarly, a lack of access to information contributes to vulnerability. This thesis argues that socio-economic, political and geographical marginalisation exacerbates the exclusion of vulnerable communities in DRR and disaster management decision-making processes in Nepal. For example, as I have shared in Chapter 1, a poor Dalit family, socially discriminated as an untouchable group, did not have access to a safe place to live nor enough resources to survive, and therefore was more vulnerable than others.

### **3.1.2 Hazards and risk**

A hazard is a “process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation. Hazards may be natural, anthropogenic or socio-natural in origin” (UNISDR, 2009). The conception of risk is interlinked with risk perception and its cultural understanding (Shriner, 2018). Douglas (1992) writes that risk is not a thing, it is a “way of thinking” (p. 46). Risk refers to broader cultural narratives, and therefore disaster risk reduction and management based on this conception help to address various social issues. Douglas and Wildavsky (1982) argue that risk is a collective construct of society and individuals develop their beliefs and perceptions within a specific social and cultural environment. Douglas (1992) further explains the connections between risk and culture with

respect to a disaster event, risk reduction and the politicisation of risk. Schutt (2010) also notes that culture shapes the societal interpretation of, and response to, disaster. In this study I aim to explore how DRR education addresses possible risk and hazards in a specific social and cultural environment, and then explore how individuals discuss further development of DRR education and their concern about future disasters and preparedness.

Risk perception plays a pivotal role in disaster risk management. Poor and disadvantaged people experience disasters on the basis of their risk perception (Peek, 2003). Preparedness response and recovery actions depend upon cultural understanding and values. Risk perceptions also shape disaster preparedness and management actions at the governmental, institutional and household level. With the recognition that many factors shape risk perception, how can the sociology of disaster provide the guiding theory for DRR education provision and practices in Nepal? It may be able to do so by providing answers to questions regarding subjective perceptions: what is considered a risk, and by whom, and what are their roles in successfully implementing DRR interventions. NGOs' involvement in DRR education in Nepal relates to some of these discussions on risk perception. However, education programmes can still face significant limitations based on their approach to different concepts of risk (Shriner, 2018).

The effectiveness of DRR education intervention relies on the understanding and discussion of risk. Teachers and trained human resources personnel play a crucial role in risk communication. Wolfe (1988) describes risk communication as a formal process for transferring technical information about potentially hazardous events effectively. NGOs assisting schools to carry out DRR education could emphasize two-way risk communication in formal and informal ways.

Collins (2009) points out that factors such as loss mitigation, the capacity to minimise hazards and vulnerability, and capacity for sustainable development are associated with societal contributions to minimise disaster risk. Thus, the sociology of disaster and development are interlinked to address disasters in development and development in disasters. Collins (2013) notes the role of social relations in mediating disaster and development. Social relations and systems of meaning both influence disaster and development outcomes, as do social networks – social capital, communication, accountability, responsibility, emotional ties and dependencies. Collins (2013) explains that

disaster and development outcomes are mediated by these factors: power and structure, technology and education, and human behaviour.

The absence of early warning systems and technology in DRR also increases disaster risk for the people. Moreover, human behaviour, for example, deforestation, has negative effects on environmental sustainability. Thus, it is important to engage people in DRR to extend their knowledge and culture (social origin, agency, tradition), empower them for their roles and responsibilities, and to engage in environmentally friendly action. Considering the development of resilience within a broader social change agenda, Shah (2015) suggests long-term structural programmatic interventions in the education sector. Furthermore, he suggests that DRR actors move beyond the language of returning to normalcy. Thus, the sociology of disasters may also raise questions about power, exclusion and inequality. So, it is hard to talk about resilience without realising the broader sense of engagement and empowerment. Therefore, the provision of formal, informal and non-formal education is important in order to raise DRR capability of individuals, households and communities and minimise disaster risks.

### **3.2 The sociology of education**

Education is the means of passing on social culture, values and knowledge to future generations (Dewey, 1900). It can interrupt existing norms, inequalities and structures in society. The sociology of education considers that education plays a crucial role in transferring social values, norms and culture which are essential for developing an individual as a social being. In a wider sense, education empowers and uplifts people, and it can also be viewed as a means of social justice. Education also contributes to reducing structural inequality and bias (Lopez, Gurin, & Nagda, 1998, p. 308). One of the major functions of education is economic development and liberation. Education enhances social interactions to reduce social gaps (Freire, 1970). Furthermore, the sociology of education helps to reveal social structures and processes that influence students' learning and social development (Hallinan, 2000). Therefore, education has a bearing on people's vulnerability and resilience. This thesis aims to explore the role which education is at present serving in Nepal.

Issues are thus linked to social systems and structures, and the sociology of education aims to study educational issues through a sociological perspective. The long-standing issues in the sociology of education are around knowledge, power and equity (Apple, Ball & Gandin,

2010, p. 9). In terms of the sociology of education, the idea of knowledge in DRR relates to the provision of access and relevant content in education which influences vulnerability and risks. There is ongoing debate among sociologists on some educational issues. For example, there is discussion about the access to powerful knowledge and contextual knowledge and the role of the education system in promoting inequality and hierarchy. Thus, Young (2008) suggests that knowledge of the powerful and powerful knowledge are the great debates in the sociological field. Beck (2011) states that a theory of powerful knowledge is essential in order to positively engage with and influence these debates.

The social construction of knowledge takes place in ways that reproduce existing social relations of power and inequalities. To address these issues, questions of knowledge and curriculum, therefore, are centre stage of education policy and debate (Moore, 2012). As presented in Chapter 2, Nepal has a diversified social context, therefore one of the major issues relating to access and content in education for minorities and ethnic communities in education is the curriculum. Relevant and comprehensive curricula address the needs of the diversified societies and geographical context. Curtis (2009) notes that, due to its general nature, the existing school curriculum is not contextualised to address the local context and cultural practices of the diversified communities.

Education and development are interrelated. Education is a means of human resource development, of improving the total qualities of individuals and committed citizens (World Bank, 2011). It also contributes to reducing inequality, and promoting economic competitiveness, peace and stability in society. Education plays a crucial role in reducing the unproductive values and practices in family and community. It also helps individuals to increase their upward mobility in society. Educated communities play a significant role in owning the development initiatives taking place in their locality. Without quality education, it is challenging to make and sustain positive changes in society.

Nepal exhibits great demographic diversity, which influences social vulnerability (Aksha et al., 2018). Moreover, as discussed in Chapter 2, the education system of Nepal was highly influenced by upper caste Hindu elites (Amatya, 2004; Poudyal, 2013). The practices of caste and creed systems have had negative consequences on educational, political, social, and economic reform. Koirala (1996) points out that because of the discriminatory practices in wider society, Dalits, females, ethnic groups and other deprived communities were left behind in education. Bista (2000) states that lack of education and widespread illiteracy

forced these groups to become voiceless in the community. The longstanding political, economic and social exclusion contributed to a decade-long conflict and war. Therefore, discriminatory practices in the political, economic, socio-cultural and education areas influenced their risk and vulnerability status. In other words, the level of literacy, illiteracy and political participation are also interlinked with risk and vulnerability. Thus, this thesis aims to explore further the factors that contribute to risk and vulnerability in education.

The historical, social and political changes and their influences on education are crucial to analyse the capacity of people, power and policies. This thesis also aims to explore stories and experiences of DRR education, knowledge and power. The thesis will argue that the delivery of contextualised DRR knowledge will help to empower individuals and the wider community in reducing risks and vulnerability. In the case of DRR education, basic knowledge and skills related to preparedness, mitigation, response and recovery are considered as powerful knowledge that will empower individuals, families and communities in DRR and disaster management. Moreover, it assumes that knowledge has to be local to be powerful. Young (2008) maintains that there is a body of knowledge that everybody needs to know. For example, literacy and numeracy skills are essential to deliver such an important body of knowledge. Therefore, accessibility to education is important in raising such relevant and contextualised knowledge to all. Hence, it is important to analyse how access to, relevance of, delivery of, and participation in such knowledge applies specifically to the people who are vulnerable and at greater risk.

As discussed earlier, disaster sociologists argue that disasters only become disasters if people are socially, economically and politically vulnerable. Therefore, a disaster influences people in different ways on the basis of social factors. Factors such as discrimination, inequality and poverty influence the education system. In addition, wealthy people live in well-built houses, whereas the poor may live in an unstable building, therefore poor people will suffer the greatest disaster losses and have limited access to recovery mechanisms (Blaikie et al., 1994; Peacock et al., 1997). The Government of Nepal has made efforts to reform the education system of the country, however, there are various challenges to raising the quality of, and access to, education (MoE, 2009). Limited participation of the deprived groups in educational decision-making processes also hinders their access to quality education. Moreover, limited educational and employment opportunities, political instability, social inequality and poverty led to negative consequences for the social condition of the country, especially following the devastating earthquakes in 2015 and floods in 2016 (Shriner, 2018).

A disaster victim's attributes, such as social class, caste, ethnicity, gender and age, are important and are associated with the recovery process and outcomes (Morrow, 1997). Long-term recovery functions after a high-impact disaster play an important role in re-building and rehabilitation. Education, as a social process, plays a pivotal role in addressing these issues, for example, by addressing the issue of structural safety to make a strong and safe place, and education plays a key role in mediating risk and vulnerability (Shah et al., 2019). Moreover, education helps to empower people by reducing vulnerability and disaster risks through enhancing their resilience capacity. It also contributes to overcoming disaster stressors that may place individuals at risk of emotional and physical ill health. The amount of exposure to disasters, for example, more than four hundred aftershocks equal to or greater than four on the Richter scale after the Gorakha earthquake, can cause lasting stress and trauma specifically to the poor and vulnerable people (Shriner, 2018). Mainstreaming disaster education in each education subsector, including pre-school, and restoring education provision in the aftermath of a disaster context (Shah et al., 2019) is helpful in addressing these issues.

In the context of Nepal, a “one size fits all” concept in education does not address the social needs of a geographically and socially diversified context. Singh (2013) argues that deprivation of children to learn about their own ethnic identities, local context and socio-cultural practices reduces the chance of development of their potentialities. According to Banks (2015), a school curriculum ignoring the cultural norms, values and knowledge of deprived communities distracts learners from the learning process. It raises absence and dropout rates that lead to poor education which hinders upward mobility of deprived children. These children need extra support to make progress in their learning. Without a resilient education system, children do not feel safe in schools (GADRRRES, 2017; Shah et al., 2019). Thus, the education system also needs to address issues of inequality. Considering the disaster context, there is also a need for an equity-based response mechanism to address the different levels of risk and vulnerability (Shah et al., 2019). In the following section I describe further how development is linked to educational issues, including vulnerability and risks.

### **3.3 Sociology of development**

The sociology of development is another field in the theoretical framework of this thesis. The sociology of disasters, sociology of education and sociology of development are nested

together to analyse social, political and historical factors and their relationships which are helpful to identify risks and vulnerabilities in the education sector in Nepal.

The study of development is one of the fundamental areas within a broader field of sociology. In general, the sociology of development aims to explore social relationships among the individuals and society in terms of various social factors such as inequality, poverty and economic growth and development. Thomas (2000) portrays development as a vision desirable by society and as an historical process. The World Bank (2011) states that development is an economic, social and political process that raises the living standard of people and communities. Thus, development sociology deals with the causes and consequences of social, economic, technical and political changes in society. It represents a transformative process with changes in society. People's perceptions and conceptions of development are pivotal in order to influence planned social changes (Webster, 1993). Development studies have long been engaged in debates about development for whom and development for what/ what ends. A range of theories and ideas have sought to address this idea and this thesis also attempts to answer this central question in development.

During the twentieth century there have been two main schools of thought. The '*modernisation*' theory represents common features of development and social change on the basis of the analysis made by Durkheim and Weber (Webster, 1993). Kiely (2013) states that this school of thought saw development as a succession of stages through which all societies/nations must pass on their way to "modernity" (p.2). This theory states that economic growth and economic development may take place only when social changes occur in society. Similarly, the '*underdevelopment*' theory draws on ideas of economic development on the basis of the analysis of social conflict among the social groups (Webster, 1993). This school of thought, known as dependency theory, is grounded in Marxist ideas (Kiely, 2013). It argues that underdevelopment is a result of inequalities existing in society.

Development aims to make positive changes to fulfil modern living standards of individuals (World Bank, 2011). These changes enforce the development of capacities of individuals, empowering people to claim their rights and obey their responsibilities. Development requires resources, time and effort. As development is a social process, social norms, values, beliefs and traditions also affect the process. Webster (1993) points out the importance of the expansion of improving literacy and overall level of skills in the population, specifically in developing countries. However, as developing countries have very limited resources,

international aid agencies play a crucial role in filling the gaps. Aid dependency creates several negative impacts on a country. Webster (1993) mentions that aid-dependent poverty reduction initiatives and any other development interventions in developing countries create more problems than they solve. Poverty, political instability, inequality, traditional beliefs, tough geographical landscape, problems related to water and sanitation, and lack of educational opportunity are major challenges to development in Nepal (Asian Development Bank, 2011). To address these considerable problems, Nepal has also endorsed sustainable development goals in its development plan and policies. However, it will take time to reduce such issues, specifically in the context of the lack of political stability.

Nepal is ranked as one of the least developed countries in Asia, at 149<sup>th</sup> out of 189 countries, in a recent Human Development Index report (UNDP, 2018). The total adult literacy rate is 59.6 percent, with a female literacy rate of 48.8 per cent. The population growth rate of the country is more than 2 per cent per annum (Central Bureau of Statistics [CBS], 2011). The Asian Development Bank report states that in 2010/2011 about 25 per cent of the population had less than USD 1 per day. Due to unemployment, about 25.4 per cent of households have at least one member outside of Nepal (CBS, 2012). This poses tremendous challenges for the socio-economic development of the country. Social economic disparity, traditional social practices, illiteracy, environmental degradation, monsoon-dependent agriculture, unemployment, political instability and the geographical landscape challenge development interventions in Nepal (Lawoti, 2007; Aryal & Pant, 2015; Shriner, 2018). Moreover, the disaster-prone context of the country is also another challenge to development. For example, according to the Asian Development Bank (2018), the two devastating earthquakes (April and May 2015) have pushed a further 3 percent of the population below the poverty line.

The interrelationship between local disasters and development is very close. UNISDR (2015) states that disaster risks need to be addressed properly while conducting development initiatives at local, national and global levels. However, it is challenging in the absence of the required resources, especially in the developing countries, which are mainly dependent upon aid assistance (see World Bank, 2011). Recent studies also show that disasters and aid delivery programmes have long-term consequences in developing countries (Shriner, 2018). The top-down approach in development and disaster management is insufficient for addressing the social issues. The social issues, such as the level of impact of disaster on individuals, are different; damage and destruction of homes and properties may occur at different levels and disaster victims may not receive the same level of response and recovery

assistance from respective stakeholders. In the context of Nepal, analysis of the social, political and historical impacts of natural disasters on poor and deprived communities has not yet been carried out. Therefore, this study focuses on provision and practices of DRR education to explore the social, historical and political aspects of risk and vulnerabilities of deprived communities.

As discussed earlier, various actors may influence the development initiatives in developing countries. As developing countries have limited resources, subnational and supranational organisations come to fill the gaps and play an influential role. The influences of these organisations in power and decision-making puts pressure on governments to address their development agenda. Various scholars, for example, Gaillard and Cadag (2009) argue that the dominant humanitarianism approach influenced by Western ideologies and the top-down approach bypasses local expertise, existing networks, local knowledge and needs, and inhibits potential resilience. Global level actors without having enough knowledge of the vulnerable communities and local context create problems while contributing to handle emergency situations.

It is important to analyse the notion of scale and level of engagement of actors in development initiatives. There needs to be analysis of probing questions, such as: who set the agendas of development plans or initiatives and who is driving these in the developing country? As a developing country, Nepal is also vulnerable and is gradually becoming more of an aid-dependent country (Bhatta, 2012; Regmi, 2016). However, due to political instability, lack of good governance practices and corruption, development aid and investment appear ineffective. The Government of Nepal recently introduced a new development model for a “Prosperous Nepal, Happy Nepalese”, by achieving faster growth to become a middle-income country by 2030 (Government of Nepal, 2017). The World Bank (2018) states that to achieve the aims of the proposed economic model, the government has proposed higher levels of investment, productivity and effective public institutions which can facilitate private sector dynamism. It will be interesting to analyse the roles of various actors and how they support the government to achieve these in the education sector.

Being an aid-dependent developing country, from the perspective of sociological notion of development, Nepal is in a vulnerable position. The notion of power and social hierarchy has significant influences on access to development. Lack of economic resources, existing social discrimination and unstable political context create challenges in development and DRR

(Aksha et al, 2018; MoHA, 2015). The recent earthquakes and consequences reflect challenges of disaster risks and vulnerability. As discussed earlier, since education is a sociological concept, the education system of the country is influenced by disasters and development and vice versa. In the context of Nepal, hazards, risk and vulnerabilities are socially constructed concepts within education. Moreover, the vulnerability and risk are associated with historical, social and political relationships. To establish Nepal as a safer place, there is the need to add more resources for sustainable development and DRR interventions. There are actually pluri-scalar governance structures in education and society in Nepal. Because of the social, political and historical relationships, they compound and mitigate risk and vulnerabilities. This is discussed in the next section.

Specific to education, Dale's framework is useful for understanding development for what ends over a range of different levels and scales, which is important in the era of globalisation and neo-liberalism. Dale (1997) notes that the state is the main funder and regulator of education and development, and the major provider of education services. In the context of developing countries, various actors also come and make their space of engagement in developmental interventions. Since these stakeholders control resources, they can influence the funding, regulation, ownership and provisions actions of education governance. Such influence has major consequences at various levels. Since Nepal has been receiving development aid from various actors and is still struggling to achieve its developmental objectives, my theoretical framework uses Dale's pluri-scalar governance ideas to analyse the influences of development actors in education in Nepal. This model helps me to identify major issues in the education sector in general, and DRR education in particular.

Moreover, the policy development process influences the rising impact of globalisation. The power of government, therefore, has been transferred to the supranational level and manifested in the form of structures and mechanism international organisation to establish "governance without government" (Rosenau, cited in Dale, 1999, p.4). Dale (2005) argues that supranational organisations such as IMF, the OECD, the World Bank, EU, the Asian Development Bank are all attempting to install such virtual governance above the level of nation state. Realising the importance of the roles of various actors in disaster management, Forino, Meding, & Brewer (2015) also discuss the need of a hybrid governance framework to address issues related to climate change adaptation and disaster risk reduction in the context of Australia.

Supranational organisations such as the World Bank, USAID, UNESCO, European Union and others are crucial in education development, DRR, and shaping the education governance mechanism in developing countries. Rhoten (2000) states that these organisations also impose new forms of political conditionality by tying development assistance to the meeting of specific norms and conditions. The World Bank provides loans to developing countries only after they accept the loan conditions of the bank. Therefore, the World Bank, known as the “conditionality bank”, influences education reform in developing countries (Dale, 2005). UNESCO and USAID provide constructive support to the World Bank’s approach to education governance (Carnoy, 1999). The EFA forum for Dakar in 2000 formally endorsed decentralisation education governance in the Framework of Action. These pieces of evidence show that the movement towards reformation of education governance is a significant global phenomenon. It is a result of the market-driven approach in industrialised countries, whereas educational reforms in developing countries put first the issues related to access, efficiency, quality and equity in education (Gropello, 2006).

In the following sections, I present Dale’s pluri-scalar governance model which I have used to discuss the findings of the thesis in Chapter Ten. I decided to use this model as one of the constituents of my theoretical framework because of the existence of the pluri-scalar nature of governance in education and other sectors in Nepal. This model also allows me to analyse impacts of neo-liberal and globalisation movements in education and development at various levels.

### **3.4 Pluri-scalar education governance**

Education governance implies coordination and collaboration actions carried out by stakeholders to establish an effective and efficient education system. Dale (2005) states that education governance activities might include funding, ownership, provision and regulation. To carry out these actions there are several actors including the state, the market, the community and households that need to coordinate in order to establish good education governance. Robertson, Bonal and Dale (2002) present a pluri-scalar governance of education model. They argue that governance consists of multiple dimensions, actors and scales. This model covers three dimensions: three scales of governance - the supranational, national and subnational; four institutions of governance – the state, market, community, and household; and four governance activities consisting of funding, ownership, provision and regulation.

The pluri-scalar model is represented by a cube, as shown in Figure 3, in which governance can be seen through different activities and operated in various scales.

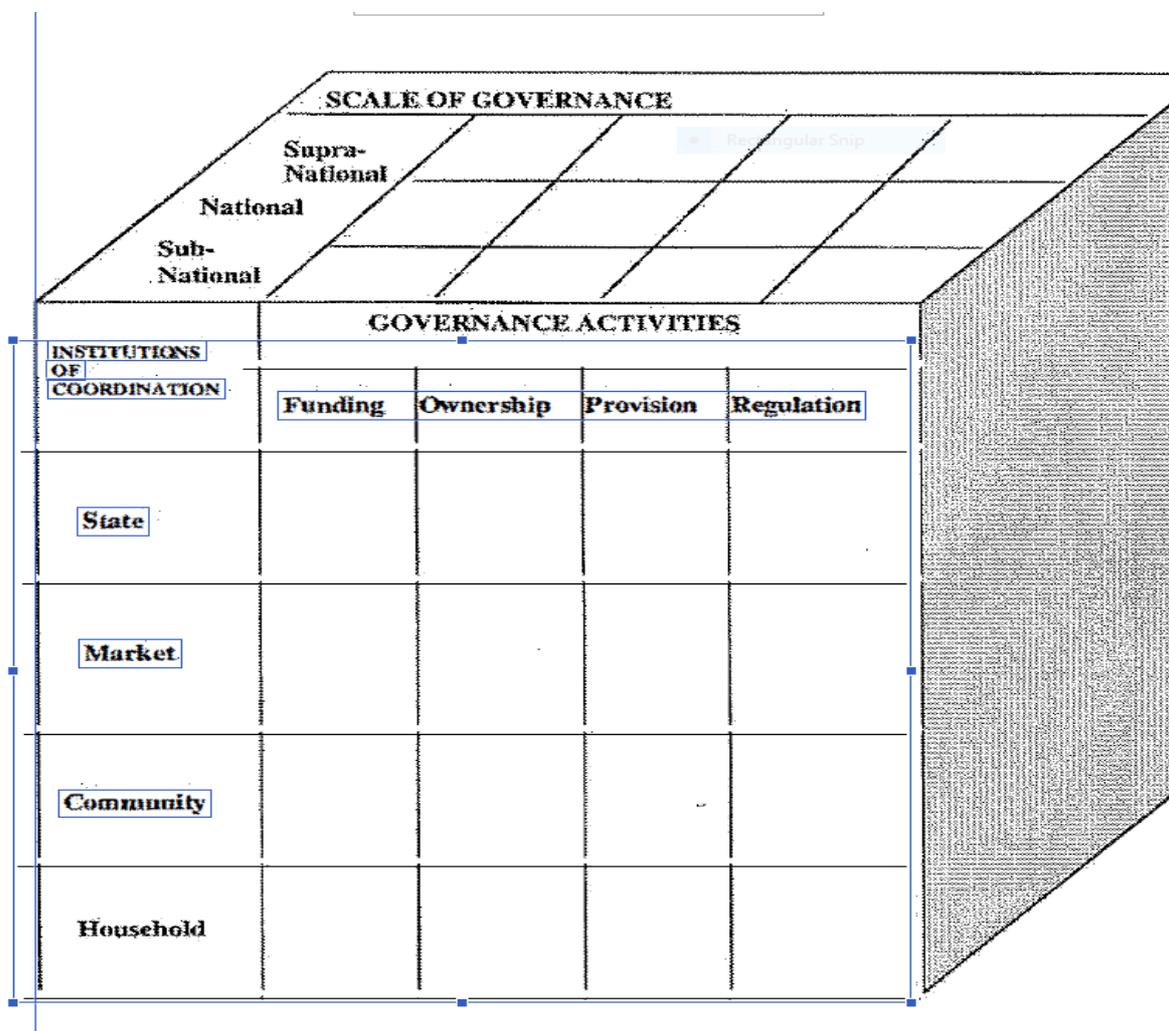
Considering the pluri-scalar governance of education, Dale presents the subnational, the national and the supranational layers in three scales of education governance. These scales are constructs that take place at different levels. There is the possibility of conflict between the actors at any level within a scale. Since the state is not always an independent nation, various actors may influence the governance mechanism directly or indirectly. As discussed earlier, because of globalisation, education governance-related interventions occur at levels above and below the level of the state. According to Dale (2005), pluri-scalar governance associates with the actions of the actors to construct and deliver education. It also describes power relations engaged in implementation of relevant activities. Dale notes that the role of sub-regional, national and supranational actors and their strategic actions are important for managing education and achieving its purposes. Therefore, it is important that the state should establish a more coordinating and collaborating governance mechanism to engage all the actors effectively.

To analyse the issues of education effectively, it is crucial to consider the pluri-scalar character of education governance (Robertson, 2007). The pluri-scalar governance model was introduced in the context of the European Union. The model stresses the importance of the analysis of educational issues on the basis of pluri-scalar characteristics of education governance. In the context of Nepal, this multi-scalar framework helps to understand local, national and global level governance practices that influenced education policy development and implementation. Considering these scales and the above-mentioned dimensions, the pluri-scalar model will be a good fit for discussing the findings.

This model will also be helpful for articulating the discussion in a comprehensive way. Figure 2 illustrates that the national state is only one of the key actors in the area of education. The figure below also highlights the influences of neo-liberalism and globalisation on education governance, which will be discussed next. In the literature review chapter (Chapter 2), I explored three areas that were connected to mainstreaming DRR in education. Various scholars such as Lauglo (1995); McGinn and Welsh (1999) & Daun,(2007) state that economic forces (neo-liberalism), globalisation (role of donor agencies and development partners) and politics (human rights, democratisation) play a pivotal role in reforming

education. This pluri-scalar cube model helps when analysing governance activities with respect to the influence of globalisation and neo-liberalism in education.

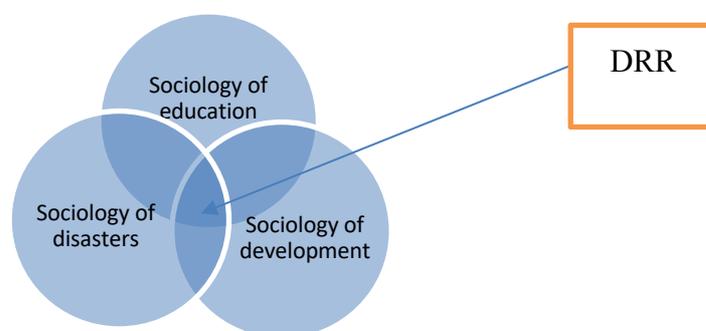
The cube model also gives me the opportunity to map the findings of the thesis, and for further discussion of the research findings, based on various actors and scales. The model is useful for highlighting some of the challenges of the mode of governance that exists in Nepalese education at present. The model resonates with what other scholars have already said. It will allow me to analyse the situation, highlight the challenges and theorise the nature of the problem.



**Figure 2: Pluri-scalar governance of education** (Source: Dale et al., 2002, p.478)

As my underpinning philosophical view is sociological constructivism (see Chapter 4), the use of sociological theory in my research design and data analysis is helpful for exploring individual perspectives on the provision and practices of DRR education in schools and communities. It also allows me to track education development through historical, sociological and political analysis. As pluri-scalar governance places emphasis on social justice issues and sociology of disasters addresses social issues related to disasters, they are interrelated. This thesis argues that risk and vulnerability are socially constructed, therefore Dale’s governance framework helps to analyse social context to establish disaster resilient community. Similarly, the pluri-scalar governance model and sociology of education are interrelated. Because of the wide range of functions of education being driven above and below the state, there is less capacity for education to serve an important role in helping communities and individuals to interrupt their cycles of vulnerability and exposure to risk.

I also adopted Dale’s (2002) pluri-scalar theoretical model for education governance in development to explore the role of globalisation and neo-liberalism in education reform. This will give me an opportunity to identify supranational organisations and their roles in DRR education. Moreover, use of this framework in my study will also help to contribute further to the fields of sociology of education and sociology of disasters. Kelly (2010) notes the importance of theory in designing and analysing the data. In my study, theory guides both my research design and data analysis. This theoretical framework allows me to understand the DRR education provision in school education, the influence of various actors at different levels, and the DRR education practices in the public schools comprising my case study. As presented in Figure 3 below, the use of social, political and historical concepts in this study will be helpful for interpreting the extent of influence of these areas in disasters, DRR and disaster management.



**Figure 3: Addressing DRR from sociological perspectives**

## **Conclusion**

In this chapter, I presented the theoretical framework I adopted for my study. This theoretical paradigm offers a wider understanding of DRR education provision and practices. I introduced the sociological concepts of disaster, education and development, highlighting how the concepts of disaster vulnerability and risks are constructed socially. An analysis of DRR and disaster management from the social, political and historical perspectives enabled me to have an understanding of the macro-context of my study. This framework helped me to consider DRR implications beyond physical safety. The framework of the study, focusing on the impact of disasters from historical, political and social perspectives, will be crucial for identifying a suitable model of disaster governance and education planning.

I also presented Dale et al.'s pluri-scalar cube model to discuss scales and levels of influence of various actors in education and development. This cube model will help me to analyse and discuss the roles of various actors who manage education governance. I will focus specifically on DRR education initiatives in a disaster-prone context. The model will also help me to discuss the influence of neo-liberalism and globalisation in education and development in Nepal. In the next chapter I outline the methodological framework of my study with social constructivism as my adopted theory.

## **Chapter 4 : Research design and methodology**

### **Introduction**

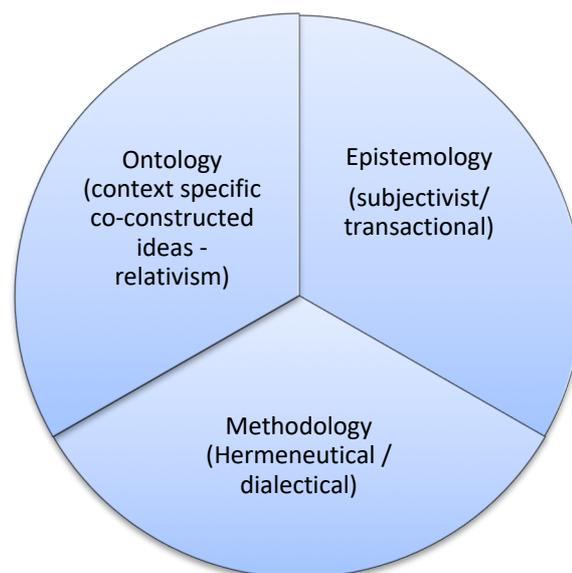
This chapter is an overview of my research design and methodological groundwork. I outline the methodological foundation for investigating the practices and provisions of disaster risk reduction (DRR) education in the school curriculum in Nepal. I present the research paradigm, give a brief description of the study place and procedure, introduce the research participants, tools and techniques used in data collection, and explain the data analysis and interpretation of the data of this study. This chapter describes the fundamental areas: what is out there to know (ontology), how I can know about it (epistemology), the procedures of acquiring knowledge (methodology), the specific procedures used to acquire the knowledge (methods) and the nature and sources of data (Hay, 2002; Lincoln, Lynham & Guba, 2011; Cohen Manion, & Morrison, 2010; Mutch, 2013). Finally, I present the procedures that I have used to fulfil the ethical requirements while conducting my field work.

### **4.1 Research paradigm**

The research paradigm provides a broad picture of the research. It consists of a set of beliefs and a world view about “truth” and “knowledge” which are helpful in order to recognise the broad overview of the study. Ontology, epistemology and methodology are taken as the three basic components of a research paradigm (Lincoln, Lynham and Guba, 2011; Hay, 2002). Ontology is the study of beliefs that contribute to constructing social reality. The ontological position of an individual reflects the solution to the problem. In this study, for example, it is assumed that there is a problem of a shared understanding of DRR knowledge and skills at the local level. Lincoln, Lynham and Guba (2011) state that ontology deals with the nature of the social reality and what can be known about the reality. Epistemology is associated with the theory of knowledge. Thus, it is a science that establishes the relationship between researcher and research area (Lincoln, Lynham and Guba, 2011; Cohen, Manion & Morrison, 2010). Blaikie (2007) states that epistemology relates to knowing the unknown and how the existence of the unknown is known. Methodology covers the theoretical strategy to create the procedural steps to find out the knowledge. It is a broad framework within which research can be carried out under defined theoretical strategies and procedural steps.

This study is based upon the constructivist research paradigm. Constructivists believe that truth is relative, and it is dependent on an individual’s perspectives. This research takes a constructivist view of the development of knowledge and understanding. Crabtree and Miller (1999) note that a constructivist paradigm “recognises the importance of the subjective human creation of meaning, but it doesn’t reject outright some notion of objectivity. Pluralism, not relativism, is stressed with focus on the circular dynamic tension of subject and object” (p.10). This paradigm allows interaction and discussions with others to generate an understanding of social phenomena. Crabtree and Miller (1999) state that close collaboration and interaction between researcher and study participant is one of the great advantages of this paradigm; it allows a participant to share his/her perspectives openly. Through such perspectives a researcher can explore the participants’ views of reality and actions (Lather, 1992; Grix, 2010). As this study aims to explore the practices and provisions of DRR education in Nepal, social constructivist theory helps to guide the study. It allows me to interact with various stakeholders in exploring local reality.

As shown in Figure 4 below, the epistemology of constructivism is subjectivist. It deals with the belief that the knowledge is co-created through social interaction. The methodology is enquiry-based and follows interaction and discussions. Therefore, Mingers (2001) states that interaction between researcher and study participants allows for construction of a social world.



**Figure 4: Constructivism research paradigm** (Source: Lincoln, Lynham and Guba, 2011, p. 98)

Constructivism follows the belief that reality is created not discovered (Patton, 2015, p. 121). Thus, a research design is constructed by the researcher and is affected by the context. Patton (2015) describes constructivism as a belief in multiple truths, and belief that the interaction of the researcher with what is being studied affects the determination of truth.

There are some core principles of constructivism. Patton (2015) describes the context as crucial to understanding social constructions of reality. The social, political, cultural, economic and environmental contexts influence the illumination of social constructions. Similarly, use of words to make sense of shared perceptions of reality and power differentials affect and shape social constructions and perceptions of reality. Moreover, he states that the subjective perspectives of researchers affect their method choices, shape findings and inform their understanding of others and themselves.

The aim of acquiring qualitative data is to gain insight into the defined research problems through a direct approach to the research participants. Denzin and Lincoln (2011) point out that qualitative researchers stress the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry. Such researchers emphasize the value-laden nature of inquiry. They seek answers to questions that stress how social experience is created and given meaning. According to Patton (2002), this requires close contact with the research participants to explore their living experiences to construct meaning that can be studied further. Holiday (2007) states that qualitative study explores perspectives, experiences and practices within a specific social setting. Use of the qualitative method allows me to interact with various stakeholders in exploring their perceptions and experiences in the DRR area. Therefore, I have decided that a rigorous qualitative methodology is helpful for investigating the current provision and practices of DRR in school education at the local, district, regional and national levels in Nepal.

## **4.2 Qualitative methodology**

Qualitative studies aim to understand, describe and explain beliefs, behaviours and experience of research participants in a specific context (Byrne- Armstrong, Higgs and Horsfall, Byrne- Armstrong, & Higgs, 2001; Denzin & Lincoln, 2011; Wu & Volkar, 2009; Hartas, 2010).

Of the attributes highlighted by Stake (2010), several are closely related to my study of DRR education in Nepal – the focus on human affairs from various perspectives, detailed description of the context, valuing experiences of the participants, and research-participant interaction.

The qualitative approach is useful for answering the ‘how’ and ‘why’ research questions (Yin, 2009). As discussed under section 5.5, the research questions of this study are based on investigating the ‘how’ and ‘why’ questions to get insights into how DRR education in Nepal is organised and implemented. Disasters are noteworthy events and therefore use of the case study approach to DRR provide an opportunity in exploring the historical, political and social changes in disasters. The study was carried out in the post-disaster context when the schools and communities were struggling with rebuilding and rehabilitation. This study focuses on DRR education provisions and practices which are more crucial after the Gorakha earthquake. In qualitative research, case study allows various tools and techniques to collect data follows systematic focuses on inquiry to develop knowledge. As I listened to and talked with my research participants through the designed tools and techniques, the qualitative methodology brought me nearer to my research participants, so I could examine how things look from different points of view.

### **4.3 Case study approach**

A case study fits well with a constructivist paradigm (Stake, 1995; Yin 2003) and is a widely accepted research approach in social science (Yin, 1994). It is a systemic empirical inquiry which allows the researcher to study individuals or organisations through simple to complex interventions and relationships (Yin, 2003). Cohen, Manson and Morrison (2007) regard the case study as a useful tool to study the real-life context (p.253). According to Swanborn (2010), the case study is associated with a social system and is useful for examining social processes, values and expectations. Lichtman, M. (2010) describes “a case study as a type of qualitative research that focuses on in-depth examination of a particular case or several cases” (p.81). Therefore, the case study approach enables the researcher to answer “how” and “why” type research questions by using various sources of data (Baxter and Jack, 2008).

Methods are a coherent set of strategies which can be used to gather information and data (Mutch, 2013). In relation to my research questions, this study has adopted the case study as its critical research methodology to address the research questions effectively. Simons (2014)

points out that case study research can be carried out from realist, interpretivist, or constructivist standpoints. Since a case study focuses on providing a rich description of a bounded case (Mutch, 2013; Yin, 2013), use of this method was helpful for explaining the situation, describing the existing DRR interventions, illustrating the effectiveness of the existing curriculum, and suggesting ideas for the way forward. Richards & Morse (2013) state that to address a question or issue, the case study is relevant since it deals with a selection of a small number of particular cases.

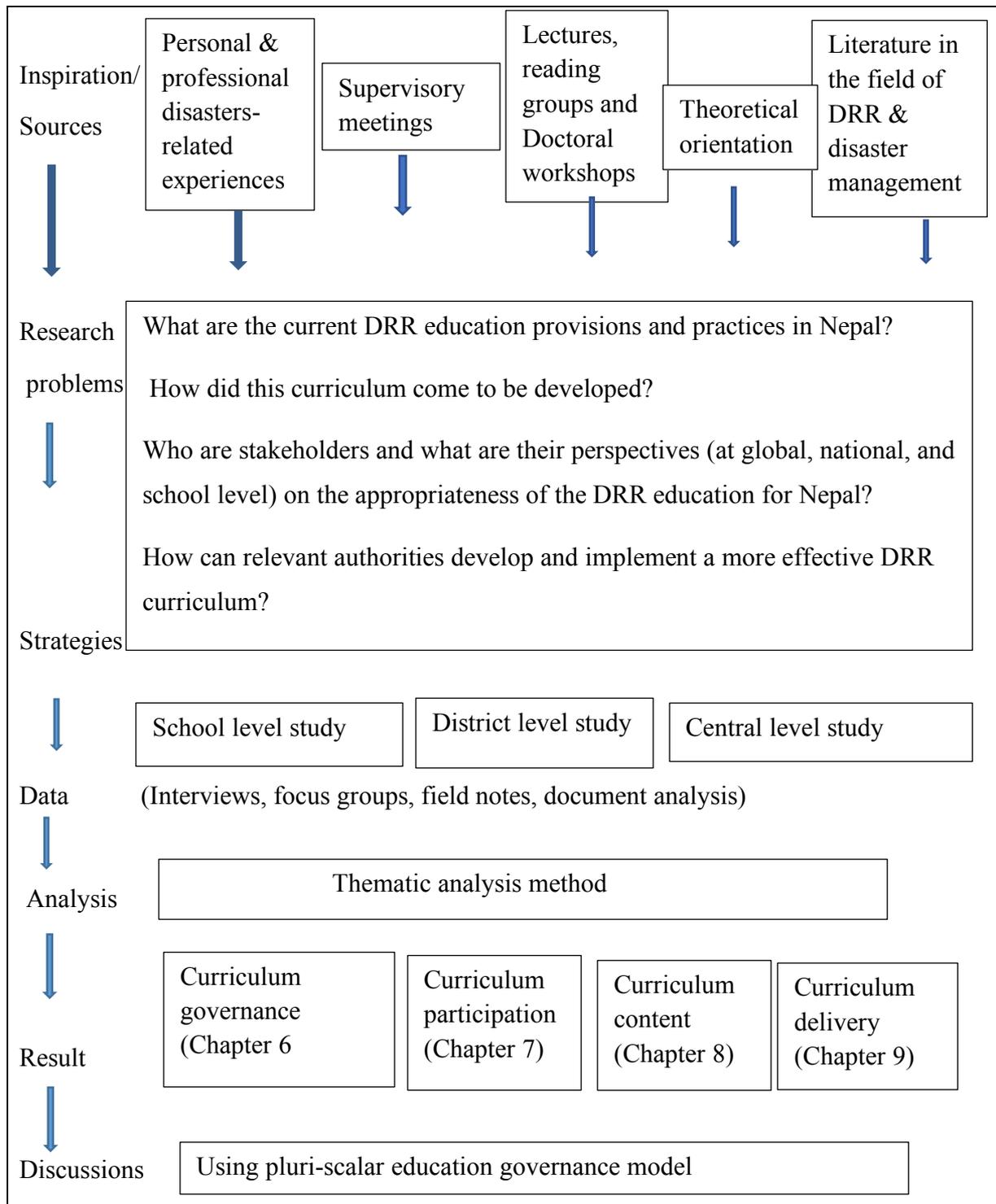
My study is a multiple-case study (Yin, 2003) which explores differences within and between cases. Three public secondary schools representing different disaster-prone contexts of the study district were the cases for study. These cases were seeking to explore the provision and practices of DRR education initiations at the local level. Local, district and national level stakeholders have put forward their view on DRR education provisions and practices at various levels through interviews and focus groups. To understand stakeholders' views and experiences of DRR education at various levels, face to face interactions were carried out. I have used interview, document analysis and focus group methods to collect relevant information. The data collected from these specific cases were reviewed and analysed. Field notes, semi-structured interviews and focus groups were used as primary data sources, and document analysis and records were used as secondary data sources (Stake, 1995; Yin, 2013; Creswell & Poth, 2018; Robson, 2002). These methods were also helpful in order to triangulate the gathered data.

The semi-structured interviews and focus groups, based on a set of open-ended key questions, were the main tools of data collection for the study. Following Hinds' (2000) suggestion, these tools were implemented in a comfortable environment. To ensure active participation, a set of ground rules were developed and agreed on beforehand. The prepared questions acted as an "interview guide" (Brayman, 2004, p. 321), allowing the research participants to use their own words in their responses enabling the researcher to collect original data (May, 2011).

#### **4.4 Research design**

Research design provides a clear map for addressing research questions, evidence collection and reaching a conclusion, all of which play a crucial role in carrying out the study effectively. According to Mutch (2013), research design deals with a broad structure of

research work. It is a plan that guides the researcher to carry out the designed study effectively. Yin (2009) states that research design is a logical sequence for connecting research questions, empirical data and the conclusions of the study.



**Figure 5: The research plan and process**

(Source: Author, 2019)

As outlined in Figure 5 above, disaster-related personal experiences, theoretical orientation, professional experiences, literature of the study area, the doctoral workshops, and ongoing mentoring and coaching received from my supervisors all helped me to develop my research position and refine the research plan. Attending research methodology classes during my provisional year of the study, as well as participating in doctoral workshops (specially designed for doctoral students to enhance their research skills) during the entire period of my study, and fortnightly supervisory meetings were very helpful for research clarity and implementation.

Data were collected from local, district and national levels. Representatives from the governmental education policy development agencies and non- governmental agencies were interviewed at a national level. At district level, interviews and focus groups with district level education officials and interviews with representatives from local NGOs were carried out. Similarly, at the school level, interviews with school principals, focus groups with teachers of various levels (primary, intermediate and secondary), and focus groups with School Management Committee representatives, community leaders and Parents Teacher Association representatives were carried out in three study schools.

Semi-structured interviews, focus groups with teachers, school leaders and resource people, and analysis of relevant documents were the major data gathering sources of the study. The data was obtained in the form of interview transcripts, focus group transcripts, field notes and documentary evidence. A thematic data analysis method was used to organise, summarise and make sense of the data.

With a case study approach underpinning the fieldwork, I spent nearly four weeks at the local level collecting empirical data through using semi-structured interviews, focus groups and document analysis.

#### **4.5 Study place and participants**

As mentioned earlier, the empirical part of this study covers central, district and school level studies. At the central level, the Department of Education, Curriculum Development Centre, National Centre for Education Development and Association of International NGOs were chosen. The Department of Education and other central level line agencies, including the Association of International NGOs in Nepal and INGOs, were chosen because their

involvement is crucial in shaping and developing DRR education policies and practices in the country.

At the district level, the District Education Officer, DRR Focal Person, resource people, the Educational Training Centre and local NGOs working in the DRR area were chosen in order to examine the DRR education provision and practices. I selected the District Education Office and the Educational Training Centre because these are the intermediate administrative authorities of the government system. Also, a DRR-specific NGO was chosen because of the high influence of the NGO sector in DRR education policy development and practices. A purposive sampling method was introduced to select the research participants (Creswell, 2013).

At the local level, I selected three public schools that were seriously affected by the Gorakha earthquake 2015 and other small-scale disasters that occurred in the specific locations. These three schools also had received some support from non-government sectors to carry out DRR education interventions in schools and communities. The reason for selecting these schools was not to compare the nature of DRR education interventions across the schools, but to get rich and in-depth data to acquire wider understanding of DRR education practices and provision in wider school contexts, and to make the study trustworthy (Merriam, 2009).

After determining the study sites, I selected research participants on the basis of their engagement in DRR education so that I could get the greatest amount of information. The following table (Table 3) shows a summary of the data collection tools.

**Table 3: Data collection tools administered at various levels**

Level	Data collection tools
<b>School level</b>  School 1, 2 and 3	Head Teachers (3 interviews)  Teachers (primary, lower secondary and secondary) and community representatives including School Management Committee/Parents Teacher Association in each school (12 focus groups)
<b>District level</b>	District Education Officer, DRR Focal Person, Educational Training Centre trainer, Local NGO Actor (4 interviews)  Resource Personnel (1 focus group)

<b>National level</b>	Officer from Department of Education Officer from Curriculum Development Centre Officer from National Centre for Education Development Representatives from INGO and Association of International non-government organisations (6 interviews)
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As shown in the table (Table 3) above, a total of 13 interviews and 13 focus groups were carried out. As there is a huge influence of the international NGO sector on DRR education, I interviewed the officials from three INGOs, a representative from the Association of INGOs in Nepal and a local NGO. I interviewed three principals at school level, and conducted focus groups for School Management Committee and Parents Teacher Association chairs, community leaders and parents’ representatives. Parents from women’s and other marginalised groups in the school communities were selected on the basis of their availability and willingness. I also talked with every teacher at these schools through organising level-wide focus groups.

In the following sections, I provide a brief introduction to the research sites – Department of Education, Curriculum Development Centre, National Centre for Education Development, Agency of International Organisation, District Education Office, Educational Training Centre, Resource Centre, a local non-governmental organisation and schools.

#### **4.5.1 Department of Education**

The Department of Education was established in 1999 and is the executive department of the Ministry of Education, Nepal. It is the main implementing agency of educational plans and policies and is responsible for managing all forms of education. It regulates the regional and district level education offices. The Department of Education has established a separate unit for Disaster Management and Educational Counselling to coordinate and work with relevant stakeholders and assist schools and other educational institutions. The unit is led by a senior officer who has the authority to develop relevant plans and strategies to address local issues. I interviewed him according to the guidelines given in Appendix 3, and collected relevant DRR education documents.

#### **4.5.2 Curriculum Development Centre**

The Curriculum Development Centre is an academic centre, under the Ministry of Education. This centre was established in 1971 and named the Curriculum, Textbook and Supervision Centre and re-named Curriculum Development Centre in 1997. Its aim is to develop curricula, textbooks and relevant instructional materials for school education in order to achieve the national goals for education. To sustain the relevance and usefulness of instructional materials, the Curriculum Development Centre conducts regular interactions and discussions among stakeholders. The Curriculum Development Centre also conducts research into the quality improvement of these materials. This centre is headed by the Director, a Gazetted first-class officer. The centre has 12 sections: Internal administration, Financial administration, Planning and Programme, Language Education, Social Study, Vocational Education, Preliminary childhood and alternative education, Law, Humanity, Commerce and Management, Accreditation equivalent and evaluation, Mathematics and Science Education, and Coordination and administration as well as the Director's office. These sections have subject experts to provide their input while developing and reviewing curricula, textbooks and other educational materials.

Given the organisational structure of the Curriculum Development Centre and responsibilities of various sections, I interviewed the DRR education subject expert designated under the Social Study unit according to the guidelines given in Appendix 3.

#### **4.5.3 National Centre for Education Development**

The National Centre for Education Development is an apex body for human resource development under the Ministry of Education. It was established in 1993 to carry out teacher development, capacity development of educational personnel and conduct research activities in education. To widen the scope of the National Centre for Education Development, the Distance Education Centre and Secondary Education Development Centre were merged with this office in 2004. At present it carries out its functions through Educational Training Centres. There are 34 Educational Training Centres established at various strategic locations in the country. I consulted the expert of the Teacher Development unit who has contributed to developing a DRR teacher training module recently. I interviewed him according to the guidelines given in Appendix 3 and collected the published DRR teacher training manual from the National Centre for Education Development.

#### **4.5.4 International Non-Governmental Organisations (INGO) and the Association of International NGOs in Nepal**

The Association of International NGOs in Nepal was established in 1996 as an informal group of INGOs working in Nepal ([www.ain.com.np](http://www.ain.com.np)). It is an unregistered network of INGOs. The role of INGOs in Nepal is crucial, there are about two hundred and sixty INGOs working in Nepal (SWC, 2017). The Association of INGOs in Nepal established various task force thematic working groups to bring member organisations together to facilitate development cooperation. It played a crucial role in responding to the Gorakha earthquake through the DRR task force (NPC, 2015). I consulted one of the senior members of the association who was also leading the Disaster Management task force group, and two officers from DRR and DM focused INGOs and interviewed them as per the guidelines mentioned in Appendix 3.

#### **4.5.5 District Education Office**

The District Education Offices are established in each of the 75 districts of the country. The District Education Office is responsible for planning and implementing educational development activities. It also supervises and monitors the teaching and learning processes in the district. Each District Education Office is headed by the District Education Officer, a Gazetted Second-Class Officer. Some common sections in the District Education Office include the School and Internal Administration Section, Planning Programme Statistics, Extra Curricular Activities and Non-Formal Education section, Examination Section, Monitoring, and the Supervision and Training Section. The District Education Office coordinates the Education Cluster in the district. After getting organisational consent, I interviewed the District Education Office and DRR Focal Person as per the interview guidelines presented in Appendix 3.

#### **4.5.6 Educational Training Centre**

The Educational Training Centre is responsible for carrying out teacher professional development activities at a local level. These centres are headed by a senior trainer, and have some experienced trainers to provide subject-specific professional development support to teachers. Sometimes the centre uses rostered trainers in the absence of its own trainer. It develops training resources on the basis of the needs of teachers and facilitates these at a local level.

I consulted the senior instructor of the centre and interviewed him as per the guidelines presented in Appendix 3.

#### **4.5.7 Resource Centre**

Each district is sub-divided into various supervision clusters on the basis of school population and geographical locations (Ministry of Education, 2010). A resource centre has been established within each cluster with the provision of a resource person to provide professional support and services to the schools located in the cluster. These centres lead the community level educational activities. The resource centre conducts various meetings to raise the quality of education, collect, analyse and disseminate education information, and manage the Education Information Management System. The resource centre acts as a bridge between the District Education Office and schools (Aryal and Pant, 2015). The centre is headed by the resource person who is selected from among the trained teachers of the respective catchment area of the centre. Resource centres are supervised, evaluated and monitored by school supervisors. The resource people are responsible for supervising, monitoring, evaluating and providing feedback to schools and teachers of the catchment area.

I consulted eight resource people and carried out a focus group with them at the District Education Office, as per the guidelines given in Appendix 4. DRR education practices and provisions in other schools were collected from four female and four male resource people.

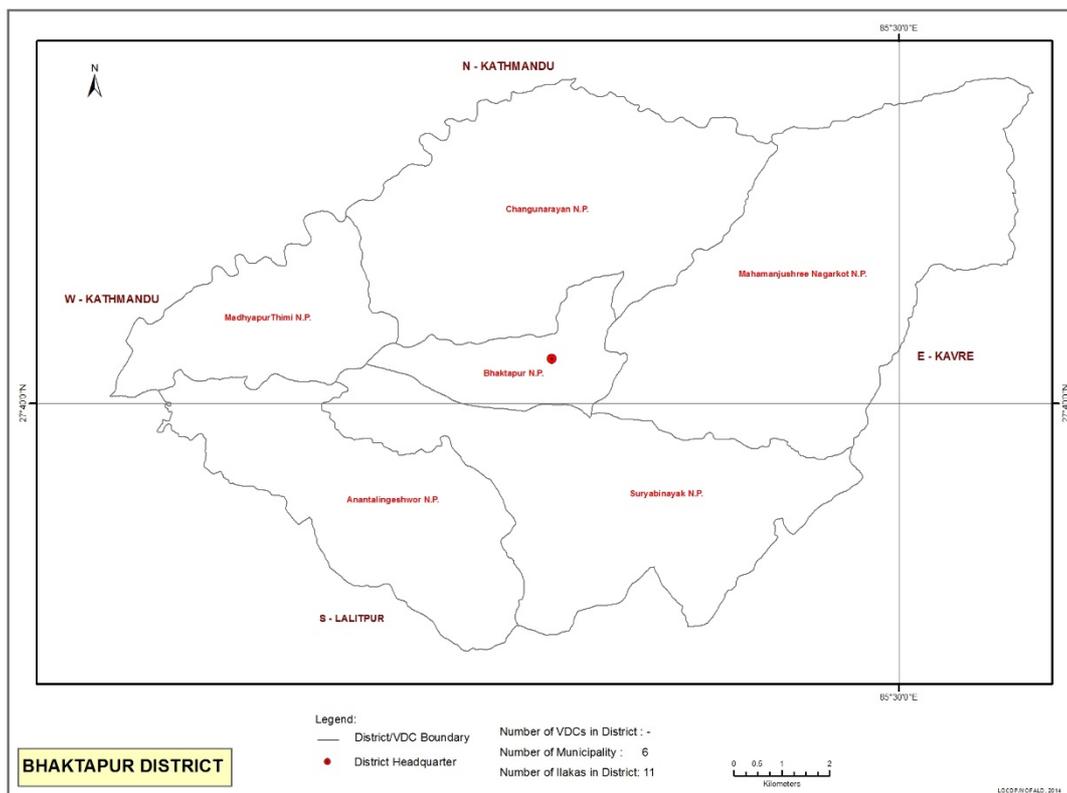
#### **4.5.8 Local Non-Governmental Organisation (NGO)**

As discussed in the literature review chapter, the role of NGOs in development and in the DRR sector is crucial. The literature suggests that NGOs are recognised widely in developing countries. In the context of Nepal, following the existing Act and regulations, each NGO needs to be registered with the District Administration Office and needs to renew their registration annually. At the national level, the Social Welfare Council has been established to regulate NGOs and international NGOs working in Nepal. All the INGOs need to be registered with the Social Welfare Council before they start work. Similarly, local NGOs can also register with the Social Welfare Council, but it is not mandatory. As with other development work, the NGOs' role in DRR and disaster management has been increased after the Government of Nepal mainstreamed the Hyogo Framework of Action in development. Local NGOs, getting funds from their respective partner INGOs, conduct community- based and school- based DRR initiatives in their selected working locations. I

collected information about local NGOs who are working in the DRR area from the District Education Office, District Development Committee and District Administration Office. Recognising the area of contribution and nature of the DRR education- related interventions, I selected a local NGO, consulted its Executive Director and interviewed him, as per the interview guidelines presented in Appendix 3.

#### 4.5.9 Schools

I chose three public secondary schools for my study. As discussed earlier, I selected these schools based on three criteria. First, they are public schools having DRR education initiatives; second, they are public schools representing urban and rural settings; and third, they are public schools vulnerable to natural disasters or affected by natural disasters. In the following map, study schools 1 and 2 are selected from the central part of the district and school 3 from the Chagunarayan area.



**Figure 6: Map of study district- Bhaktapur**

(Source: [www.lgcdp.gov.np](http://www.lgcdp.gov.np))

### **School 1**

This is a higher secondary school, located in the central part of the district, which was affected badly by the Gorakha earthquake. This school received support from the local NGOs and other stakeholders to carry out DRR and disaster management activities in their school and community. After getting organisational consent from the school, I distributed Participant Information Sheets and consent forms to all the research participants. I interviewed the school principal, as per the interview guidelines presented in Appendix 5, and carried out separate focus groups with primary, lower and secondary level teachers, as per the Focus Group guideline presented in Appendix 4. Using this guideline, I also carried out a focus group discussion with representatives of the School Management Committee/Parents Teacher Association and of the community.

### **School 2**

This is a higher secondary school located in the central part of the study district. It is located beside a stream and encounters floods annually. This school was also impacted badly by the Gorakha earthquake. This school has received DRR and disaster management support from a local NGO. I interviewed the school principal, and carried out three separate focus groups with teachers of primary, lower secondary and secondary level, and with a focus group with representatives of the School Management Committee/Parents Teacher Association and of the community, as per the interview and focus group guidelines presented in Appendices 4 and 5.

### **School 3**

This is also a higher secondary school located in a rural part of the district. The catchment area of this school has been affected by soil erosion due to people operating a sand industry for construction. This school also suffered in the recent earthquake. As for the above two study schools, this school also received support from a local NGO to carry out DRR interventions in their school. I interviewed the school principal and carried out focus groups with teachers and representatives of the School Management Committee/Parents Teacher Association and community as per the interview and focus group guidelines presented in Appendices 4 and 5.

## 4.6 Field work

I am always thankful to my primary supervisor who joined me for the first week of my field work, and encouraged and motivated me to use my research tools effectively during my field work. I completed the entire fieldwork of my study within three months. In the post-disaster context, as schools and communities were struggling with rebuilding and rehabilitation, gaining access to the institutions and the participants was really the most challenging part of my fieldwork. As per my field-visit plan, I first made a pre-visit to the District Education Office on 22<sup>nd</sup> October 2016. Upon arrival, I met the assistant District Education Officer and introduced myself and my research project. He asked me a lot of questions concerning my study. At the end, he really appreciated the need and importance of my research project and expressed his willingness to assist me further as per the need. After having a short meeting, he took me to meet the District Education Officer, who had just returned to his desk after attending a meeting of the District Development Committee. He introduced me to the District Education Officer and left me to have a short meeting with him alone. I shared briefly the aims of my visit and research project. He also acknowledged the importance of the study and asked me how he could help me further. I handed over the official letter requesting his assistance for my research project. He immediately called his secretary and asked to call the DRR Focal Person, Assistant District Education Officer, available School Supervisors and resource people to his office for a short meeting. Within a couple of minutes, all these staff members came to his office and both the District Education Officer and Assistant District Education Officer introduced me to the team and asked me to share more about my research. I met one of my ex-students who was working as a resource person in the district. It was a really good discussion, and as per the criteria of the proposed study schools, this group suggested six possible study schools. The District Education Officer, the DRR Focal Person and resource personnel agreed to a convenient date and time to participate in my research. With the help of my ex-student, I finalised the date and time with each respondent to carry out interviews and a focus group with them. The District Education Officer provided telephone contacts for the school principals of those proposed schools. I was really pleased to meet such a pleasant and encouraging personality, especially as I had just started my field visit for data collection. I then went to visit the local NGO staff at their office, and they helped me to find a possible time to meet their Executive Director. I was able to meet him after a third attempt.

The next day I made a pre-field visit to School 1, which is located in the central part of the study district. Upon arrival, I met a teacher outside the school building and told her that I wanted to meet the school principal for my research study. She took me to the staff room and found out that the school principal was teaching grade 10. Finally, after the school bell rang, the school principal appeared in the staff room and the teacher introduced me to him. The school principal took me into his office and asked a series of questions related to my research project. The questions were about the objectives, usefulness, methods, process and ethics of my research, mainly to get assurance that all the research work in the school would be carried out while maintaining professional standards. I presented my research plan briefly. I also assured him of maintaining privacy, anonymity and informed consent. As per the school principal's suggestion, I carried out a meeting during the interval time of the school. The school principal introduced me to his team and I presented my project to them. I met one of the students I had taught in a university course, and who was working as a teacher in this school. I asked the participants for their support for the interviews and focus groups. All the participants welcomed me to their school and showed their willingness to participate in my research. My ex-student took me for a short walk around the school and then introduced me to local people.

As the District Education Officer had provided the contact numbers of the possible study schools, after visiting School 1, I contacted the school principals of Schools 2 and 3. Both school principals responded positively and gave a convenient date and time to visit their schools. I continued my field work at study school 1 for four consecutive days and then visited school 2 as per the school principal's suggestion. The school principal introduced and welcomed me as a PhD student, and I briefly presented my project to the school's team during the school break between morning and afternoon shifts. The teachers and School Management Committee/Parents Teacher Association representatives agreed to participate in my study. With the help of the assistant school principal, I prepared a tentative time plan for data collection.

To gain access to the Department of Education, I approached the officer of the Educational Counselling and Disaster Management section, but his secretary denied me an appointment due to his work schedule. On the following day I made a second attempt to meet the officer earlier in the day. I was able to meet him, and I briefed him about my research. But due to his work schedule, he asked me to come the next day for an interview and with other documentation. Since the Curriculum Development Centre and National Centre for

Educational Development are located close to the Department of Education, I tried to meet respective officers from both institutions on the same day. Luckily I met them, and finalised a date and time for an interview as they were happy to participate in my research.

The representative from the Association of INGOs in Nepal was quite supportive. He made an appointment time over the telephone. I met him on that given date for an interview and he appreciated the importance and need for the research, seeing it as an “opportunity to discuss the provision and practices of DRR education that will help to realise its importance at all levels” (Association of INGOs in Nepal, Disaster Management Task Force Coordinator, male, 05/12/2016). Other INGO representatives were also very supportive, and provided their available time for the interviewee on the first visit to their office. I completed these interviews on the scheduled days and times.

## **4.7 Data collection tools and procedure**

### **4.7.1 Interviews and focus groups**

Interviews and focus groups constitute the major data collection methods of this study. The development of interview questions and focus group guides before the field work was helpful for covering issues of DRR education. Semi-structured interviews and focus groups were carried out at local and district levels, whereas the semi-structured interviews were carried out at a national level. The open-ended, semi-structured interviews allowed me a level of flexibility and helped me in rapport building (Merriam, 1988; Silverman, 2006; Bogdan & Biklen, 2007; Mutch, 2013). Focus groups were useful for collecting life experiences of the participants (Creswell, 2013; Robson, 2002). As shown in table 5.3, three semi-structured interviews at schools, four at district level and six at national level were carried out to explore the extent of the problems in current practices, policy issues and strategies in addressing DRR education provision in school curricula in Nepal. A total of nine focus groups with teachers and three with community representatives, including School Management Committee & Parents Teacher Association members, were conducted in three study schools. Similarly, one district level focus group with resource personnel was carried out. The interviews and focus groups were carried out after trust and rapport building with relevant participants. I asked specific questions as outlined in the interview guides, and asked probing questions as new issues emerged from the discussion. Each interview took about one hour, and was recorded

on a device. I took field notes to document and elaborate specific meanings of non-verbal clues, as per the interview guides described below.

#### **4.7.2 Field notes**

Various scholars, such as Yin (2009), Mutch (2013), Taylor, Bogdan & De Vault (2016), point out the importance of field notes and analytic memos to record important information while implementing research tools at the field level. Field notes can provide a relevant source for specific data. I tried to write notes after completing interviews and focus groups. Patton (2015) suggests that initiating data reflection during the fieldwork is very helpful for identifying and recording emerging patterns and themes. I developed my analytic memos on the basis of the field notes and my reflection at the end of the day. These notes were helpful in developing ‘codes’ and ‘categories’.

#### **4.7.3 Document analysis**

Another proposed tool for data collection is document analysis. It is an easily accessible way to gather data to answer the research question (Mutch, 2013). Thus, relevant primary and secondary source documents were collected and analysed in order to explore the historical evidence and progress made in DRR in education. As suggested by Scott (2003), the available local, regional, national and global level policy documents in DRR in education were analysed for authenticity, credibility, representativeness and clarity before they were considered for the analysis. These measures were also helpful in order to raise the trustworthiness and credibility of the study by following ethical provisions. Document analysis is a process of examining the available relevant documents to identify the context, the process of the production, and mechanism of its implementation (May, 2011, p. 109). I critically analysed the Education Act, regulations, School Sector Development Project (2015), school curriculum, teacher development provision and practices, and current DRR policies.

Additionally, at a global level, the Yokohama Strategy and Plan of Action for a Safer World, the Hyogo Framework of Action (HFA 2005-2015), the Sendai Framework of Action (SFDR 2015-2030), the Comprehensive School Safety Framework and Inter- Agency Network for Education in Emergencies Framework were also reviewed and compared with the themes regarding the DRR in education practices and policies at a local and national level.

In conclusion, global, national (education plan and policies, DRR school curriculum, relevant textbooks and teachers' guides) and local (DRR and disaster management documents including school improvement plans, School DRR and disaster management plans, and DRR-related local curriculum) documents were analysed in this study. The information collected from these documents was used to compare and coordinate with the data obtained from interviews and focus groups. Collection and analysis of local and national level disaster management-related documents and policies were also used as primary data-gathering activities of this research.

During the field visits, while I was conducting semi-structured interviews and focus groups with the relevant respondents at local, district and national levels, a request was made to obtain the developed DRR-related documents and policies. Apart from some printed disaster-related awareness raising materials, I did not get any other local and district level disaster-related documents and policies. I visited the Ministry of Education, the Ministry of Home Affairs and the National Planning Commission to collect relevant documents and policies.

#### **4.8 Data analysis**

This section presents the process of analysis of qualitative data gathered from the semi-structured interviews, focus groups, analytic memos and field notes. Social science scholars suggest that qualitative data analysis involves the systematic search for patterns and themes. Data analysis is the process of making sense of the data such as noting patterns, themes, categories and regularities (Cohen et al., 2007; Mutch, 2013). Data analysis is a crucial step of any research project; it helps to summarise large groups of data into understandable information and is helpful for drawing arguments and conclusions. Yin (2003) mentions six techniques: pattern matching, linking data to propositions, explanation building, time-series analysis, logic models, and cross-case synthesis. Gathered data and information were analysed by using the thematic analysis approach. Certain phrases, words, or concepts which relate to the research questions that appear in the individual interviews, focus groups transcripts, field notes and document analysis were recorded for further analysis through an open coding process (Glaser, 1978). I put my effort into repeatedly re-reading the generated and collected data (Seidel, 1998) which helped me to understand the participants' perspectives and experiences.

Thematic analysis is one of the popular ways of analysing qualitative data (Cohen et al., 2007; Mutch, 2013). In this approach, the presence of key concepts and the frequency with which popular words occur in the text play a crucial role in analysing data. In the first step, I developed collated themes from the collected data and the field notes. I have tabulated all the categories of data on the basis of the research questions to find out the patterns and themes. Furthermore, these patterns and collated themes are analysed in the sense of what these tell further to make relevant possible generalisations (Hamilton & Corbett-Whittier, 2013).

As all the interviews and focus groups were recorded and transcribed, I was able to read and re-read them several times. While transcribing, I repeatedly listened to each interview and focus group. The interview transcript was shared with research participants for member-checks. All participants accepted the transcript as raw data and returned the transcript within the provided time. I started my analysis by reading the transcripts, and taking note of first impressions, then re-reading line by line, and labelling and coding the words, phrases, actions and activities (Holton, 2010; Charmaz, 2006; Strauss & Corbin, 1998). Coding is assigning labels to specific pieces of data to get the meaning. Charmaz (2006) states that coding helps to filter, sort and compare data. In my coding I tried to be unbiased which resulted in lots of codes. Then I analysed the codes to develop new codes by combining the relevant ones; many of the initial codes were grouped and each group was allocated a category. The category relates to objects, processes and differences, and in step 4, I labelled the categories and tried to compare them with the previous work to find out the relationships with others to explore emerging themes. The connection among the categories helped to explore themes that describe these more explicitly.

**Table 4: Steps for Data Analysis**

Step 1	Step 2	Step 3	Step 4
Initial coding for every respondent including analytic memo.	What is the same? (comparing) What is different? (contrasting) What goes with what? (aggregating)	Development of collated themes	Regrouping to get main themes.

(Source: Mutch, 2013, p. 164)

The above table (Table 4) shows the major four steps of my data analysis work. This process was really helpful in establishing relationships among data.

Flexibility is the strength of the thematic analysis approach (Braun, V. & Clarke, V., 2006). Although it took a long time, I really enjoyed the vertical and horizontal process of theme creation and generation (Mutch, 2013). It helped me to identify and analyse the patterns' meanings through identifying themes, interpretation, deep thinking, and exploring interrelationships among these themes.

Governance, participation, relevant content and pedagogy for effective delivery are identified as four major themes. The following table (Table 5) reflects a summary of my theme development process. The common themes and their influences on DRR education were developed through analysing the synthesised ideas developed in each analysis chapter. These cross-cutting themes describe the existing practices and challenges of DRR in school education in the country.

**Table 5: Summary of Research Tools and Emergent Themes**

Level	Data collection method	Evidence	Data analysis method	Emergent themes
Local	Semi-structured interviews  Focus Group	School Principals (PC1, PS1, PSN1), Local NGO (NR1), Teachers (TC1, TC2, TC3, TS1, TS2, TS3, TSN1, TSN2, and TSN3)  Communities (CC1, CS1, CSN1)	Thematic analysis  Field notes (memo) analysis	<b>Theme 1:</b> Disaster governance  <b>Theme 2:</b> Participation  <b>Theme 3:</b> Curriculum content
District	Semi-structured interviews	District Education Officer (EO1), Disaster Focal person (EO2), Education	Thematic analysis  Field notes (memo) analysis	<b>Theme 4:</b> Curriculum

	Focus Group	Training Centre (EO3) Resource Personnel (OE4)		delivery
National	Semi-structured interviews	Department of Education – Officer (OD1), Curriculum Development Centre – DRR Expert (OC1), National centre for Education Development – Officer (ON1), International non-governmental organisation (INGOs) representatives (NA1, NO1, NU1)	Thematic analysis Field notes (memo) analysis	

#### 4.9 Maintaining trustworthiness

Reliability and validity are two crucial aspects of qualitative research (Healy, and Perry, 2001). The terms rigor, creditworthiness and trustworthiness are interchangeably used to represent these attributes. Meyric (2006) points out the importance of well-described details of the study context, data collection and analysis provisions in order to maintain trustworthiness of the qualitative research (p. 803). In Chapter 3, I have described the conceptual and theoretical standpoint that underpins this study. I have also provided sufficient details of the research context, study sites, research participants, interview guidelines and strategies that I have used to establish relationships with study participants during my field work.

As Bishop and Glynn (1999) mention, qualitative research is an interactive process between researcher and participants. As discussed in section 4.11 below, I maintained my insider-outsider role effectively to encourage the participants' active participation.

After completing my data collection, I shared my preliminary findings with the District Education Office and Department of Education and received constructive ideas that I have incorporated while drafting the findings. I shared the analysis and interpretation part with

some of my research participants, and received responses from a few of them which were very helpful for interpreting the data.

#### **4.10 Role of the researcher**

Various scholars, such as Barbour (2008), Janesick (2000) and Winter (2000), agree that the researcher's role is influential in qualitative research. Therefore, acknowledgement of the researcher's perspectives and attitude is crucial to understanding and analysing research data. As presented in Chapter 1, my personal experiences, beliefs and values were a significant part of this study.

The relationship between researcher and research participants plays an important role in qualitative research. Denzin & Lincoln (2003) suggest that the researcher creates a favourable setting to get closer to the participants' perspectives. Researchers who represent the research participants' group are deemed as insiders whereas those who are new or unknown to them are outsiders. Scholars Merton (1972) and Hellowell (2006) further discuss the characteristics of insider and outsider researchers. Merriam et al., (2001) point out that the insider researcher feels comfortable with the research setting and rapport building. As a disaster survivor and currently a PhD student, I am involved in this study as both insider and outsider.

The specific disaster context and uniqueness of each study school helped me to understand the schools and communities in depth. I received a lot of support from the respective school principals, teachers and communities which helped widen my understanding of the social vulnerability and risks of institutions and communities. It helped me to become familiar with the social context and have basic information about the social, political and historical aspects of disasters, which was useful for effectively using the theoretical aspect (Chapter 3) and handling the researcher's roles.

The words DRR, disaster management, curriculum and governance were associated with my research enquiries. I had translated and simplified them to make them meaningful for the participants. In the post-disaster context and research about disaster-related enquiries, I had to allow the participants to share their personal stories, experiences and pains. It took time to bring them back to my point, but listening to them and empathising with their feelings helped to establish a close relationship to discuss research questions widely.

I undertook every action in a culturally sensitive way to adjust well to the research participants and the community. I wore common dress shirts and pants during my school level data collection process, and dressed in a suit while visiting government and non-government officials to maintain uniformity of appearance with them. My appropriate dress and cultural greetings helped me in building rapport. However, my identity as a university lecturer, an upper-caste Brahmin, a native Nepali speaker and a PhD student studying in New Zealand might have influenced the participants in their knowledge construction process.

#### **4.11 Ethical consideration**

The qualitative researcher faces many ethical issues at various stages of the research (Creswell, 2013). Ethical issues arise during the whole research process; therefore, it is crucial to acknowledge ethical issues from the beginning (Miles & Huberman, 1994). Creswell (2009) states the role of researcher is “to protect their research participants, develop trust with them, promote integrity of research and guard against misconduct” (p.87). Moreover, while conducting research, the researcher has a moral and professional obligation to act in an ethical manner (Neuman, 2003). Relevant concerns, dilemmas and possible conflicts that may arise during the research period need to be considered seriously. To carry out this study, I gained ethics approval on 24/09/2016 from the University of Auckland Human Participants Ethics Committee which upholds the principles of the University of Auckland Human Research Ethic Regulation.

Informed consent, confidentiality and trust are three major ethical issues raised by various scholars (Patton, 2015; Cohen et al., 2010; Ryen, 2004). Newman (2003) describes two minimum requirements for informed consent. The first one is that consent needs to be given voluntarily and the second is that it must be informed, and participants’ interests should be protected. Any ethical research with human participants needs to ensure respect of privacy or confidentiality. The disclosure of the information of research participants and institutions is assured by the official consent of the relevant institutions. The third crucial ethical issue is trust, which represents the relationship between the researcher and participants (Ryen, 2004). Moreover, the researcher’s professional honesty, integrity, respect for the participants and acknowledgement are helpful in establishing trust in the research process.

Participation in this study was voluntary. I first got permission from school principals to visit their schools and the District Education Officer to visit his office and other personnel. Since

provision of informed consent protects and respects the right to self-determination and respects the autonomy of the participants, the Participant Information Sheet, translated into Nepali language, was useful for ensuring volunteer participation in the research. This sheet outlined the purpose of the research, participants' requirements, and rights. After briefing participants about my research project, I requested the possible participants to participate in my study. Then I provided the Participant Information Sheet (Appendix 1) which contains information about my study and rights of the participants. I started further research-related work only after getting signed informed consent (Appendix 2) from the individuals and institutions. All research participants should give informed consent before engaging in the research (Cohen et al., 2010; Mutch, 2013; Neuman, 2003). As most of the research participants were busy in their daily work, I managed the interviews during their break times at a place which they suggested. For focus groups, I used an available free location agreed to by the participants. As the country was still struggling to respond to consequences of the Gorakha Earthquake, many of the research participants were also grieving with the trauma of the earthquake event. As I have outlined in the Participant Information Sheet, I ensured the availability of mental health and counselling services at the Centre of Mental Health and Counselling before starting interaction with participants.

Protection of the research participants is also a major part of research. The Participation Information Sheet clearly mentions the protection and confidentiality of their ideas. I assured all participants that the research data would be stored only in my own computer, and that all the hard copy data would be stored securely by the researcher and supervisors. I also informed participants that all this data will be destroyed five years after submission of my thesis. Moreover, I ensured their rights to withdraw from the study at any time up until one month after the interview. I valued the organisational culture, and totally abided by the rules and policies of the participating organisations. In the local context, some schools have already developed child safety and protection policies. I made enquiries about them with the school principals and found that School 2 and School 3 had arranged such a provision. I signed it before collecting data.

The final ethical consideration was the need to disseminate the preliminary research findings to parents, the School Management Committee and the Parents/ Teacher Association representatives, teachers, head teachers, the District Education Officer, local NGO/INGO representatives involved in the DRR interventions in schools, line agencies such as Curriculum Development Centre, National Centre for Education Development, Department

of Education, and other central level stakeholders. Preliminary research findings were presented to the District Education Office and Department of Education, and relevant feedback was collected and was helpful for presenting my research publicly. Confidentiality, anonymity, data collection and withdrawal from the study and access to data were addressed clearly. Since I am quite familiar with the culture, language, and the research location, I did not need any translators or interpreters during my research project. To create a friendly environment for the active participation of research participants, I assured them of confidentiality and the importance of their meaningful participation in this research. The names of the participants were removed and only pseudonyms were used in the thesis.

Disaster or any other crisis situation creates primary and secondary stressors in individuals. The term secondary stressor describes the traumatic condition that takes place in the aftermath of a disaster and outcome of the disaster or crisis situation (Shaw, Espinel & Shultz, 2007). Nepal faced a big earthquake in 2015 and is still facing the challenges of rebuilding and rehabilitation (NPC, 2015). As the study was conducted in the post-disaster situation, I was more concerned about possible risk such as pain, stress and emotional distress that may take place during my interaction. It is important to consider the research participants' situation, their psycho-social behaviours, perceptions, emotions and actions of recovery when they have undergone a great disaster and its aftermath (Mutch, 2014). I gave very high priority to such issues before collecting data. Lofland and Lofland (1995) remind qualitative researchers that they must enter, remain in, and leave the field with sensitivity and respect (cited in Mutch, 2013). Being an insider researcher and having experienced the recent earthquake, I am highly aware of these issues. I already have an established work relationship with the Centre for Mental Health and Counselling Nepal which provides counselling services. I collected data eighteen months after this painful incident. I noticed that most of the research participants were still remembering the incidents. Most of them shared their feeling, stories, and ideas on the research questions clearly.

## **Conclusion**

This chapter presented the methodological terrain of this study. It explained in depth the research paradigm, research design and methods of data collection that underpin the study. It also highlighted the reasons behind choosing the qualitative methodology and case study approach that I adopted in this study. I justified the selection of research sites, participants, research tools, data analysis and interpretation process. I have explained my experiences in

entering research sites, negotiating various roles, and developing and sustaining relationships ethically at a field level. This chapter also detailed the strategies for ensuring rigour of the study and addressing relevant ethical issues.

The next four chapters discuss findings of this research project. Chapter 5 discusses disaster governance and education governance which are multilayer concepts, and are linked to each other from the micro to the macro level. It also discusses curriculum governance as a crucial area for addressing the needs of DRR education. Chapter 6 focuses on curriculum participation and suggests meaningful stakeholders' participation in DRR education interventions. Chapter 7 deals with the provision of balanced DRR content in the school curriculum. Chapter 8 discusses the need and importance of effective curriculum delivery for developing DRR knowledge and skills through active learning.

## **Chapter 5 : Disaster governance**

### **Introduction**

This chapter explains the concept of disaster governance in education. On the basis of the stakeholder's perceptions, this chapter identifies the need and importance of disaster governance, education governance and curriculum governance in mainstreaming DRR and disaster management in education.

An overview of governance and its role in carrying out DRR interventions is the starting point for this chapter, followed by discussion of relevant literature. Then it explores the concept of disaster governance in education and the need for such governance, followed by an overview of current disaster, education and curriculum governance practices in education in Nepal. Next, it presents the types of DRR governance: global, national and local, which emerge from the data impact to address disaster management and DRR issues in a sustainable manner. It also describes the existing gaps and challenges of disaster governance in education that have an impact on the effective delivery of DRR curriculum. It presents the current structures that support or hinder the disaster governance practices to mainstream DRR in education. It concludes with what the study data explains about the need and importance of disaster governance in order to ensure DRR practices are widespread in education. The provision of disaster governance in the education sector is a newly introduced area. Due to the lack of efficient DRR governance mechanisms, the DRR interventions in education carried out at various levels by the state or the non-state actors are not focused enough to address each local context.

### **5.1 Governance and disaster risk reduction**

The term 'governance' has a definition that is broader than just government. According to UNESCO (n.d.), "the structure and the process that are designed to ensure accountability, transparency, responsiveness, rule of law, stability, equity and inclusiveness, empowerment, and broad-based participation is governance". This definition suggests that governance is more than the structures of the government. Similarly, the 2009 Global Monitoring Report mentions governance as "power relationships", 'formal and informal processes of formulating policies and allocating resources, process of decision- making and mechanisms for holding governments accountable' (UNESCO, 2009). Pierre (2000) states "governance

refers to sustaining coordination and coherence among a wider variety of actors with different purposes and objectives.” Therefore, in a broader sense, governance includes the public sectors, the private sector and the civil society which need to work hand- in- hand. Thus, it seeks collaboration to make a combined effort for a positive change through knowledge exchange. Therefore, governance is concerned with how the rules and policies are implemented in order to provide services to the people (UN, 2006). The United Nations Development Programme (UNDP), in its 1997 policy paper, defined governance as “the exercise of economic, political, and administrative authority to manage a country’s affairs at all levels. It comprises the mechanisms, processes and institutions, through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences.” Similarly, the World Bank (1993) defines governance as the method of exercising power to manage a country’s political, economic and social resources for development. The World Bank (2013) also states that “rules of the rulers” is governance. It relates to the process of development of rules and its implementation. Based on these different viewpoints of governance, it can be said that governance is a wider concept which covers state and non-state actors and civil society for the effective implementation of policies and procedures to establish an equitable and just society.

Disasters are the result of a combination of hazards, conditions of vulnerability and insufficient capacity (UNISDR, 2005). Disasters and governance are interlinked and therefore the concept of disaster governance is introduced in disaster studies (Tierney, 2012). Disaster governance is the application of governance principles in disaster management and the DRR area. Disaster governance goes beyond the governmental settings, powers, processes and tools by encouraging collective actions through the engagement of all stakeholders from a local to global level. Twigg (2004), Ahrens & Rudolph (2006), Koliba, Mills, & Zia (2011) and Kapucu (2012) consider governance as the key area used in order to plan, implement and monitor DRR interventions. These studies suggest that disaster-specific governance frameworks are essential for carrying out any DRR interventions effectively. Tierney (2012) suggests that disaster governance is nested within, and influenced by, an overarching societal governance system. Furthermore, the International Federation of Red Cross and Red Crescent Societies state the need for formal legislation, regulation and governmental planning to address humanitarian aspects in emergencies and disaster management. Similarly, UNDP (2011) states that governance is the umbrella under which disaster risk reduction takes place.

Disaster governance incorporates wider areas of disaster risk reduction and management. Aysan and Lavell (2014) suggest that disaster risk governance includes the public authorities, civil servants, media, civil society and private sectors to make them responsible and accountable in order to manage and reduce disaster and climate-related risks at community, national, and regional levels. Thus, disaster governance is associated with the provision of relevant policies, structures and effective implementation of DRR instruments with proper supervision and monitoring. It requires proper roles from state actors, non-state actors and civil society. UNISDR (2017) defines disaster risk governance as “the system of institutions, mechanisms, policy and legal frameworks and other arrangements to guide, coordinate and oversee disaster risk reduction and related areas of policy.” It also mentions that good governance needs to be transparent, inclusive, collective and efficient to reduce existing disaster risks and to avoid creating new ones.

The Hyogo Framework for Action gives the directions, objectives and priorities for DRR. It encourages governments to “recognise the importance and specificity of local risk patterns and trends [and] decentralise responsibilities and resources for disaster risk reduction to relevant sub-national or local authorities, as appropriate” (UNISDR, 2005, p. 6). Since the last decade, one of the agreed views of international discussions is a need for decentralised disaster risk reduction interventions. Faguet (2014) notes that decentralised governance helps to improve efficiency, respond to the local needs, increase accessibility to service delivery, improve downward accountability, and raise political engagement and community participation.

The UNISDR (2007) describes governance as one of the major priority areas of DRR and suggests ensuring that DRR is a national and a local priority with a strong institutional basis for implementation. It points out that it is also essential that disaster governance uses knowledge, innovation and education to build a culture of safety and resilience at all levels effectively. Disaster governance is also linked with environmental sustainability and it deals with the social, economic and cultural aspects of the local context which are crucial in addressing the issues of the four phases of the disaster cycle.

Similarly, Tierney (2012) points out that disaster governance aims to address the social problems linked to environmental problems, climate change, hazards and disasters. She states:

The concept of disaster phases, or the hazards cycle, is relevant to questions of governance. Disaster vulnerabilities can be reduced through pre-event activities, such as hazards and vulnerability assessments, land-use regulations, building code development, adoption and enforcement, warning systems, and education and training programs. When disasters occur, negative impacts can be reduced through appropriate disaster response measures, for example, lifesaving and the provision of emergency food and shelter, and through providing effective decision support to the emergency responders. Post disaster measures include short- and longer-term recovery programs, as well as the formulation and implementation during disaster recovery of interventions designed to reduce future disaster losses and promote sustainability. Governance arrangements and key actor participation typically vary across these disaster phases, adding to the complexity of governance challenges. (p. 344)

Disaster governance plays significant roles prior to, during and following a disaster situation. It is crucial to establish a disaster governance plan to reduce the negative consequences of disasters. Furthermore, the paragraph suggests that disaster governance is necessary for carrying out disaster preparedness, mitigation, response and recovery actions more effectively and efficiently.

The Sendai Framework for DRR (2015-2030) emphasises a broad, people-centred disaster management approach that involves all the like-minded actors. It calls for the need of collaboration among government, non- government, private sectors, civil society, academia and research institutions to build disaster- resilient communities. In priority 2, it states:

Disaster risk governance at the national, regional and global levels is of great importance for an effective and efficient management of disaster risk. Clear vision, plans, competence, guidance, and coordination within and across sectors as well as participation of relevant stakeholders are needed. Strengthening disaster risk governance for prevention, mitigation, preparedness, response, recovery, and rehabilitation is therefore necessary and fosters collaboration and partnership across mechanisms and institutions for the implementation of instruments relevant to disaster risk reduction and sustainable development. (Section 26 of SFDRR)

The Sendai Framework has given top priority to establishing a good governance system for addressing DRR issues. It also recognises that weak risk governance adversely contributes to disaster management and increases the disaster vulnerability. Williams (2011) points out that

weak governance and lack of political commitment and will are two major areas that contribute to the failure and ineffectiveness of DRR initiatives. Tierney (2012) points out that weak and unstable governments lack good governance hence they are less effective in managing disaster crises properly. Poor governance practices in the developing world are identified as one of the major challenges to sustainable development, for example the World Bank (2011) identifies that most crises in developing countries are caused by governance faults. Similarly, Melo Zurita et al. (2015) state that major natural disasters disturb daily governance activities at the location which may create other associated problems and challenges that affect community life. As an example, she states that in the chaotic nature of disasters, in the absence of good governance there is the possibility of conflict among the diverse groups while responding to the disasters. To minimise such negative consequences, the World Bank (2013) introduced and addressed a “good governance” concept for a new way of looking at governance. It is associated with transparency, accountability and judicial reforms. The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP, n.d.) states participation, consensus orientation, accountability, transparency, responsiveness, effectiveness and efficiency, equitability and inclusiveness, and rule of law are the major characteristics of good governance. All these attributes contribute to valuing the voices of the voiceless in the decision-making process, minimising corruption, and addressing the actual needs of the society in a sustainable manner. For effective disaster management, the provision of good governance is essential in order to regulate the existing rules and mobilise all the structures and actors properly (Melo Zurita et al., 2015). Thus, considering the vital roles disaster governance plays in DRR, for the purpose of this thesis, disaster governance refers to the provision of DRM related strategies, plans, policies, and structures including the overall mechanism of disaster and crisis management. It is a wider area that deals with the roles, responsibilities, and accountability of state and non-state actors in disaster management. More specifically, disaster governance is a fundamental component in the process of implementing DRR in mainstream education and sustaining DRR interventions in the education sector to build a disaster- resilient community.

## **5.2 Disaster governance in the education sector**

Governance in educational institutions reflects their ability to develop and enforce essential rules for quality education in an accountable, transparent, responsible, and democratic manner. The World Bank (1993) states, “good governance is a set of responsibilities,

practices, policies and procedures exercised by an institution to provide strategic direction to ensure objectives are achieved and governance practices support schools by helping them manage their resources so that they can deliver quality education.” According to this definition, a school’s governance encompasses a wider collaborative function in order to raise the quality of education. It aims at holistic school development.

Disaster risks can be substantially reduced if people are well informed and motivated to adopt a culture of disaster prevention and resilience, which in turn requires the collection, compilation and dissemination of relevant knowledge and information on hazards, vulnerabilities and capacities (UNISDR, 2007a). Responding to the “DRR begins from school” UNISDR 2006-7 campaign and other various calls of the international and regional conferences, countries have developed their national agendas to mainstream DRR in education and ensure a safe learning environment for every child (Shaw, 2012).

Good governance in education must address school safety and DRR education provision in school and the community. Realising the importance of disaster governance, HFA (2005) explains that disaster governance and education are interlinked. A third of HFA priorities deal with the use of knowledge, innovation and education to build a culture of safety at both local and policy levels. Since children, youth and education systems are badly affected by disasters each year, good disaster governance is essential to addressing the consequences and needs. Due to the impacts of disasters, many children are unable to get access to and realise their rights to quality education (UNISDR, 2010b; UNISDR, 2015).

Lack of disaster risk reduction policies and the low priority given to disaster management through various levels of government and to the community level contributes to the increase of education inequalities (Save the Children, 2016). If education is supported well before, during and after a disaster event, it helps to save the lives of people in the community and protect children (UNISDR, 2005). Shaw (2011) suggests these areas are crucial for disaster management: the location, structural and functional issues related to school facilities, the management of teachers and principals in addressing the pre-, during and post-disaster context, the relationship between schools and communities working together to address disaster issues and the engagement of school leaderships in crisis situation the part of the educational governance. Disaster governance in education ensures that the national education systems are less vulnerable, and schools are well prepared to bounce back from crises and return children to learning as soon as possible (Save the Children, 2016). The school also

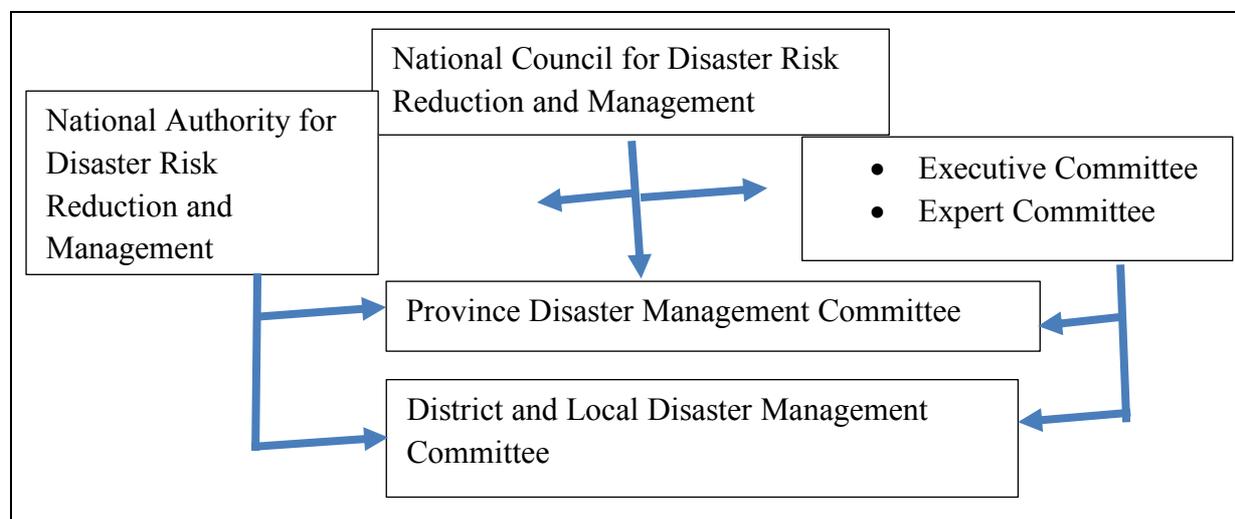
needs an effective, dynamic and sustainable DRR strategy and mechanism to carry out DRR interventions in an effective manner. Thus, school governance needs to put more effort into disaster governance areas. Sakurai (2016) states the importance of policy guidance and financial support for managing disaster risk governance in education at various levels. School governance needs to develop school level DRR strategies, school safety plans and manage required funding to carry out the identified interventions in a sustainable manner (UNESCO, 2010). As education and disaster governance are interlinked, the educational governance system needs to value DRR interventions through schools to community. Shaw (2011) explains the need for an integrated approach to incorporate DRR in the whole education sector. He points out that not only is there a need for incorporation of DRR into curricula and the provision of safe school facilities, there is also the need to address legislative measures, capacity development, the establishment of an early warning system, risk assessment and community involvement.

The Guidebook for Planning Education in Emergencies and Reconstruction published by the UNESCO International Institute for Education Planning - IIEP (2010) describes the importance of education governance in planning and managing quality education during and after crises. Recent research (Johnson, Johnston, Ronan, & Peace, 2014) explains the positive correlation between DRR education interventions and school disaster management. To address the five priority areas, Gwee (2011) presents sixteen tasks that need to be delivered at national, local and school levels under school disaster governance. She considered these tasks as E-HFA (Education in Hyogo Framework for Action). These actions point out that the DRR in education is crucial and needs to be addressed effectively through good disaster governance mechanisms in order to establish the culture of resilience.

### **5.3 Disaster governance in Nepal**

As shown in the figure (Figure 7) below, the National Council for Disaster Risk Reduction and Management under the chairmanship of the Prime Minister is responsible for formulating disasters- related policies and plans. The executive committee under the Home Minister, and the expert team representing various thematic areas, are responsible for implementing the DRR and management plans and policies. The National Disaster Reduction and Management Authority under the chairmanship of the Home Ministry at federal level, and the provision of the Provenience Disaster Management Committee under the chairmanship of the Chief Minister are also considered by the Act. Similarly, the District Disaster Management

Committee and Local Disaster Management committees are considered at each district and local level. Their roles and responsibilities are well defined by the Act.



**Figure 7: Institutional Structure for Disaster Risk Reduction and Management in Nepal**

(Source Disaster Risk Reduction and Management Act- 2017)

The Government of Nepal recently developed the Disaster Risk Reduction Strategy (2017-2030) for the country, which describes priority areas as per the Sendai Framework. The following table (Table 6) highlights the prioritised areas by the DRR strategy.

**Table 6: Prioritised areas of DRR and disaster management by DRR strategy**

Priority areas	Identified prioritised actions
Understanding disaster risks	<ol style="list-style-type: none"> <li>1. Hazards risk mapping</li> <li>2. Inter-agency coordination for multi-hazards risk mapping</li> <li>3. Development of an effective disaster management information system and a method for information dissemination</li> <li>4. Capacity development for understanding disaster risk</li> </ol>
Strengthening disaster risk governance at federal, provincial and local level	<ol style="list-style-type: none"> <li>5. Establishment and strengthening of organisational structures</li> <li>6. Development of legal and regulatory structures</li> <li>7. Capacity development, co-working and partnerships for disaster risk governance</li> </ol>

	8. Ensure inclusiveness in DRR
Promotion of private and public investment on the basis of wider disaster risk information to raise resilience and DRR	9. Promotion of investment to raise resilience 10. Increase public investment in DRR 11. Increase private sector investment in DRR 12. Increase disaster resilience through risk ownership, insurance and social security
Strengthening disaster preparedness for effective disaster response and recovery, rehabilitation and rebuilding to build back better	13. Strengthening disaster preparedness for effective disaster response 14. Development of multi-hazards-based pre-information system for disaster preparedness 15. Promotion of community-based disaster risk reduction 16. Strengthening the communication and dissemination system for disaster preparedness 17. Capacity development for search and rescue 18. Promotion of the building back better concept in response, rehabilitation and rebuilding

The Government of Nepal realised the value of disaster management and developed good governance structure at three levels. Similarly, in other areas, education recognised the need and importance of disaster governance for effective educational delivery and establishing a safe and secure environment. Attempts have been made for mainstreaming DRR and disaster management in local planning; however, it needs more resources and efforts for establishing an effective risk management governance in the country (Tuladhar, 2012, Aksha et al., 2018). In the context of Nepal, disaster governance needs to ensure the active participation of local groups such as the Dalits, the disabled, women, indigenous communities, children and minority groups such as religious minority (Jones et al., 2014; Fothergill & Squier, 2017). More specifically, inclusive disaster governance contributes to child protection in disaster and crisis situations, and reduces gender discrimination and violence in disasters through developing need-based action plans on behalf of the disaster-vulnerable people.

## **5.4 How does the current set-up support or hinder effective DRR in schools?**

On the basis of existing DRR governance practices, from the data it is revealed that the DRR governance is multi-tiered: global, regional, national and local.

### **1. Global and regional governance of DRR**

Interview data show that DRR is a global issue and there are various actors contributing to disaster risk reduction education areas. Global governance of DRR is crucial in the global perspective of disaster management. The global governance of DRR consists of the international actors, the aid community and other international alliances which are working in the DRR area globally and especially in the DRR education sector.

### **2. National governance of DRR**

Research participants also point out the need for effective national governance of DRR which plays an important role in developing DRR policies and plans and effective implementation. The major actors of national governance are DRR-related state and non-state actors who work together for disaster mitigation, preparedness, response and recovery. The provision of the required legal instruments, including the development and implementation of national DRR policy frameworks and strategies, are the major functions of the national governance of DRR pointed out by the participants. In the context of the country, the data shows that even though decentralisation practices are well accepted, the national governance of DRR is still centralised in decision- making and resource allocation.

### **3. Local governance of DRR.**

The local governance of DRR includes the local structures which are responsible for carrying out appropriate DRR tasks at a local level. The State Disaster Management Committee, District Disaster Management Committee, Village/Municipality Disaster Management Committees, community level disaster management committees, school disaster management committee and School Management Committee are some of the examples of local structures that perform the disaster governance role at a local level. Besides these, the data also shows that there are some other structures and mechanisms formed by NGOs to establish a local disaster governance mechanism, such as an inclusive disaster management committee, in their working location. Most of the research participants agreed that the members of the local governance of DRR institutions are still unfamiliar with their roles and responsibilities.

The data show that local level disaster governance structures lack responsibility and ownership. Therefore, these structures do not have enough capacity to respond to disaster situations. Similarly, on the basis of the recent earthquake experiences, the data shows that the local disaster governance structures were not able to carry out disaster recovery action either.

It is observed that global DRR actors assist the local actors to carry out identified DRR interventions in school and community. However, the sustainability element of these interventions were mostly ignored and the decisions made in the DRR area were more centralised than local. Research participants point out the following areas for effective governance.

#### **5.4.1 Structure**

Formal governance structures are essential for ensuring good governance that can deliver services in a more accountable and responsible manner. The decisions and actions of state or non-state actors may affect the general public and their stakeholders, thus these actors and structures need to be accountable to the people for whom they work (UNESCAP, n.d.; Baker, & Refsgaard, 2007). Disaster governance structures in education contribute positively to making educational institutions accountable for disaster risk reduction and climate change issues (Sakurai, 2016). However, these structures need systematic assistance and capacity development opportunities to strengthen their efficiency. UNISDR (2016) concludes that the capacities of the existing disaster risk governance structures and arrangements are not enough to address DRR issues in an effective manner.

From the interview data it is revealed that disaster governance in education is a newly introduced area in Nepal. Thus, the concept of disaster governance is still not well accepted at various levels of the educational administration. UNESCO, UNICEF, DFID, the Global Network of Civil Society Organisations for Disaster Risk Reduction (GNDR), European Union and other international multi-lateral, bilateral and INGOs, which are part of the DRR global platform, have been assisting their respective partner organisations, both governmental and non-governmental, to carry out some DRR interventions at various levels (National Planning Commission, 2015). Nepal has ratified DRR international commitments in its legal instruments, policies and plans, therefore the country itself is an active member of the DRR global governance. The establishment of a DRR consortium for learning, sharing and

collaborative work, and the provision of a DRR task force in the Association of INGOs in Nepal are some of the examples which act in a bridging role. In the education sector, the Education Counselling and Disaster Management Office is a newly- established unit at the Department of Education, created to address DRR issues in education. It collaborates with other like-minded organisations to carry out DRR interventions in the education sector in the country. There is the provision of a DRR Focal Person in the Ministry of Education, Department of Education and other central level education agencies, including in the Regional Education Directorate offices and District Education Offices of the country. Some NGOs are also practising provision of a DRR Focal Person at school. They all work as a contact person in the DRR and management area. The Officer from DoE (OD1) shares,

*We do not have a specific disaster governance mechanism in education. We have a District Education Committee, Village Education Committee, School Management Committee and in some schools a School Disaster Management Committee, (who are getting assistance for DRR interventions from NGOs), these are the local structures which ensure good governance in education at the local level. School Management Committees are responsible for carrying out school disaster management activities but due to lack of resources and active support mechanisms at a local level, the schools still do not value DRR. The members of these committees are still not aware enough of DRR. The Education counselling and disaster management (from Department of Education) coordinate and collaborate with relevant DRR stakeholders to carry out relevant DRR interventions. There are DRR Focal Persons at the District Education Office in each district, we have an Education Cluster at national and district levels. The District Education Officer is the chairperson and DRR Focal Person works as a member secretary. Local NGOs, INGOs and other government agencies are also members of the cluster. These institutions are assisting the relevant line agencies to establish disaster governance in education. The District Disaster Management Committee, chaired by the Chief District Officer, which is the district-level disaster governance structure, oversees the district level DRR and disaster management actions. (OD1)*

DRR has recently been mainstreamed in various areas of development in Nepal (MoHA, 2009). The above quote indicates that educational governance structures are also associated with disaster governance structures. The provision of national and local level education clusters, relevant DRR networks, such as the Disaster Preparedness Network, and other

platforms at various levels are additional structures that are helpful in establishing disaster governance in education. This indicates that since the Government of Nepal introduced DRR in education in recent years, the education governance structures are still not familiar enough with DRR areas, and therefore the development and implementation of educational plans and policies are also not strongly addressing DRR issues. More specifically, most of the schools do not have separate committees that can oversee DRR and school disaster management. During the field visits it was noticed that school leaderships realised the importance of DRR in the education sector, but they do not have enough support and networks to address DRR issues in schools and communities. Tierney (2012) also states that disaster governance can trap the available resources through the network to carry out effective and sustainable activities. It also helps to establish a flexible, adaptable and capable mechanism to mobilise the available resources in DRR. Such a mechanism at a local school level needs to be more inclusive and trained in disaster areas.

Since schools are vulnerable to disasters, schools need to realise the importance of disaster governance. The School Management Committee and Parent Teacher Association are the micro-level institutions in the education sector in Nepal. According to the education regulation, the School Management Committee is responsible for the overall school management whereas the Parents /Teacher Association plays a crucial role in strengthening school-community relationships and raising the quality of education and school development (Government of Nepal, 2002). These institutions are responsible for developing and implementing the School Improvement Plan effectively. The interview data show that most of the School Management Committee and Parent Teacher Association members are newly elected and not aware of their roles and responsibilities in school governance and disaster management. One of the School Management Committee member (CC2) from study school 2 shared:

*We are new to this role and not aware enough of our roles and responsibilities, it is a challenging role. Lots of things need to be done ... reconstruction of a collapsed school building, retrofitting of the existing building and raising the quality of education. We do not have training and other exposure opportunities. Nor do we know how we can contribute more effectively to school development during our term. We need support and encouragement for school development. (CC2)*

Regarding education governance mechanisms, the above view indicates that most of the School Management Committee and Parent Teacher Association members are not aware enough of their roles and responsibilities. The Resource Centre organises one-day orientation workshops for the committee members each year, and invites three School Management Committee members (chairperson, school principal and female member) from each school to participate in the workshop. After the orientation, these three members need to pass on the information to the rest of the members. The above quote shows that although the community people are eager to take school leadership roles, they do not have enough technical assistance to address school issues including DRR areas. Similarly, the Association of INGOs in Nepal representative shared that school leadership must have a basic understanding of disaster/crisis management. He also added that the District Education Office, the Educational Training Centre and the Resource Centre need to carry out relevant development activities to activate these structures at a local level. Furthermore, he explained that since school governance plays a vital role in establishing a culture of safety, the School Management Committee and Parents/ Teacher Association members, if they are engaged more in DRR interventions, become more familiar with school safety and disaster management areas. He pointed out that school safety should be considered first, then quality education.

Field data show that School Management Committees, Parent Teacher Associations, Child Clubs, and Junior Red Cross Circles are the local school level structures and mechanisms to assist and initiate disaster governance in schools. However, the local NGO representative shared that not all these structures are functioning well. He mentioned that *“it is very hard to carry out DRR interventions only through a trained teacher and Junior Red Cross because others do not seem interested in DRR interventions”*. He pointed out the need to strengthen the existing structures to establish an active disaster governance in schools. He further mentioned that provision of an active governance structure can only take ownership of conducting disaster risk assessment. On the basis of the experiences shared by the NGO representative, development of good disaster governance in schools can contribute to vulnerability capacity assessment, the development of an evacuation map and exit strategy, conducting disaster drills and practice, conducting DRR awareness- raising activities in schools and communities, addressing local disaster issues through local curricula, collaboration and networking with all stakeholders to extend DRR interventions.

One of the INGO workers shared that after the earthquake, to address the issues of lost livelihood of disaster-affected families at their working locations, they encouraged schools to

establish mothers' groups to carry out group-based, income-generating activities. This also helped the school to form a school disaster management committee to carry out DRR interventions in an inclusive manner. Similarly, these school-based communities were encouraged to visit local line agencies, for example, the Village Development Committee and District Development Committee, to support schools to construct safe school buildings. However, it is noticed that the study schools do not have such interventions from the assisting local NGOs. It indicates that the impact of DRR projects are different depending on the input provided at different schools.

School level actors need to carry out regular discussions about the needs-based DRR interventions and effective implementation. Such participatory practices in DRR governance at the local level increase responsibility and provide opportunities for collaborative actions. Moreover, such discussions are also helpful for effective documentation and further development. The existing education regulations make a provision for School Management Committee and Parent Teachers Association meetings at least once in every two months. However, the focus groups revealed that none of the schools have such regular meetings nor have they carried out any DRR related formal decisions in their meetings yet. Despite the education regulations having a provision to conduct a general school social audit and public hearing twice a year, from the interview data it was revealed that none of the schools presented any DRR-related information to parents to ensure the DRR interventions in school improvement plan implementation.

Despite the difficulty in forecasting natural disasters, if an organisation has clear plans, then through systematic disaster preparedness and response activities it is possible to decrease human and physical losses. Recently, the Department of Education has made it compulsory to incorporate school safety indicators in the School Improvement Plan. One resource person (EO4) said that the school improvement plan development process must be participatory, and schools need to develop the action plans for its effective implementation. She shared:

*The School Improvement Plan development process is practised differently in different schools. Some schools put a lot of effort into school improvement plan and use participatory techniques, whereas in other schools the school principal requests some of the teachers to prepare it. The Department of Education developed five DRR-related indicators to address the DRR issues in school improvement plan, however these indicators are lacking in the area of dealing with Education in Emergency,*

*management of text books and other DRR learning materials for students, establishment of temporary learning centres, and immediate support for disaster-affected students and teachers. Because of the lack of capacity development activities for School Management Committee and Parents/ Teachers Association, schools normally feel under-prepared for developing and revising the plan. In the Resource Centre meeting , some of the school principals suggested considering the school's local context while delivering DRR lessons and developing the disaster management plan. (EO4)*

The above quote indicates the importance and need of capacity development activities for local actors when they carry out a participatory school improvement plan development process and address the defined indicators properly. INEE (2015) emphasises the participatory development of a local education action plan involving the local education officers, school leaders, teachers and parents (p.24). Similarly, the European Commissions, United Nation Development Group and World Bank (2009) state that local education institutions should maintain local development plans, which include the sorts of baseline data appropriate to their region.

In conclusion, global level DRR governance plays a crucial role in information sharing and guaranteeing resources. Central level governance structures are responsible for ensuring the resources are available to carry out the education plans and policies to address DRR/Climate Change issues in schools. Local DRR governance mechanisms still rely on global and national governance structures to get resources. Local structures are mainly engaged in conducting activities rather than the decision-making process. Effective local DRR governance structures are helpful in carrying out timely reviews and revisions of local plans, such as the School Improvement Plan, Village Education Plan, District Education Plan and other policies. They are also responsible for effective implementation of the plans and incorporating their learning and experiences into these plans and policies.

#### **5.4.2 Support and expertise**

Once the DRR governance structures and mechanisms are established, there is a need for proper support and expertise to make them active and efficient. Data suggests that the disaster governance structure in the education sector has very limited access to resources and other support. Local NGOs do, however, provide support to the schools and other related

educational institutions where they work. Thus, from the data it is noted that most of the support and resources provided to the schools are from the local NGOs. The school principal of study school 3 (PSN1) says:

*We do not have enough resources to carry out school disaster management properly. Nor are we aware of the area of disaster management. The local NGO (Red Cross) supports some of the selected schools in their working location under its disaster management programme. Our government and parliament developed and approved various laws and regulations, but the implementation component of these legal instruments is poor. It is mainly because of lack of resources and support mechanisms. We need to rely on Ministry of Education and Department of Education to get resources for school development. Schools do not have access to any resources to carry out DRR activities in the school and communities, we are still struggling to find helping hands to rebuild our collapsed building. The local government agencies do not allocate funding to carry out DRR activities, nor are they aware enough of the DRR legal and technical provisions. How can they ensure that every new construction follows safety measures? (PSN1)*

Centralisation is still an issue for the schools which have experienced disaster, and the local governance structures and authorities are struggling to manage the financial resources for DRR activities. Support provided by NGOs to the schools is also not enough to carry out disaster governance effectively. Similarly, they are not very familiar with disaster management and are expecting assistance to raise their understanding and skills in this area. It is important to provide the required support to the governance mechanism to establish a good governance culture. The disaster management institutions of the country lack DRR knowledge and capacity and therefore the disaster governance in the country is challenging (Jones et al., 2014; MoHA, 2011a).

NGOs are, however, playing active roles in DRR education areas (Department of Education, 2016). Their assistance in carrying out needs-based DRR interventions in schools and communities contributes to shaping DRR in the education area. The school principal from study school 1 (PS1) shared his appreciation of the support received from local NGOs to carry out DRR interventions in his school:

*Red Cross facilitated school vulnerability assessments and interactions for school safety at school. We realised that there are lots of gaps in our institutional*

*responsibility for disaster- related activities. With the help of the NGO, we have carried out school mapping and informed teachers and students of the school safety and exit plans. The earthquake drills, First Aid training, and simulation of search and rescue activities were very helpful in developing a wider understanding of DRR.*  
(PSI)

As well as developing technical skills and expertise in DRR for teachers and others in schools, the local NGOs are assisting schools to mainstream DRR in education plans and policies. The development of contingency plans is helpful in carrying out emergency education interventions and educational continuity in a post-disaster context. The International Institute for Educational Planning (UNESCO-IIEP, 2010, p. 44) states:

*... the curriculum and its teachers are powerful tools for building a culture of resilience. They have an important role to play in transmitting knowledge for disaster and conflict risk reduction. Therefore, the education system has a responsibility to ensure that it does not act as a vehicle for domination. It also has a role to play in supporting teachers and learners to internalize safe practices in case of disaster.*

Adding to the above quotes, a representative from the Association of INGOs in Nepal (NA1) shared this comment:

*.... Because of the lack of support and expertise, most of the schools of the country have still not carried out risk assessments and therefore do not have safe school plans that can help to minimise the potential risks. Schools are not serious about disaster management. Without good DRR planning and its management, it is impossible to guarantee that the schools are safe. Parents may say that they don't want to send their children to an unsafe school, what school can respond to them in such a situation? Therefore, school governance needs to carry out school vulnerability assessments and develop safe school plans with proper evacuation strategies and other relevant policies. Such practices also encourage parents and community members to contribute to a safe school.* (NA1)

Although the local NGOs provide assistance to schools, disaster governance structures at a local level seem to be passive. This quote suggests there is some blaming between the governance structures. Those above the school level see the fault for poor governance as a product of bad decisions made at the school level. But those at the school level say that they

are unaware of and/or lack the skills to actually make the decisions they need to address. It points out that disaster governance is a collaborative procedure if DRR interventions in educational institutions are to be carried out successfully. During the field visits, it was observed that with the help of local NGOs, two study schools have carried out a school vulnerability assessment, developed the school evacuation plan and displayed it on the school wall. However, one of the secondary level teachers of study school 2 shared that most of the teachers, School Management Committee and Parent Teachers Association members are not aware of the evacuation plan. This suggests a lack of ownership, with awareness of the NGO supporting but no one really understanding what it is doing. He also added that most of the students are not familiar with the evacuation plan and cannot explain how the evacuation plan operates. The community representative of study school 1 also shared that she was not informed about her participation while developing such plans. Since the major stakeholders were not involved in the risk assessment and evacuation plan development process, there is a lack of ownership despite the NGO support. Similarly, one of the secondary teachers from study school 1 mentioned that there are not any DRR- specific plans and policies related to disaster management, nor response initiatives developed and available at schools. In particular, there is a lack of specific procedures to address the issues of children with disability during an emergency in schools. Ensuring there are relevant plans, policies, and strategies in communicating them are the basic instruments for establishing disaster governance in education.

School leadership is responsible for carrying out the mutually agreed activities. The school needs to manage the support and assistance received from like-minded organisations properly. It is essential to create trust and mutual respect for future collaboration. An official from the Lead Resource Centre shared his monitoring visit experiences that reflect the weak situation of disaster governance in public schools. He shared:

*One of the INGOs agreed to provide DRR learning materials and other resources to establish a Resource Centre- level disaster learning centre in one of the RC schools of Bhaktapur. During the composing of the agreement, the school agreed to provide a separate room for stockpiling and demonstration, but after receiving the materials, this RC school didn't provide such a space. I have seen that the donated materials are still discarded outside, and teachers reported that lots of material is already lost. I was quite frustrated during the school monitoring visit. I have provided a written report to the school and the District Education Office for further action. (EO3)*

Irresponsibility in school leadership and governance is one of the major issues in education governance. The local NGO and the school should have a clear understanding before agreeing to carry out such partnership actions. It also indicates the poor reporting system and communication gap among relevant stakeholders. It also reflects that poor disaster governance can have long-term consequences for generating funding and resources for the school.

Schools located in disaster-prone areas need access to early disaster-warning technologies. An officer from the National Centre for Education Development pointed out that the schools situated on low land in the plains region are highly vulnerable to floods. It is important to establish early warning systems in order to pre-empt such natural hazards, especially for the schools vulnerable to floods and fire. He also expressed that schools need to be practising the procedures related to the Early Warning System. Moreover, he pointed out the importance of DRR training with regular drills which are essential for better preparedness, response and recovery.

The school level interview data show that with the help of the American Red Cross, the Red Cross Bhaktapur unit and the National Society for Earthquake Technology had carried out some DRR interventions under the Disaster Preparedness for Safer Schools in Nepal (phase 1 and 2) in some selected schools of the district before the earthquake. These activities helped to raise DRR awareness, however, it was not enough to address local DRR issues in a sustainable manner. Most of the school teachers shared that project-based interventions were just focused on finishing the activities defined in their projects rather than focusing on the long-term impacts. After the earthquake some of the local NGOs, for example the Centre for Mental Health and Counselling Nepal and the Red Cross, carried out some disaster response-related workshops and provided support to manage education in the emergency context. The local NGO representative shared that after the earthquake, while the NGO was distributing the relief materials to the earthquake- affected poor and disadvantaged community people at the school, the elite groups of that community came and forced them to distribute the relief items to their community group first. There were several other such stories published in the local newspaper. Lack of good governance may create tension when carrying out response and recovery- related interventions in disaster- affected communities.

The officer from National Centre for Education Development mentioned that from the education line agency side this institution has, for the first time, carried out a workshop on the

impacts of disasters in education and its management for selected staff from Educational Training Centres and the District Education Office of 14 earthquake-affected districts. The major aim of this event was to carry out an immediate monitoring visit to the affected schools for the immediate response and establishment of the provision of emergency education. The monitoring report was helpful for the district and national agencies, so they could carry out immediate interventions in the affected schools and communities.

Teachers are the main actors who deliver DRR effectively in classrooms and the community, but the focus groups with teachers show that most of the temporary teachers appear to lack motivation in their roles. One of the main reasons behind this is that teachers are recruited differently in different schools. There are 17 types of teachers, which creates a problem with their identity and also confusion among the teaching profession. One of the lower secondary level teachers from school 2 says:

*Teachers working in the same school are treated differently by the school leadership, because various types of teachers are recruited in schools. Permanent teachers are more recognised and valued than the temporary ones. They are given more training, exposure opportunities and limited work load. Most of the teachers are associated with a political cadre. Privately managed teachers are not well paid, such a situation creates frustration among temporary teachers and they are looking for other job opportunities. These teachers are not motivated, and they are less active, less accountable and less responsible in carrying out the DRR interventions. (CT2)*

Teacher management issues in schools are also linked to poor DRR education. Since DRR is a cross-cutting issue, all the teachers need to take ownership in order to conduct DRR education activities. To address such a condition, school leadership needs to put more effort into effective teacher management to generate team work.

The trained teachers need to be more responsible and held accountable for carrying out DRR activities in school. The school governance needs to monitor their activities too. The interview data suggests that there are a certain number of teachers in each school who want to take advantage of the training opportunities. They have a good connection with the School Management Committee and the school principal, and are always seeking to take the opportunities. It helps them with gaining promotion and earning some money from the daily allowances provided. However, after attending training these teachers become passive and don't even share their learnt skills and knowledge with others. Teachers who are nearer to the

school leadership can get opportunities, but others who are working hard are rarely provided with such opportunities. Therefore, it appears, it is a leadership-related problem that prevents the set-up of a well-established support mechanism in DRR governance. Teachers' engagement is crucial to managing all sorts of disasters at a local level. Teachers need more rewards and encouragement to support schools and communities, so they can raise the quality of education and solve the long-term crisis situation. Therefore, the concept of disaster governance needs to be introduced to the teacher development course. The officer from the National Centre for Educational Development pointed out that the current teacher development courses are lacking in addressing information about DRR and inclusive education, addressing the differences of learners in classrooms, and using varieties of teaching learning approaches. He urged a revisit of the teacher development course to ensure all teachers had wider learning opportunities.

The focus group with resource personnel revealed that in order to enable disaster governance in education sectors, we must overcome a huge need for the capacity development activities for all responsible people in implementing DRR in educational plans and policies effectively. They also raised a concern that the resource centres do not have resources and the resource personnel also do not have enough DRR training opportunities. Because of such circumstances, they also realised that the school governance and management training and workshops are not carried out effectively in Resource Centres. These situations prevent resource centres from fulfilling their role and hence the personnel are not confident enough to contribute to strengthening disaster governance in schools. Resource Centres play a potentially significant role for improving school governance through training, exposure, mentoring and encouragement and raising the quality of education, but it is not happening as well as expected. Most of the resource personnel also agreed that schools need to apply the building codes and standards while constructing new school buildings. However, during their recent school monitoring visits they observed that the schools are still not serious about maintaining the safety standards while rebuilding the structures.

Schools also need regular support from local education agencies to implement planned DRR interventions. The Resource Centre and District Education Office need to construct a good monitoring plan to support DRR activities in schools. The school principal of study school 2 shared:

*We expect systematic and regular support from the technical experts while reconstructing the collapsed buildings. They need to visit and monitor the schools to ensure the quality of the buildings to confirm their safety. And also their availability is crucial while constructing new school facilities but these things are not happening properly, the staff do not want to visit remote and rural parts. (PS2)*

There is limited availability of support and expertise in the DRR area and the consequences of poor horizontal and vertical governance in maintaining the safety standards. The technical experts are seen to be unmotivated to travel to remote areas to support schools for DRR interventions.

The data show that some of the schools in the country, including some schools from the Bhaktapur district, are supported by the local NGOs to carry out DRR interventions through both school and community-based approaches. School-based interventions are mainly focused on schools, whereas community-based DRR interventions are carried out through community groups for the schools. Organisations, for example Save the Children, UNICEF, Plan Nepal and World Vision, value children in development and conduct child-centred disaster risk reduction interventions in some parts of the country. These organisations also established a consortium platform in order to work closely with a child-centred disaster risk reduction approach. An officer from DoE shared:

*“We have Child Centred DRR consortiums in six districts. Sixty schools of six districts (Baglung, Parbat, Banke, Kalikot, Kailali, Doti) benefit from this programme. Through the project these schools have school-based disaster management teacher training and disaster drills for the students and teachers. Similarly, in five hundred schools of nine districts (Humla, Bajura, Dhanusha, Saptari, Dhading, Dolkha, Parsa, Baitadi), the National Society for Earthquake Technology, a national level NGO, is assisting schools in implementing the defined pillars of the comprehensive school safety framework. It is a collaborative project in which the management and project structural parts are carried out by the District Education Officer, the DRR curriculum provisions are overseen by Curriculum Development Centre, and teacher training is managed by National Centre for Educational Development. The inputs are various due to our reporting system it is hard to find out what outputs we have made. (ODI)*

The collaborative nature of the DRR project can enhance relationships among schools and local communities in establishing disaster governance at various levels. It indicates that the integrated DRR inputs are helpful in establishing an effective disaster governance to address the three pillars of the comprehensive school safety framework which are: safe learning facilities, school disaster management and risk reduction, and resilience education.

Partnership is also helpful in that schools can get assistance from like-minded organisations in disaster governance. Such partnerships assist schools in planning to reduce the potential disaster risks, designing the emergency procedures and evacuation plans, and carrying out DRR awareness education and safety drills in schools. Such partnerships contribute positively to achieving the targets made by the Sendai Framework to reduce the lives lost, numbers of people affected, and economic damage from natural hazards. Organisations, such as the National Society of Earthquake Technology, work with the Department of Education to retrofit the vulnerable school buildings in some selected districts, while giving emphasis to active community participation in vulnerability assessment, and training local masons, traders, and user groups about safer construction, which is useful for establishing disaster governance in schools.

Education authorities need to ensure the safety of schools' physical infrastructure (UNISDR, 2012). Provision of safe facilities contributes positively to establishing disaster governance. Thus, education leadership needs to put more concern and effort into creating a safe school infrastructure, for example, retrofitting old buildings to increase their strength. The Disaster Focal Person of the District Education Office shared that, in the case of the Bhaktapur district, retrofitting has been found to be a very effective technique which protected the schools from the recent earthquake. Most of the school buildings in the study district are also vulnerable to various other hazards and hence school governance is looking for assistance; most of the schools are interested in carrying out retrofitting of the old existing buildings. The school principal of study school 3 shared:

*Most of the school buildings of the district are vulnerable to earthquakes and other common disasters. We have observed that the retrofitted school buildings in this district have survived the recent earthquake. We have also requested support from the USAID project in order to retrofit our old building but still not heard back from them. Some schools are vulnerable to fire. There are a couple of schools, including ours, which are situated at the edge of the stream and are vulnerable to floods. There are some schools that are also vulnerable to strong winds, ... due to strong winds, a*

*number of schools have lost the roof of their school buildings in past years. There are some school buildings constructed underneath big trees which are also vulnerable to strong winds. (PSN3)*

Most of the schools in the study district are vulnerable to common natural disasters and their negative consequences on schools. Development of a disaster management plan and its effective implementation is one of the crucial parts of disaster governance. Such a plan in the education sector helps to ensure the safety situation in educational institutions (UNISDR, 2012).

The representative from AIN explained:

*From the experience of the Gorakha earthquake, we have learnt that our schools are weak, about six thousand school buildings collapsed, fortunately both the major earthquakes struck on school holidays, hundreds of thousands of children were saved, otherwise what would the situation be like? .....School buildings are not constructed in an appropriate manner. The stakeholders, including school governance, now realised that we need to have safe schools. Before the earthquake we (INGOs/NGOs) need to spend more effort and resources on DRR awareness -raising activities, however the recent earthquake experiences awakened people to the importance of having knowledge and ideas about disaster risk reduction. We need to put more effort into safe reconstruction. (NA1)*

Realising the post-disaster context of the country, participants point out the need of collaborative efforts to support individuals, organisations and community people to build back better. Collaborative actions for providing support and expertise are considered essential in addressing the issues.

Schools and other public facilities need support in order to address the risk of the possible hazards and vulnerability. One of the community leaders of study school 3 states:

*There are some local industries near to our school which produce noise that disturbs the teaching and learning activities in school. In the past one of these industries had a fire, therefore there is a need for the installation of a fire control system. The schools located in the congested city areas are also vulnerable to fire and therefore these schools also need fire control systems to reduce the risks from fire. Local government needs to carry out formal monitoring before approving the industries. (CS3)*

Support and expertise are needed at a local level to specifically address the issues of urban disaster risks. Local DRR governance mechanisms need to be empowered to provide support to oversee such issues at a local level. It also indicates that schools situated in urban areas are comparatively more vulnerable to disasters. More recently, realising the disaster vulnerability in the urban areas, with the help of the Adventist Development and Relief Agency Nepal, Danish Church and Lutheran World Federation, the National Disaster Risk Reduction Centre conducted urban disaster risk reduction programmes in Kathmandu and Lalitpur district (Kantipur, 2018). Global DRR actors can assist the national and local governance in addressing the emerging DRR issues.

### **5.4.3 Coordination and communication**

The interview data suggest that school governance needs coordination among like-minded stakeholders and other available networks for school safety and disaster management. Coordination increases the collaborative work that can address the risks through the established structures in schools and communities. Moreover, coordination helps to strengthen the available DRR support mechanisms to respond well to disasters. Similarly, coordination among like-minded organisations is emphasised strongly in the rebuilding stage of raising disaster resilience through the build back better strategy.

Establishment of DRR structures and platforms are helpful for learning and sharing resources and collaboration action. A representative from a local NGO commented that establishment of education clusters played a significant role in disaster management in strengthening coordination and communication among stakeholders in the district. These clusters worked together closely so they could respond to the recent earthquake in Bhaktapur. He shared:

*There are eight clusters including an education cluster established in Bhaktapur district and most of the clusters are led by respective government line agencies, which is one of the major changes that has been made in initiating disaster governance at a district level. Before the earthquake, the coordination part was not too strong and it was very difficult to coordinate with governmental organisations in disaster management. After the earthquake, we all realised its value, now the government agencies in the district are active and taking responsibility for disaster and crisis management, for example, the District Education Office coordinated with*

*stakeholders through the education cluster and addressed the major issues in education after the earthquake. (NO1)*

The establishment of learning-sharing platforms creates a collaborative culture among stakeholders and makes respective line agencies responsible for DRR actions. It shows that proper coordination and communication among relevant actors plays a significant role in carrying out shared responsibilities during the disaster response stage.

School governance can play an important role in coordinating with relevant line agencies in order to get assistance for sustainable DRR actions in schools and community. Most of the research participants agreed that schools can work closely with local government agencies such as Village Development Committees or Municipality. Furthermore, they have pointed out that the school leadership needs to coordinate and communicate with the District Development Committees, District Women's Development and Child Welfare Office and the District Disaster Management Committee so these can contribute positively in the integration of DRR activities in schools. Schools need a range of integrated interventions and effective disaster management in order to address DRR needs of each phase of the disaster cycle. Thus, a series of collaborative actions are required for carrying out preparedness, mitigation, response and recovery, and formal collaborations among like-minded stakeholders is essential (Handmer & Dovers, 2013; Forino et al. 2015). UNISDR and GADRRRES (2017) emphasise proper coordination and communication in carrying out collaborative action in school-wide and community-linked simulation drills to practice, critically evaluate and improve on response preparedness (p.4).

A District Education Officer shared that the District Education Office coordinated with Red Cross, UNESCO, UNICEF, Centre for Mental Health and Counselling and other organisations which have been supporting schools with overall disaster governance. Collaboration with like-minded organisations is helpful for ensuring the availability of wider DRR learning opportunities for students (Robinson & Gaddis, 2012). Local and national level study participants pointed out the importance of coordination and communication in disaster management areas. Proper coordination after the disaster is helpful for raising shared responsibility among stakeholders and that encouraged schools to cope with the situation. The officer from the Department of Education states:

*... in some locations, stakeholders such as Nepal Red Cross, Save the Children, Oxfam, Plan, Action Aid, United Mission to Nepal, World Vision and many others*

*(NGO/INGOs) are working with schools and communities in the disaster management area, they are assisting selected schools within their working locations. These organisations are assisting schools to carry out school risk analysis and develop relevant plans, day celebrations and conduct disaster awareness sessions (including drills and organising relevant capacity development workshops, such as DRR training for teachers, committee members and students), which are helpful in DRR education delivery. Such collaborations need to be extended to cover other schools to expand DRR education. (ODI)*

The non-government sector also acknowledges the collaborative actions in DRR education carried out by various DRR actors. It also indicates the need of extension of DRR education interventions to other schools.

School governance needs specific data and information to develop an effective school safety plan. To collect such vital data, school governance also needs to carry out proper coordination with other like-minded agencies. INEE (2015) states the importance of establishing an education management information system for collecting essential DRR-related data and information that can contribute to school planning and management (p.46). This information needs to be updated regularly. UNISDR (2012) states that schools should regularly reassess their vulnerability in relation to new information.

Disaster governance also includes the documentation and proper use of disaster data. Recent experience shows that because of a lack of proper coordination, communication and documentation systems at a grass-root level, it took a long time to get information on earthquake impacts. In addition, lack of official data influenced the development of disaster response and recovery plans. Up to date data is also essential for the collaborative work among the stakeholders at various levels. An officer from the department of education mentions:

*It took a long time to get disaster loss- related information from schools and other education institutions after the earthquake. That is mainly because DRR information is not incorporated into our education information management system. Proper documentation and use of disaster data helps to provide immediate relief and response action. (ODI)*

Disaster information is crucial for disaster preparedness, mitigation, response and recovery. It indicates the need for the establishment of a disaster management information centre, too.

One of the secondary teachers from school 3 pointed out that there is a lack of coordination among like-minded actors in responding to disaster impacts at a local level. He pointed out that the Red Cross and schools can coordinate with each other to carry out effective disaster response and recovery. He states:

*Observing the earthquake response experiences, I realised that there is a lack of coordination among DRR actors. After the earthquake, I was expecting that Red Cross would coordinate and mobilise its trained manpower to respond to the earthquake crisis. There should be a proper coordination and co-working system that can mobilise the trained teachers, students and school leaders during an emergency situation. (TSN3)*

It is crucial to mobilise the trained human resources for the effective response and recovery. It also highlights the importance of coordination to share their best learning, feeling and experiences toward the disaster response. Disasters are recognised as barriers to development, and therefore proper collaboration and coordination among like-minded organisations is essential to address such challenges (NPC, 2008). Raj and Gautam (2015) note that, because of lack of coordination and communication, the government failed to adequately utilize the local level knowledge and resources, leading to ad hoc rescue and relief processes, and ultimately, to many avoidable deaths from injuries sustained in the initial shaking and inadequate rescue (Raj and Gautam, 2015).

#### **5.4.4 Sustainability**

Most of the research participants criticized the irregular and one-off sort of DRR interventions carried out in schools, the limited DRR content in the school curriculum, the ineffective delivery practices and the lack of resources hindering the sustainability of DRR education. The data suggest that DRR must be a part of daily school activities. During the field visit it was observed that after experiencing the huge earthquake in 2015, school leadership and community people are now aware of, and realise the value and importance of, sustainable inputs for DRR interventions. The recent earthquake experiences and their negative consequences on people and the community also make individuals aware of the need

for better preparedness. The AIN representative stresses the importance of DRR for a positive change:

*Before the Gorakha earthquake, all the disaster management efforts were made according to the debate on why we should prepare people for earthquakes, but after the earthquake the discourse has now changed and focused on how the disaster risks can be minimised. Before the earthquake the building codes were not strictly followed but after the earthquake the government put more effort into their effective implementation and people are more concerned about safe building construction. It is a good start to bearing responsibility in disaster governance. (NA1)*

Disaster governance needs to identify the needs of various disaster-vulnerable groups. For example, after the Gorakha earthquake, security agencies, such as the Nepal Army, Armed Police Force and Nepal Police, also strengthened their disaster management units and carried out various capacity building activities, introducing relevant technologies mainly for emergency response (MoHA, 2017). Similarly, the DoE put more effort into school and child safety. Disaster governance needs to develop a roadmap for better preparedness and response, including rebuilding and recovery after a disaster has struck. For example, this year the Government of Nepal also decided to celebrate an earthquake safety day and the theme was, “empowering communities and local governments: a strong foundation for earthquake safety” (Kantipur Daily, 2018). These initiatives are also helpful for raising the accountability and responsibility of the actors, so they can establish effective disaster governance in order to carry out sustainable DRR interventions at each level.

The top-down approach in disaster management is ineffective and inequitable. Schools need financial resources to conduct DRR related activities both in the school and community. Schools situated in disaster-prone areas need special support to address the issues in a sustainable manner. Such schools need resources and materials that are helpful for immediate recovery and response, for example, Go Bags and life jackets in the context of earthquake and floods. One of the primary teachers from study school 1 mentions:

*Schools do not get any financial support for carrying out DRR activities. ... there is no special support available for DRR education from our own systems, however, some schools are receiving support from NGOs. In our school, Red Cross carried out some training for us, this training was very helpful for getting DRR ideas. NGO support only is not enough, we need regular support from our own system. (TC1)*

Even the small and one-off support provided by an NGO contributed positively to make meaningful changes in DRR education delivery. Thus, organised and regular DRR education initiatives can make significant contributions in the disaster management area. In a similar vein to the quote above, one of the secondary teachers of study school 1 mentions,

*...We realised that if we all are trained well and receive the essential disaster risk reduction skills and knowledge, we can easily cope with a crisis situation. The urban areas are more vulnerable to earthquake and fire thus it is very important that the school governance must provide DRR skill development opportunities to all teachers so that they can transfer them to students. Schools need more resources to carry out these activities. (TS3)*

There is limited availability of funding for DRR interventions in schools. Only some of the selected schools receive support from INGOs in the DRR area. The Department of Education recently made it mandatory that each school addresses the suggested DRR targets while developing and revising their School Improvement Plan. However, schools are struggling to comply given they lack the necessary resources. Schools need resources to carry out DRR education activities that relates to disaster preparedness, mitigation, response and recovery (Selby & Kagawa, 2012; Bendusi, 2014).

One of the secondary level school teachers from study school 2 mentions,

*Schools rely on NGOs to carry out DRR related activities. It is not only the NGO's business, they are supporting us, we... all the school family, need to realise its importance and work better for DRR. Ownership is the major thing, if we don't have ownership of these activities, we won't make further progress. All these things will stop when NGOs complete their projects. (TC3)*

Donor-driven support is not sustainable enough. Families and communities need to realise the value of DRR and take more ownership themselves. There is a need for a common understanding among all the actors when it comes to carrying out relevant DRR interventions in schools. For example, the school principal shares,

*We have been developing our School Improvement Plan for the past couple of years and have incorporated activities to construct earthquake-resistant school buildings and get support to retrofit the existing old building. We have submitted the School Improvement Plan to DOE and other agencies and requested the funding. Years have*

*passed but we have never got funding for such support in our school. Last year our old school building, which was a part of the school's history, collapsed in the earthquake. Higher level authorities need School governance to have access to the resources. Schools are waiting for a long time to construct earthquake-resistant buildings. (PS1)*

Establishment of good disaster governance at each level needs appropriate resources in order to develop and carry out DRR actions. Since schools do not receive any funding for DRR actions directly from the District Education Office/ Department of Education, the DRR area is still not valued in schools. An officer from the Department of Education shared that some schools receive support to carry out DRR education related interventions.

Large or small-scale disasters have negative consequences on the education system. The school principal of study school 3 shared about the unexpected school closure situation because of the floods. He explained that such a disaster situation affects the school calendar, children lose their school days, and this creates stress and tension for students, parents, and teachers. Similarly, the school principal of study school 2 shared about the small landslides that affected the school and children. He mentioned that because of the landslides that destroyed the property of some community people, some of the children from the affected families dropped out of school. These examples indicate that regardless of the size of the disaster, educational activities in the schools were still disrupted. The damage to the education infrastructure has long-term impacts on child development and in any disaster, either small or large scale, children, the poor and other vulnerable communities experience various negative consequences. It was observed during the field trip that the poor and disadvantaged people are still struggling to survive after the earthquake. Moreover, in various places, children are still inside temporary learning centres and it is hard for them to cope with the extreme cold and hot environment. Thus, good governance needs to take into account the particular vulnerabilities and challenges of different members of the community.

Most of the schools in the country are vulnerable to disasters (MoHA, 2009). Most of the public schools are situated on low land, near to a river bank, at the bottom of the mountains, and near to the landslide areas. Most of the research participants noted that the first priority of the school governance of these schools is shifting the school into safe places. A representative of the Association of INGOs in Nepal shared that there is a strong need for the

National Safe School Policy to address the safety and security issues of children in all types of schools. He says,

*We have been advocating for the development of a National Safe School Policy to ensure safety measures in all types of schools (institutional, private, public and charity) in the country. The current School Sector Development Programme is more focused on the safety issues of the public schools but has not mentioned anything about other types of schools. The development and implementation of the National Safe School policy will be helpful for establishing safe schools in the country. Realising this gap, we have facilitated to develop the first draft and recently submitted it to the Ministry of Education for further feedback. (NO1)*

A local NGO representative also pointed out the need of a safe school policy to ensure safety in schools. Similarly, he suggested that the District Education Office needs to carry out frequent monitoring visits to find out the real situation of the schools.

Thus, a well-established disaster governance in education is essential to assist schools with their catalytic effects on disaster preparedness, mitigation, response and recovery in a sustainable manner. Strengthening the disaster risk governance in relation to the adoption of the Sendai Framework for DRR (2015-2030), Nepalese disaster risk governance in education still does not have its own separate policies, law and regulations, financing, and advanced institutional structure. As disaster governance contributes positively to reduce the risks of future disasters, in the disaster-prone context, it is important to initiate sustainable DRR interventions in the education area. Moreover, as educational interventions are essential for making a long-term sustainable impact in the community, the DRR and disaster management process in education helps to educate individuals and communities.

## **Conclusion**

This chapter introduced the notion of disaster and education/curriculum governance and practices in education in Nepal. The data suggested that global, national and local disaster governance play crucial roles in mainstreaming DRR education and disaster management interventions. In addition, it is clear that the disaster governance at any level relies on the country's governance structure. The recent earthquake experiences raised people's interest and concerns in the risk reduction area. Through the findings it is noticed that the lack of a stable and strong disaster governance structure, provision of limited support and expertise to

address the disaster issues, lack of coordination and cooperation among DRR actors, and lack of context-specific sustainable DRR interventions are the major areas that hinder the current set-up in practising good disaster governance in education. Moreover, the disaster governance practices are less participatory and centralised in resource allocation and the decision-making process. The local governance mechanisms have been influenced by the unstable political system of the country. The disaster governance personnel are still unfamiliar with their roles and responsibilities and hence there is a lack of accountability, responsibility and transparency. The national disaster governance in education appears to be more active, while a partnership with other like-minded actors at schools in a post-disaster situation is relatively weak. A similar conclusion is also made by Jones et al. (2014) in their study about local-level governance of risk and resilience in Nepal. They also found that the local-level disaster governance structures are active only if they are supported well and have authority to mobilise resources to address the context-specific disaster issues.

## **Chapter 6 : Participation**

### **Introduction**

This chapter is about the perceptions that people have of their participation in shaping DRR education in Nepal. It covers interviews with school principals, teachers, government officials, representatives from INGOs and local NGO and community representatives including those from the School Management Committee and Parent Teacher Association. The discussion is also supported by literature both from Nepal and internationally.

The chapter is organised into several areas. The first begins by discussing why participation is an important phenomenon within DRR and includes relevant literature. Following this is the presentation of a framework for analysing the types of participation, which is based on Arnstein's (1969) ladder of participation. The chapter then moves to discuss the current forms of participation from various stakeholders within the education system. Specifically, it describes the reasons why they are participating in DRR initiatives in education. It also explains the purpose of the participation. This chapter also describes some of the challenges of participation in DRR education, and it concludes with some key messages around what the data says about participation in DRR education.

### **6.1 Why is participation important in DRR?**

Wider participation in DRR is a well-accepted and strongly advocated concept (Davidson, Johnson, Lizarralde, Dikmen, & Sliwinski, 2007; Renn 2015). A participatory disaster management approach contributes positively to preparedness, mitigation and recovery (Davidson et al., 2007; Shaw 2012). Poterie and Baudoin (2015) state that all the global level DRR strategies accept that participation of relevant stakeholders and communities is widely recognised as a critical component of successful development of DRR policies and projects. United Nations (2015) describes these international frameworks that also recognize the importance of active involvement of the local actors and communities in disaster management to increase resilience to disaster risks and climate change impacts. The Yokohama Strategy and Plan of Action for a Safer World, the Hyogo Framework for Action (2005-2015), and the Sendai Framework for Disaster Risk Reduction (2015-2030), which are the three international frameworks for DRR, recognize the importance of local knowledge, participation of the local actors and the growing recognition of the importance of intra-

community differences in vulnerability (Davidson et al, 2007; Hiwassaki; Luna; Syamsidik & Shaw 2014). United Nations (1994) states:

Active participation should be encouraged in order to gain greater insight into the individual and collective perception of development and risk, and to have a clear understanding of the cultural and organisational characteristics of each society as well as of its behaviour and interactions with the physical and natural environment. This knowledge is of the utmost importance to determine those things which favour and hinder prevention and mitigation or encourage or limit the preservation of the environment for the development of future generations, and in order to find effective and efficient means to reduce the impact of disasters. (p.4)

The above paragraph extracted from the Yokohama strategy describes the need and importance of active involvement of local actors. Provision for participation helps them to get a clear understanding of disaster risks through regular sharing and learning. UNISDR (2005) recognises the importance of wider participation in disaster management interventions. It promotes local stakeholder participation in DRR through policies development, network strengthening and the providing of delegation and authorities with required resources (p.7). The Sendai Framework (2015) mentions the use of local knowledge and expertise through strengthening community-based organisation in DRR. It also suggests comprehensive public consultation while developing relevant DRR policies and plans. UNISDR (2015) states that unless disaster risks are effectively managed, increasing disaster loss and impacts adversely affect the achievement of Sustainable Development Goals (SDGs) by 2030.

While these frameworks stress the rhetoric of participation, Cronin, Petteron, Taylor, & Biliki (2004) point out the importance of multi-stakeholder participation to raise awareness about disaster risks. Osti (2004) notes that since the community bears the burden of disasters and acts as a first responder, their participation in DRR interventions is highly important to prepare for and face the disasters. Explaining the importance of local actors' involvement in DRR, Pearce (2003) states that if the local actors are ignored in the disaster risk reduction area then there is less chance to address the local disaster issues with proper solutions. Participation also helps to develop the capacity of the local people and create local ownership initiatives, which contribute to sustainability (Twigg, 2004). It helps to enable people's capacity and prepares them to cope with the disaster risks (Reed, 2008). "The process of working together can strengthen communities because it reinforces local organisation, and

builds up trust, skills, capacity to cooperate as well as awareness” (Ahrens & Rudolph, 2006). Provision for participation in DRR practices and policy development is crucial, it helps to increase disaster resilience for local communities (UNISDR, 2015). Adams (2008) explains that a participation approach helps to ensure inclusiveness and provides opportunities to include people’s views in the decision-making process.

Stakeholders’ participation from the very beginning of disaster management is crucial in motivating them in their ongoing contribution for successful DRR interventions. Various scholars such as Pelling (2007) and Reed (2008) discuss the importance of early engagement of local stakeholders in DRR. The involvement of communities, schools, educational institutions, and stakeholders, including children, in reducing disaster risks plays a remarkable role in disaster preparedness (Mulyasari et al., 2009). Children’s participation in DRR education is an emerging idea. Their active involvement in DRR activities, through establishing a platform of learning sharing, helps them understand disaster issues in a meaningful way. In the context of Nepal, Action Aid (2011) states that the provision of Child Clubs encourages children’s active participation in DRR education initiatives in school and community. Ronan and Towers (2014) explain that child-centred disaster risk reduction initiatives are effective in strengthening children’s skills so they can understand the risk of the disasters in their community. Such participation opportunities also enable them to play a crucial role in reducing the risks and impacts of potential disasters. UNICEF et al. (2012) states that child-centred disaster risk reduction (CCDRR) is a well-recognised and effective approach in developing change agents in communities.

Ongoing stakeholder participation also provides them with an opportunity to learn more about the programmes. Shaw (2012) explains that community engagement is crucial in disaster management, their active participation from the beginning allows them to put their views forward to identify the needs and address these effectively. By encouraging stakeholders to have an input, their sense of belonging in the community is strengthened and they develop a sense of ownership towards DRR programmes (p. 5). They become aware of the available resources, thus the participation process is helpful to ensure transparency and accountability (Blackstock et al, 2007). Farazmand (2007) states that since local people are familiar with their geographical location, and know the culture and language, their engagement in crisis management is crucial.

Wider participation in the DRR area contributes to collective efforts to overcome the common issues and challenges (Cronin et al., 2004). Participation is also helpful in incorporating local social capital in DRR interventions that also contribute towards ownership (Reed, 2008). UNISDR (2005) also emphasises the provision of specific mechanisms to involve stakeholders in their active participation and ownership (p.13). Effective use of available natural resources, local labour and local knowledge and skills is also helpful in making the interventions cost- effective (Carr, Bloschl, & Loucks, 2012).

Shiwaku et al., (2004) find that community involvement plays a significant role in disaster education in imparting students’ awareness and action. Local level participation also helps to carry out relevant school disaster programmes effectively. With the provision of the local community participation in materials development, the International Federation of Red Cross and Red Crescent Societies supported a school disaster management project in Kazakhstan which successfully harmonised teaching materials and a teaching-learning approach in schools (Wisner, 2006).

Stakeholder participation in DRR education is highly valued by global actors. Reviewing the available relevant reports and information provided on their web pages, the following table (Table 7) shows the importance given to the stakeholder involvement in DRR education by various global level actors.

**Table 7: Education stakeholders’ participation practices in DRR education sector**

Organisation	What are the participation initiatives in DRR education?	How are the participation initiatives in DRR education carried out?
Action Aid	Stakeholders participate in a participatory vulnerability assessment, the development of a disaster management plan and its implementation (Campbell & Yates, 2007, p.10)	The establishment of a Disaster Management committee and empowering the organisational mechanism through capacity development. Child- centred DRR interventions encouraged children to participate in DRR activities.

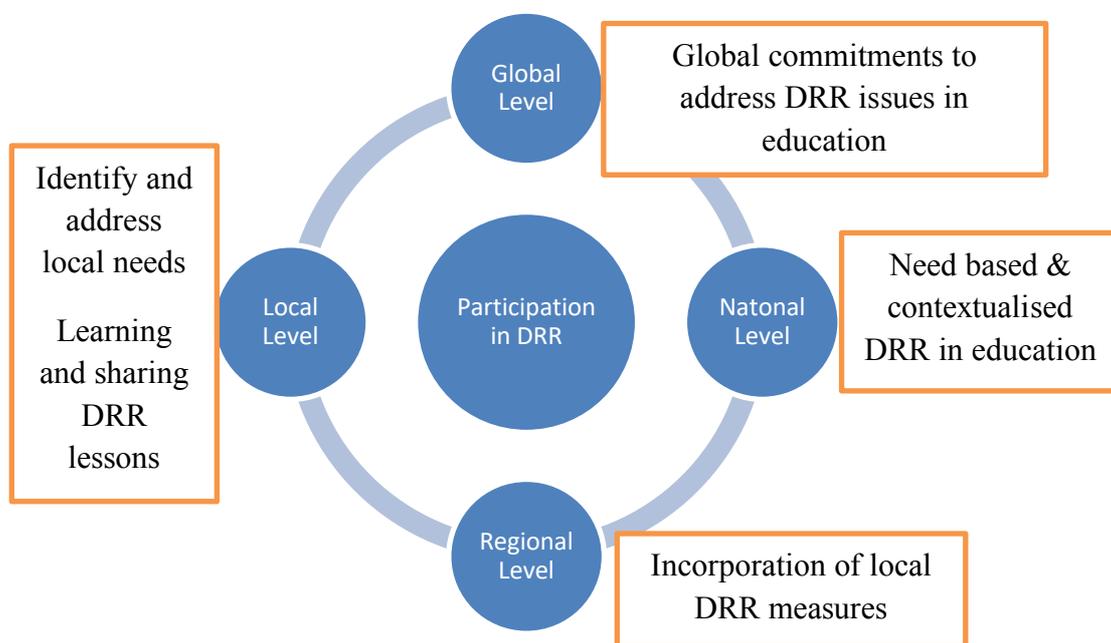
Save the Children	Engage communities to manage materials such as shelter, food and health, develop school safety and emotional protection such as psychological healing for those affected by disaster. ( <a href="http://www.savethechildren.ca/wat-we-do/emergency-and-survival/">http://www.savethechildren.ca/wat-we-do/emergency-and-survival/</a> )	Assist local authorities to participate in addressing DRR education needs effectively.
Plan International	Considering children as an agent of change, Plan International practises active engagement of children in DRR. It initiated child centred disaster risk reduction (CCDRR) approach. ( <a href="http://www.plan-international.org/emergency">http://www.plan-international.org/emergency</a> )	Strengthening the locally established disaster management committees and network. Assist schools to carry out children's participation in DRR from the initial stage.
International Federation of Red Cross and Red Crescent Societies	Community engagement and accountability (CEA) is a programming and operations approach of Red Cross and Red Crescent. Active community participation is essential for carrying out Vulnerability and Capacity Assessments (VCA), training, drills, formation of clubs and brigades and other local level decision-making processes. ( <a href="http://www.ifrc.org/what/disasters/dp/planning/vca.asp">http://www.ifrc.org/what/disasters/dp/planning/vca.asp</a> )	Strengthening the local DRR mechanisms and assisting local actors to participate actively.
UNESCO	Support relevant agencies to integrate DRR into primary and secondary level education and safety of school buildings. ( <a href="http://www.en.unesco.org/themes/education-sustainable-development/disaster-risk-reduction">http://www.en.unesco.org/themes/education-sustainable-development/disaster-risk-reduction</a> )	Assist relevant agencies to establish national and regional level DRR education networks for learning sharing and collaborative work.
UNDP	Stakeholder participation in actionable risk information, disaster and climate change	Participation of local actors in

	governance, preparedness such as promotion of inclusion of disaster- relevant materials in school teaching and promotion of early warning systems. ( <a href="http://www.undp.org/content/undp/en/home/climate-and-disaster-resilience/disaster-risk-reduction.html">http://www.undp.org/content/undp/en/home/climate-and-disaster-resilience/disaster-risk-reduction.html</a> )	DRR materials development.
Education International	Initiative in establishing safe schools and engaging teachers and their unions in DRR-specific training to deliver the required DRR knowledge and skills effectively. ( <a href="http://www.ei-ie.org/en/detail_page/4658/safe-schools">http://www.ei-ie.org/en/detail_page/4658/safe-schools</a> )	Engaging teachers to develop and deliver DRR related content.
United National Centre for Regional Development	Wider community participation through training to raise awareness in order to reduce the vulnerability of schools ( <a href="http://www.uncrd.or.jp/index.php?menu=400">http://www.uncrd.or.jp/index.php?menu=400</a> )	Establishment of local groups and the development of their capacity to engage them in local DRR activities effectively in local community.
Asian Disaster Preparedness Center (ADPC)	Engage the wider community in disaster risk reduction training and support schools in earthquake safety. ( <a href="http://www.adpc.net/igo/contents/adpcpage.asp?pid=12&amp;dep=DRAM">http://www.adpc.net/igo/contents/adpcpage.asp?pid=12&amp;dep=DRAM</a> )	Engaging school committees and community level DRR committees in the DRR initiative.

INEE (2010) states the importance of provision of national laws and policies to manage education in disasters or crisis situations. It explains the importance of collaborative work and active stakeholders' participation in the DRR education area at various levels. UN agencies and development actors, such as Save the Children, Plan International and World Vision, initiated a Comprehensive School Safety framework which aims to bridge humanitarian and development actions. UNICEF et al. (2012) suggest the need of wider community

participation to address issues related to three pillars: safe school buildings, school disaster management and risk reduction, and resilience education of the Comprehensive School Assessment framework. Shaw (2006) describes how the provision of opportunities for involvement within disaster-vulnerable groups such as among women, the elderly, children and the disabled, was found effective in his study in Bangladesh and Vietnam.

The creation and utilisation of mothers’ clubs in Bangladesh, the Veteran Association and the Women Association in Vietnam, as well as training and raising awareness in schools, made a great contribution to disaster preparedness and mitigation. Shaw, Islam, & Mallick (2013) also describe the importance of including family and community in school DRR initiatives.



**Figure 8: Need of stakeholders’ participation in DRR in Nepal**

(Source: DRR education stakeholders mapping UNESCO Nepal, 2010<sup>13</sup> )

In the disaster-prone context of Nepal, the National Disaster Plan (2009) identifies various actors including donor partners, multilateral and bilateral organisations that assist government in DRR in the education sector. UNESCO Nepal assisted the Department of Education to facilitate a workshop on mapping DRR education actors and their involvement in DRR. Based upon these documents, the above figure 8 shows the level of DRR actors and the needs of their active participation in DRR education. Regional and national level participation helps

<sup>13</sup> [http://www.unesco.org/new/en/kathmandu/about-this-office/single-view/news/reducing\\_disaster\\_risk\\_with\\_nepals\\_education\\_sector/](http://www.unesco.org/new/en/kathmandu/about-this-office/single-view/news/reducing_disaster_risk_with_nepals_education_sector/)

to address the local practices and incorporate these in the policies, and global level participation gives an opportunity to share experiences and learning to achieve the commitments.

The newly introduced Disaster Management Act (2016) in Nepal states the importance of active participation of various stakeholders in DRR. It identifies local participation, helps to address the local issues and carry out sustainable DRR interventions. Similarly, the existing 14th five- year development plan attempts to mainstream DRR in various sector plans, and suggests meaningful community participation in the DRR programme cycle (NPC, 2017).

## **6.2 Assessing participation**

Participation has a variety of meanings and it can be viewed in different ways. For the purpose of this chapter, there are two key things that I want to explore. The first one is regarding the nature of participation, and the second is the level of participation in the DRR education sector. WHO (2002) defines participation as:

...a process by which people are enabled to become actively and genuinely involved in defining the issues of concern to them, in making decisions about factors that affect their lives, in formulating and implementing policies, in planning, developing and delivering services and in taking action to achieve change. (p.10)

The above definition explains the importance of people's active engagement in identifying the local issues and addressing these in a sustainable way. Adams (2008) states "participation by people in policy and service development and delivery is a widely accepted concept". Newton and Montero (2007) discuss meeting, helping each other, voluntary involvement and political types of participation that may occur in any society. Law (2002) describes how the nature and extent of involvement or sharing in an activity is the major concept in participation. For the purpose of the thesis, the term 'participation' refers to the involvement of relevant stakeholder/s in an education system where stakeholders play a more active part, and contribute significantly to disaster management, especially in the DRR education area.

Participation is considered an important part of DRR education initiatives. The frequency of participation in the relevant events brings about a close relationship among the actors to conduct effective DRR education interventions. In considering the involvement and nature of relationship, Law, King, Rosenbaum, Kertoy, King, & Young (2000) divide participation into

formal and informal types. They further describe how formal participation means involvement in formally designated structures, whereas informal participation means involvement in informal activities that are little planned or unplanned and initiated by the individual. Guillen, Coromina, & Saris (2010) state that formal participation means involvement in established structures and organisation, whereas informal participation means involvement in an informal setting. They also describe the informal participation as flexible and providing the opportunity to interact with relevant authorities. Both natures of participation in DRR education are also identified from the data.

Various scholars such as Arnstein (1969), Shaffer (1994) and UNDP (1997) describe their framework for analysing the level of participation in education and other areas. According to Arnstein's ladder of participation, the highest level of participation is citizen power which shows citizen control, delegated power and partnership. At this level of participation, participants have highly increased influence over decisions. She explains how the partnership stage enables the participants to negotiate and engage in interventions with traditional power holders, whereas delegated powers allows them to carry out the decisions within their own managerial role.

In the middle level, Arnstein discusses the three rungs of the ladder – informing, consultation and placation, which are considered degrees of tokenism. The informing stage provides the opportunity for the participants to share their needs and get information from powerholders. Consultation also provides the opportunity to share ideas but not ensure how their input is taken into account in the decision making by power holders. At the bottom level, manipulation and therapy are considered to be non-participation. Arnstein (1969) describes this: “placation refers to higher level of tokenism”; at this stage the decision-making rights belong to the powerholders rather than the participants.

Arnstein (1969) explains the various levels of participation; therefore her ladder of participation is useful in identifying the degree of participation. Since the ladder is a useful tool when analysing what is meant when DRR education programmes and policies refer to participation, I will use this model of participation as a tool with my data.

## 6.3 Current forms of participation

On the basis of the current participating practices, from the data, it is revealed that there are mainly two forms of participation in DRR education in Nepal. These are formal and informal.

### 6.3.1 Formal participation

Interview data show that the provision of disaster management committees and networks established at local and national level offered formal participation opportunities to the stakeholders in DRR activities. These opportunities are deemed useful for sharing their views and experiences in DRR education, and so help to shape DRR education at a local and national level. Committee members, supporting organisations and like-minded organisations were invited to participate in regular meetings/interactions where they discussed the DRR education agendas for further action.

An officer from the Department of Education, (OD1) explains:

*There is a Central Disaster Relief Committee consisting of twenty-seven members chaired by the Ministry of Home Affairs. In the Department of Education, we have a Disaster Management and Educational Counselling section which was established just before the Gorakha earthquake. There are DRR Focal Persons in each of the relevant departments including the District Education Office. We have an Education Cluster at national and district level. ....there is also a Child Centered Disaster Risk Reduction Consortium established at national level. (OD1)*

With the assistance of UN agencies, relevant governmental agencies have established respective clusters to respond to water sanitation and hygiene issues, including during disaster and times of crisis. For example, to address DRR in education issues, there is the provision of an Education Cluster in the area of education at national and district level. This is the platform to engage governmental agencies and NGOs working in DRR, which helps to generate the collaborative efforts among like-minded organisations (MoHA, 2013).

The Disaster Management and Educational Counselling centre coordinates with all DRR education actors at a national level in Nepal. It also leads an Education Cluster at national level. The education cluster is established to generate collective efforts in DRR in education. A representative of the Association of INGOs in Nepal mentions:

*Education Cluster is a platform for sharing the learning and experiences among DRR actors at a national level. It also organises DRR education annual planning and review meetings and enables all the actors to participate in collaborative DRR actions. (NA1)*

At the local level, there are also some mechanisms established for relevant stakeholders to participate in DRR education. At the district level, besides the District Disaster Management Committee, there is also a District Education Cluster in each district. The cluster provides opportunities to participate in district level DRR education interventions. The District Education Officer says:

*At district level, we have a District Education Cluster in each district led by the District Education Officer. All DRR actors are members of the cluster and the District Disaster Risk Reduction Focal Person acts as the member secretary. These committees are working very effectively for all relevant stakeholders to participate in the recent post- disaster context to address DRR in education issues. (OE1)*

Formal participation is important in making relevant decisions and generating collaborative efforts in the DRR education area. Similarly, at the local level, in schools, as a formal mechanism of participation, there are School Management Committees and Parent/ Teacher Associations established to oversee the overall management of education. The school principal from study school 2 notes:

*School Management Committee is the major body of the school which oversees every aspect of school management. The committee members participate in overall school management-related decision-making processes. They also ensure community participation to make any important decision such as fund raising at school. The school recently carried out a participatory School Improvement Plan development workshop, however parents from poor and marginalised groups did not come ...DRR is still not valued at a local level. However, there is a Focal Teacher and Red Cross Circle formulated by Red Cross that conduct some DRR activities with Red Cross support. (PSN1)*

The School Management Committee needs to address the school safety issues while developing and reviewing the School Improvement Plan (MoE, 2015). Participation of the vulnerable community groups in such planning is crucial. However, due to socio- economic

status and power relationships, people from these groups felt isolation in the decision-making process. The school organises general forums such as mass meetings, Parents' Day, and school day celebrations, and invites local stakeholders to participate. These events were fruitful in disseminating relevant messages to the participants to some extent. The school principal from study school 3 says:

*School Management Committee invites local stakeholders to attend mass meetings and Parents' Day and share the major problems of the school and asks them to make decisions to address local DRR issues...more specifically raising funds to reconstruct earthquake resistance facilities. (PC1)*

The existing school rules and regulations have given authority to school management committees to carry out participatory school planning (Education Act 2016). Wider community participation helps to increase ownership of the institutions and programmes. It also helps with sustainability of DRR education interventions (Mulyasari et al., 2011). Participation is also helpful for community people to clarify their roles and responsibilities and make them more accountable. The importance of community participation, especially from the most vulnerable groups at a local level, is valued by the national officers. An officer from the District Education Office says:

*While developing and reviewing DRR education provision in School Improvement Plan, schools need to ensure wider community participation including disabled, Dalits and indigenous people. In current practices I have noticed that these groups are excluded in school decision making process. (OE2)*

Community participation, including the disadvantaged groups, plays an important role in safe school development. An officer from the National Centre for Education Development comments “community and school need to work together to establish safe schools and address the issues of vulnerable groups including poor, disadvantaged, children and disabled” (ONI). Similar to OD1 and ON1, an INGO representative (NU1) says:

*Teachers, District Education Office representatives, parents, students, and committee members were invited to school DRR interventions, such as school safety mapping, risk assessment and local curriculum development workshops, then their experiences and ideas were collected, and plans developed. We observed that all these participation initiatives increased their association with DRR education. It developed*

*their feeling of ownership towards schools and DRR education initiatives. Their involvement in school activities increased. (NUI)*

NGOs have an important facilitation role for school stakeholders to participate in DRR risk assessment. Such a participatory approach used in the DRR area increased the awareness of local stakeholders on DRR issues.

The interview data show that no specific committee has been established to look after the DRR education in schools. However, Red Cross has established a Junior Red Cross Circle in each school programme. An officer from Red Cross says:

*Junior Red Cross Circle plays an active role to strengthen DRR at local level. Students can help schools to raise community participation for local level DRR initiatives. (NRI)*

Student participation in the DRR area is a well-accepted idea. Getting assistance from Junior Red Cross Circle, the school organises day celebrations such as Education Day, Earthquake Day, and certain functions such as extra-curricular events which give an opportunity for community people to participate in these events at school. These opportunities to participate in various forums help individuals to gain an understanding of DRR areas and enhance the network. NRI explains:

*School children must be engaged and valued to carry out DRR. First aid, school safety, search-and-rescue training and planning, disaster preparedness drills, and DRR awareness raising training have been carried out for teachers and students and are some of the main areas where Nepal Red Cross Society is assisting in schools. We are supporting schools through implementing a School Disaster Risk Programme. Reducing the vulnerability and increasing the livelihood are other main areas of the working approach of Nepal Red Cross Society. We have developed several DRR policies. (NRI)*

Formal participation in DRR education can be classified as participation in general forums and organisational forums. The general forums of formal participation were in the form of day celebrations, certain school functions and mass meetings. Day celebrations such as earthquake day, disaster day, democracy day and education day allow participants to engage in the event. Such opportunities helped the participants to widen their understanding about DRR. Their participation in meetings helped schools to collect local funds, labour, or any other local materials to maintain or rebuild the school facilities.

Some participation in organisational forums, where the participants have some roles and responsibilities, was identified. This included, for example, participation in the School Management Committee, Parent Teacher Association, User Group, Disaster Management Committee at community level, District Education Committee, Education cluster, Consortium and District Disaster Management.

It is observed that, because of the limited DRR interventions and the fact that only selected people were participating in DRR education through the formal committees at local level, the formal participation in DRR education interventions was very low. Local actors joined various events and school authorities consulted them whenever it was needed. Analysing the type and level of participation at the local level, specifically at school, reflects a level of tokenism in DRR education.

Community participation in DRR education seems very limited because of very limited formal participation opportunities at the local level. School Management Committee and Parents/ Teacher Association members were more concerned with increasing the number of students, through raising the quality of education; DRR- related expertise seemed to be less important to them.

### **6.3.2 Informal participation**

Interview data also display the nature of stakeholder participation in various informal activities pertaining to DRR education, especially at local level. These are situational, such as school visits by parents or community members, and informal sharing with teachers or school administration or NGO workers. This type of participation is mainly observed at the local level, especially in schools and communities where people meet each other and share ideas. The following areas are identified as informal mechanisms of participation in DRR education.

#### **a) School visits**

Local people trust the school and teachers to get proper advice to resolve their problems. Mutual trust and support received from the school family during crisis situations encouraged informal school visits by the local people. One of the community members from study school 3 mentions:

*[Our] school and teachers are always with us during a difficult time, they have supported the community during earthquake, fire and landslides. We visit our school and interact with teachers, principal, and others to address possible disaster risks. (CS1)*

Informal participation contributes to delivering DRR knowledge and assisting collaborative action. Before the earthquake, participants were rarely involved in school visits to discuss disaster risk reduction issues. One of the parents from study school 1 says:

*After the earthquake, we visited the school more to consult with our teachers to get more advice and support... such as sending our children back to school, getting relief materials for the affected families and update on the financial assistance that the government promised to provide for reconstruction of homes of the earthquake affected families. (CSN1)*

Since the country has been affected badly by the recent earthquake, this situation reinforced the collective efforts and raised local participation in disaster management at community level. One of the female parents from school 2 shares:

*After this earthquake, people became more concerned about disasters. We realised disasters are common problems.... one of our school buildings has also collapsed. To assist the school, we visited the schools more after the earthquake.... the school and community both need to work together for preparedness and mitigation. (CSN1)*

These exposures provided interactive activities at school and helped to increase the frequency of school visits. Such visits also help to strengthen relationships between school and community to address disaster issues. Since the physical facilities are destroyed and schools are still looking for supportive organisations to rebuild the destroyed property, school visits by community people help to share information with other like-minded organisations. The school principal from school 3 expresses:

*The school visits by local stakeholders helped to disseminate DRR information from school to community. It helped to find supporting organisations to rebuild our destroyed property. (PCI)*

Participation in terms of school visits was needs-based, therefore it was flexible and based on the disaster response, recovery and rebuilding-related activities. Participation in informal

interactions about disaster issues in schools also increased the action from parents and community leaders to overcome existing problems.

In the DRR education area, informal participation also plays a significant role in delivering DRR knowledge, experience and learning. Socio-economic status plays a significant role in effective informal participation. Parents' socio-economic status, DRR knowledge and understanding and opportunities to interact with relevant people were some factors observed that affect their participation in informal mechanisms. Parents who were struggling with their economic situation were found to be less interested in participating in DRR education activities. They were more concerned with resolving their daily life issues. However, the schools have realised the importance of their participation, encouraging them to come and meet relevant school members to provide their ideas and advice for school safety and DRR initiatives.

Similarly, all three school principals confirmed that the level of education of the parents also influenced their participation in DRR activities. Educated parents are willing to visit schools more frequently to assist the schools to carry out DRR education activities. Similarly, people taking major roles in schools, such as in the School Management Committee, Parent Teacher Association, User Group or any other alliances, were visiting the schools more frequently than others. The school principal from study school 1 says:

*Parents' participation in DRR initiative is important. Normally parents who are associated with school committees visit the school more frequently than others. (PS1)*

Parents who are engaged more in school activities and decision-making processes carry out more informal visits than others. The data generally shows that parents who were engaged in formal mechanisms were also more likely to participate informally.

#### **b) Discussing school issues in the community**

Most of the participants reported that in relation to rebuilding the school structure and establishing a safe school environment, they also participated in discussing these issues with other neighbourhoods and community people. Community leaders seemed more active in such discussions. To find proper solutions to resolve problems such as the generation of resources and collaborative efforts for rebuilding and other DRR education interventions, they convinced others to be involved.

Community people are also concerned with raising the quality of education in the school. A School Management Committee member of study school 1 says:

*Not only in school, we have discussed our school situation in our neighbourhood and community.....we are more concerned how our school will be a safe place for our children and for us. We do share the possibility of helping the school alongside the NGO worker too. We always want to develop our school as a model school in the district. (CSI)*

People's perceptions of participation in DRR education have changed. They were active in the current post-disaster situation, but without having proper resources and enough knowledge in DRR to address the current DRR needs, their actions are still more concerned with getting financial resources for the schools for rebuilding. Only some school management committee members seemed more active in helping the schools to resolve the current situation. Schools can work further with community people to mainstream DRR in school and community development to impart their understanding in the DRR area. The existing level of informal participation in DRR education initiative is still limited; schools need more collaborative actions with parents to raise their involvement in the DRR area.

According to Arnstein's (1969) ladder of citizenship participation, there is a need for more collaborative action to engage parents in partnerships in DRR education. Local people were interested in contributing to the need for DRR education in the schools, and they were informed of the situation and consulted in the decision-making process. However, the authority roles seemed passive, similarly the formal participation.

#### **6.4 Purpose of participation**

Using the participation mechanisms discussed above, stakeholder's participation in the DRR education area can be identified in the following ways. Most of the respondents at national level shared that the opportunities to participate in relevant DRR activities at national level were regular. These activities gave them the opportunity to share their ideas and assist the committee and networks in the following areas of participation. At the district level, participants in the study appreciated the District Education Office organising regular Education Cluster meetings. However, at the local school level, participants of three study schools realised there were very limited DRR education interventions carried out in the

school and community. There are five forms of participation in DRR events. These are discussed below.

#### **6.4.1 Fund raising**

National level DRR actors are working together to raise funds to address local needs. The Education Cluster also requests its members to be involved in collaborative action. OD1 explains:

*Various International and multinational organisations have been providing financial as well as technical support to DRR education, mainly for development of DRR materials and supporting learning materials which are useful, raising awareness about DRR in communities. These organisations have been mainstreaming their support funding, technically to deliver knowledge at local level. (OD1)*

There are several supporting agencies that have been assisting the Government of Nepal in the disaster management sector (MoHA, 2013). Officers from the Department of Education, Curriculum Development Centre and National Centre for Education Development agreed that education line agencies received funds from relevant development partners to implement DRR in education projects in selected locations. Realising the importance of such contributions, an officer from the Department of Education mentioned the involvement of some stakeholders in DRR in education. He says:

*Japan International Cooperation Agency assists us in building earthquake resistance school buildings and developing SIP including school safety planning in some selected districts. The European Union supports national partners and funds DRR activities in 19 districts. These initiatives have given a focus for participation in the local communities. (OD1)*

The provision of a School Safety Programme, in certain schools in selected districts through such funding, is one of the best examples of such participation. Similarly, participation of the community members through the provision of user groups for improvement of facilities also helped schools to raise resources such as labour and cash donations from the community. NR1 explains:

*The creation or funding provision of a DRR Focal person in the District Education Office and school helped us with coordination and communication while assisting in*

*DRR interventions. Formulation of user groups at school level helped to generate community contribution through community participation. (NRI)*

Organisations that are assisting with child-centred DRR interventions have established a consortium at national level. The provision of 'Consortium style' implementation of child-centred DRR interventions in certain schools in selected districts also shows that formal mechanisms at national level are helpful in strengthening DRR education initiatives at local level. However, such interventions exist only as long as funding is available. A science teacher from study school 3 mentions:

*We need to carry out DRR education activities regularly, it is not a one-off like the NGOs come and do....provision of regular funding for mainstreaming this idea in school planning and curriculum is essential, short term DRR programmes are deemed not useful....if the NGO stopped coming, nothing would be happening. (TC3)*

Schools need to be more concerned with carrying out needs-based DRR interventions independently without outside support. Regular budgetary provision for the implementation of DRR education interventions in school and community helps stakeholders to participate more effectively. Sustainability of DRR interventions through short term, especially one-off, activities does not have potential at the local level.

Osti (2004) describes how local level participation in the form of labour, local material contribution, donations, input in planning, implementing and monitoring, evaluation as well as decision making has increased during the last few decades. Such partnerships contribute to build ownership. Local level respondents identified that their participation in DRR education also helped to contribute to the construction of school facilities. According to Arnstein (1969) such engagement is through partnerships. Since the funds available for building or re-building the facilities are not enough, schools expect donations in the form of cash, labour and /or material contribution. One of the female community members of study school 1 says:

*It is our school, we have invested our time, effort, skills, cash and labour to establish these buildings and facilities in the past, ... we are sad our school building collapsed in the earthquake ,... we need to work together to rebuild it again. (CS1)*

Community people are more concerned about their school development. The strong relationships between school and community motivate local actors to regular involvement in

school development. Participation in the form of fund raising is also needs and consultation-based. Participants have, however, shown their concern about the expenses.

#### **6.4.2 Information sharing**

Disadvantaged communities also need to be able to get relevant DRR information (Pearce, 2003). School teachers also pointed out the need and importance of the establishment of a DRR information sharing centre at community level. Participation also involves sharing of DRR information among like-minded stakeholders and the community. At the national level, through Education Clusters, the Department of Education coordinates with national level DRR education stakeholders to develop contingency plans. OD1 mentions:

*Stakeholders' participation in the planning phase is helpful to share relevant information among actors. Information sharing helped while developing the Disaster Contingency plan recently.....Nepal Society of Earthquake Technology, one of our partners, valued local level participation which promoted the message regarding the need of earthquake resistance buildings and seismic strengthening of the vulnerable buildings as well as developing the skills of local masons, relevant technical persons and the community in how to build safer buildings. (OD1)*

Participation in either mechanism was found to have a significant impact on sharing disaster-related information. This information was helpful in planning and increasing collaboration. Bajracharya, Hastings, Childs, & McNamee (2012) state private public partnership in disaster management is helpful to share and document information effectively. The NGO actor mentions:

*Information shared by community people, school teachers and other stakeholders is important, Nepal Red Cross carry out emergency action on the basis of such information at the local level. (NRI)*

Information relating to past disaster experiences and learning, and local context was found useful while conducting school safety mapping exercises. The school principal of study school 1 mentions:

*Parents, students, teachers and community representatives participated in school safety mapping. The information that they have provided was useful for carrying out resource mapping, participatory risk assessment and vulnerability assessment. (PS1)*

Various scholars such as Mutch (2013) and Shaw (2012) describe the role of schools in DRR education. Mutch (2013) states that schools deliver the DRR message to the community through children because schools influence community life in a disaster situation. Schools do not always contribute in a positive way; if the information is not shared properly, there is more possibility of loss and casualties in a disaster situation. DRR information and relevant skills play a crucial role in saving people's lives. The school principal from the same study school shares:

*Duck-cover-hold has been practised at schools. I heard in some locations that children who were playing outside their house ran inside their house to find a place to cover and died. The structures were poor. We forgot to share with our students that if we are outside the home, we need to look for other safe places for our safety. Such things need to be contextualised to remove confusion. (PCI)*

The above quote explains that school drills do not provide the reasoning or the skills to use the knowledge and skills in unfamiliar scenarios. Petal and Green (2008) find that earthquake drills are well-practised under the school desks, but the problem is in generalisation using knowledge and skills in other situation away from a school desk (p.43). After the earthquake, Consortium published a common disaster message to make people aware and save their lives. However, there are still gaps in information sharing and practice. The NGO representative says:

*Due to limited DRR knowledge and skills, even the newly-constructed facilities are still vulnerable to disasters. There is a huge need to make community people aware of building codes. (NR1)*

Access to information is essential in the decision-making process (Pearce, 2003). Stakeholders want to participate actively in DRR education, but because of limited DRR education activities, they are still unfamiliar with revised DRR policies and plans. The International Federation of Red Cross and Crescent Societies (1995) states that access to information is a right: community people can then plan for themselves, make informed choices and act to reduce their vulnerability. People seemed willing to share (in an informal setting) and contribute information, and even though there was limited provision of participation mechanisms for information sharing, this information was regarded as significant. The above analysis fits the middle level of participation, as Arnstein's (1969) ladder of participation describes.

### 6.4.3 Awareness raising

It is critical to engage community people in order to prepare them for possible hazards (Foster, 2013). At the local level, community people shared that they participated in disaster awareness- raising events including meetings organised in the school or community. Participation of more vulnerable people groups in disaster management interventions help to make them aware of disaster situations, reduce their vulnerability and enhance their coping capacity. The interview data also highlights the importance of participation in the form of awareness raising. For example, a female parent from study school 1 mentions:

*In disasters, either small scale or large scale disasters, children, poor and other vulnerable communities experienced various negative consequences. ....we need more awareness activities .... we all need to know about safe construction, relevant policies and regulations too. (CS1)*

Community people expect ongoing DRR- related awareness raising activities at a local level. They appreciated the street drama and rallies carried out by Junior Red Cross Circle in their communities. Similarly, the role of children in disseminating DRR information is highly valued. NO1 shares:

*Child-centred disaster management initiatives are fruitful, children play a significant role in DRR education. (NO1)*

Children's engagement in sharing the DRR message from school to family is highly recognised by all the teachers. Realising the importance of awareness- raising initiatives, NR1 mentions:

*We put more effort into DRR awareness raising about disasters... education plays a crucial role in developing the capacity for disaster risk reduction, our input is in capacity development training and the provision of relevant materials at a local level. (NR1)*

Although there was very limited awareness raising carried out for community people, they seemed enthusiastic to learn more about DRR. The above quote reflects the need for ongoing DRR activities at school and in the community. Participants realised the need for wider DRR activities in school and communities. Parents' engagement in awareness- raising interventions seemed voluntary.

#### 6.4.4 Disaster risk reduction education material development

Stakeholder participation in the form of DRR materials development and managing emergency education was also highlighted at various levels. Study data shows that at the national level, various DRR actors participate in developing DRR- related materials that can be used by schools and communities to develop their disaster- resilient capacity. The officer from the Curriculum Development Centre described the national level collaboration for carrying out DRR materials development initiatives. He explained the engagement of DRR actors in developing local materials and curriculum:

*UNESCO and the Asian Development Bank helped to develop some DRR learning resource materials including audio visual materials. Asian Development Bank gave support for the Climate Change curriculum development, UNESCO has developed some DRR learning materials but still these are not enough. UNICEF and Plan Nepal assisted the development of a local DRR curriculum. Other INGOs such as Save the Children Nepal, Action Aid, Oxfam and United Mission to Nepal also work in the DRR education area. (OC1)*

However, it can be seen that these materials are still not assessed. These materials are useful, however, most of the teachers shared that the DRR materials are not easily accessible at the local level. They expected support from schools and education line agencies to get access to these at local level.

After the earthquake, instead of DRR materials development, INGOs and NGOs have contributed significantly to establish continued education at school. OD1 says:

*NGOs and INGOs were mobilised through the Education Cluster, it was a very difficult situation, Education Cluster members worked together to establish temporary learning centres, distribute relief and relevant educational materials and conduct psycho-social training. (OD1)*

It is important to provide opportunities for participation and working together to make collaborative efforts in crisis situations. Similarly, Moore, Eng, & Daniel (2003) state that the ability and provision of working together among INGOs helps to carry out humanitarian aid operations successfully.

Due to the nature of the centralisation of the curriculum development process, it seemed that there was less local participation in the DRR curriculum development process. The officer from the Curriculum Development Centre realises:

*There was a very low local engagement while developing the curriculum....some dissemination sessions in certain locations were carried out to get input from the local level, it must be done ... from the initial stage, but sometimes it is difficult to manage such things (lack of resources). Local people do not appear to be active in participating in the curriculum development process. Provision for a local curriculum is there, so there is enough space for the local actors to assist schools in developing a needs-based curriculum. (OC1)*

In the above quote the officer claimed that the curriculum development process is participatory. He also pointed out the availability of resources as one challenge to ensuring wider participation in curriculum development. Study participants also shared the need for stakeholder participation in order to prepare a local level disaster curriculum.

#### **6.4.5 Capacity development**

Luedeking and Williams (2003) state participation is not enough; people need the capacity to participate effectively. All three principals shared that local NGOs supported some selected schools of the districts to carry out DRR interventions. In their respective schools, the interventions such as school mapping, the development of a school safety plan, DRR-related workshops, training and ongoing meetings organised by schools helped to raise community participation in DRR in education. Their participation in such capacity development activities helped to activate the groups and inspired them to be involved in school safety. Participation in exposure visits, training and workshops help the community people to widen their understanding about DRR issues and take the given responsibility seriously. These opportunities for formal participation were appreciated by the community representatives, teachers and resource personnel. The school principal of study school 3 explains:

*Nepal Red Cross Bhaktapur unit has been supporting the school for a few years. Some NGOs have been also supporting the school and teachers to incorporate disaster management activities in teaching. Some activities were one-off. They have carried out DRM training for teachers, community people and students too. These*

*interventions also encouraged them to participate actively in disaster management issues. (PC1)*

Support received from the local NGOs for the school helped to raise student and community participation in DRR education. Selby and Kagawa (2012) state schools play active roles in delivering DRR knowledge and skills to local participants through getting the resources and technical inputs.

School committee members, parents and teachers realised the importance of the vulnerability and capacity assessment while conducting school safety mapping exercises. Their participation in such activities helped to widen their understanding about DRR. A community representative from study school 3 reports that ‘safety needs to come first in family, community, and school’ (CC1). Similarly, Shaw (2012) describes the importance of community participation in incorporating their perceptions of vulnerability and capacity in risk analysis and disaster management.

In the interview, the contact person of the DRR task force of the Association of INGOs in Nepal mentioned that it was because of INGO advocacy and lobbying that the Curriculum Development Centre has incorporated DRR in education. He says:

*Action Aid had carried out a DRR in education sensitisation workshop for some officials of the Curriculum Development Centre. This workshop helped to sensitise the relevant officials as to how important it is incorporate DRR-relevant lessons into the curriculum for disaster preparedness and mitigation. This sensitisation workshop was fruitful for the authorised body to realise the value of a DRR related content in a curriculum. Curriculum Development Centre realised the curricular gaps. Action Aid also provided resources and further expertise to develop a DRR education curriculum. (NA1)*

INGOs facilitation role in DRR education at global, national and local level is highly appreciated (Selby & Kagawa, 2012). The above quote explains how participating in the DRR education sensitising workshop influenced the Curriculum Development Centre to develop DRR education provisions in school education. DRR education- related lobbying and sensitisation events were found successful in advocating the inclusion of DRR into the national curriculum (Action Aid, 2011).

## 6.5 Challenges of participation

The data also describes some of the challenges of participation at various levels. These are presented briefly below.

### 6.5.1 Time and resources

Participation requires time and, therefore, participants need to allocate a considerable amount of time to participate in relevant DRR events in schools and community. Most of the community people are struggling with their daily living, and they think of their regular participation in DRR-related activities as a waste of time, since they can earn money if they use that time. The school principal of study school 2 explains the situation of the poorest people of the community:

*The school is looking for support to retrofit its building, most of the parents are poorest of the poor, and they do not even come to join the school meeting, they don't have time to come to school. (PSN1)*

It is very hard to ask these communities to participate in DRR intervention and give more time for meetings and visits unless it is fulfilling their basic needs. Solo, Godinot, & Velasco (n.d.) state bringing real community participation to risk management is a difficult task, it is a time and energy-consuming process. The quote also indicates that poverty is one of the major challenges to ensure participation in institutional and family level decision-making processes. Availability of the parents' time plays a significant role in carrying out such participation.

Public consultation is time-consuming, especially in rural areas, as it takes a long time for travelling. Gender roles also influence participation; since women need to accomplish most of the regular domestic chores, women's participation in DRR interventions is less than men's (Fothergill & Squier, 2017). The school principal from study school 3 mentions:

*Since School Management Committee and Parent Teacher Association members are busy they are sometimes not available to organise meetings....., women are busy with household management, they are not as flexible as men and cannot manage their time.... therefore, they rarely visit the school, normally male participants join the meetings and events at school. (PC1)*

Since most of the parents are from poor and marginalised communities, and they are adversely affected by the recent earthquake, all the parents cannot contribute cash, time and/or materials. They prefer to continue their regular labour work for earning rather than come to school to participate in DRR planning and capacity development activities. INGO representatives also mentioned the challenge of time constraint to the target groups' participation in DRR initiatives at the local level.

### **6.5.2 Expectations**

Another challenge for participation is the expectations people hold. Community members have different interests and motivations while participating in DRR-related activities. They expect more resources and input to carry out disaster management activities. It is difficult to meet the big expectations of the local community with the available limited resources. Such conditions may affect participation. The NGO actor says:

*Community members have various expectations, sometimes they are more concerned with other areas such as the provision of roads, drinking water and health facilities in their community rather than establishing safety at home and school. The availability of limited resources is not enough to address all the expectations.... Bringing all the community people together in DRR interventions is a difficult task. (NO1)*

In a disaster-prone context, there are many disaster preparedness and mitigation needs. The availability of limited resources in schools and communities to carry out relevant small scale DRR interventions are sometimes not enough to address all the expectations of the community. The provision of adequate financial and natural resources are the basic requirements for the successful implementation of community-based interventions (Blackstock, Kelly, & Horsey, 2007); insufficient resources may also hinder participation. A district disaster focal person reflects that the level of poverty of the community raises expectations:

*In some places, school leadership experienced the community people asking the school to get support from NGOs to fulfil their community needs, such as irrigation and road access, rather than organising a DRR rally and mass meetings. (OD2)*

It is difficult to engage local stakeholders in DRR education unless disaster management initiatives address their daily life- related issues. However, with limited resources, schools face challenges to address such needs and expectations.

### **6.5.3 Centralisation**

How stakeholders are invited to participate in disaster management is critical to the success of that participation (Pearce, 2003). Centralisation was also noticed as a challenge to ensuring participation in DRR education. More specifically, while discussing their role in DRR curriculum development, all teachers agreed that the curriculum development process is centralised. Teachers' engagement in curriculum development is not valued, and the current practice does not provide opportunities to put their experiences and suggestions into the DRR curriculum development and revision process. Similarly, school and community leaders also shared that the centralisation mechanism practiced in DRR education does not allow them to participate in curriculum development and its effective implementation.

School principals and most of the teachers shared that the DRR policy development, including curriculum development process, is more centralised and none of the respondents from the three schools got an opportunity to participate in the development process. All the teachers across the focus groups did not hesitate to share the truth that teachers were not participating in the curriculum development process. They mentioned that the curriculum development process of the country is more centralised and theoretical and local engagement is denied in the process. They pointed out that a central curriculum does not address local disaster issues. The community member from school 1 says: *“School curriculum was developed by the upper level. Nobody engaged at a local level” (CSI).*

Similarly, all three school principals expressed that they were not involved in the curriculum development process from the beginning. They attended the dissemination workshops and did not even get time to ask questions of the authorities. The principal of school 2 says:

*The curriculum was developed by Curriculum Development Centre centrally. I did not have any such involvement....the local issues were not addressed effectively and teachers and other stakeholders were also isolated. (PC1)*

The centralisation decision-making process is non-supportive in addressing the local needs. So decentralisation, in other words devolution – the transfer of the decision-making role to

local government (Ahrens, J. & Rudolph, P., 2006; UNISDR, 2010b), is the alternative to addressing such limitations. Local government initiatives in disaster awareness and planning need support from national government, NGOs and the private sector in order to address local needs. (Solo et al., n.d.). Maskrey (1989) points out the consequences of a centralised top-down approach without community participation i.e. the disaster interventions remain incomplete and such activities make them more vulnerable. In the newly- changed political context of Nepal, the federalism structure of decentralised authority seems to have the potential to address local disaster education issues.

## **Conclusion**

This chapter introduced the notion of participation in the DRR education area in Nepal. This chapter identified formal and informal mechanisms of participation in DRR education. Through the findings it is noticed that because of limited DRR education interventions at the national level, there is limited participation in the DRR education sector at local level. However, after the earthquake, to address the current needs of DRR education, the level of participation at national level seemed more compared to the local level. At the local level, since there are still gaps in mainstreaming the DRR education interventions in the national curriculum, systematic participation in DRR education was found to be weak. However, because of the support provided by local NGOs, some schools have gained opportunities to carry out DRR education interventions at school and community level. Therefore, despite limited DRR interventions carried out at local level, some groups have a rare opportunity to participate in DRR activities. Schools need systematic supports to integrate DRR education in their School Improvement Plan. A similar conclusion is also drawn by Tuladhar et al. (2013) in his study about the DRR knowledge among the school level stakeholders in Nepal. He finds that DRR education initiatives implemented at the local level in Nepal are not enough.

Wider participation in DRR education is a highly recognised area in global level strategies, however it seems to be more rhetoric than action. At a local level, disaster issues are still not the focus of school leadership and parents. In the community, families still seemed unaware of effective DRR education interventions through schools. Because of limited participation practices, schools and local people are still unaware of their role in disaster preparedness. A lack of DRR knowledge by the relevant stakeholders, low socio-economic status of parents and resource constraints at schools are some identified reasons behind this problem. The

study on the progress made by HFA carried out by the Global Network of Civil Society Organisations and the International Federation of Red Cross and Red Crescent Societies states that communities are still not effectively engaged in DRR decision making (IFRC, 2010). It was found that community members, local level line agencies, non-governmental DRR actors and national level policy makers highly appreciated the importance of active and meaningful stakeholders' participation in DRR education initiatives at various levels. Local level people also pointed out the importance of participation by local people, including teachers, in the DRR curriculum development.

## **Chapter 7 : Relevant DRR curriculum content**

### **Introduction**

This chapter describes the concept of providing relevant DRR content in the school curriculum. On the basis of the perceptions of DRR education stakeholders and analysis of the available curriculum documents, this chapter explains the nature of the current DRR content covered in curricula and textbooks, and provides suggestions to address the identified disaster-related issues in the school curriculum. This chapter argues that in a multi-disaster-prone context, DRR content should be integrated across various subjects in school curricula and would therefore be taught more widely and thoroughly. This more organised and holistic approach is essential to develop disaster and management knowledge, skills and attitudes. Furthermore, incorporation of local and contextualised DRR content in school curricula contributes to the establishment of the ‘culture of resilience’ in society in the context of Nepal.

This chapter begins with a discussion outlining why curriculum relevance is important in the education system. This is followed by an explanation of what should be included in relevant DRR curricula, split into four areas of disasters and management. Given that incorporating DRR content in an organised manner is an important area of relevant DRR curricula, a discussion follows, focusing on the existing DRR education content provision. This chapter also presents the possible solutions to address the identified content gaps revealed from data. The chapter concludes with what the data explains about the prescribed DRR curriculum.

### **7.1 Why is curriculum relevance important?**

A curriculum is a prescribed body of knowledge and methods to address the needs of learners (Block, 1998). A curriculum is essential for guiding the learning process. DeHart & Cook (1997) state that curriculum provision enables students to acquire the discipline’s specific knowledge, skills and attitudes. To provide useful learning experiences, the curriculum development process must be carried out in a systematic way (Taba, 1962). To develop an appropriate curriculum, Tyler (1949) outlines the four basic questions of curriculum development: What shall we teach? How shall we teach it? How can we organise it? How can we evaluate it? These guiding questions help to define the content, pedagogy, scope, and sequence organisation and evaluation areas of an educational plan. However, development of

an effective, relevant and useful curriculum is a challenging task (Beane, 1997; Frymier, 1998; Frymier, 2002; Muddiman & Frymier, 2009). McGee (1997) states the explosion of knowledge, which needs to be stated in a balanced way in the school curriculum, is one of the major issues faced by curriculum developers and teachers. As the curriculum guides the overall education process, it is therefore important to ensure its effectiveness and usefulness. Tanner and Tanner (2007) argue that addressing the nature and interest of the learner, the needs of the society, the interrelatedness of knowledge, the provision of theoretical and practical knowledge, and stakeholder involvement in curriculum decision-making process are all crucial to ensure such qualities. Doll (1993) suggests richness, recursion, relations, and rigour as the important aspects when making curriculum decisions relating to identifying and organising relevant curriculum content. Furthermore, development and implementation of curriculum strategies play pivotal roles for the effectiveness of the curriculum. The International Bureau of Education defines curriculum relevance as “applicability and appropriateness of a curriculum to the needs, interests and aspirations and expectations of learners and society in general” (<http://www.ibe.unesco.org>). Therefore, curriculum relevancy is more concerned with applicability and appropriateness.

The expansion of knowledge and the social and political context also play significant roles in making curriculum decisions. Brady & Kennedy (2014) explain that two major areas, ‘the action’ of designing, implementing, experiencing and evaluating the curriculum, and the context constraints of the social and political realities under which the curriculum is constructed, create tensions in curriculum development. Curriculum development involves taking into account the provision of applicable and useful knowledge for the learners that relates to why and how the learners should learn such things (McGee, 1997). It implies that any curriculum plan must be useful to learners through addressing their needs.

There are several approaches discussed in literature that focus on developing a relevant curriculum that can address these needs. One important approach is curriculum integration. It is helpful in delivering the required knowledge, skills and attitudes to address the individual, social, and political context. The provision of vertical/grade wise and horizontal/lesson wise integration of content across the curricula helps to deliver the required knowledge to the learners as per their needs and interests (see McGee, 1997; Frymier, 1998; Muddiman & Frymier, 2009). Simanu-Klutz (1997) states the integrated approach in curriculum development is helpful in blending knowledge in various subjects. It is also a helpful approach “to learning and teaching from a variety of world-views, strategies, and resources;

and the tapping of real-life situations for problem solving and critical thinking in the classrooms” (p.1). Thus, curriculum integration blends content knowledge from different disciplines around a common theme and provides proper learning opportunities to the learners. Drake & Burns (2004) point out that an integrated curriculum is about establishing connections across subjects. They explain that curriculum integration helps to ensure the accountability for students learning, ensuring relevancy that addresses the student’s concerns and sets the learning environment in a local context, ensuring rigour to help students with the best learning, and ensuring that no child is left behind in the learning process. Darke & Burns (2004) discuss multidisciplinary, interdisciplinary and transdisciplinary approaches in curriculum integration. According to them, in the multidisciplinary approach, the standards of the discipline are organised around a theme. An intradisciplinary approach to integration attempts to integrate the sub disciplines within a subject area, for example, integrating reading, writing and oral communication. Similarly, interdisciplinary integration relates to interdisciplinary skills and concepts embedded in disciplinary standards, whereas the transdisciplinary approach relates to organising real-life contexts in order to address the student’s questions and concerns.

## **7.2 What makes a DRR curriculum relevant?**

Education is an active means for social development and transformation. Therefore, education is linked either directly or indirectly with the events that may occur in society (Mutch, 2009). Since disaster management is one social issue, education provision also needs to address it through proper awareness to reduce the risks of the possible hazards that may occur in the community. Education is widely available in society; thus, it can be regarded as one of the best methods to prepare a community for disasters (Izadkhah & Hosseini, 2005). Macaulay (2007) states that the school curriculum is one of the best opportunities to prepare students for natural disaster events that may occur in their surroundings. He also elaborates that DRR education helps to establish a meaningful connection to the world beyond the classroom. Relevant DRR content in the curriculum helps to address the existing and possible DRR needs in local and wider communities.

To create an appropriate DRR curriculum, identifying, selecting and incorporating relevant content needs to be carried out in a systematic way. Selby and Kagawa (2012) explain three major approaches to incorporate DRR areas into the curriculum effectively. They suggest the

infusion or permeation approach, as the most frequently used one, in which the DRR themes and topics appear within the curriculum of specific school subjects. If DRR is integrated into a narrow band of subjects it is known as limited infusion, whereas holistic infusion can help overcome the narrowness of specific subjects by giving the student a range of different lenses through which to perceive and articulate DRR (Selby and Kagawa, 2012; 17). Petal & Izadkhah (2008) agree that infusion is a “comprehensive approach that distributes DRR content throughout the curriculum, using lessons, readings, activities and problems, enriching the existing curriculum rather than displacing it” (p.3).

Similarly, the selection of proper content to generate a new discipline is another useful approach of content selection and decision making in curriculum development. Since DRR is a newly emerging area, the dedicated subject approach can also be useful while organising DRR content and integrating these with related subjects such as sustainable development. However, it requires professional expertise to carry out these initiatives. UNISDR (2008) states infusion across the curriculum requires “high level policy commitment and guidance” (p. 26) and the dedicated subject approach requires experts and resources to integrate DRR in the curriculum. Similarly, a combination of the infusion and dedicated approach is also used in practice while developing DRR curriculum.

In addition, since one of the major aims of DRR education is to prepare individuals and local communities to cope with catastrophe (Benadusi, 2014), DRR education initiatives need to be linked with disaster prevention and preparedness, mitigation, response and recovery areas. DRR education in a wider sense covers school-based initiatives, community level mass awareness educational interventions, including the individual and families (Preston, 2012). As global initiatives of DRR education accept that DRR in education is important for the holistic school development, these initiatives advocate for the importance of, and need for, relevant DRR education. Thus, widening the curriculum provision through disaster preparedness, mitigation, response and recovery- related content is helpful to ensure a culture of safety. These relevant matters in DRR curriculum also link with preparing students for potential disaster and hazards. This gives opportunities for wider learning to understand possible disasters. Thus, wider DRR content in the school curriculum is also essential in developing students as active agents in the disaster management area in their family and society where they live.

The use of a participatory approach in curriculum development is helpful in identifying the relevant content which can address local needs, ensure that the resources needed for the effective implementation of the curriculum are available, and develop ownership. Benson & Bugge, 2008) emphasise the involvement of beneficiaries to identify the local threats and local context to make people aware of disaster management. Relevant DRR content provision in curriculum is essential for addressing the local context in formal and non-formal education opportunities. For such action, the bottom-up approach in DRR curriculum development is realised as an effective approach.

Furthermore, content related to the use of technology in the DRR area is a recently growing field, and students also need to gain opportunities to learn and experience such scientific initiatives in DRR areas. This type of content helps to make them aware of, for example, proper early warning systems. Using technology in education also provides opportunities for a global collaborative learning environment to foster global citizenship among children (Naya, 2009). Thus, proper DRR content in the DRR curriculum helps to link students' experiences with the scientific phenomenon of disasters, basic coping mechanisms, and the use of technology to understand disaster management effectively and efficiently.

### **7.3 What needs to be covered in DRR education?**

Ensuring proper DRR content is covered in the curriculum helps to enhance student capacity to cope with and understand disaster management. UNISDR (2017) defines disaster management as “the organisation, planning and application of measures preparing for, responding to and recovering from disasters”. This definition also incorporates the crucial role of relevant DRR education in preparing individuals for disaster response and recovery. Mulyasari et al., (2011) explain that education on disaster risks, mitigation and preparedness strategies help to reduce the negative consequences of disasters. Therefore, DRR education aims to deliver basic knowledge and skills about disaster mitigation, preparedness, response and recovery which are the four recognised phases in disaster management cycle (Noji, 2005; Godschalk, 1991; Mileti, 1999). Tierney (1989) explains that these four areas address the problems of disasters and management. United Nations (2015) also explains that the need and importance of DRR education relates to these four areas. Thus, in a broader framework, to develop a relevant DRR curriculum, it is important to incorporate appropriate DRR content addressing these four areas of disasters and management. A brief introduction to these four

areas of disaster management and the need for relevant content in DRR education provision is presented below.

### **7.3.1 Disaster mitigation**

Disaster mitigation initiatives are associated with the activities that help to reduce the effects of disasters. UNISDR (2017) defines disaster mitigation as “the lessening or minimising of the adverse impacts of a hazardous event”. Mitigation measures help to reduce the likelihood of a disaster occurring and the number of casualties (Izadkhah & Hosseini, 2005). Moreover, these actions aim to reduce disaster vulnerability and provide passive protection during disaster events. UNISDR (2017) identifies actions such as: provision and implementation of land-use regulations that help to reduce hazard exposure; development and implementation of building codes to protect structure from wind, water or seismic forces; and conducting public education to make the communities aware of disaster mitigation. Classifying the nature of mitigation measures, UNISDR (2017) states that actions dealing with reducing hazards and vulnerability are associated with primary mitigation measures, whereas actions relating to reducing the effects of hazards belong to secondary mitigation. These initiatives also help to determine active measures and passive measures to reduce the disaster risks and its effects. DRR education plays a significant role in carrying out both types of mitigation measures. Morrissey (2007) states that infusing disaster prevention concepts into various subjects in the school curriculum is crucial for preparing future generations. DRR education activities relating to participatory hazard identification and mapping, vulnerability analysis, risk analysis and disaster prevention measures, such as public awareness, contribute positively towards disaster risk mitigation. These disaster mitigation activities and measures help to avoid new and existing disaster risks (Izadkhah & Hosseini, 2005). Selby and Kagawa (2012) state that disaster prevention and mitigation- related content should be systematically treated across the curriculum and through the grade levels. They also point out that consideration must extend the basic science of hazards and safety measures.

### **7.3.2 Disaster prevention and preparedness**

UNISDR (2017) defines disaster preparedness as “the knowledge and capacities developed by governments, response and recovery organisations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters.” It encompasses actions undertaken before a disaster impact that enable a

community to respond actively when disaster does strike. Disaster preparedness actions include planning, public education and training potential service providers. The introduction of disaster preparedness and hazard reduction initiatives to a community contribute positively to reduce longer-term social and economic disorders caused by hazard impacts (Izadkhah & Hosseini, 2005). DRR education on the development of emergency response plans, the establishment of a warning system, conducting drills, exercises, and the provision of emergency equipment, supplies, and materials (such as tarpaulins, household kits, water purification tablets, shelter materials, cooking utensils and blankets) all play a significant role in establishing a disaster- resilient community. It is crucial to prepare institutions for organisational disaster preparedness and individuals for household disaster preparedness (Hodgkinson & Stewart, 1991). The disaster preparedness interventions reflect ongoing multisector activities, specifically: the development of a plan, coordination for risk analysis, implementation of rules and regulations, establishing proper communication mechanisms, effective public education initiatives, using news media to disseminate the news and information, and disaster simulation exercises. Similarly, it also consists of the actions that relate to capacity development including trauma and psycho-social care (Centre for Mental Health & Counselling, 2013). DRR education is crucial for students to develop disaster preparedness knowledge, skills and attitudes and demonstrate how to react in times of disasters (Twigg, 2003). These learning behaviours contribute to raising their disaster resilience capacities. Thus, disaster prevention and preparedness ideas in a school curriculum help to establish disaster- resilient communities.

### **7.3.3 Disaster response**

UNISDR (2017) defines response as "actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected". Disaster response activities during the disaster include public warnings, emergency operations and search- and- rescue. Based upon the crisis situation disaster response, actions such as mass evacuations, rescues and triage are essential for emergency response. Moreover, detecting threats, disseminating warnings, evacuating threatened populations, searching for and rescuing trapped disaster victims, and the provision of emergency medication, food and shelter, are common actions that need to be conducted in the disaster response stage (UNISDR, 2015). Morrissey (2007) states the provision of training for developing emergency response skills and plans to school and

families is one important educational measure in disaster management. Morrissey (2007) states in the case of landslides, schools use their efforts to clear debris and make a quick plan to reconstruct the physical facilities to allow students to go back to school. He further explains that disaster response- related DRR education prepares schools to activate emergency plans to shelter or evacuate pupils with minimal effects on individuals. Similarly, provision of first aid, care of the victims on the spot, identification of the dead, controlling communicable disease epidemics, water, hygiene, sanitation and waste management, and care of mental health actions are also linked to the disaster response area. DRR education opportunities contribute to enhance disaster response skills in individuals. Such opportunities also prepare young people to perform citizens' roles in the disaster situation. Moreover, such curriculum provisions create innovation and creativities in individuals in their response to the crisis for collaborative action (Mutch, 2015). Thus, DRR education curriculum provision also aims to achieve the society's aspirations through preparing responsible citizens who can help each other during and after the crisis situation.

#### **7.3.4 Disaster recovery**

UNISDR (2017) defines recovery as “the restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster-affected community or society, aligning with the principles of sustainable development and ‘build back better’, to avoid or reduce future disaster risk.” This definition informs us that disaster recovery relates to the activities following a disaster, such as long-term assistance for rebuilding to the affected community. Moreover, it is concerned with repair, rebuilding and reconstruction of the damaged properties and restoring normal community life, including addressing psychological wellbeing. Provision of water and sanitation, health and food, introducing measures for child protection, the management of education in emergencies, basic shelter and actions relating to humanitarian protection are some interventions that need to be carried out for proper disaster recovery. DRR education helps students to be aware of these disaster recovery actions. Moreover, such learning opportunities prepare them for better adjustment and allow them to develop coping capacities in a post-disaster situation. Similarly, such learning opportunities can also contribute to developing positive attitudes towards collaborative actions to re-establish normal community life.

Anderson (2005) suggests that the provision of disaster preparedness, mitigation, response and recovery- related content in the curriculum contributes to developing a student as an active DRR messenger. The following table (Table 8) shows the summary of the possible DRR content that can be incorporated into the school curriculum to address the global, regional and local disaster issues.

**Table 8: Possible DRR content for school curriculum**

Areas of DRR / disaster management	Possible relevant DRR content for DRR education
Disaster mitigation	<ul style="list-style-type: none"> <li>- land-use regulations that help to reduce hazards exposure</li> <li>- building codes to protect the structure from wind, water or seismic forces</li> <li>- conducting public education to make people aware of disasters and mitigation</li> <li>- hazards identification and mapping</li> </ul> <p>Vulnerability analysis</p> <ul style="list-style-type: none"> <li>- Risk analysis</li> <li>- Disaster prevention measures</li> </ul>
Disaster prevention and preparedness	<ul style="list-style-type: none"> <li>- DRR planning, including the development of an emergency response plan</li> <li>- introduction to early warning systems</li> <li>- management of emergency equipment, supplies and materials such as tarpaulins, household kits, water purification tablets, shelter materials, cooking utensils and blankets</li> <li>- Conducting drills, public education, training potential service providers</li> <li>-Training including trauma and psycho-social care</li> </ul>

Disaster response	<ul style="list-style-type: none"> <li>-Public warning during disasters</li> <li>-Emergency operation, search- and -rescue</li> <li>-Emergency medication, food and shelter</li> <li>-First Aid, care of victims</li> <li>-Water, sanitation and hygiene</li> <li>-Waste management</li> <li>-Mental health actions</li> </ul>
Disaster recovery	<ul style="list-style-type: none"> <li>-Collaborative action</li> <li>-Rebuilding – repair, rebuild and reconstruct</li> <li>-Ways of restoring community life</li> <li>-Health, nutrition and sanitation</li> <li>-Child protection</li> <li>-Emergency education/ continuing education</li> </ul>

(Source: Author’s illustration on the basis of the above literature)

Similarly, to incorporate DRR education provision into the school curriculum, Selby & Kagawa (2012) explain the five dimensions of DRR education. The first dimension relates to why, how and where the disaster may strike. Traditionally this content is covered in science and geography subjects, but Selby and Kagawa (2015) argue that there is need to extend the content. The second dimension relates to introducing students to the signs and signals of hazards, early warnings, and the dissemination of proper information for evacuation and sheltering provisions. The main aim of this dimension is to make students aware of essential health and safety measures during and after a disaster. The third dimension describes the needs of structural and non-structural safety- related content. Students need to be aware of the physical, social, economic and environmental reasons that may contribute to the increasing vulnerability of the community. Selby and Kagawa (2015) suggest that the social science

curriculum can include this content in a context- specific manner to increase DRR learning. The fourth dimension, understanding how to build resilience, relates to building the capacity of students to cope with potential disasters. Under this dimension, they suggest educating students about the use of proper methods and strategies for disaster mitigation, vulnerability assessment, development and implementation of resilience action plans, and practising participatory citizenship education while delivering DRR education. Under the fifth dimension, it is suggested that the DRR initiatives also need to make students aware of the active role of schools in DRR in the community to establish a culture of safety and resilience. In their research, Selby and Kagawa (2012) find that dimensions 3, 4 and 5 are less frequently and rarely addressed in a school curriculum. To address these dimensions, Selby and Kagawa (2012) suggest incorporation of relevant safe school initiatives, such as improvement in infrastructure, DRR policy development, publication of a school bulletin on DRR, and engaging students in school vulnerability assessment activities in the school curriculum.

The following table (Table 9) presents a summary of the identified DRR content by UNESCO & UNICEF (2014).

**Table 9: Potential DRR content proposed by UNESCO & UNICEF (2014)**

Dimensions	Suggested content areas
1 <sup>st</sup> dimension	<ul style="list-style-type: none"> <li>- Understanding science and mechanism of natural disasters – types, causes</li> <li>- Learning and practicing safety measures and procedures (pre-, during and post)</li> <li>- How do hazards become disasters?</li> <li>- How do we build disaster resilience?</li> <li>- Building a culture of safety and resilience (traditionally this content is incorporated into science and geography subjects)</li> </ul>
2 <sup>nd</sup> dimension	<ul style="list-style-type: none"> <li>- Introduction to the signs and signals of hazards</li> <li>- Early warning systems</li> <li>- Proper information for evacuation and sheltering provisions</li> <li>- Awareness of health and safety measures before and after</li> </ul>

	a hazard
3 <sup>rd</sup> dimension	<ul style="list-style-type: none"> <li>- Context-specific content: Structural and non-structural safety</li> <li>- Reasons of vulnerability (physical, social, economic, environmental)</li> </ul> <p>(traditionally social science subjects can contain this content)</p>
4 <sup>th</sup> dimension	<ul style="list-style-type: none"> <li>- Building capacity in DRR areas to cope with potential disasters</li> <li>- Strategies for disaster mitigation</li> <li>- Vulnerability assessment</li> <li>- Development of resilience</li> <li>- Participatory citizenship education</li> </ul>
5 <sup>th</sup> dimension	<ul style="list-style-type: none"> <li>- Role of schools in DRR</li> <li>- Relevant safe school initiatives – improvement of structure and facilities</li> <li>- School vulnerability assessment</li> <li>- DRR plan and policy development</li> <li>- Evacuation plan</li> <li>- Establishment of a culture of safety</li> </ul>

(Source: UNESCO & UNICEF, 2014, p. 11)

All these dimensions are crucial to making pupils aware of DRR. However, comparing these with the four areas of disaster management there are still very limited ideas relating to recovery and response. Thus, in a wider sense, DRR education opportunities must prepare learners for all aspects: disaster preparedness, mitigation, response and recovery issues.

### **7.5 What is the current situation?**

Documents such as textbooks and curriculum are analysed, and stakeholders' perceptions are examined in order to find out to what extent the DRR content meets the actual social and individual needs in the following section.

## **7.4 Stakeholders' perceptions**

Interview data show that understanding the incorporation of relevant DRR content in existing school curricula is viewed differently by different research participants. The national level participants shared that the basic ideas about DRR are now incorporated in the school curriculum, whereas most of the local level research participants pointed out that the current school curriculum is not DRR- sensitive. It lacks the provision of a wider sense of disasters and management, and does not even provide knowledge to link student experiences to context-specific hazards and their mitigation, preparedness, response and recovery.

The interview data related to the provision of the DRR curriculum and its practices are analysed and presented under the four main areas of disaster management. Similarly, the five dimensions of the DRR curriculum model discussed by Selby and Kagawa (2012) are also considered while analysing the provision of DRR content.

### **7.4.1 Provision for disaster mitigation**

All of the participating schools in this study indicated that the existing disaster mitigation-related content presented in the school curriculum and relevant textbooks is limited, and is still not enough to address the school's needs. National and local level participants pointed out the content and pedagogical gaps in addressing disaster mitigation support, including disaster awareness. Research participants were concerned more about the provision of disaster awareness learning opportunities provided to the students. Most of the primary level teachers mentioned that there is very limited disaster awareness content in the curriculum and few relevant textbooks at primary level. For example, one of the primary teachers from school 2 indicates:

*Specifically in primary level curriculum, there is very limited disaster- related content and it is not enough to raise disaster risk reduction awareness. (TC1)*

Raising awareness about disasters is one of the major areas of disaster mitigation; there needs to be proper public education in order to make individuals aware of disasters (Clerveaux, Spence and Katada, 2010; Izadkhah & Hosseini, 2005). A similar view regarding lack of disaster awareness was also shared by another female primary teacher from study school 1. She says,

*There is no disaster-specific content given in the textbooks up to grade three. An introduction about the sun, earth, environment, and pollution are given in the social studies curriculum of grade three but nothing specific about disaster mitigation, preparedness...is given in Science, Social, Nepali, Maths, or English...how can our students learn the basic ideas of disaster risk reduction? (TS1)*

A DRR subject expert from the Curriculum Development Centre shares:

*From a recent study, we realised that there is rarely any DRR -related information presented in primary level curricula and textbooks, we need to address such gaps soon. (OCI)*

Current DRR education in the primary school curriculum is limited and lacking basic information relating to disaster mitigation and awareness. Curricula and text book analysis results also show that there is very limited DRR information presented in some lessons of social studies at primary level. Since awareness raising is the core part to all disaster mitigation initiatives, it is important to integrate DRR concepts into children's activities from early grades (Izadkhah & Hosseini (2005).

Teachers from upper grades, like those from primary levels, pointed out that the lower secondary and secondary level school curriculum also did not address disaster awareness-related content properly. One female lower secondary level teacher from school 2 states:

*In the lower secondary level, basic information about some natural hazards such as earthquakes, storms and wind are included in the social studies curriculum and textbooks, however information relating to current DRR policies, roles and the responsibilities of local authorities in disaster mitigation are not included. Nothing about DRR is included in maths, English and Nepali subjects. (TS1)*

The recently revised secondary level school curriculum also lacks DRR content and adequate information about disaster mitigation, and awareness raising is not included. It also shows that DRR content is not integrated with other learning disciplines, and that, as in the primary level curriculum, the lower secondary level curriculum is still not comprehensive enough to introduce students to the local disaster context and disaster management mechanisms.

Secondary level teachers argued that the revised secondary school curriculum attempts to introduce some disaster topics such as tsunamis, volcanoes, and tornadoes which are not

relevant in the context of Nepal. The secondary curriculum still lacks the relevant and contextualised DRR information and skills to prepare students for disaster mitigation measures. The school principal of study school 2 states:

*At secondary level, the DRR content is still not enough and is presented haphazardly, therefore it seems less effective in raising awareness of disaster mitigation measures to students. This content is mainly descriptive. Students also need to learn about how they can contribute to mitigate the disasters and its consequences. Current provisions do not seem appropriate to address all areas of disaster management with respect to our geographical context too. (PCI)*

Similarly, the school principal from study school 3 pointed out that DRR-related content is not incorporated and organised effectively in lower grades. He states:

*In grade nine, geography contains some natural hazard -related lessons such as plate movement, tsunamis, volcanoes and hurricanes but these disasters do not occur in Nepal, ... disaster lessons need to be context-specific, .... a brief introduction to such natural hazards is enough. Mitigation measures for earthquakes, landslides, flooding, fire, heat and cold waves, avalanches and storms, which are quite common in the context of the country, are not addressed properly. (PSNI)*

Furthermore, secondary level curriculum is also not enough to address the DRR educational needs of the students. These quotes illustrate that the recently revised secondary level curriculum is also not seen as comprehensive enough to address the mitigation measures, including proper awareness about identified common natural hazards that occur in the country. Students can take a proactive role in understanding risks and minimising the impact of disasters and if they are educated well, they can work as a good channel for transferring DRR ideas and skills to families (Izadkhah & Hosseini, 2005; Ronan et al., 2008).

Provision of relevant DRR education also benefits parents and the wider community. Such content contributes to raising public education, thus making students and community people aware of disasters and mitigation measures (Petal & Izadkhah, 2008). Since students play an active DRR messenger role, such content empowers them to deliver DRR knowledge effectively. For example, although there are very few DRR lessons given in the textbooks, people in the communities realised that this content helped them to gain the basic ideas about

DRR issues. Parents also pointed out that the existing school curriculum does not include enough information about the potential disaster risks and their mitigation.

One of the parents from study school 1 says:

*While our children learn about fire, floods and landslides from their books, we think they are learning about disasters. Such provisions are relevant to us, we are also learning from them, but there is not enough information given, there are some pictures of flooding and landslides given in some text books, which is good. However, it is very important to be aware of potential disasters too such as lightning and earthquakes. (CS1)*

Even if there is limited DRR information relating to disaster awareness and mitigation in school textbooks, parents, students and the wider community find this limited information helpful. This quote also expresses the concerns raised by parents about preparing their children for every potential disaster. Petal & Izadkhah (2008) suggest that formal and informal DRR education provisions through schools are essential for preparing communities for disaster mitigation. The goal of an educational system for school level students is preparing them not only to respond to natural disasters but also equipping them to plan for the mitigation of the consequences (Morrissey, 2007).

#### **7.4.2 Provision for disaster prevention and preparedness**

It is hard to manage disaster, but the disaster risk reduction initiatives can be helpful in minimising risks. Giving students a practical, life skill- based DRR education can help to prepare them to reduce such risks (Selby and Kagawa, 2012). Disaster preparedness skills are essential in order to handle potential hazards. Such learning opportunities also help to develop safety and disaster resilience capacities. A lack of disaster preparedness activities may lead to several problems during disasters and afterwards (Izadkhah & Hosseini, 2005). If the community is well prepared and can reduce disaster risks then there is likely to be less disaster loss (UNISDR, 2015). Disaster preparedness is critical in the context of the multi-hazard- prone situation of Nepal. Various DRR actors, including the government of Nepal, realised the importance of DRR education and have given it value in recent years (Action Aid, 2011). Most of the national level research participants agreed with the current curriculum attempts to address disaster preparedness- related needs. The officer from the Curriculum Development Centre argues:

*DRR is a newly introduced concept in the curriculum. We have introduced some DRR preparedness concepts into the existing curriculum; disasters and its management are described briefly in some lessons. Recently we incorporated DRR and Climate Change lessons in our grade 9 and 10 curriculum. There are quite a few topics in the grade six to eight curriculum. (OC1)*

There are some initiatives carried out to introduce disaster preparedness in the school curriculum. During the field visit it was observed that schools are getting partial assistance from local NGOs to carry out some identified disaster preparedness initiatives in schools, and are mainstreaming these in the school curriculum. For example, with the help of local NGOs, the three schools which participated carried out earthquake drills once a year and developed preparedness plans. However, the schools realised that these are one-off events and not enough to develop the required disaster preparedness competencies for students and communities.

A lack of adequate DRR preparedness learning opportunities at school and community contribute to increasing disaster vulnerability at a local level (Mulyasari et al., 2011). The interview data shows that there are very limited disaster preparedness-related provisions given in the existing school curriculum. It is argued that conducting one-off events are just not enough to address the local and national disaster issues. Schools need to mainstream DRR activities on a regular basis, and for this schools need further assistance to carry out an active role in disaster preparedness in the community. A local NGO representative states:

*Nepal is in 20<sup>th</sup> place as a disaster-prone country in the world, 11<sup>th</sup> position on earthquake risk, 4<sup>th</sup> on climate change, 30<sup>th</sup> on flood. We are surrounded by the possibilities of disasters; the current school DRR initiatives and the curriculum are not enough to address the disaster issues, there are very limited disaster preparedness initiatives carried out by schools and limited lessons presented in textbooks. (NO1)*

Disaster preparedness is still not valued significantly in the education sector. Schools are not well prepared to address the multi-disaster-prone context and vulnerabilities. Existing DRR education initiatives carried out by schools are not enough to address the needs of local communities and the country.

The provision of DRR learning opportunities in schools also contributes to preparing the wider community for disaster preparedness and to cope with a disaster situation. Significant

numbers of the parents seemed to be unaware of the existing DRR curriculum, and some of the parent representatives shared that there are very limited DRR learning opportunities available for students and people of the community at a local level. One of the parents from school 3 describes:

*We don't know what exactly is written in the curriculum and textbooks about DRR, but we know that it is a very important area. How can we send our children to school if it is not safe and secure? It is important that we all need to know about the possible disasters to cope with the situation. (CSN1)*

The community people are isolated from the curriculum development process. However, they are still very concerned about school and child safety issues. It is a school's responsibility to assure the parents that the school facilities are safe and the school is committed to looking after children appropriately.

Children are agents of change; they can deliver basic DRR knowledge and skills to family and the community if they get the opportunity to learn DRR at school (Brown & Dodman, 2014). Children can play a significant role in responding to disasters and warning others of impending threats (Ronan, 2008; Peek, 2008). For instance, a 10-year-old girl, Tilly Smith, who had learned about tsunamis in her geography class, saved dozens of lives when she noticed the signs and signals while visiting the coast of Thailand in 2004 (Owen, 2005 cited in Peek, 2008).

In the context of a lack of DRR awareness in the community, the school can play a significant role to make parents and community members aware through incorporating DRR initiatives into the curriculum. All the research participants pointed out the importance of engaging students in regular drills to make them aware of, and well able to cope with, context-specific possible disasters. People of the community from the study schools also realised the importance of providing regular drills in school. They shared that their children taught them the earthquake drill which they found helpful during the recent earthquake. One of the parents from study school 1 describes the importance of the provision of disaster preparedness activities in the school curriculum:

*Our children have shared the ideas of duck-cover-hold to protect ourselves during an earthquake. We realised that if children learn effectively in school, they can use the*

*learning everywhere. Such disaster preparedness activities are helpful in preparing them for the disasters and in developing possible disaster prevention skills. (CS1)*

Relevant disaster preparedness activities carried out in school are helpful in developing disaster prevention skills for students and community (Shaw et al., 2011). In conclusion, disaster preparedness-related initiatives in the school curriculum are important for making people aware and preparing them to cope with the possible disasters. Disaster preparedness is given the greatest importance among the four areas of disaster management; nevertheless, the existing content provision in curriculum and textbooks is still not inadequate. The curriculum and textbook analysis results also show that textbook lessons are more focused on disaster preparedness areas compared to other phases of disaster management. Such a situation suggests that more disaster preparedness actions need to be carried out through community collaboration.

#### **7.4.3 Provision for disaster response**

Disasters can create a worse situation if they are not managed properly (UNISDR, 2005; Baker & Refsgaard, 2007). People, especially from the vulnerable groups, may face various challenges in a post-disaster context. Disaster-affected children are vulnerable to various mental health issues (Peek, 2008; Peek and Richardson, 2010). Most of the research participants have shared some difficulties, such as getting proper shelter, rescue, and rehabilitation, including suffering from psychosocial problems, that they have encountered after the earthquake. Schools were officially closed for 37 days; however, being a part of the community, school teachers were involved in response initiatives. Teachers from the three study schools mentioned that it was a very hard time for schools to manage the circumstances after the great earthquake of 2015. For example, the school principal of study school 3 pointed out that the existing secondary level curriculum does not address how students can contribute to disaster response areas.

Most of the teachers mentioned that the existing school curriculum lacks disaster recovery-related content that can help to develop post-disaster knowledge and skills to students. Content such as psychosocial support to disaster victims and lessons related to coping with the disaster stress are not delivered in any level of education. Moreover, they felt that the current DRR lessons are more theoretical, descriptive, and less realistic, and hence not effective in making a positive change to student behaviour. Some teachers shared their stories

during the interview time. For example, one of the secondary level teachers of school 2 shares:

*After the earthquake, students trusted the messages and rumours which they had heard from others that another quake would come this time tomorrow ... but they did not even trust their teachers, ...they seemed to be more stressed, fearful and unhappy, we have tried to convince them that it is not possible to predict an earthquake but they did not put their trust in us. (TC3)*

The existing school curriculum does not cover the wider and more useful information to help students to overcome such disaster rumours. Similarly, it indicates the unavailability of post disaster syndrome- related information in the curriculum, which is crucial to making pupils aware of how to have a healthier recovery.

Clear and concise DRR messages, such as those of the International Federation of Red Cross and Red Crescent (called “key DRR messages”) published in 2013, are helpful in raising awareness about disaster issues for learners. It is important to incorporate these messages in the textbooks and other available DRR learning resources. Most of the teachers responded that the DRR content presented in the existing curriculum and textbooks does not follow the standards and lacks consistency. They argued that given DRR messages seem short, unclear and poorly contextualised. Ronan et al., (2008) and UNESCO (2014) describe the importance of “key DRR messages” and its consistency over the available learning resources. Petal & Izadkhah (2008) state the availability of printed materials such as posters, pamphlets and signage are important ways to share DRR messages at a local level.

A secondary level teacher from study school 3 mentions:

*A few days after the earthquake, DRR messages were disseminated by radio and TV which were helpful. The Department of Education and Curriculum Development Centre added school safety and disaster management related national objectives in the national curriculum....after a month District Education circulated information to carry out post-disaster relief activities in school. Various NGOs came and assisted schools to carry out different activities such as trauma healing, educational materials distribution. These all encouraged school and community to carry out relevant activities for children at a local level; however, not all disaster-affected schools*

*received the support equally, some schools are still not aware of what to do after disaster strikes. (TS3)*

The national level school curriculum had not given importance to disaster response before the earthquake. Since schools were not well informed about disaster response initiatives, it was observed that there was confusion about what to do to respond in the post-disaster context. The collaboration and coordination among like-minded organisations played a significant role in disaster response and recovery phase at the local level.

Most of the schools in Nepal are vulnerable to disasters (Shiwaku et al, 2008; Tuladhar et al, 2013). Most of the school buildings are not earthquake- resistant (NSET, 2011) and schools are vulnerable to local level small scale disasters (Shiwaku et al, 2008). Development of local DRR curriculum and its implementation is essential for addressing the local disaster context. The Curriculum Development Centre has allocated 30% of the local curriculum provision at primary level (Government of Nepal, 2005). However, various reports explain that the local curriculum provision is not yet carried out effectively by schools (CERID, 2005). Curriculum Development Centre records shows that some organisations, for example UNICEF in Dhadeldhura, and Plan Nepal in the Rasuwa district, developed a local DRR curriculum. However, the implementation of such initiatives is still not carried out. In the context of Bhaktapur, a District Education Officer notes that local DRR curriculum helps to unpack local disaster issues:

*Addressing local disaster issues in the local curriculum is important; it provides a great learning opportunity to understand the local context. However, still no schools of the Bhaktapur district have developed their local curriculum to address local disaster issues. (EO2)*

Such content also contributes to preparing pupils for effective disaster management. For example, schools which are vulnerable to floods can develop such a concept and prepare students for effective mitigation, preparedness, response and recovery.

Describing the current status of local curriculum provision in the country, a representative from the Association of INGOs says:

*Local curriculum provision and policy are there. These provide for the incorporation of local language, culture and other local needs in the school curriculum. However, schools still do not value DRR, teachers are not confident in developing such a*

*curriculum and most of the schools prioritise other subjects, such as additional English, in a local curriculum. (NA1)*

Since DRR is a neglected area in education and the schools themselves are not confident enough to develop the local DRR curriculum, and also because of the parents' expectations, there is less chance to introduce local DRR to the curriculum.

#### **7.4.4 Provision for disaster recovery**

Educating people about ways to restore community life in a post-disaster situation is one of the major roles of education. The interview data suggests that the existing school curriculum has comparatively less content for this area than the other areas of disaster management.

The District Education Officer expressed that with the help of the subject experts, the Curriculum Development Centre has incorporated DRR education into the school curriculum; however, it is not adequate for preparing students for disaster recovery. On the basis of the recent experience of earthquakes and floods, he has pointed out that the current curricular provisions are not enough to address the disaster response and recovery needs. He explains:

*There are very limited disaster recovery issues in the school level curriculum, comparatively there are more DRR issues presented in the secondary level curriculum but there are still some gaps at lower levels, ...there is provision for curriculum revision, it is important to revise it soon. (OE1)*

One of the School Management Committee members of study school 2 also notes:

*There are some lessons on disasters in textbooks, but these lack dissemination of relevant knowledge and skills for disaster recovery. The contents are not adequately addressing the issues such as health and safety after a disaster situation. (CCI)*

The existing school curriculum and textbooks do not provide opportunities for students to learn about recovery from disasters. Organised DRR content addressing major areas of disaster management is helpful in developing DRR skills and abilities (Shiwaku, et. al, 2007). Because of limited funding for DRR education and the lower value given to DRR activities in schools, most of the schools were not well prepared to face the recent earthquake both emotionally and physically (MoHA, 2016).

Most of the local level research participants shared that they had never imagined and expected such a severe disaster situation before. They shared that it revealed a feeling of unity; sharing each other's burdens and helping each other are the fundamental things they have experienced which helped them to overcome such a difficult situation. School and community people worked together to provide relief for such a situation. One of the primary teachers from study school 2 shares:

*We were very happy to share so that our school buildings were used by community people. For those who lost their property for more than a month, the school provided shelter to them in a difficult time. (TC1)*

Specifically, the above quote reflects a school's roles in the disaster response and recovery process. During the field visit it was observed that the school buildings were partially destroyed by the current earthquake. If school buildings are structurally strong, in a time of crisis these become temporary homes for disaster-affected people (Shaw et al., 2011, UNISDR, 2005). In the context of Nepal, some previous studies show that because of a lack of disaster awareness, most of the school buildings are structurally vulnerable and hence not convenient to use as temporary shelters during a disaster (National Society for Earthquake Technology, 2008; Tuladhar et al., 2013).

The current school curriculum seemed insufficient to prepare school families to respond and recover from the disasters. One of the Parent Teacher Association members from study school 1 states:

*We experienced various challenges after the earthquake struck...we were stressed, felt isolated, disappointed ....it was a very hard time... our school curriculum neither taught how to carry out first aid, immediate rescue, and disaster recovery actions nor provided ideas about what to do immediately after a disaster to make him or herself and others safe. And how should we tackle the emergency situation? (CSI)*

Preparing students for disaster recovery is highly important to motivate them to continue their education and help them to overcome the stress, anxieties and other psychosocial disorders. Based on the current experiences of mega-disaster, the above quote expresses that the current practices to enable students for better recovery are not sufficient. It also suggests that there are not enough learning opportunities in the school curriculum to empower students in disaster preparedness, mitigation, rescue, recovery and rehabilitation.

Children can also contribute positively to responding to disasters (Towers et. al, 2014). School leadership needs to develop their capacities and provide relevant training to shape disaster responding skills. A local NGO representative shared that the Junior Red Cross Circle performed well in responding to, and recovering after, the earthquake in 2015. Similarly, actions carried out by children's clubs, after the disaster situation, seemed positive in three study locations. The school principal of study school 2 shares:

*Child club members played an active role in communicating important post-disaster messages to students, they also helped the organisations while they distributed relief supplies in the school and community. (PC1)*

Similarly, one of the secondary school teachers from study school 1 shares:

*After the disaster when the school opened, we have encouraged children to be patient and relaxed. We have increased their engagement in activities to get them out of the fear and stress from the earthquake. Child club members are encouraged to assist their teachers while conducting extra-curricular activities, such as drawing, writing, entertainment activities (such as dance and sharing jokes), peer counselling and caring for children of earthquake-affected families. (TC3)*

Children can play crucial roles in pre and post disaster situations. DRR- related content must empower children for their active role in the disaster management cycle. The curriculum needs to provide DRR curricular and extra-curricular activities in school curricula which are essential in empowering children in risk reduction areas. Peek (2008) explains that if children are educated well and given proper DRR learning opportunities, they may have practical and creative ideas to help families and communities to recover from a disaster. Since disasters put negative consequences into the space where children play, live and enjoy (Petal, 2008), there needs to be a child- friendly approach to educate and empower them to participate in the development of a good recovery plan.

In conclusion, the research participants pointed out the content-specific gaps in the DRR curriculum in addressing the possible disasters and management that may occur in the three ecological belts of the country. The DRR content is more related to disaster awareness and preparedness; comparatively, disaster response and recovery ideas are somewhat lacking in the curriculum. Considering the five dimensions of DRR education suggested by Selby and Kagawa (2012), the interviews data suggests that the existing DRR education curriculum in

Nepal is quite narrow and insufficient to address the needs. The curriculum and textbooks are more focused on the first two dimensions; however, with the help of local NGOs some selected schools had the opportunity to address a few activities that belong to the other remaining dimensions. It is not always possible to mention all the areas in the prescribed curriculum; however, the curriculum must assure teachers and students of its importance and give hints about further learning resources.

#### **7.4.5 What is mentioned in DRR education related documents?**

I have analysed some of the available national level documents related to DRR and disaster management sectors. INEE (2010) states the importance of national laws and policies in managing proper DRR education and continuing education during crises and emergencies. In order to address the broader disaster needs, the prescribed DRR curriculum, national policies and other curriculum documents must be interrelated. In the context of Nepal, a relief and response focused act, the Natural Calamity (Relief) Act, was introduced in 1982 and was the first legal document of Nepal in this area. To replace this act, the parliament approved the Disaster Risk Management Act in 2017; it was tabulated in 2012. It addresses most of the common disaster management and DRR issues of the country; however, it does not contain much about climate change- related disaster management. It suggests the formulation of relevant educational policies to reduce disaster- related risks in schools and communities. The Ministry of Education is now in the process of developing the education sector policy and strategic action plans (Ministry of Education, 2015 & Ministry of Education, 2016).

The National Strategy for Disaster Risk Management (2009) is a widely accepted document which enforces DRR activities in the absence of supportive legislative context (National Society for Earthquake Technology, 2009). After its implementation, a DRR focal person in relevant ministries, departments and local level government agencies was instated, and it also assisted in the development of their disaster management plans. The National Society for Earthquake Technology took the lead role to develop the National Strategy for Disaster Risk Management in 2009, which also identifies DRR as a national and a local priority. Under the priority action 2, better knowledge management for building a culture of safety addresses education. The following table (Table 10) shows the guidelines mentioned.

**Table 10: Strategy activities to mainstream DRR in education in Nepal**

Strategic activity	Description
12	Develop/modify the National Policy on education and implement it so that it gives recognition to schools as important centres for promoting disaster awareness
13	Implement disaster education
14	Develop curricula on DRR training for different target groups and implement training programmes for all stakeholders
15	Develop and implement a comprehensive national programme for disaster awareness
16	Develop plans, programmes and facilitate the use of mass communication media for dissemination of information on disaster risk and risk reduction
17	Develop/strengthen and encourage awareness raising programmes on DRM at the local level
18	Encourage and support NGOs, CBOs and other stakeholders in developing and implementing awareness raising programmes on disaster risk reduction and preparedness.

(Source: The National Strategy for Disaster Risk Management, 2009)

These guidelines are helpful in introducing DRR education in the school curriculum; however, various reports point out that the current school curriculum is not comprehensive enough to address these strategic activities, thus there is a need to update school curricula to reflect risk assessment, including hazards, exposure and vulnerability (Practical Action, 2017).

After the Government of Nepal showed its commitment to the Hyogo Framework of Action, the Curriculum Development Centre incorporated DRR issues in the national school curriculum in 2007 (MoHA, 2009). The National Society for Earthquake Technology (2009) points out that the existing natural hazards- related content in the textbooks of science, social

studies and some other subjects aim to deliver the physics of the hazards and is not focused on how to reduce disaster risks and keep safe from hazards. To address such gaps suggested by the National Society for Earthquake Technology (2009), the Curriculum Development Centre revised the primary curriculum in 2010 and the secondary level curriculum in 2013 (Government of Nepal,2010a); however, it has still not carried out any evaluation study to identify the effectiveness of the DRR education provision. On the basis of the four areas of the disaster management cycle, I have analysed the existing primary, lower secondary and secondary level curricula. The following table (Table 11) shows a brief analysis of the incorporation of DRR education in various subjects in the existing school curriculum and textbooks.

**Table 11: DRR content in various learning subjects in school curriculum in Nepal**

Subject areas	Content	Addressing area
Nepali	There is not specific content dealing with natural hazards, climate change and risk reduction given in the Nepali curriculum and textbooks.  At primary level there are a few figures, words and sentences incorporated in some lessons	Disaster awareness
English	Nothing included about natural hazards and risk reduction areas directly in the English curriculum and textbooks.	
Mathematics	The Mathematics curriculum and textbooks do not deal with any DRR education areas	
Social studies and creative arts (Primary level)	Limited concepts relating to natural hazards, floods, landslides, fire, earthquakes and accident are provided (grade 4 and 5).	Disaster awareness  Disaster prevention and preparedness  Disaster response  Disaster recovery

Science and environment (Primary level)	There are some lessons that directly relate to DRR and climate change issues (grade 4)	Disaster awareness
Science and environment (Secondary level)	The topics of environment, earth and space include some lessons on natural hazards: floods, landslides, soil erosion, fire, earthquakes, volcanoes, cyclones, glacier lake outbursts, what to do pre-, during and after a disaster (grade 8, 9, 10)	Disaster awareness/ mitigation  Disaster preparedness  Disaster response
Health and Physical education (Primary level)	There is some direct and indirect DRR- related content presented in Health and Physical education textbooks and curricula	Disaster awareness
Health, Population and Environmental education (Secondary level)	Floods, landslides and soil erosion (grade 6)  Earthquakes, cyclones, floods, landslides, soil erosion (grade 7)  Environmental degradation and the consequences of floods, landslides and soil erosion (grade 8)  Introduction to risks, the concept of safety education (grade 9)	Disaster awareness      Disaster mitigation

(Source: Author's illustration on the basis of revised national school level curriculum)

The above table (Table 11) also shows that DRR content is introduced mainly in science, geography, social studies, health and physical education, and population studies courses in school education in Nepal. There is very limited natural hazard and disaster-related information present in the primary level curriculum. The content does not seem organised, and it also lacks horizontal and vertical balance among the textbooks. For example, new DRR ideas are introduced in grade 9 but not continued in the grade 10 curriculum. The emphasis of

the curricula and textbooks is on the application of DRR concepts; however, the curricula lack the proper integration of DRR content with the learning subjects. Bearing in mind the four areas of disaster and management, the secondary level curricula and textbooks include some disaster mitigation, prevention, awareness raising and preparedness concepts but are still lacking in their ability to address disaster response and recovery areas. Similarly, on the basis of the dimensions described by Selby and Kagawa (2012), the existing school curricula and textbooks provide very limited information. The interviews data also shows that the current DRR curricula and textbooks are not well organised and are unable to address the essential areas of disaster management properly.

The Curriculum Development Centre has also developed teacher guides to help teachers to teach these subjects. From the analysis of the available teachers' guides, it is observed that the teachers' guides mainly address the disaster awareness and preparedness areas and they do not cover disaster response and recovery areas.

In 2012, the Curriculum Development Centre developed a disaster management and emergency education student learning resource. It is a small book that presents five lessons which cover disaster management and emergency education, earthquakes, floods and landslides, fire and epidemics. These lessons are very general and informative and so are useful for raising disaster awareness for the students and community. However, they do not present wider DRR knowledge in a local context. Brown and Dodman (2014) suggest there is a need for integration of DRR learning content in the local and national level curriculum (p.16). Proper integration of DRR content in the local and national curriculum helps to address the overall disaster context of the country. During the field visits, it was observed that teachers, school principals and District Education officials were not aware of this material. After the Gorakha Earthquake 2015, UNESCO helped the Curriculum Development Centre to develop resource materials on disaster management to address the current needs of DRR content that is lacking in the secondary level curricula and textbooks. The following table (Table 12) shows the areas of DRR education presented in these resource materials.

**Table 12: DRR learning resource**

S.N.	Areas
Part 1: Disasters	Introduction, types, causes of disasters and ways to keep safe from disasters

Part 2:  Disaster Management	<ol style="list-style-type: none"> <li>1. Introduction to Disaster Management,</li> <li>2. Legal and other policies discussing disaster management aspects of the country,</li> <li>3. Disaster management cycle,</li> <li>4. Various types of disasters and their management: Earthquake, tsunami, volcano, flooding, fire, avalanche, debris flow, storms, landslides, cyclone, drought, cold wave, heat wave, lightning, epidemic, acid rain, ozone layer depletion, attack by wild animals</li> </ol>
Part 3:  Disaster preparedness plan	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Planning steps</li> <li>3. Implementation of plan in crisis/ emergency</li> </ol>
Part 4:  Emergency Education	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Objectives of emergency education</li> <li>3. Importance of emergency education</li> <li>4. Structure of safe school</li> </ol>

(Source: Curriculum Development Centre & UNESCO, 2015)

This resource material is helpful for providing learners with the basic ideas of disaster management. The lessons are presented briefly to make the learners aware of various disasters; however, similar to the previous learning resource, this information is not enough to address the four areas of disaster management. It also lacks information about disaster response and recovery. It is also noticeable that there are still gaps in addressing the contextualised disaster issues in most of the lessons. Although the Curriculum Development Centre published this resource in 2015, it was not available in any of the study schools which are quite close to the Curriculum Development Centre. This situation implies that the schools situated in the remote areas of the country may not have easy access to such resources.

## 7.5 What are the proposed solutions?

One of the major indicators of a good quality curriculum is the provision of high-quality content that is relevant, demanding, well-organised, balanced and integrated (UNESCO,

2016, p.17). The content of the curriculum can be deemed useful when it addresses both local and broader issues and needs. Research participants shared their views on the gaps that they identified in the existing DRR education curriculum both in content and delivery. The stakeholders' perceptions and suggestions to enrich the content in DRR curriculum are presented below.

### **7.5.1 Needs for wider DRR content**

The national curriculum framework should ensure relevant DRR learning opportunities to students (UNISDR, 2005). Thus, provision of appropriate and relevant content in curricula and textbooks is essential for DRR education. Most of the research participants argued that the existing school curriculum does not properly address the common hazards that may occur in the country. They suggested that there is a need for the incorporation of wider DRR content that addresses the potential disaster issues that may occur in the specified geographical location, and the place where the community and school are situated. They have suggested the curricula and textbooks be revised to make them disaster-sensitive in a local context. Furthermore, the national level research participants pointed out the need for development of a relevant and appropriate DRR curriculum for formal and non-formal education, provision of wider DRR content in the school curriculum and level-wise textbooks, and the development of a DRR education training package for teachers.

Similarly, they deemed that the current DRR education curriculum is not contextualised. The school principal of study school 1 points out the necessity of curricula and textbook revision to address the local and national DRR needs:

*Earthquakes, landslides, flooding, fire, heat and cold waves, avalanches and storms, which are quite common in the context of the country, should be given more priority. (PSN1)*

Similarly, another primary teacher from school 2 suggests:

*Our national curriculum should contain contextualised basic ideas of disasters and its management from early grades. (TC1)*

A well organised DRR curriculum helps to prepare students for disaster mitigation, preparedness, response and recovery. Since curriculum guides teach appropriate teaching and learning strategies, the curriculum must be broader and also address local issues.

Textbooks are considered a key source of knowledge in most schools of the country. The interview data revealed that since other DRR learning resources are not available at school, most of the teachers and students mainly rely on the textbooks to carry out their teaching and learning activities. Relating the local situation to the given content is useful in making students more familiar with their surroundings. A local NGO worker states:

*Based on the curriculum, textbooks need to contain general ideas of DRR and also give emphasis to addressing the local needs; the existing governmental textbooks lack these ideas, ....they are more general and less localized. They are theoretical and less practical. (NR1)*

Similarly, one resource person says:

*We need well-organised DRR lessons that must contain broader DRR information in the school textbooks. Similarly, to raise disaster awareness among students and community people, key disaster messages must be given in the school level textbooks. (EO4)*

Textbooks play a significant role in establishing links between the general DRR ideas and specific local situation. Therefore, textbooks need to incorporate broader and local disaster issues that encourage students to learn DRR more effectively. Such provision can also help community people to raise the value of DRR education.

In conclusion, most of the research participants suggest that curricula and textbooks need to be more disaster-sensitive and must incorporate learner-centred contextualised DRR lessons along with broader ideas. Analysis of the curricula and textbooks also shows that there is very limited DRR content at primary level. Macaulay (2007) suggests DRR education introducing the four areas of disaster management in the early years of schooling. Aghaei et al. (2018) find that the DRR educational content should be designed based on target community interests such as family, social and economic status; religion, age, gender, job, residence; and people's perception and understanding of their needs and priorities.

### **7.5.2 Need for curriculum integration**

Integration refers to linking all types of knowledge and experiences contained within the curriculum plan, and emphasises horizontal relationships among topics and themes from all knowledge domains. Petal & Izadkhah (2008) note that curriculum integration refers to an

approach that makes use of specially developed units, modules or chapters, concentrating on disaster risk reduction. Ideally these are designed to fit into several specific course curricula, at specific grade levels, for a specific duration. “Curricula should be organised around world themes derived from real life concerns; dividing lines between the subject content of different disciplines should be erased” (Ornstein and Hunkins, 2013, p.158). National level research participants suggest that DRR content must be incorporated in various subjects from the early grades.

If DRR content is integrated and incorporated in school curricula appropriately, it also creates better teaching opportunities for teachers (Petal, 2008). In the multi-hazard-prone context, DRR education needs to be integrated with some common themes across the subjects rather than treating it as a separate subject. Considering DRR as an interdisciplinary issue, school curricula can incorporate DRR-related content into various subjects. Selby and Kagawa (2012) suggest core DRR content can be given in Geography and Science, however common DRR messages can be incorporated as a theme in other subjects of learning. Most of the research participants indicated that existing school curricula provide DRR-related learning opportunities only in certain subjects. Most of the teachers agreed that there is only some DRR-related content in social studies, population study, geography and science. All the teachers noted that DRR content is not integrated properly into other subjects. They argue that linking DRR information in other subjects is helpful in linking DRR learning experiences in the classrooms. One of the secondary teachers from study school 1 says that there is a huge need for integrating DRR themes in other learning disciplines:

*It would be great if the Curriculum Development Centre can also incorporate DRR-relevant information in other subjects such as Nepali, English, maths in its lessons and comprehension. Such integration can help to link the learning experiences and its usefulness in an individual’s life and community. It will help children to learn more about what disasters and how they can keep themselves and others safe from disaster and crisis.....not only the natural hazards. The Curriculum Development Centre should also integrate the message about man-made hazards such as epidemics, conflict and climate change. (TS3)*

An integrated DRR curriculum can maintain standards through incorporating relevant disaster messages from lower to higher levels of education. It can create frequent learning

opportunities, for example disaster drills, which help students to recall the acquired knowledge and skills. One of the lower secondary teachers from study school 2 says:

*I think a DRR integrated curriculum will give us more options to localize the curriculum and make it more useful. If students have the opportunity to learn about disaster- related content in each subject, then it will help them to develop DRR capabilities which make them stronger and confident. (TC2)*

The Curriculum Development Centre has also realised the need for integrated DRR curricula to address local, national and global level disasters and climate change issues. An officer from the Curriculum Development Centre indicates:

*DRR and climate change issues are still not integrated in other learning disciplines; these are mainly incorporated into science and social studies. Now there are some discussions taking place to integrate DRR and climate change in other subjects. (OC1)*

A multidisciplinary curriculum integration approach addressing DRR education is widely recognised as important by the research participants. They deemed the existing curriculum as lacking in addressing life skills and practical skills, and claimed it also has very limited DRR content in some subjects. Since relevant DRR learning resources are not easily available at a local level, the given DRR learning provisions are also deemed more theoretical. It was observed that teachers and students were seriously interested in learning more about disaster management.

Similarly, emphasising the need for a DRR integrated curriculum, the officer from the National Centre for Education Development says:

*Since the compulsory courses are given more importance in schools, and these also have comparatively more training opportunities and other support provisions for teachers, it is important to incorporate DRR content in the compulsory courses for its effective delivery. Besides core subjects such as geography, science and population, Curriculum Development Centre can integrate DRR content in language- related subjects such as English, Nepali and even in maths. There is still a need to give a good allocation to DRR content in the school curriculum. (ON1)*

Linking DRR knowledge to available learning subjects will give enough DRR learning opportunities to students. Such an integrated nature in the curriculum will also reduce how many resources are needed to train teachers in DRR issues.

A curriculum integration approach can also increase the value and importance of the area of study. Since DRR is a newly introduced area in school education in Nepal, integration of DRR content also helps to raise the value and needs of developing DRR capabilities. In the focus group one resource person says:

*Integration of DRR issues in all the subjects, horizontally and vertically, in an appropriate manner can be helpful in increasing the allocation of DRR lessons. Such an approach will also create opportunities to incorporate relevant and contextualized DRR knowledge and skills in the curriculum. (OE4)*

Integrating DRR throughout the curriculum also encourages all the teachers to develop their understanding in DRR areas. It also encourages peer learning. One of the School Management Committee members of study school 3 says:

*An integrated DRR curriculum forces teachers to widen their knowledge in DRR areas, it helps to develop teacher competencies and all of them can link the context and deliver disaster management while teaching their allocated subjects in the relevant classes. (CSN1).*

Teachers need wider knowledge and skills to deliver an integrated curriculum. The above quotes suggest that integrated DRR provisions are also helpful to prepare teachers as major vehicles to deliver DRR education in schools and communities. Moreover, integrated learning opportunities also encourage and motivate students in effective learning. Aghaei et al. (2018) noticed that a significant numbers research on strategies for DRR education point out integration of DRR content into school curricula is the best approach to educating pupils about DRR.

### **7.5.3 Need for development of a local curriculum to address disaster issues**

A centralised curriculum development process seems ineffective in addressing the local needs and context of each school. Most of the research participants pointed out that adaptation of centralised curriculum development process is one of the major reasons why DRR is not valued in the school curriculum. A contextualised curriculum encourages students to learn the

local context which will help them with better adjustment. The DRR focal person of the District Education Office says:

*I also feel that there is a need for development of a local DRR curriculum and its effective implementation. A local need-based DRR curriculum can be developed at district or school level. Teachers, students, District Education Office staff, NGOs working in DRR and other relevant line agencies need to be engaged actively while developing such a curriculum and other relevant learning materials. (OE3)*

Likewise, most of the school level research participants also realised that the school needs to be prepared to address local disaster vulnerability. One of the community members from study school 3 states:

*Our school suffers from floods yearly. Therefore, our school needs to teach all the children about the floods so that they can have a good understanding of it. The school needs to encourage students to learn swimming. Fire is quite common in the community, it is important to teach them how these local-level small-scale incidents can be managed. Similarly, earthquakes..... and climate change-related ideas also need to be included. (Parent CSN1)*

Similarly, a school supervisor from the District Education Office says:

*Development of local curricula in DRR is a wise idea to address local DRR needs, we can teach our students about local level disasters and traditional skills to cope with the situation. (EO2)*

Likewise, the school principal of study school 3 says:

*In educational policy, there is the provision for local curricula at lower grades, but as far as I know, not only us, but none of the other schools in the district, have developed a local curriculum on disaster issues yet. In our context flood, road accidents, electric shocks and safety, and environmental issues are important issues that can be addressed through this provision. We can work with our community to make it more useful. (PSN1)*

The school principal for study school 1 suggests that there is a strong need for development and implementation of a local DRR curriculum:

*Moreover, there is the need for incorporating local context through the local curriculum. The present curriculum is deemed more theoretical, we need to review it and make it more organised and contextualised, through engaging teachers, students, school leaders, and community people who can play a fruitful role in disaster risk reduction behavioural changes. (PC1)*

Besides addressing local disaster needs, developing and implementing local curriculum is helpful for creating links between school and community. Through this practice, the school can also bring local knowledge and DRR practices into the classroom. It also provides opportunities for developing contextualised DRR learning materials at school. Moreover, the school can engage students in various DRR activities at the community level. However, most of the teachers and school principals indicated that since they do not have enough knowledge in DRR areas and very limited knowledge about local curriculum development, they still have not developed any local curricula.

Most of the national level research participants also recognised that local curricula in the area of DRR can address common hazards and disasters that may occur in different seasons in the plains, hills and mountain regions of the country. NGO representatives suggested that there is a need to incorporate more content that can address local, national, and global DRR needs. Pointing out the needs of such curricula, a representative from the Association of INGOs in Nepal says:

*Our curriculum should consider landslides, floods, fire, epidemics, hailstorms, and earthquakes (as killer hazards) in our context and needs to give more focus to them. The curriculum needs to treat disasters as a multidisciplinary issue. There are particular hazards taking place in particular ecological belts, for example floods in Tarai or plains region, landslides in hills and mountains and avalanches in the mountains. If we incorporate this content at school level, in an organised way, and train DRR in these related issues of hills, plains, mountain regions, the teacher can deliver the most relevant and appropriate curriculum effectively. ...floods, landslides, snowfalls, cold and heat waves, fire, lightning, and avalanches need to be stressed properly. (NA1)*

Similar to the above quote, a disaster focal person from the District Education Office says:

*Nepal is a very diverse country on the basis of its geographical landscape, for example the landslide that occurs in a hilly district such as Sindhupalchowk, which may cause big loss, is different from the landslide that we have in a valley, for example in Bhaktapur. These issues, which are currently lacking, need to be addressed properly in the curriculum. The disaster issues of our three ecological belts, mountain, hills and plains, need to be addressed in the local curriculum. (OE2)*

There is need for relevant contextualised DRR content to address local disaster issues in the school curriculum in the diversified geographical context of the country. It reflects that the national curriculum should address the common disasters and also provide opportunity to focus on local issues. Colombia's experiences of curricula adaptation and disaster prevention also show that DRR initiatives must focus on the common hazards that may take place in various parts of the country. Cardona (2007) states DRR lessons in school curricula and implementation of education programmes regarding natural hazards "are essential for preparing people to cope with common hazards from the whole country as they may be exposed to differing types because of the geographic mobility" (p.399).

One of the secondary level teachers from study school 3 says:

*There is always a possibility of having a fire in our community, since there are joined houses, and most of the people use gas cylinders and are not aware of the precautions that must be taken while using them, significant numbers of fire incidents have been taking place in our community. Such possible local incidents need to be addressed properly. (TSN3)*

The school curriculum needs to raise awareness about all the possible disaster risks that may take place locally. It is important that such curricular opportunities enhance preparedness, mitigation, response and recovery- related ideas and provide skills to students to cope with such local incidents.

A contextualised local curriculum is also helpful for addressing local disaster issues and their consequences in people's lives. For example, most of the people who work in the brick industries in Bhaktapur migrated from the adjoining districts and live in poor housing conditions. Because of this, Bhaktapur lost comparatively more people and property in the recent earthquake (MoHA, 2015). In such a context, local level research participants suggested that the school should incorporate DRR awareness-raising content which addresses

the socio-economic situation and cultural beliefs that relate to disaster vulnerability in the local curriculum. The school principal of study school 2 explains the vulnerability of children, especially from poor and marginalised groups during a disaster:

*In a public school, most of the students are from poor families..... these people suffer more when disaster strikes, ....therefore the local curriculum also needs to address the possible consequences of disasters on poor and vulnerable people, such as people who work as labourers in local brick industries and live in slum areas in Bhaktapur. (PCI)*

He also indicates that local curricula can help to address such local level vulnerabilities and make people aware of the need for better preparedness. Students from poor and marginalised communities can get more benefit from the local DRR curriculum if it states the issues and challenges of disaster management at a local level. As Selby and Kagawa (2012) state:

...disaster is determined by the extent of a community's vulnerability to hazards and vulnerability is the result of a mix of economic, social, physical and environmental factors. A context- specific local curriculum helps them to identify the vulnerabilities and develop coping mechanisms in their home and community.

An officer from the Department of Education pointed out that development and implementation of a local curriculum provides the best method for engaging local people in addressing local needs. Explaining some DRR local curriculum development initiatives assisted by UNICEF and Plan Nepal in some schools of their working locations, he mentioned the need for a study to identify the effectiveness of such initiatives before recommending them to other schools. He also shared that from such experiences, the Department of Education has also planned to assist one school from each of six child- centred DRR programme districts to develop local DRR curricula in future.

Community experiences and expertise are helpful in minimising school disaster risks (Shaw, 2012). Community engagement is helpful for identifying the common disaster management issues while developing the local curriculum. It is essential for everyone to share their DRR experiences and knowledge while developing more relevant and useful DRR curricula in schools. Not only the literate, but also the illiterate members of the community can share their understanding and experiences of local level disasters, and contribute effectively to local curriculum development. As discussed in the previous chapter, the interview data shows that

there were quite a few community members engaged in DRR initiatives carried out in schools. With the assistance of local NGOs, schools have developed and disseminated earthquake evacuation plans. However, a participatory school safety plan is not developed yet.

Community members also mentioned that awareness and management of possible local hazards should be included in the curriculum. In the context of Nepal, most of the schools are also vulnerable to both large and small scale disasters that may occur at a local level (MoHA, 2009). Realising the need for local DRR curricula, an officer from the Lead Resource Centre says:

*We have not seen any local DRR curricula which have been developed in Bhaktapur. But I heard there are some such initiatives being taken in other parts of the country. Local curriculum development provisions are there but DRR is still not felt to be a needy area, schools have prioritised other subjects. (OE3)*

Areas such as environmental degradation and climate change, which are also associated with DRR, are also less valued in the school curriculum. However, assessment of the impacts of such curriculum changes has still not been carried out. National level research participants suggest carrying out an impact study to find out the specific needs in order to revise the existing curriculum.

## **Conclusion**

This chapter set out to present the findings of the interview data about the existing DRR education provision in school curricula. Research participants highlighted the gaps and lack of current DRR education provision and proposed possible solutions to make the DRR curriculum more relevant, contextualised and learner-centred. Schools need to develop adequate DRR knowledge and skills in students (UNESCO, 2015), thus schools need to incorporate disaster management areas in their curricula, plans and policies (UNISDR, 2005).

The existing school curriculum and textbooks are not enough to address the four major areas of disaster management. Research participants suggested revising the curriculum and textbooks and incorporating adequate DRR content to address disaster mitigation, preparedness, response and recovery. It was found that the prescribed curriculum needs to

give more emphasis to DRR content from early grades with the provision for relevant co-curricular and extra-curricular activities.

Since the country is geographically diverse and vulnerable to various natural hazards, this chapter noted that the national curriculum needs to prepare students for all the possible disasters and reduce social vulnerability. This chapter identified the need of a relevant and contextualised DRR curriculum, essential for developing DRR-related values, knowledge, skills and attitudes of the learners which help them to prepare better to cope with disasters at local and broader level.

This chapter highlighted that DRR content is not integrated properly across other subjects from early grades. The data suggested that since DRR is an interdisciplinary area, it needs to be integrated properly across all relevant subjects. Moreover, it was revealed that there is a huge need for development of a local DRR curriculum and learning resources to address local disaster issues. Thus, available DRR learning resources must contain broader DRR information to provide better learning opportunities.

## **Chapter 8 : DRR curriculum delivery**

Prophets may teach private wisdom; teachers must deal in public knowledge.

-Lawrence Stenhouse (1975)

### **Introduction**

This chapter describes the concept of the enactment of the DRR curriculum, explaining the current pedagogies used to deliver DRR lessons in the classroom. It argues that using participatory approaches and providing practical pedagogies are found to be helpful in delivering DRR content effectively in classrooms. Similarly, it argues that the provision of curricula resources, teacher training and professional support, learning facilities and assessment/evaluation areas are essential for the effective implementation of the DRR curriculum. Furthermore, it explains that availability, acceptability, adaptability of, and accessibility to, these areas play crucial roles in curricula delivery focused on developing the DRR skills and abilities pupils and communities need in order to establish a culture of resilience in society.

This chapter begins with the concept of pedagogy and its role in carrying out a curriculum plan. It then discusses the importance of effective pedagogies in delivering DRR content in classrooms, followed by the discussion of relevant literature. Building on Chapter 5, which deals with the provision of relevant and contextualised DRR content, this chapter explains the pedagogies that play pivotal roles in delivering the curriculum content. It presents the current DRR curriculum delivery practices under the headings: curriculum resources, teacher training and professional support, learning facilities and assessment/evaluation areas. The discussion section is further divided into availability, accessibility, adaptability and acceptability based on the education model discussed by Tomasevski (2001). It concludes with what the data explain about the importance of, and needs and ways of, developing learner-centred pedagogies to deliver the DRR curriculum effectively.

### **8.1 Why is pedagogy important?**

The term pedagogy is derived from the Greek word “pedagogue”. The etymological meaning of pedagogy deals with the art of teaching, transferring knowledge to students. In a wider sense, pedagogy is the science and art of teaching. Considering pedagogy as a science,

teachers need to know pedagogics and develop the required teaching skills and abilities, whereas considering it as an art, it deals with the professional abilities of the teacher for the effective delivery of the curriculum. Thus, to establish and maintain the standards of quality education, the education system needs skilled teachers who can deliver the subject matter to the students in an effective way.

Students' schooling and experiences play an important role in preparing them for better adjustment to their surroundings. Thus, the curriculum delivery process needs to relate to their everyday life experiences. Tyler (1949) states that students should be taught in a systematic way to achieve a specific education to prepare them for social efficiency. Dewey (1900) states "the school itself shall be made a genuine way of community life, instead of a place set apart to learn lessons" (p.11). McGee (1997) also describes learning as "the connection between content and self, and therefore curriculum delivery provision needs to create an active learning environment to acquire specific experiences for the students" (p.163). As Dewey (1900) suggests, students are not passive consumers, therefore learning activities need to create motivation so that students become active learners and learn the desired skills effectively. Moreover, the use of context-specific curriculum delivery approaches encourages them to connect personally through active learning.

McGee (1997) notes that curriculum content needs to be selected on the basis of a student's interest. This idea connects with an interest-based and participatory learning process. Thus, it can be said that the content and the pedagogical aspects of a curriculum are interlinked, and need to be carried out in a varied and balanced way to make the curriculum interest-based, useful and effective for students with different interests and learning styles. Similarly, Gilbert (2006), Mutch (2009) and King (2012) argue that a student's active engagement needs to be ensured for their better understanding of the contexts connected to their lives in the curriculum delivery process. They suggest that enactment of the curriculum must address the context and learning experiences that meet the current and future needs of learners.

These general ideas of curriculum delivery are also directly applicable and relevant to the DRR curriculum, specifically it is important to engage students while delivering context-based DRR knowledge and skills. Active student participation in the DRR learning process is helpful in addressing their interest and needs (Selby & Kagawa, 2012). Keller (1983) and Simon & Amos (2011) also point out the strong relationships between curriculum delivery and student needs. Curriculum implementation itself is a multi-dimensional concept that is

interlinked with content and pedagogy (Aikenhead, 2003; Rannikmae, Teppo & Holbrook, 2010). Thus, effective DRR curriculum delivery is also associated with selection and use of proper pedagogies to address the local context and needs of the learners and society.

Pedagogy is considered a key term in education and has been interpreted in various ways. It is an interlinked concept of teaching and learning that leads to growth in knowledge and delivering through meaningful practices (Loughran, 2010). Therefore, teaching and learning are considered the two parts of pedagogy. Moreover, various scholars such as Bhowmik, Banerjee & Banerjee (2013) and Loughran, (2013) explain that pedagogy is a fundamental aspect of effective teaching. Pedagogy deals with the development and use of distinct strategies to achieve the defined learning outcomes of the educational plan for the specific learning groups. Bhowmik et al. (2013) describe how content and context-specific teaching strategies are helpful in delivering the defined skills and knowledge to the learning group effectively. The selection of proper teaching methods, teaching devices, techniques and relevant teaching and learning resources plays a crucial role while applying these strategies in the classroom. Therefore, pedagogy is helpful in choosing suitable instructional approaches and learning resources to meet the needs of the learners. Moreover, Giroux & Simon (1988) state that pedagogy shapes a view of and specifies the useful knowledge that can help people to construct representations of themselves, others and the world (p.12). Thus, in a broader sense, Lusted (1986) says pedagogy relates to the process through which knowledge and knowing are produced. According to Lusted (1986),

Pedagogy addresses the “how” questions involved not only in the transmission or reproduction of knowledge but also in its production. Indeed, it enables us to question the validity of separating these activities so easily by asking under what conditions and through what means we “come to know”. How one teaches is therefore of central interest but, through the prism of pedagogy, it becomes inseparable from what is being taught and crucially, how one learns. (pp. 2-3)

Pedagogy plays a pivotal role in the knowledge development process. To explore knowledge, pedagogy is thus interlinked with various aspects of the curriculum such as the content, learning strategies, instructional materials, how the cognitive psychological learning process part can be addressed and assessment of the students’ learning.

Meaningful delivery of the curriculum is the foundation for achieving the desired learning outcomes. The education system must establish encouraging and supportive mechanisms for

the creative application of the curriculum. Elena (2015) suggests that the innovative implementation of the curriculum is also a part of the quality standards for the teaching profession, such as analysing the students' learning. Elena (2015) describes the importance of the enactment curriculum phase in the education process. The elements that support teachers in the application of the prescribed or intended curriculum, and other auxiliary materials, are crucial for implementing the curriculum. Similarly, the pre-eminence of the teacher-student-knowledge interaction that characterise student-centred approaches of teaching is important in the enactment of the curriculum. She also identifies that the interconnection between the various types of knowledge a teacher has to master is also influential for the effective delivery of the curriculum. To carry out the curriculum effectively, therefore, the teacher must have a wide understanding of the theory and practice of teaching. It is also crucial to acknowledge the experiences and background of the learners in the learning process. Thus, it is essential for a teacher to have the wider content-related knowledge as well as classroom management skills. To carry out effective educational practices through the use of appropriate pedagogy, the teacher needs to create space for the active engagement of learners, encouraging them to ask questions and helping them to identify their problems, to prepare them for the future. Moreover, such pedagogy needs to recognise social inclusion practices in classrooms to empower learners representing various social groups. For the purpose of this thesis, the term pedagogy relates to the enacted curriculum phase that deals with wider areas of effective curriculum delivery. It deals with teachers' understanding and use of pedagogy knowledge in the teaching, development and implementation of appropriate educational plans and policies, the development and implementation of teaching learning strategies, the provision of required learning resources, the use of effective and relevant teaching methods and materials, and assessment of the learning progress.

## **8.2 The role of pedagogy in the DRR curriculum delivery**

The previous chapter explained the need for well-organised DRR content as essential for raising the value of DRR education from the early grades of formal education. Delivery of content is another important aspect of making the DRR curriculum more effective and useful. Segall (2004) notes the importance of the combination of content and pedagogy for powerful and meaningful learning. The effectiveness of a prescribed curriculum is linked to how the curriculum provisions are delivered to the learners in school. Thus, the selection of appropriate teaching methods, provision of appropriate educational plans and policies,

teaching learning strategies, provision of required learning resources and materials, appropriate school facilities, and students' attention towards the study are some of the factors that can play a significant role in delivering the required knowledge and skills to students. The school as a whole, and teachers individually, play a significant role in the effective delivery of the DRR curriculum (UNISR, 2005). The use of appropriate pedagogy is helpful for carrying out suitable DRR activities in the classroom to raise disaster awareness and understanding of DRR initiatives in the wider community. Tatebe and Mutch (2015) suggest using a participatory approach for delivering DRR knowledge and planning in the community. They also point out that schools and teachers can play a significant role in preparing children for disaster preparedness and management. Thus, effective delivery of the organised DRR curriculum in schools helps to prepare students, families, and communities. Such influential roles in risk reduction also help to develop schools as focal points and sites for DRR education.

The use of proper pedagogical components plays an important role in the enactment phase. Thus, teachers' pedagogical knowledge is important in order to implement the curriculum effectively. Elena (2015) states that which curricula teachers are applying in their classrooms, and what and how the required resources are managed in order to implement the curriculum, are the starting points of a discussion of the curriculum enactment phase. Marshall (2004) believes that the curriculum implementation phase is crucial if we wish to see the expected results of the education process. He further explains that the curriculum enactment phase is influenced by the available options in the teaching-learning process and the decisions made by the teachers concerning the content and learning experiences of the students. However, Ball (2010) argues that it depends on how the policies and strategies are interpreted and translated by diverse policy actors in the school environment, rather than simply their implementation. From this perspective, it can be said that curriculum implementation is also the concern of the school leadership and policy makers. It further suggests that good governance of the school is necessary for the curriculum enactment phase. Therefore, attainment of the curriculum outcomes depends upon the effective implementation of curricular documents and also the intricacy of their enactment at school level.

Conducting of DRR-related co-curricular and extra-curricular activities in schools is helpful for creating wider learning opportunities. Wisner (2006) suggests that activities such as hazard and risk-reduction awareness sessions and capacity development in DRR in school help students to understand DRR lessons. UNISDR (2005) advocates incorporating disaster

preparedness, mitigation, response, recovery and resilience- focused activities through practical learning experiences in the curriculum. The International Finance Corporation explains that curricular and co-curricular DRR education activities should address the protection of teachers and students from harm, minimise losses, continue education provision, and establish a culture of safety. Thus, the curriculum enactment phase is important for delivering the needs-based DRR ideas through the development and implementation of effective education plans.

Mark and Layton (1997) tell children that

Learning about natural disasters can help you understand what has happened, or what can happen, so you will feel less afraid or anxious. Getting information is the most important thing that you can do to help yourself.... Being prepared for any situation relieves a lot of the stress and fear. (p.3)

The DRR curriculum delivery process must encourage and motivate students to learn DRR skills. This can be done by telling them about the importance of learning DRR knowledge and skills. Such encouragement and motivation also maximise their engagement in the DRR learning process. Freire (1970) mentions active participation, learning experiences and critically-focused learning are the three fundamental learning principles of the participatory learning process. Similarly, Jackson (1990) points out that the use of practical and experiential learning techniques are helpful for engaging students in the learning process. Shaw et al. (2011) highlight the importance of experience-based and action-oriented DRR learning provision and experiential learning for preparing students to know how they can act in a disaster situation. Thus, disaster knowledge from teacher and student experiences can be articulated in the classroom while delivering DRR lessons. It is important to utilise the actual experiences of the students and how they responded to specific disaster situations is helpful in developing the required competencies. Such a learning opportunity becomes more effective since it is grounded in their disaster management experiences. Pedagogies such as storytelling, case studies and problem-solving learning are useful for delivering DRR content more effectively to engage students and address local disaster issues (Selby and Kagawa, 2012).

Research studies show that children are among the more vulnerable to disasters, however if they are taught DRR issues effectively and prepared well, they can play an influential role in effective communication about disasters (Ronan et al., 2008; Peek, 2008). Since DRR is

relevant to students and, as discussed in an earlier chapter, DRR content can easily be integrated into various subjects that they learn, effective delivery of these curriculum provisions is important for developing their skills and abilities (Selby & Kagawa, 2012). To prepare future generations for such a crucial role, DRR content needs to be delivered effectively and should motivate students to achieve the DRR learning outcomes.

Establishment of a healthy learning environment plays a significant role in effective curriculum delivery for the development of practical risk reduction skills and abilities. Similarly, systematic DRR learning opportunities will help them to transfer their learning to their homes and community which contributes to the enhancement of disaster awareness at a local level (Mitchell et al., 2008).

The study carried out by Selby & Kagawa (2012) describes the DRR education initiatives and experiences of thirty countries. On the basis of the experiences of various nations, they suggest that the use of learner-centred pedagogy (shown in Table 13 below) for effective classroom delivery, the provision of continuous student assessment and needs-based teacher professional development and guidance are helpful in implementing the DRR curriculum and achieving the desired DRR- related learning outcomes.

**Table 13: Useful teaching approaches and methods for DRR education**

Teaching learning approaches	Examples of tasks
Interactive	Brainstorming and discussion
Surrogate experiential	Real life experiences, role play
Field experiential	Engage in field trips, observation, project work
Affective	Encourage students to share their feeling and experiences of disaster event
Inquiry	Encourage students to consult DRR resources to get in-depth ideas.
Action	Carry out drills and relevant practical sessions

(Source: Selby & Kagawa, 2012)

Their study concludes that schools can deliver life-saving and life-sustaining knowledge, skills and attitudes that protect children and young people during and after emergencies. Thus, in a broader framework, it is important to use the effective delivery mechanisms when addressing preparedness, mitigation, response and recovery areas of disasters and management. Selby and Kagawa (2012) present six teaching and learning techniques for the effective delivery of DRR content. These techniques rely on students' active participation rather than the traditional lecture method of instruction. The following table summarises the suggested teaching and learning approaches.

Similarly, UNESCO & UNICEF (2014) list some teaching approaches and methods to deliver the identified dimensions of DRR education. The following table shows the list of participatory teaching methods for delivering the relevant dimension-specific content to the students.

**Table 14: Possible methods to deliver DRR content**

Dimensions	Suggested pedagogy
1 <sup>st</sup> dimension	Project work, use of relevant learning materials-printed and online, engage in field work, invite DRR experts into classrooms
2 <sup>nd</sup> dimension	Regular simulation/ disaster drills, extra-curricular activities, message dissemination
3 <sup>rd</sup> dimension	Descriptive, project work, observation
4 <sup>th</sup> dimension	Participatory VAC assessment, mass education
5 <sup>th</sup> dimension	Engagement/ participatory, descriptive

(Source: UNESCO & UNICEF, 2014, p.11)

Both of the above tables (Tables 13 & 14) show that the participatory methods are useful for developing the required competencies on disaster mitigation, prevention, response and recovery to students. These also highlight the importance of a child's engagement and active participation in DRR learning. Pedagogy and content are interrelated, and both are dependent on sufficient levels of curriculum resources, teacher training and pedagogical development, learning facilities and assessment. To explore this further in the context of Nepal, the identified areas of curriculum delivery are also analysed further through the lens of

Tomsevski's 4A's framework. Tomasveski (2001) describes acceptability, availability, adaptability and accessibility (the 4As) as the four essential elements for ensuring the rights to education.

### **8.3 Current situation of delivery of the DRR curriculum**

In the context of DRR education delivery, the interview data show that the provision of DRR learning resources, the quality of training that teachers receive, appropriate learning facilities and the assessment of students' learning progress are crucial areas which have an impact on effective DRR curriculum delivery. Most of the research participants revealed that because of the lack of proper support systems, schools are facing challenges to manage these areas to establish an effective DRR curriculum delivery mechanism. Since intrinsic and extrinsic motivational factors play a crucial role in the learning process, establishment of such mechanisms can also motivate students to learn DRR issues effectively. These areas of curriculum delivery are also interlinked with the availability, accessibility, acceptability and adaptability to relevant educational opportunities.

Schools need to create a proper learning environment for every child without any discrimination. The interview data recognise that provision of curriculum resources, teacher training and professional support, appropriate learning facilities and DRR learning assessment are the prerequisite areas of effective delivery of the DRR curriculum. The 4A's model discussed by Tomasveski's (2001) is relevant to analyse these areas in order to find out more about the delivery status of DRR curriculum. Availability and accessibility to DRR resources and learning opportunities at school for all children are prerequisite to ensure the minimum standards of health and safety (INEE, 2010). Haydon (2007) states that relevant disaster education and resources should be made widely available to all individuals "without any distinction of geography, race, class and gender" (p.365). Thus, availability and accessibility to the DRR learning opportunities and useful resources play significant roles in developing active citizens in a disaster-prone context.

DRR education resources also need to be acceptable at a local level. Acceptability of DRR curriculum by the relevant stakeholders also influences the effectiveness of curriculum delivery. Macaulay (2007) states DRR education is an opportunity to engage students in service learning and community collaborative projects that assist the broader society in preparing for extreme natural events. DRR curriculum resources are acceptable if these are

developed in the local language and incorporate the local disaster issues and risk reduction skills. Lidstone (1996) suggests that if the DRR curriculum resources incorporate both science and social science perspectives of disasters, they become more acceptable to teachers and students. Further, the level of acceptance of DRR messages by parents from their children “encourages children and youth to be active DRR messengers in their family and community” (Izadkhah & Hosseini, 2005, p. 138). Acceptability of DRR initiatives in the school and community help to strengthen resilience capacities in the community. Moreover, such strengths help to raise the collaboration action to cope with the catastrophic situation and the quick recovery from disaster impact.

Similarly, adaptability values children’s needs and interests. Schools and other educational institutions need to adapt to their best interests while providing proper development opportunities. Overall DRR learning experiences provided in school must help them to adapt to their surroundings (UNISDR, 2005).

### **8.3.1 Curriculum resources**

The provision of basic resources such as curricula, textbooks, instructional materials, teachers’ guides, and educational plans and policies, including the school calendar, are the fundamental areas to carry out any lessons to the students. These resources help to carry out DRR-related curricular, co-curricular and extra-curricular activities and exposure opportunities (Shiwaku & Fernandez, 2011). Moreover, the proper management of these aspects in curriculum delivery contributes positively to ensuring active student engagement in the DRR learning process. DRR information includes materials such as video games which can help students and communities to learn ideas through fun (UNESCO, 2007). Most of the research participants pointed out that since schools do not have access to computer and internet services, the DRR electronic resources are not accessible. School teachers also recognised the lack of locally-developed DRR learning resources to address local disaster issues. Most of the teachers explained that to address these issues they need special assistance in learning about the local DRR learning materials. One of the primary teachers from study school 1 states:

*Resources such as posters, pamphlets, other booklets and online materials are helpful for effecting the teaching and learning process, but we do not have these resources available in our classroom, we just rely on textbooks. In some places of the country*

*the textbooks are not available on time, therefore schools are facing challenges in delivering DRR lessons effectively. (TS1)*

Most of the schools use textbook-driven teaching and learning practices to deliver DRR content in classrooms. Because of the remoteness of some villages, schools situated in rural parts receive textbooks at the end of the academic calendar. Kantipur (2016, April 25) also points out the problem of unavailability of textbooks on time at schools. It mentions that the lack of relevant learning resources is one of the major challenges of curriculum delivery. At the central level, there are some DRR materials developed, however, these are not available in all schools. An officer from the Department of Education says:

*Because of the NGOs involvement in DRR education, they have developed some printed materials, but these were not available to the schools outside of their project location and schools situated in remote areas. After the Gorakha earthquake, with the assistance of NGOs, INGOs and other bilateral organisations, the Department of Education also developed some earthquake awareness materials, and Education Cluster members worked together to deliver these to each district. I hope District Education Offices distributed them to the schools. (OD1)*

DRR stakeholders have realised the need for DRR materials, and have taken some positive actions to develop DRR awareness- raising resources. However, there are some constraints to the availability and accessibility of these resources. In a similar vein, a representative from the Association of INGOs in Nepal also pointed out that although various governmental and non-governmental actors have taken some initiatives to develop useful DRR materials, still these are not easily available to the public at a local level. He says:

*We don't have a system for documenting and identifying the available DRR resources. How can our schools know which materials have been developed and where they can access these? The Department of Education needs to think about establishing a mechanism to store, reproduce and deliver useful DRR materials in the long run. It can also document the available online and offline DRR resources and disseminate the information to schools. We know it is hard to deliver all produced materials to 34,000 schools across the country; however, we can assist schools in identifying the relevant available resources so that they can plan to get access to these. Other important materials can be distributed in printed form by the Curriculum Development Centre. The District Education Offices, lead resource centres and*

*resource centres are still not very concerned about helping schools, DRR learning centres and teachers to manage such resources. (NA1)*

The establishment of a system for documenting the available DRR resources contributes to raising access to resources. It takes a great deal of time, resources and effort to develop such learning materials, however, due to the project-driven nature of the work, there are questions about the sustainability of such materials. It suggests that if the published materials were documented well, it would ensure the accessibility and availability of such materials which can help teachers and students to get wider learning opportunities in the DRR area. Selby & Kagawa (2012) state that the use of DRR learning resources such as a DRR handbook, information leaflets, pictorial books, maps, games, and cartoons during DRR lessons are helpful in making the learning more effective.

The development and use of child-friendly learning materials plays a significant role in effective learning. Moreover, the provision of such child-friendly learning resources helps to create a participatory learning environment. The school principal of study school 3 notes the importance of learner-friendly materials in DRR learning:

*We do not have DRR learning resources; without such resources the lesson becomes theoretical, so we are planning to develop a book that consists of the real stories about how our child survived in the recent earthquake. How he or she helped others before, during and after disasters. How the school and community supported each other in a crisis situation. We can share such materials among schools ... But the schools do not have funds and the required skills to carry this out. (PSN1)*

These materials help to motivate students in the learning process. Moreover, he indicates the importance of sharing of locally-developed materials with other schools. He also reflects the importance of child participation in the material development process. Peek (2008) states that to educate children about disasters, it is important to engage them in disaster preparedness activities, allow them to participate in materials development, and use age-appropriate materials that can be disseminated through printed and electronic media. Similarly, Petal & Izadkhah (2008) state that the use of creative educational materials, such as disaster-related games, documentaries, comics and cartoons, story books and computer games are useful for delivering the required DRR information.

The provision of the DRR message in the local language is equally helpful in raising disaster awareness in students and the community. Realising the importance of such materials, one of the primary teachers from school 3 mentions:

*Most of the community people in our catchment area are Newar and do not understand Nepali language, ...it is important to use their own language to communicate DRR key messages, ....similarly, most of our children are from the Newar community and they also do not understand Nepali; there are no DRR awareness materials available in the Newari language. (TSN1)*

Despite its small size, Nepal accommodates an amazing socio-cultural diversity and linguistic plurality – more than 92 languages are spoken as mother tongues (Epele, Lewis, Regmi & Yadava, 2012). The majority of the population of the study district represent the Newar community. This quote indicates that socio-cultural aspects of the community play an important role in disseminating DRR messages in the community. DRR initiatives must focus on what is accepted by the community rather than what is necessary (UNESCO, 2007). The availability of DRR awareness materials in the local language helps to prepare local people to establish a disaster-resilient community (Twigg, 2009). Similarly, IIEP-UNESCO (2015) states DRR key messages are helpful for learning disaster management skills and about managing post-disaster syndromes. Paton & Johnston (2001) state that incorporation of community and social psychological factors in DRR education are helpful in establishing the relationship between risk perception and risk reduction (p.17). Thus, the use of locally-developed resources in the appropriate language are helpful for increasing acceptability, availability, accessibility and adaptability of DRR education.

Similarly, UNESCO (2007) states that having DRR materials in the local language plays a crucial role in making DRR knowledge accessible to students and communities. These resources are also helpful for assessing learning progress. Since there is a lack of DRR resources in schools, in such a context a teacher needs to be more proactive in collecting relevant resources and developing local materials to deliver relevant and contextualised DRR lessons more effectively. The role of teachers in delivering local issues in the classroom is crucial (Mutch, 2014). She also points out the possibility of inviting local people into classrooms to share their DRR expertise. The sharing of real-life experiences is more effective for the transfer of local skills and knowledge. A local NGO actor pointed out that teachers are passive in delivering DRR issues in classrooms. He says:

*Local actors, the school family, parents and government agencies can contribute to DRR needs identification, materials development and the effective delivery of such content, but it is not happening in practice at school level. Teachers are the main people who incorporate local issues and prepare communities to cope with disasters, but they are not very concerned with the value of DRR lessons in classrooms. Similarly, local Radio, TV and other media are still not used properly to widen awareness on DRR. (NRI)*

Using local resources in classrooms is helpful to deliver adaptable DRR education. It also indicates the role of teachers in raising adaptability to DRR education. Various studies show that teachers play important roles in sensitising parents and community people to the importance of learning disaster management skills. Moreover, since school is a public institution and teachers are the local actors, scholars such as Tatebe and Mutch (2015), Shaw et al. (2011), and Petal (2008) identify their key roles in addressing the issues of vulnerable communities, especially children in disaster situations. The above quote shows that DRR is not highly valued or delivered effectively.

DRR curriculum resources are helpful in widening students' learning experiences on disaster issues. In their respective school and community-based DRR programmes, assistance for the curriculum resources is an identified area of NGOs intervention. Some teachers noted that they received quite a few learning resources which were very helpful in classroom teaching. The official of the Lead Resource Centre mentioned that some of the resources such as DRR books, pamphlets and posters distributed by NGOs are available at most of the schools of the district, but in some schools, these are not accessible to teachers and students because they are stored and locked inside the school principal's room. The official also shared that even the DRR resource materials provided by a NGO to establish a DRR learning centre were not managed properly – the materials were there, but because of poor management they were not accessible to teachers and students. Similarly, the District Education Officer shared that NGOs' involvement in DRR education and their assistance in providing some learning materials to schools played a pivotal role in classroom teaching. He points out the importance of yearly plans to use available resources in various DRR activities to develop risk reduction skills in students. He mentions:

*Although the DRR content given in the curriculum is limited in each grade, the problems are associated with the delivery of this content in classrooms, schools do*

*not have relevant DRR learning materials, and rarely organised DRR- related co-curricular and extra-curricular activities, so the defined learning outcomes were not met. ...schools need to incorporate DRR activities in their annual plan. NGOs also identified these gaps in schools included in their DRR programmes. They have provided some materials and training to schools; since DRR is related to safety and security, ongoing collaborative efforts are essential for developing lifesaving skills. (OE1)*

Current curriculum delivery practices are still not enough to address DRR education needs. In this context, the officer highlights the importance of annual plans that help to carry out DRR-related co-curricular and extra-curricular activities to establish proactive learning opportunities in education. Selby and Kagawa (2012) suggest organising curricular events that can provide proactive learning opportunities in DRR education which significantly contribute to developing the required disaster risk reduction knowledge and skills.

National level research participants mentioned that after the Gorakha earthquake, several NGOs were engaged in disaster response and some of them also developed DRR education resources. They pointed out that some of these materials were not even available to the community where they work. An officer from the Department of Education says:

*Similar to other areas, because of the project- driven approach after the recent earthquake, some materials in DRR education were developed by NGOs but disappeared after completion of their projects. However, some of the organisations such as Save the Children, Plan Nepal, United Mission to Nepal, and Action Aid etc. have contributed significantly to developing and managing some DRR learning resources since. (ODI)*

The long term or short term DRR programmes carried out by NGOs contributed significantly to the development of DRR learning materials development; however, there are concerns about sustainability and ownership. The DRR-related assistance seemed limited (time and place) and not accessible to wider communities.

Use of the internet and technology are also useful for delivering DRR education lessons in classrooms. Schools which have internet access presented some DRR-related materials to students. For example, the school principal from study school 1 shared that teachers in his school have downloaded some disaster relevant audio-video clips and shown them to their

students. He suggested that these documentaries were quite helpful in delivering wider DRR knowledge to students. Explaining his positive experiences of teaching DRR lessons to the students, the science teacher from study school 2 states:

*Before the earthquake, with the help of Nepal Red Cross and Nepal Police, we have presented Haiti and Japan earthquake-related documentaries to our students at school. The students were very curious to learn more about earthquakes. Although the context of Nepal is different from these countries, still these were very useful for sharing the basic ideas about earthquake situations and management. (TC1)*

Accessibility to and availability of DRR learning resources play important roles in classroom delivery. Assistance received from like-minded organisations contributed positively to the availability of DRR learning resources in schools. The DRR curriculum resources that describe the distinct context are also useful for comparing and contrasting disaster situations at a local level. This quote suggests demonstration of successful and unsuccessful DRR initiatives carried out at various places are also helpful for delivering and broadening DRR ideas. It also indicates that context-specific initiatives are found more useful than the general informative materials.

DRR learning materials are acceptable if the relevant DRR themes are delivered in an integrated and organised manner. Integration of DRR themes among various learning resources is helpful to disseminate the required DRR knowledge and skills to students (Selby & Kagawa 2012; Petal, 2008). Most of the study participants shared that development of integrated DRR learning resources can fill the textbook gaps. They believe that integrating DRR themes across curriculum resources and teaching will contribute to creating wider learning opportunities. Similarly, child-friendly resources are helpful to deliver DRR lessons effectively. The official from the Curriculum Development Centre states:

*We realised that there are some weaknesses in the curriculum, textbooks and other materials in terms of addressing DRR issues in a child-friendly manner. Students do not feel comfortable with difficult words such as vulnerability, preparedness and risk assessment used in the materials. (OC1)*

Use of proper words and clear pictures in the textbooks and other DRR learning resources are essential for providing a clear understanding of DRR issues, especially for the younger pupils. The above quotes point out that there is a gap between integrated curriculum and

practical-based curriculum delivery. These quotes also indicate that the difficulty level of the DRR content in the curriculum and textbooks is not matched to the learners' age and abilities. The second quote also points out some gaps in the organisation and presentation of DRR content and pictures in the textbooks. Well-organised and clearly-presented DRR materials are essential for raising acceptability in the delivery process. The above quotes also reveal that DRR lessons need to deliver positive messages to prepare students for disaster risks and management. Such information helps students to understand that natural disasters cannot be controlled but their risks can be minimised. These messages also help students to develop their confidence to cope with hazards.

There are useful DRR learning resources developed by various international organisations such as UNICEF, INEE, GADRRRES, and most of these are available online. During the data collection visits, it was observed that some of the materials were translated into Nepali languages as well. However, in the context of Nepal, since most of the schools do not have access to the internet, it is hard for schools to access and use these resources. And also, because of the remoteness, schools often don't have access to the printed materials published at the central level. Accessibility to informative learning resources related to the common disasters at the local level is essential for raising awareness of the disasters. Blaeser (2014) also points out that there is a huge need for appropriate DRR learning resources for effective delivery of DRR lessons in school. The National Society for Earthquake Technology (2009) identifies that because of a lack of DRR learning resources, the level of disaster awareness and knowledge on DRR management is noticeably inadequate at all levels. Similarly, MoHA (2009) points out that because of a lack of DRR learning resources, there is very limited disaster awareness among people and hence vulnerability to common disasters is also increased in the country.

### **8.3.2 Teacher training and professional support**

The importance of a school's readiness to respond to natural disaster is emphasised in literature and the school curriculum plays an important role in involving schools in disaster management activities. Through the DRR lessons and other relevant activities, schools can deliver the required DRR knowledge and skills of disaster mitigation, preparedness, response and recovery to students, parents and community members. Thus, teachers need to be prepared to carry out the appropriate activities to perform this role. Therefore, the provision of appropriate human resource development in the DRR area is essential for ensuring access

to effective DRR education opportunities at a local level. Only trained teachers are able to use the context-based tools and methods to deliver the required DRR skills. Thus, the provision of teacher support mechanisms and the availability of DRR-related instructional materials in classrooms plays a decisive role in delivering DRR lessons more effectively. Local teachers point out that lack of such a support mechanism at a local level discourages them from carrying out innovative initiatives to mainstream DRR in teaching.

Teachers need to know students' needs and interests before conducting any educational activities. Their confidence and understanding of using effective teaching methods plays a significant role in curriculum delivery. The use of participatory learning approaches in DRR lessons motivates and encourages students to grasp DRR skills (Selby and Kagawa, 2012). Such practical learning opportunities in the school curriculum are crucial for enhancing the DRR capabilities and experiences of students. Tanaka (2005) states that the use of participatory approaches helps to motivate individuals to learn basic DRR skills in different cultures" (p. 220). Most of the research participants pointed out that since teachers do not have enough DRR training opportunities, they use theoretical approach-based teaching while delivering the DRR lessons instead. An Association for INGOs in Nepal representative says:

*Most of the teachers deliver the content given in the textbooks, they just explain the paragraphs, but do not use any participatory and practical methods to make students' learning more meaningful and effective. (NAI)*

Teacher-centred teaching methods are quite common in delivering the DRR curriculum in classrooms in Nepal. In teacher-centred teaching, the teacher becomes active and discourages students' active participation in their learning process. The quote also points out that those teacher-dominated methods are not useful and are inappropriate for delivering DRR.

In discussion with the teachers, it was also noticed that due to a lack of knowledge of DRR and a lack of appropriate learning resources, most of them use the lecture-based traditional teaching approach. They often read the content or ask a student to read it and describe the content for the other students. Such techniques of teaching are criticised by the national level research participants. The officer from the National Centre for Education Development notes that schools do not have trained human resources in the DRR area:

*Since teachers do not have enough DRR knowledge, they are unaware of how to deliver the DRR curriculum, most of the teachers just deliver the content that is*

*written in the textbooks, and they do not even put any effort into finding other resources to support students in their effective learning. (ON1)*

He also points out that because of having limited ideas about DRR content, teachers also seem less motivated to use participatory methods of teaching and creating an innovative learning environment. These discussions show there is limited space given to participatory learning, such as project work and exposure visits to local hazard sites to observe the disasters and manage the situation.

The DRR subject expert from the Curriculum Development Centre also mentions:

*As there are very limited DRR training opportunities available at a local level, most of the teachers are still unaware of disaster risk reduction. DRR was not valued in teacher training before the earthquake. NGOs who are working in DRR areas have carried out some workshops for teachers in their working location. After the 2015 earthquake, realising the need and importance of DRR concept for teachers, National Centre for Educational Development have developed a two-day DRR training manual. Educational training centres and resource centres are responsible for delivering this manual material. However, due to financial constraints, unavailability of trained resource personnel at local level and other constraints, the training is still traditional and most of the teachers still do not receive the training opportunities. (OC1)*

Teacher training opportunities in DRR were not valued and hence unavailable at the local level. It was observed that only very few teachers got the opportunity to attend DRR workshops organised by NGOs, therefore, other teachers who did not receive training were not motivated to deliver DRR lessons effectively. The interview data revealed that there is a strong need for establishing effective teacher support at the local level. Shiwaku et al. (2007) point out that the lecture-based DRR education practices in Nepal along with limited relevant DRR learning resources available for teachers and students are not enough to develop pre-disaster measures and risk reduction abilities for students. The National Centre for Education Development (2015) states that DRR training opportunities are important for preparing teachers for effective delivery of DRR lessons and performing an active responder role during a crisis situation.

The effective delivery of teacher training helps teachers to develop the required teaching skills and abilities. Thus, resource personnel or the trainers need to put more effort into the participatory-teaching approach while training teachers in delivering the DRR lessons. Most of the teachers raised concerns about the existing teacher training delivery. They pointed out that these trainings are more traditional and not productive. In addition, when DRR training and workshops for teachers are carried out, they are more information-based and theoretical, so as a result, teachers are still practising traditional methods when delivering DRR lessons in classrooms. The officer from the Curriculum Development Centre explains the contributions, for example organising DRR orientation workshops and short-term training for teachers, made by INGOs and NGOs in the DRR education area:

*DRR has recently been mainstreamed in education in Nepal. We have limited resources therefore its delivery is still poor. Only a few INGOs and NGOs are involved in DRR education area at the local level. Some of them conduct teachers' training only. I observed that these trainings and workshops are also lecture-based and traditional. They don't care how the trained teachers are delivering their lessons and they do not have provision of follow up support for these teachers. Teachers are always happy to participate in training but, because of lack of backup support, they seem reluctant to use their learnt skills in classrooms. (OC1)*

However, he also points out that the training practices seem to be unfruitful.

Child-centred methods are very helpful in engaging teachers and students in the teaching-learning process. Schools and teachers need more support to practice child-centred methods for delivering DRR education (Selby and Kagawa, 2012). Teachers need ongoing support and mentoring to use such tools and techniques to create active learning environments. The availability of DRR experts, professionals and resource personnel at the local level is crucial to provide proper technical assistance to schools and teachers (UNESCO, 2007). Thus, the establishment of a fruitful teacher support mechanism is essential in order to deliver the curriculum effectively.

Participatory methods of learning are helpful for acquiring ideas and accepting these into regular practice. Children's participation in learning is essential so that we can utilise their views in the DRR decision making process (Mitchell et al., 2008). The national level participants strongly pointed out that the classroom delivery of DRR lessons is theoretical and teacher-dominated. An officer from the Department of Education says:

*DRR was not incorporated into the pre-service teacher development package. It is just introduced in in-service teacher training package, therefore most of the teachers are still not familiar with DRR and its curriculum and use traditional methods in their teaching. How can they deliver the lessons without having proper DRR understanding? To encourage teachers to apply a student-centred learning approach in DRR education, the teacher development courses must incorporate DRR, only then will DRR content be delivered effectively in the classroom and increase its acceptability by students and the community. There is a huge need to develop teachers' capacity in disaster preparedness, mitigation, response and recovery areas in our context. (OEI)*

Quality teaching plays a crucial role in effective curriculum delivery, thus the DRR lessons also must be incorporated in teacher education to prepare teachers to deliver an interesting DRR curriculum. UNIDR (2008) also considers this is the most effective, less expensive, useful, long-term and sustainable approach for DRR education. Practising emergency drills in schools is found helpful in developing required DRR skills in students and teachers. Topics such as identification of hazards zones, plans for safe evacuation, basic first aid and CPR skills are important to incorporate into the teacher training package. This will provide opportunity to every person willing to be a teacher to know basic DRR knowledge and skills. Drills related to evacuation of disabled students and injured students, for example, also encourage teachers to perform their roles during an emergency and develop trained individuals in the school and community. Therefore, the data suggests that without establishing proper teacher training and support mechanisms in the DRR area, it is hard to change the current practices that ignore disasters and management.

### **8.3.3 Learning facilities**

The Constitution of Nepal (2015) declares free and universal basic education for every child. To ensure such rights and deliver quality education, the educational institutions should have adequate infrastructure, trained teachers and other learning resources. Access to a safe and secure school environment is also considered a basic right for children (UNCRC, 1989). The education infrastructure must be disability-friendly and hence the education system must be non-discriminatory and equally accessible to all children. Thus, schools need to accept an equity and social justice approach to carry out positive discrimination to favour children even from the most marginalised groups in education. Realising the importance of DRR education,

UN campaigns, such as the UN World Disaster Risk Reduction campaign in 2000 and the UN/INSDR campaign on Disaster Risk Reduction Begins at Schools in 2007, attempted to emphasise the importance of accessibility to safe learning facilities and DRR education for every child. Lidstone (1999) states that DRR education concentrates on the student's involvement on the basis of the local disaster context. "The learning facilities must be easily accessible to all students and DRR components need to be delivered in a systematic way that can provide real life learning experiences" (p.15). Current DRR practices in the schools reflect that the learning facilities and DRR education opportunities are still limited, and not enough to address social and individual needs.

The availability of enough library facilities in schools plays a crucial role in engaging students in the active learning process. It provides wider learning opportunities for students to find what works and what does not work in addressing local issues. The school principal from study school 1 says:

*We have collected useful resource materials from various sources and established a small library in our school. Students and teachers were using it, however the recent earthquake destroyed the upper floor of the building where the library was situated. It was a historical building which was constructed by the community people about a hundred years ago. We lost lots of materials and important information; we are now waiting to reconstruct the building and re-establishing the library soon. (PCI)*

The infrastructure of most of schools is vulnerable to earthquakes. More than 20,000 school buildings collapsed as a result of the recent earthquake. This shows that the school facilities are not safe. The Comprehensive School Safety Framework endorses that safe infrastructure is one of the major pillars of a safe school. Classrooms, playgrounds, buildings and the school periphery must be safe to ensure students' safety. Therefore, laboratories and libraries all need to be safe. Safe learning facilities alone can ensure safety to every student. However, because of financial constraints, most of the schools in the country do not have access to library facilities. One of the major causes of lack of disaster awareness among students and teachers in Nepal is because of the limited access to library services and unavailability of DRR learning resources (Tuladhar et al., 2013).

Lack of student-friendly learning facilities in schools also creates challenges to deliver DRR education. Schools not having adequate sanitation, safe drinking water and condition of the

toilets also increase absenteeism. For an example, one of the secondary level female teachers from school 1 states:

*Since schools do not have proper sanitary provision, water supply and toilets, most of the girls during their menstruation period are willing to stay at home. They miss their classes which affects their learning performance. We cannot repeat these for them.*  
(TS1)

Inclusiveness is another essential part of ensuring quality education for every student in the community. Thus, schools must have student-friendly learning facilities and opportunities to attract and retain disabled children.

Since disabled children are the most vulnerable to disasters (Wisner, 2006 & Peek, 2008), their access to DRR education is crucial. Moreover, the physical infrastructure also needs to address their safety and wellbeing needs. The school principal of study school 2 states:

*Disabled children faced more obstructions and challenges during the recent earthquake and aftershocks. They required special care and encouragement during and after the disaster situation. We realised that schools need to provide more DRR learning opportunities for the disabled children and develop relevant and context based DRR learning materials for them so that they can have wider access to DRR education. Disabled children from such groups receive comparatively less care from their families. They need proper DRR education including special care and support in the school and community to minimise their vulnerability to disasters.* (PCI)

Children from poor and marginalised groups are more vulnerable to disasters. The above quote indicates that disabled children in Nepal are also among the most vulnerable groups, and that accessibility to relevant disaster education can help them to develop basic ideas of disaster mitigation, preparedness, response and recovery. It also expresses the need for equity-based treatment for those groups in schools, families and communities. Peek (2008) states, “In order to promote children’s resilience to disasters, we must improve their access to resources, empower them by encouraging their participation, offer support, and ensure equitable treatment”. Schools need to ensure the accessibility to proper DRR learning opportunities for the children with a disability (UNICEF, 2013). As duty bearers, parents, school leaders, community leaders and line agencies are responsible for addressing the specific needs and care of the children in disaster risk reduction.

Parents' participation also plays an important role in ensuring safe learning facilities in schools. Participatory vulnerability assessment, school and resource mapping, and development of a School Improvement Plan help to identify the status of the learning facilities for improvement. Such participation also helps with planning specific support for the children from poor and marginalised groups in emergency and crisis situations. Research participants point out common challenges and issues related to the education of the children from specific groups, such as migrants, ethnic minorities, conflict-affected groups, and disaster-affected families. The school principal from study school 3 mentions:

*Most of the parents are poor, they work as brick labourers in the local brick industries, they need to work hard to fulfil their basic needs therefore they cannot even come to join the school meetings and are not very concerned about their children's education. They cannot even afford basic stationery and school uniforms. Earthquake- affected families, who recently migrated to the city to find more options to survive, are also facing the challenge of sending their children regularly to school. Children from conflict-affected families are also struggling to continue their education after the earthquake. Students from these groups often miss school and attend school without basic learning resources. Poor and marginalised children need extra support to afford their basic learning materials, to increase their access to education, so more collaboration efforts are necessary to enhance accessibility to education. Support provided to these children from some organisations was very helpful to fulfil student's needs after the earthquake. (PSNI)*

Poverty, wide spread illiteracy, remoteness, consequences of a decade-long conflict and ongoing disasters in people's lives create challenges to the accessibility of education. The above quote indicates that some children do not have basic requirements while attending school. There is a need for collaboration among like-minded agencies to raise funds for access to education. Teachers also point out that children from poor families have comparatively more disaster consequences. They observed that students from poor and marginalised families have more irregular attendance, students who lost their parents in the recent disaster have mental problems, and a significant number of children from migrant families have dropped out of school. They agree that if the school curriculum had valued DRR education and prepared students for the natural disasters, students may have had fewer negative consequences from the recent earthquake.

The establishment of a safe learning environment is crucial to ensuring the safety and security of students (UNISDR, 2005). Most of the research participants point out that most of the school buildings are unsafe, and also that structural safety is not considered seriously while constructing new property. The officer from the Department of Education notes that the public schools are highly vulnerable to disasters:

*Most of the public schools of the country are situated in disaster-vulnerable areas. The community people never thought about disasters when they donated their piece of land situated on a sloping area or beside the river. School buildings are constructed on such donated land which is not stable. (ODI)*

People do their farming on productive and flat land and donate the unused land to the community organisations. Not only the schools, but also community level health facilities and other public service institutions are situated on disaster-vulnerable land. Community people pointed out that there were frequent disasters in the past and they also had little knowledge of DRR.

An officer from INGO describes the consequences of poor and unsafe school facilities:

*Our physical structure, either in school or home, needs to be safe and child-friendly. About ten thousand school buildings and more than twenty thousand classrooms have collapsed as a result of the recent earthquake. We are lucky, it was a school holiday when the recent earthquake struck, otherwise significant numbers of children would have been killed by the earthquake. (NUI)*

He also states the importance of safe schools and the provision of safe and child-friendly spaces at school and home. School buildings are not safe because the old buildings are not constructed as per the building codes.

The community people need to be more concerned about school safety and security. In the context of Nepal, because of lack of DRR awareness, the public properties are poor. The school principal from study school 3 mentions:

*We have six hundred students studying in this school. During the monsoon season every year, the school faces floods which creates various challenges to keep the school running. In the recent earthquake one of the recently constructed school buildings collapsed. It was a school day off when the earthquake struck, otherwise we*

*would have had a big crisis, the structures are not-child friendly, the exit ways in each block are very narrow, you can imagine what the situation would have been like if the earthquake had struck on a school day. DRR education is also needed to make the community, school management, staff and children aware of structural safety and prepare them to adjust to the context in a crisis situation. I think accessibility to a safe learning space is important. (PSN1)*

Considering the safety measures, school families need to be informed properly about their facilities. It allows them to build a common understanding of the level of safety of the available facilities. UNICEF (2012) states the importance of safe school facilities and points out it is the responsibility of schools to ensure physical risk free learning facilities.

### **8.3.4 Assessment and Evaluation**

Content, pedagogy, assessment and evaluation are directly interlinked in the curriculum delivery process. Such dynamic interplay between these components guides the development of educational plans and strategies for effective delivery. All educational inputs are focused on achieving the predefined educational objectives, therefore formative and summative means of assessment are essential for tracking students' learning progress. Moreover, an effective assessment framework is essential for making decisions about the received curriculum. Assessment plays an important role in identifying the gaps and the need to correct these in time. The assessment of learning and assessment for learning helps to guide policy makers, educators and teachers to make certain decisions for the improvement of the education delivery system. Similarly, assessment and evaluation results show the effectiveness of the investment in DRR education. A DRR expert from the Curriculum Development Centre outlines the importance of assessment:

*Curriculum evaluation is important in order to make it more appropriate and useful. Recently, with the support of Asian Development Bank, we have carried out an evaluation of primary level curricula, textbooks, and teacher's guides to identify the status of DRR education for these resources, but we still have not assessed the lower secondary and secondary levels. Similarly, formal evaluations have still not been carried out to find out the effectiveness of school disaster programmes by government line agencies. (OCI)*

He also indicates that there is a lack of collaboration in assessing the ongoing school DRR interventions. Each stage of the curriculum cycle needs to be carried out in a participatory way. The data also suggests that that participatory assessment is not occurring at any level.

In the context of DRR education, providing summative and formative evaluation is also essential for tracking student learning progress and making decisions for their better achievement. With regard to DRR education, local level research participants agreed that continuous student assessment is essential for assessing the extent of context-specific DRR knowledge and skills that students acquired. Assessment is also crucial to maintaining certain educational standards. Thus, assessment in DRR education also contributes to maintaining the basic standards of DRR education and its applicability and acceptability (Alexander, 2003). Lansdown (2001) points out that child-rights-related tools and a framework are helpful for carrying out relevant activities and monitoring the progress. However, most of the schools do not meet the standards, and he notes that teachers are poorly paid, badly educated and inadequately trained while the school curriculum seems irrelevant, boring or inappropriate.

A continuous assessment system allows teachers to track a student's learning progress. It aims to provide immediate feedback to students for their better-quality learning. Participation in classroom activities, observation, homework, attendance, classwork, written tests and oral tests are some of the common assessment and evaluation techniques mentioned in teacher guides and curricula. Teachers are encouraged to use these techniques for formative and summative assessment. However, since it is a newly introduced system in the schools, teachers are still not quite confident in using it properly. They are still used to conducting written and oral tests, unit tests, terminal exams and final exams to assess learning progress. The curriculum framework suggests use of continuous assessment systems in primary grades and then a certain percentage in lower and secondary levels (Government of Nepal, 2010a). One of the primary teachers of a study school shares:

*It is difficult to observe every behavioural change and record these on the system. We still carry out unit tests, oral tests, quarterly and terminal tests, and final exams to identify the learning progress of the students. I have not used other specific techniques to assess the DRR learning of the students. I believe if the students are able to say or write the answers then they are okay. (TS1)*

Paper and pencil tests are still the main ways of conducting assessments of a student's learning in Nepal. Teachers are uncomfortable with using continuous assessment forms for

maintaining individual portfolios. In a similar vein to the statement above, the school principal of study school 2 says:

*Our teachers are still not used to the continuous assessment system, they are taking it as a burden. We have only a few teachers to look after the primary level. It is hard for them to conduct classes and take other responsibilities. I am encouraging them to use the proper assessment system; however, we are still conducting terminal and final exams as we did before. (PC1)*

There are some problems at the implementation level in the existing assessment system in schools. Assessment is also a part of curriculum delivery; therefore teachers are accountable for doing it properly. Continuous assessment is considered a better technique than periodic assessment (Department of Education, 2009). However, the above quote highlights some administration-related issues, such as not enough teachers to deliver the assessment effectively.

Useful and applicable DRR knowledge and skills help individuals to prepare for disasters. Most of the local level study participants state that the DRR information presented in the curriculum and textbooks, and the way the earthquake drill practices are carried out in schools and communities do not meet the standards, and created confusion in the recent earthquake situation. For example, duck-cover-hold is an internationally accepted technique to avoid earthquake dangers. However, in the context of the country where the infrastructure is critical and vulnerable, local level research participants realised that the way the messages were delivered was not as useful as intended. One of the secondary level teachers from study school 1 mentions:

*After experiencing the massive earthquake, ... reflecting on our learning and experiences, we realised that the way we communicated DRR messages and delivered the skills to students was not adequate to addressing the physical risk in our context. The infrastructures are very poor and highly vulnerable to earthquakes. (TS3)*

Disaster drills and the associated key messages need to be delivered properly. Clear and context-specific DRR messages are essential for preparing students to make a wise decision during an emergency for their safety and security. Proper assessment can help to identify such gaps.

The school curriculum needs to give more importance to life skills development for students to make them better equipped. However, life skills development seems to be ignored in school education. An officer from the Department of Education also raised concern about the trend of not asking questions from DRR lessons in the School Leaving Examination. Similar concerns were also raised by an AIN representative. DRR knowledge and skills are important, however, schools do not ask questions from these lessons in the terminal and final exams. The AIN representative shares:

*Students do not give high importance to DRR related topics because they are not important for their final examination and evaluation point of view, they won't be asked any questions from such lessons so DRR is seen a less prioritised area of learning. (NAI)*

Due to the poor assessment system in DRR education, students themselves are not motivated to learn DRR lessons. Similarly, since the teachers do not give importance to DRR content and do not even ask questions from DRR lessons in the exams, students do not attach value to learning DRR skills. In a case study of curricular integration of DRR in 30 countries, Selby and Kagawa (2012, p.35) concluded that learning assessment and evaluation area is the least considered and least developed element of DRR education.

It is important to address the specific needs of the students, their best interests and diversified cultural and geographical settings while delivering DRR lessons. Regular assessment can help to explain the situation. Addressing students' interests and needs in curriculum delivery also helps to encourage their active engagement. There is increasing evidence that if DRR education initiatives are available to students and they participate effectively, students of all ages can actively contribute to disaster risk reduction. Continuous assessment in DRR education encourages students to study and participate in school safety measures, and also work with teachers and other adults in the community towards minimising risk before, during and after disaster events. UNICEF (2011) advocates that the provision of child-friendly school initiatives are helpful for delivering relevant and quality education on how to reduce risks that reaches the most threatened and marginalised communities. DRR education initiatives in each disaster management phase are appropriate if these are flexible and adaptable.

Assessment also helps to identify the curriculum needs that can address the local situation. Most of the study participants highlighted the importance of local curricula in addressing

local disaster issues. Teachers from the three study schools point out the need to incorporate frequently-occurring common disasters through the provision of a local curriculum. National level research participants explain the importance of project-based teaching and problem-solving methods in teaching while addressing the local disaster context in their classroom delivery. They suggest that teachers need to take students to the local landslide sites, earthquake impact sites and flood-affected sites to enhance their real experiences. This also helps in assessing their learning.

Assessment is also crucial to making the DRR curriculum more useful and context-specific. Schools need to link students' experiences within and outside the classrooms. Teachers can assess students' level of learning through their participation in relevant extra-curricular and co-curricular activities. The officer from the Curriculum Development Centre says:

*The use of cooperative learning, project work and engaging students in various DRR co-curricular and extra-curricular activities can help to assess student abilities so that they can act as change agents in DRR. They can easily deliver their acquired DRR knowledge, attitude and skills to their family and community. Thus, schools need to carry out proper assessment by which students can have wider DRR learning opportunities through quality teaching at schools. (OC1)*

If DRR lessons are meaningful, motivating, interesting, engaging, and address the needs of students and communities, students can make significant learning progress. As a result, they can play a critical role in raising DRR awareness. Experiences from other countries also show that active engagement in DRR lessons, conducting related extra-curricular and co-curricular activities, besides classroom teaching, and regular evaluation of their learning progress have been found helpful in developing disaster resilient capabilities of students (Selby & Kagawa, 2012).

## **Conclusion**

This chapter argues that effective delivery of DRR content is useful in widening students' understanding about disasters, DRR and disaster management. Effective delivery of DRR lessons enable children in learning and practising safety measures and procedures, and understanding how to build resilience and a culture of safety. Most of the research participants agreed that insufficient DRR knowledge with limited content and poor delivery of disaster education had adverse effects upon students and communities. From the data it is

suggested that poor delivery of DRR lessons may influence an increase in disaster-related injuries, mortality, morbidity, fear, stress, anxiety and other psychosocial disorders.

The data highlighted that the teacher's role is vital in curriculum implementation, their pedagogic knowledge, understanding and proactive roles are the foundation for carrying out a DRR curriculum effectively. Thus, the availability of capacity development opportunities for teachers is essential to delivering appropriate DRR content through effective pedagogies.

## **Chapter 9 : Discussion**

### **Introduction**

This discussion chapter collates the issues identified in previous chapters in relation to curriculum governance, curriculum participation, curriculum content and curriculum delivery, and argues that these reflect broader tensions and issues in the nature of educational governance in Nepal. In discussing the issues related to education governance, I rely on my theoretical framework (see Chapter 3) which encompasses the sociology of disaster, sociology of education and sociology of development. Moreover, I engage with the multi-scalar governance model developed by Robertson, Bonal and Dale (2002), who conclude that education governance is comprised of a range of functions, carried out at a range of levels by a range of actors who are not limited to the state. This chapter argues that a well-coordinated governance mechanism is essential for carrying out educational activities effectively and efficiently.

The case study of DRR education reveals that the state is not heavily involved in the governance domains of funding, ownership, provision and regulation, and is, in fact, circumvented by the role of supranational and local level organisations. It argues that since the state does not have enough capacity and funding, the policy development and other provisions are also influenced at a supranational level.

This chapter gathers together and explains the ideas in relation to governance, participation, content and delivery as observed from the previous chapters. It is clear that in order to address the sociological issues of disasters, education and development, structures and systems are required to allow DRR to be infused effectively into the school curriculum and mainstreamed effectively in other sectors. These structures and systems are absent in Nepal. Using DRR as an example, this chapter explains the reasons why there are bigger issues in education governance in Nepal.

The empirical data was analysed and grouped into four themes and discussed under the chapters dealing with the findings of the research, i.e. Chapters 5, 6, 7 and 8. The thesis findings chapters are organised under governance activities according to Dale et al's framework. Curriculum governance is considered under funding and regulation, curriculum participation under ownership, and curriculum content and curriculum delivery are covered under provision.

## 9.1 Education governance

This chapter follows Dale's definition of education governance. Dale (1999) describes education as a social institution which is associated with the continuing expansion of capital. He argues that education is highly influenced by globalisation which acts as a force of economic change on the institutions. His definition sees education governance activities as three-dimensional concepts based on the influence of neo-liberalism and globalisation. As discussed in chapter 4, Dale breaks governance down into four major activities that cover the possible roles of any relevant actors in education. Activities come under the headings funding, ownership, provision and regulation, and that can be performed by various actors, "including state and non-state actors, that need coordination at various levels" (p.33). These functions are common to education management and governance. Due to globalisation and marketisation, the nature of education governance is changing. Moreover, new forms of education such as private education institutions, new forms of consumption of education such as distance learning, changes in ownership towards education and in attitudes towards investment in education, as well as new international regulations and commitments; all contribute to the changed nature of governance. Dale (2012) explains,

'Good governance' is not 'a form of government by any other name', but a quite distinct phenomenon, a way of framing and constituting new and distinct problems, and of creating 'solutions' that go with rather than against the grain of the dominant neo-liberalism, and of assembling new forms of education strategies, tactics and mechanisms.

In the context of these changes in education governance which allow various actors to influence management, these activities which help to establish a good education governance are named as new governance activities. According to Dale (1999), a strong governance framework enables the structures, process and practices of education governance. A strong governance mechanism reflects the coordinating and regulating role of government, and therefore the state needs to determine how and by whom the governance activities need to be carried out rather than carrying out all the activities itself.

The coordination among the actors and the independent activities plays a significant role in raising the scale of governance at various levels. Dale and Robertson (2007) point out that "the way that international actors influence an agenda, provide resources, and share knowledge, ideas and expertise plays an important role in the mechanism of power" (p. 218).

As globalisation goes beyond national borders, the state is not able to overcome the challenges emerging from the situation, and therefore there is a need to involve other actors in order to solve the common problems (Leuze, Martens & Rusconi, 2007). It is important to note that “the coordinating role of the state is crucial for finding suitable actors and conditions in order to establish an effective governance mechanism” (Dale, 2005, p. 129; see also Dale 1997b). Education governance is crucial for developing, implementing and reviewing education plans and policies for their effective implementation. This model allows me to analyse the roles and responsibilities of various actors in education governance. The importance of education governance is discussed further in the light of current literature.

In Chapter 3, I examined the three areas that influence education governance: economic (neo-liberalism), globalisation (role of donor agencies/development partners) and political (human rights, democratisation) (Daun, 2007; Lauglo, 1995; McGinn and Welsh, 1999). These three forces played significant roles in shaping education policy and governance reform at different times in Nepal. As discussed earlier, various development partners initiated their support in the education sector at the beginning of 1990. For example, in 1990, funds were secured from the World Bank, UNESCO and other organisations and so the Education for All movement made significant changes in education governance in Nepal. Carney and Bista (2009) emphasise the influence of global forces on the development of education policies and governance reform interventions in the country. Support from supranational organisations has continued even after the large-scale political reform and establishment of federal structures and systems in the country.

As neo-liberalism drives markets to expand, Robertson and Dale (2013) argue that privatisation and globalisation in the education sector are related to neo-liberalism. Dale (1999) explains the influences of globalisation and neo-liberalism, specifying how these affect the national education system. Neo-liberal ideas emphasise the relationship between the state and citizens. Dale’s framework presents horizontal and vertical rescaling of activities and actors to establish such relationships. He describes the external elements that may affect the national education system. He argues that qualitative changes that may occur in local, national and supranational relationships indicate globalisation, and he places importance on analysing the effects of globalisation in education systems. It is important to understand how these external factors influence education policy formation, shaping and direction. Furthermore, such analysis helps to identify the nature and extent of the influences of global factors in the education system.

The impact of neo-liberalism is apparent in several ways, some of which can be viewed as positive and some negative. Regmi (2015) argues that neo-liberal ideology continuously influenced the education system of the country, not only because of the lack of economic capital but also of the intellectual capital, especially in bureaucrats. Rappleye (2011) states the Government of Nepal has changed its educational plan and policy as per the framework provided by the donor organisations in order to get funding for the education programmes. Similarly, Bhatt (2011) elaborates that the Basic Primary Education Project I, funded by the World Bank, was incorporated in the eighth five-year National Development Plan and Community School Support Programme (2003- 2007) as a national level project, and became a national policy after it was incorporated in the subsequent periodic development plans. These projects also influenced the education governance system and helped make a series of changes. Regmi (2015) states that the Basic Primary Education Project I, established by the Department of Education at a national level, replaced some of the major tasks of the Ministry of Education, however, it did not make any contribution to improving the management capacity at the local level. He also points out that even the major positions of the projects were filled by donors to ensure their interests were looked after; this reveals the use of neo-liberal imperatives to create new actors and structure in the existing state mechanism. Regmi (2015) further explains that since the country depends upon donor organisations, concepts such as freedom of the market, private investment in education, and decentralisation are introduced in the education plans and policies as per the donor's interest.

As discussed in Chapter 3, neo-liberalism enhanced democratic participation and most of the countries around the world made provision for decentralised education governance to include the voices of various groups in school development. Local authorities (such as the Village Council and Municipality Council in Nepal) are given the responsibility to work in liaison with the School Management Committee to establish a good governance culture at each school. The inclusive nature of a school committee helps in addressing the educational issues of various groups and minorities in school management. Moreover, good governance practices are helpful for empowering local communities and raising community contributions in school development and quality enhancement. As outlined in Chapter 3, education appearing on the global agenda and the role of supranational organisations including the World Bank, USAID, UNESCO and others is crucial for reforming education governance in developing countries (Dale 1997a; Dale, 1999). In the context of Nepal, the World Bank support for the EFA interventions from 1991 played a crucial role in shaping educational

policies and education governance reform. Caddell (2005) explains the influences of supranational organisations such as USAID, UNICEF, World Bank, Asian Development Bank, Danish International Development Agency, and Japan International Cooperation Agency in educational policy and education governance reform in Nepal. Bhatta (2011) mentions that most of the Western countries including the UK, the USA and the countries of the European Union provide development aid and influence the government as per their interests. Adhikari (2014) mentions that a significant portion of the national budget of the country comes from foreign aid, therefore the supranational organisations have influence in government policy. Because of political, social and economic changes in the country and the subsequent empowerment of local actors and communities, the level of understanding of education governance at various levels seems to be changing.

Supranational organisations play a vital role in pushing the country to attempt to decentralise practices in education governance. However, since participatory approaches are denied in policy development, the local structures and mechanisms seem less participatory and active. My findings reveal that because of the notion of power and authority, only some elites such as the School Management Committee chairperson and school principal have control over the decision-making process. As the existing structures are not functioning well, it looks like a form of de-facto decentralisation. It is noted that decentralisation in education policy has been imposed in a top-down approach not based on local demands and involvement.

As one of the least developed countries, Nepal heavily depends upon external funding to carry out development programmes, including in education (Carney, 2003; Carney and Bista, 2009; Bhatta, 2011; Regmi, 2016). As discussed earlier in Chapter 2, Nepal went through a 10 year conflict and has been experiencing ongoing political instability for the last couple of decades. The devastating Gorakha earthquake in 2015 destroyed a massive amount of property and created many problems with regard to rebuilding and rehabilitation. These situations put Nepal in a fragile state. On its twelfth annual Fragile State Index report based on stability and the pressures that the country faces, the Fund for Peace (FFP, 2016) has ranked Nepal 33<sup>rd</sup> out of 178 countries.

Previous chapters highlighted that there is a lack of capacity, funding and technical expertise to overcome the identified issues of education governance. Moreover, the findings reflect that there is also a lack of political will to tackle the problems in an organised manner. In this post-conflict and fragile environment, because of a lack of capacity and political will, other

actors became engaged in Nepal. Due to diverse socio-economic status, poverty, widespread illiteracy and remoteness, there is a lack of public pressure to a crucial role in raising political will in such a fragile context. Moreover, a lack of political culture among political parties, people's active engagement in party politics, and the hidden interest of various political groups have created challenges to the recently introduced federal system in the country. Although various attempts were made to reform the education governance sector after the establishment of democracy in 1954, due to a lack of political commitment, most of the attempts were unsuccessful. Such a situation occurred mainly because of a lack of resources in the developing country (Jansen, 2002). The development of an education policy in Nepal can be taken as an example that illustrates the struggle for the achievement of a broad political symbolism. Jansen (2002) also suggests that logic of policy development and its failure relates to political intention. For example, failure of education policy is connected to the lives of teachers and students in classrooms and schools. Moreover, policy orientation plays a crucial role in political symbolism to address global, economic and political changes that also influence the policy choice (Pherali et al., 2011).

## **9.2 Mechanism of education governance**

In the following sections, as presented in chapter 3, I first use the Dale et al.'s (2002) framework to explain and summarise the findings relating to how various stakeholders address the need, importance and current practices of the major governance activities carried out by various actors at different levels.

### **9.2.1 Funding**

Funding is one of the important functions of education governance. Adequate funding is essential for carrying out educational intervention at any level. Education governance actors play crucial roles in order to raise funds for carrying out education interventions properly. This study has shown that a school's financial constraints affect the ability of governing actors to address local needs and expectations. Because of a lack of systematic and long-term vision for funding in the education system, schools rely instead on short-term support coming from either the community or international donors. This also tells us that the state has little commitment on its own to supporting DRR education interventions at various levels. To fill this gap, other actors, such as local NGOs, International Organisations and other community welfare groups contributed significantly in areas where the state's role was found to be

limited in funding DRR actions at local levels. Moreover, other non-state actors are also engaged in providing funding for carrying out DRR education initiations. Funding in DRR education from these actors is mostly focused on carrying out DRR awareness education interventions in schools and communities, however it is still not enough to address the issues. In the context of Nepal, DRR is made possible in the absence of the state in a way that reproduces rather than interrupts patterns of marginalisation and inequality.

The community's role in fundraising initiatives for school development is crucial. Donations in the form of cash and kind by community people help schools to solve some of the problems, such as teacher management and improvement and maintenance of physical facilities. To fulfil the requirements of a funding organisation, a school needs to raise a certain amount of money to get funding for constructing a building/block as a community contribution. Therefore, every household of the catchment area needs to contribute to the school development. It is noted that the level of education, the socio-economic status, and the school culture play a crucial role in involving local people in school development. It is, therefore, challenging to generate funds, especially in poor and less educated communities. It was interesting to see that schools raised funds for physical facility improvement but spent it on locally-managed teacher's salaries. Labour and cash donations, management of uniforms and other educational materials for their children are major funding actions carried out by households. In line with this finding, Bhatta (2011) states community contributions were the major source of school development initiations before 1990. However, due to donor-based funding and the presence of other actors in education governance and school development, the essence of community participation in school development is decreasing in Nepalese schools.

This study has also revealed that in existing budgeting practice, schools do not receive any DRR-specific funds for addressing disaster issues. Because of financial constraints, schools lack safe school facilities and do not have enough learning opportunities or materials. Also, the study results show that funding for DRR in schools and communities is mostly donor-based. Moreover, priority given to administrative functions can prevent the ability of schools to carry out DRR and disaster management interventions. For example, with the help of the European Union, the Department of Education has been conducting the European Union's Disaster Preparedness Project in some selected schools in six districts. The project interventions are more administrative and focused on training and awareness raising. These interventions do not address the current needs such as rebuilding the earthquake-damaged

school buildings and classrooms (the Kantipur, 15<sup>th</sup> April 2018). After the Gorakha earthquake, the government requested that their development partners provide support mainly for rebuilding and rehabilitation, however, original activities were carried out because of the nature of the agreed programmes and commitment to the donors. Political influences and pressure have negative consequences on budget allocation and sometimes create tensions between government and donor. This conflict between government and development partners can have negative consequences at the local level. For example, earthquake victims of very rural and poor parts of the country waited for a long time to get the first instalment of money for the rebuilding scheme. This was because the government took a long time to prepare the rules and regulations to support Gorakha earthquake-affected people. Such situations create frustration for school leaders, teachers and community people at the local level.

Access to funding to better protect schools and learners from risk is potentially a product of social networks and opportunities. To address these gaps, local NGOs attempt to get funding from supranational organisations to carry out identified activities in some selected schools and communities. As the local NGOs handle the project, they dictate the budget and decide accordingly. Findings revealed that the involvement of local NGOs in DRR interventions at a local level play a significant role in disaster preparedness and management. Their support helps with DRR awareness raising, retrofitting, construction of earthquake-resistant buildings, emergency education, learning resource development, capacity development-related training and exposure. However, access to such funding was noted as one of the challenges at a local level. School leaders with good networks and political connections were found to be more successful in raising more funding from the relevant funding agencies. At the local level, due to a lack of a proper financial management system, local NGOs are criticised for not maintaining their transparency. It shows that school leadership, including the local NGO staff and management, were not aware of financial governance. Due to a lack of understanding about financial management, school management committees were also criticised for corruption and misuse of funds available from the state and non-state actors.

Problems related to inadequate financial resources were also noted as a big challenge in addressing local issues. The involvement of local actors such as NGOs to assist schools to carry out the DRR education interventions enhanced the relationships between school and community. However, projects based on short term interventions lack sustainability. The lack of a proper financial system raises the issue of transparency and may create conflict among governance actors. In the case of school DRR interventions, since a local NGO holds the

funds, the school and community people raised questions about financial transparency. Moreover, the similar nature of interventions from like-minded organisations caused duplication, and raised the question of the utilisation of available resources.

Considering the scales discussed by Dale et al. (2002), it is clear that supranational organisations play a dominant role in funding educational activities in Nepal. These organisations assist the state and non-state actors to carry out relevant educational governance activities at various levels. Because of their influential role in funding, supranational organisations can also determine the development of policy and plans. These findings concur with those of Bhatta (2011) who concludes that the development and implementation of most of the educational plans and policies of the country are influenced by donor agencies.

### **9.2.2 Ownership**

Lack of ownership around education governance has negative consequences on educational management. Without having local ownership, schools (or any other educational institutions) may experience various problems in delivering proper education at a local level. This study has shown that since DRR governance structures were not in place, schools were not actively carrying out DRR interventions. Failure to decentralise DRR education provisions from national to local levels leads to low participation, responsibility and accountability of the actors. For example, isolating school leadership from the curriculum development process demotivated them in regard to its implementation. Because of the centralised curriculum, education governance is also unable to address the contexts of the three ecological belts: plains, hills and mountains. Furthermore, since the school curriculum has been developed by subject experts and national level policy people, the curriculum and textbooks are not comprehensive enough to address local needs.

The strength of participation depends on whether it happens at the national or local level. It appears to be successful where the activities consider the local context and are inclusive, collaborative and purposeful. The tokenistic and non-participatory decision-making practices in education governance have negative consequences in the education system. Without a sense of ownership from the education actors, the governance activities never meet the needs and standards of education. Although Nepal has already drafted a National Safe School policy, endorsed the Comprehensive School Safety framework, introduced DRR indicators for the School Improvement Plan and developed National DRR strategies, these centrally

developed national policies and plans also have negative effects on developing local ownership. From the findings it is clear that the influence of the notion of policy-borrowing practices in the education sector (Phillips, 2005) in Nepal decreased the feeling of ownership of the local stakeholders towards public education.

This study shows that formal and informal participation in the education decision-making process contributes to widening DRR knowledge and skills in schools and the community if DRR is addressed properly. Active and meaningful participation is a crucial area of the curriculum decision-making process that contributes positively to addressing the local needs and raising ownership for its effective implementation. However, there were many negative comments on this aspect. Local level people felt that due to centralised curriculum development practices, local issues are not addressed properly in the existing curriculum. For example, most of the teachers claimed that since they were isolated from the curriculum development process, they did not feel any ownership of the school curriculum. Similarly, one-off acts of support from other local actors for schools to carry out certain interventions hinder an organised planning process. Exercising political power in schools, such as in teacher recruitment and participating in training/exposure, also creates tensions among school leadership and personnel and decreases ownership of the school development (Pherali, Smith, & Vauxet, 2011).

The state's ownership towards education governance seems weak because of political instability, a decade-long armed conflict, too much bureaucracy, poor documentation, poor monitoring, fewer participatory and centralised decision-making processes. These factors also have an influence on ownership and lead to a failure of decentralisation reforms to take effect in the country. Findings reveal that the state has shown its commitments towards DRR conventions, however it is not deemed serious enough to incorporate commitments into its plan and policies. Limited participation of the government institutions in DRR actions and lack of coordination and collaboration among the relevant line agencies are also challenges to addressing local disaster issues.

DRR-related policies mention the establishment of DRR and disaster management structures at various levels. These structures are new in the context of the recently established federal system in the country, and because of a lack of resources, capacity and plans, their regular actions and activities are not occurring in a well organised manner.

As discussed above, the involvement of local NGOs in education awareness raising, capacity development, resource development and information sharing can play a significant role in addressing local needs and issues. My findings revealed that DRR interventions carried out by local NGOs can empower students, the school family and the wider communities. However, since their interventions are for short periods of time and lack wider participation, it is observed that schools and communities lack ownership of these interventions carried out at a local level. Furthermore, since the role of local NGOs is dominant and mostly carried out by their own staff, the feeling of ownership by local people can be limited. As a result, after the completion of the NGO project, nobody is continuing these interventions.

Because of the existing funding dynamics, national level ownership for DRR is somewhat lacking and more a product of global agendas. International organisations working in the field of education assist their local partner organisations to initiate networks and alliances at a national and local level. These networks are found helpful in generating a feeling of ownership by the network members towards educational interventions. Such initiations in some places established a learning and resource sharing culture among the state and non-state actors. However, because of the lack of proper coordination among the actors on issues such as organisational interest, leadership and sustainability, such issues may also create conflict and became passive later.

Ownership of DRR policies, practices and procedures lead to better preparation to cope with possible disasters and emergencies. Such ownership benefits the school and community in the long run. Education plans and policies, if aligned with global DRR commitments and implemented properly, contribute significantly to establishing a culture of safety (UNISDR, 2015). Similarly, to address this post disaster context, education authorities must make continuity plans to ensure that school operations continue in case of natural hazards disrupting the school calendar (UNISDR, 2012). Baseline information plays a crucial role in developing and implementing such plans to prepare for and respond to expected disasters or crises. This information is helpful for assessing the possible impacts of disasters, the assessment of available facilities and equipment at schools, the identification of vulnerable students and communities and other areas which are useful for proper planning to cope with the situation in practice. For example, providing school-based emergency and disaster management committees and holding regular meetings are helpful for guiding school disaster management effectively (UNISDR, 2012; Selby and Kagawa, 2014; GFDRR, World Bank, European Commission & UNDG, 2012). The findings revealed that since the policies are

developed at a central level, there are gaps in addressing the local contexts and policy implementation is very weak. For example, as shown in Chapter 5, p. 97, the officer from the Department of Education explained that because there was no separate structure to oversee school disaster management actions, and little DRR-related baseline information, schools still do not include DRR interventions in their school development plans. A lack of disaster management structure in schools and educational authorities, and a lack of sharing DRR ideas with School Management Committees and Parent Teacher Association members adversely affects the ability of schools to conduct disaster drills and other required DRR interventions regularly (Tuladhar et al., 2013; Selby and Kagawa, 2014).

A teacher's pedagogic knowledge, wider understanding about DRR areas and proactive roles in the school and community help to raise the quality of education and strengthen school community relationships and the feelings of ownerships. However, poor teacher management, a lack of the required number of teachers and poor professional development opportunities at schools hinder the effective running of DRR education activities.

Limited participation in DRR activities at a local level and the influence of global supranational organisations has added pressure on the Government of Nepal to amend existing policy provision. A lack of ownership towards policy and plans affects their implementation, which in turn affects the rebuilding plan in the earthquake- affected area. In summary, considering the scales discussed by Dale et al. (2002), it is clear that a lack of active and meaningful participation practices by government agencies and the dominating role of supranational organisations in education decision-making processes, creates a low level of ownership.

### **9.2.3 Regulation**

Rules and directives help authorities to establish good governance practices in education. The Constitution of Nepal (2015) assigned disaster risk management as a concurrent responsibility of different tiers of government, particularly the local government (MoHA, 2017). The Disaster Risk Reduction and Management Act (2017) proposed a multi-tier institutional structure of disaster risk management with a provision of a Disaster Management Fund at all levels. The Local Government Operation Act (2017) provides DRM authority to local level units. Findings suggest that the state has agreed to various global conventions and shown its commitment to incorporate these in national legal documents, plans and policies,

however the implementation aspect of these was found to be weak. The education governance structures are formed at the local level, however a lack of proper communication and coordination among various actors hinders the establishment of proper education governance. Furthermore, the centralised nature of the governance mechanism increased coordination and communication gaps among stakeholders. Non-state actors have carried out advocacy initiatives for the effective implementation of these plans and policies. As a result, the state has revised the existing act and regulations to address the commitments made in the global forum. As an example, as discussed in chapter 2, the relief-based disaster act was replaced by the risk reduction approach-based DRR act recently.

Findings suggest that governance is multi-layered at local, national and global levels and the layers are inter-linked and interact with each other in the development of relevant policies and plans ensuring funding to carry out education-related interventions locally. For example, a key lesson learnt from the interviews and focus groups with study participants is that DRR education provision in the school curriculum is shaped because of the advocacy initiations carried out at a local and national level by various actors and government commitments to the HFA (2005- 2015) and the Sendai Framework of Action (2015- 2030). However, it is revealed that because of weak regulation mechanism the progress made in DRR education is not yet satisfactory.

Lack of political commitment and will to implement the developed provisions is another challenge which shapes education governance at various levels. Similarly, looking closely at the interpretation of governance, it has become evident that policy level actors are the key people for developing relevant policies and plans. The notion of power plays a crucial role in the development and implementation of education plans and policies (Marshall, 2009). The devolution of authority from the state to the lower level administration is found effective for resource distribution (Blackstock et al., 2007; Miller and Douglass, 2015; Forino et al. 2015; World Bank, 2017). The top- down nature of the decision-making process does not address local voices and issues, and hence a participatory governance mechanism creates a favourable environment for decision making. Moreover, the establishment of relevant structures and networks in an inclusive manner at a local level can provide platforms to help to empower local people and address local issues in education.

This study has noted that the centralised nature of the decision-making process and poor resource allocation practices in DRR areas have negative consequences at a school level for

DRR interventions. For example, in Chapter 5, p.102, because of a lack of resources at the local level, schools are still struggling to develop and implement the school DRR plan, including rebuilding collapsed property. This example reflects that schools themselves need to take the initiative, such as approaching INGOs and other potential actors, to find resources to carry out the required DRR education interventions. Due to a lack of coordination, higher level education governance mechanisms are not aware of local contexts and hence schools struggle to fix the problems themselves.

Good governance practices need functional policies and their effective implementation. As discussed earlier, global actors heavily influence the policy development process, and this creates challenges for policy ownership. Moreover, global actors tend to replicate their practices from other countries and create pressure on the government to incorporate their agenda in policies and plans. For example, the World Bank-funded community school project was modified several times to address local needs in Nepal. Effective regulation is essential for managing education governance activities properly.

This study found that successful DRR education initiatives need participatory governance practices; thus, a decentralised governance mechanism is seen to be a more effective mechanism than centralised. As discussed in chapter 2, in the context of Nepal, decentralisation in education governance initiatives is driven by the World Bank. Considering DRR initiatives in education, because of a lack of decentralisation awareness and empowerment at community level, this study has noted that the decentralisation concept in education governance has been perceived differently by various actors. Community people pointed out that the school principal and School Management Committee chair hold power and authority, therefore most of the decisions made at local level were influenced by their power. Policy level people, however, observed that decentralisation practices at local level depend upon socioeconomic status, so poverty and illiteracy are barriers to participation and education governance and in such a context these people struggle with various challenges. Some of the teachers perceived that decentralisation in education is not a wise idea for improving the quality of education. It is revealed that pushing decentralisation and shifting responsibility from a higher to a lower level is not working well in all places. Such practices in some places create problems such as internal conflict, corruption and misuse of authority. Moreover, findings revealed that schools need proper assistance in managing these issues, otherwise there is a danger that the community has no ownership, nor is there funding for all.

Good governance practice is based upon functional policies, rules, regulations and their effective implementation. In the context of Nepal, it is noted that political instability and crises have negative consequences on the implementation of rules and regulations. For example, the findings show that in the post-disaster context, to carry out education in an emergency situation, various actors bypassed the state, policy and provisions. Without informing the state, local authorities and local people, these organisations carried out humanitarian work straight away. This creates problems at a local level (NPC, 2016). This is contrary to the suggestion by the Grand Bargain (<https://www.agendaforhumanity.org/initiatives/3861>) which supports the view that local authorities and communities should carry out humanitarian work.

A lack of policy awareness also contributes to its poor implementation. The findings show that most of the local level education governance actors are unaware of existing education rules, regulations, DRR plans and policies. For example, as discussed in Chapter 5, p. 104, community representatives pointed out that they are not aware enough of the roles of disaster management structures at the local level. Also, School Management Committee representatives as presented in Chapter 5, p.99, pointed out that most of the committee members are unaware of disaster management, DRR strategies, education policies and plans. These findings are supported by Carney & Bista (2007) who note that although Nepal has made certain policy amendments in recent years to embrace decentralisation and devolve authority to school management committees, in practice these amendments did not address the real situation (Carney & Bista, 2007). There is a huge need for awareness initiatives of education rules and regulations, policies and plans to make people aware of their roles and current policies at a grass roots level. Similar to this, participants at the local level were also found to be unaware of DRR education policies and plans. In this context of a limited knowledge of legal frameworks, awareness, human resources, poor implementation of developed plans and policies, overlapping regulations, and a lack of clarity about the allocation of roles and responsibilities, confusion is created between central, regional and local level governance (UNESCAP & UNISDR, 2012; UN, 2014). For example, in Chapter 7, p.166, the officer from the Department of Education shared that since DRR is a relatively new concept and recently introduced into the education sector, there are still policy gaps in mainstreaming DRR in education plans and policies at a local level.

This study revealed that due to a lack of a proper regulation system, the NGOs working with schools are more concerned with achieving their project targets than in contributing to a

sustainable change in the schools' education system. For example, provision of one-off disaster drills in schools and DRR training opportunities for a selected teacher were not enough to develop required preparedness skills and capacity in students and teachers. Similarly, NGOs have provided some DRR-related learning resources to schools. However, due to a lack of follow up of the progress and conducting of relevant training to all teachers, the materials provided became useless and were stored inappropriately. Similar to this finding Selby and Kagawa (2012) also find limited numbers of disaster drills and capacity development activities at the local level.

District level officials interpreted curriculum governance mechanisms as based on power and authority. For example, interviews and focus groups with district level officials suggest that the District Education Office plays a facilitator role in implementing DRR education interventions in schools, however, it is not engaged in DRR curriculum development and other policy development processes. Due to limited resources and exposure, regulation of legal provisions at the local level is also affected. Some of the district officials were also unaware of their authority and accountability for establishing a safe school environment in the district, which implies that local disaster governance is still dependent upon the national officials to initiate needs-based DRR education interventions in the district. It needs wider participation, coordination and collaboration amongst actors to regulate designed actions. These initiatives also guide the development and implementation process of national and local level DRR education plans and policies. For example, endorsement of sustainable development goals in the educational sector shows government's concern to raise the quality of education through the establishment of a safe, child-centred, inclusive and non-violent learning environment for all children in each community (GFDRR, 2017).

This study also noted that not only at the district level, but also at the school level, regulations of the education act and rules are not transparent. Some of the teachers believed that school leadership seemed biased in providing opportunities to teachers for their professional development. It was pointed out that school leadership needs to follow the rules and regulations appropriately to manage the school effectively. Contract-based and temporary teachers perceive that they are less valued by school leadership and permanent teachers. However, the school principals argue that schools provide equal opportunities to all teachers for their further development. It was observed that the political belief of the teachers, the financial condition of the school and a teacher's performance are also influential factors in gaining training and other exposure opportunities at a local level.

This study noted the need for contextualised DRR policies and their effective implementation through the provision of decentralised education governance mechanisms at various levels. This requires resources and long-term commitment to achieve defined milestones. For example, in Chapter 5, p. 103, the school principal shared that the Government of Nepal developed enough policies at a central level but the problem is in the implementation, which is very poor at each level. As discussed in the education governance section (see 5.4), supranational organisations such as UN agencies, USAID, DFID and others have been assisting the like-minded governmental and non-governmental organisations to develop and implement DRR plans and policies for a long time; however the outcomes of their inputs are not satisfactory. As presented in Chapter 2, the country has faced more than a decade of political instability with frequent changes in government which adversely affected policy development and implementation. Similar to this, Ratiani et al. (2011) find that in the context of Nepal, provision of national level DRR policies are in place; however, because of poor implementation and a lack of local level DRR policies in the changed political structure, the disaster governance mechanism seems passive.

#### **9.2.4 Provision**

Provision of structures, support mechanisms, resources and other dynamics help in establishing effective governance. Dale's governance framework suggests that governance actors from household to global level play important roles to provide their quality services in education.

This study noted that with the help of a local NGO, all three study schools have carried out vulnerability mapping and sketched school vulnerability maps, an evacuation plan and exit signs on the wall of their school buildings. However, most of the teachers and School Management Committee members were unaware of the process and messages that these maps portray. Moreover, the development and review of a School Improvement Plan in most of the schools still looks like a formality. For example, school leadership nominates an individual or a few teachers to develop the School Improvement Plan and therefore, since the planning is still not participatory, such a School Improvement Plan is unable to address real educational issues. Furthermore, it is noted that none of the study schools either identified or incorporated any DRR interventions in their School Improvement Plan. DRR activities carried out at local level are unplanned and mostly depend upon the interest and motivation of the actors.

With the help of global actors, the state has developed education plans and policies, however, the implementation part is lacking because of the absence of support from the state. For example, providing primary education in the mother tongue provision is there, but, due to a lack of resources, schools are struggling to manage relevant learning resources and teacher training. Findings also revealed that provision is very ad hoc and not coordinated. In addition, it is clear that provision of resources very much depends on the interest and activities of actors other than state. Most of the schools have poor physical infrastructure, but they do not have enough resources to address these issues alone and it is not the priority of other actors either. Therefore, schools are struggling to find relevant institutions that can meet their needs. As discussed in previous chapters, teacher training provision, curriculum development and textbook provision, and scholarship provision for the poor and marginalised groups' students do not seem to be coordinated, and therefore the outcome of education is still low.

Similarly, it is interesting that this study highlights that after the Gorakha earthquake, without informing the District Education Office nor having any agreed plan with schools, several organisations carried out activities such as earthquake drills, psychological counselling training for teachers and students, support for emergency education such as construction of Temporary Learning Centres, and the distribution of learning materials in schools. School teachers, principals and students were asked to participate in these events, and these practices created duplication and misuse of resources. Realising this gap, the District Education Office organised district level network meetings for the relevant stakeholders to respond to the needs of schools in an organised and coordinated manner. This misuse of resources was not only related to post-disaster issues, but also while distributing scholarships, conducting non-formal education classes in communities, teacher training and conducting enrolment campaigns in communities.

The provision of celebrations, such as Education Day and International Day for Disaster Risk Reduction at schools, were found helpful to raise awareness and strengthen community and school relationships. Similarly, the provision of progress cards for students allowed parents to visit schools frequently. It is also found that provision of progress cards and parent visits helped to enhance trust and relationships among teachers and parents. Such relationships contributed positively to addressing issues related to crises and school development.

This study revealed that education governance requires structural, technical and financial assistance from like-minded actors to carry out effective and relevant education initiatives at

the local level. Findings show that poor infrastructure and the lack of relevant learning resources at schools adversely affected the fulfilling of the learning needs of students and communities. School personnel, School Management Committee and Parent Teacher Association representatives and those from communities interpreted the value of education governance in the sense of managing physical and emotional safety at schools.

The provision of technical assistance to incorporate DRR content in the national curriculum and the development of a local curriculum to address local needs were highly valued by most of the research participants. As education plays a significant role in reducing risks of potential natural hazards and developing the coping capacities of individuals, it is revealed that the provision of relevant and contextualised DRR content and national school safety policies and procedures can help local education authorities to incorporate DRR effectively in the curriculum. These provisions are also found helpful in identifying curriculum needs and integration (GFDRRR, 2012). Furthermore, this study has noted the importance of the development of a local curriculum and learning resources in a multi-disaster-prone context. For example, in Chapter 7, the officer from the Curriculum Development Centre shared that with the assistance of some I/NGOs, quite a few local DRR curriculum development initiatives were developed in some schools, however the course effectiveness study has still not been carried out. As teachers do not have the required skills and confidence in curriculum development, school leadership needs to explore suitable opportunities at the local level. This example represents the need of technical assistance to address DRR education as an emerging area through public education from like-minded governance actors.

This study also found that the formally established disaster management committees, DRR networks, and other platforms such as the Education Cluster, Consortium, and Education Task Force, that conduct regular meetings and interactions at central and local levels, are helpful for increasing collaboration and sharing learning and challenges among government and other actors. However, it is noted that the level of participation of the member organisations is based upon their funding which influences their feeling of ownership and engagement in interventions. For example, as presented in Chapter 6, p. 132, the officer from the Department of Education pointed out that the contributions of the national and district level Education Clusters and DRR networks and platforms are helpful for enhancing collaboration among like-minded DRR actors. This is supported by Tierney (2012) who describes that governance through networking is helpful to put effort into flexibility, adaptability and capability to mobilise the valuable resources effectively. Push and pull

factors in the education system play significant roles in activating and motivating such networks in education governance. Effective mobilisation of such networks and platforms depends upon the attributes of the leadership. Moreover, at a local level, their participation varies based on the availability of capacity development opportunities, exposure and quality of leadership. As discussed earlier, the level of education, financial wellbeing and exposure of the community members encourage the joining of these structures. These networks are seen to be actively participating in education and other areas such as DRR interventions in schools and community.

The involvement of local NGOs, the market, development partners, communities and households in education interventions determine effective and efficient governance provision. Since these actors still lack a clear understanding of their roles and do not have a concrete plan of action to contribute to schools, most of the school leaders are struggling to get support from a subnational level. The government, with the help of supranational organisations, has put its efforts into strengthening education governance from time to time at various levels; however various factors such as interest, motivation, and level of understanding of the governance actors played a significant role in carrying out well-planned governance interventions in the education sector. Technical and financial support from supranational organisations assists the state and non-state actors in carrying out relevant educational governance activities at various levels. In the case of DRR education provision, various actors have contributed to mainstreaming DRR in education; however, these contributions were still not enough to address social vulnerability and risks.

The following table (Table 15) highlights the key conclusions based on the four domains.

**Table 15: Summary of the existing governance actions**

Funding	Ownership	Regulation	Provision
State relies on donor funding to carry out major education governance action including DRR education activities. Short term funding	Centralised state initiations in governance limit public ownership towards education. Because of the funding dynamics,	The state has agreed to various global conventions and shown its commitment to incorporate these in national legal	Influence of donor organisations in initiating DRR interventions at various levels neglected the local need and choice.

<p>by Development Partners is not enough to address the education issues in a sustainable manner. It also reproduces rather than interrupts patterns of marginalisation and inequality.</p> <p>Financial constraints affect overall management of educational institution and therefore, raise social vulnerability and disaster risks.</p> <p>Contribution from the community and other local actors in cash and kind help to improve physical facilities and the learning environment of school.</p>	<p>national level ownership for DRR is lacking.</p> <p>The state's ownership towards education governance seems weak because of political instability, a decade-long armed conflict, and bureaucratic governance, poor documentation, poor monitoring, and fewer monitoring participatory and centralised decision-making processes.</p> <p>Participation is successful where the activities consider the local context and is inclusive, collaborative and purposeful.</p>	<p>documents, plans and policies, however the implementation aspect of these was found to be weak.</p> <p>Lack of proper communication and coordination among various actors hinders establishing proper education governance.</p> <p>Governance is multi-layered at local, national and global levels and the layers are inter-linked and interact with each other in the development of relevant policies and plans ensuring funding to carry out education related interventions locally.</p>	<p>The state has developed structures and legal provisions to ensure good education governance, however poor implementation of policies and plans were noted as significant concerns.</p> <p>Teachers and parents give less priority to DRR education.</p>
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## **Conclusion**

This chapter has discussed the findings related to the four governance activities: funding, ownership, regulation and provision of the pluri-scalar education governance model presented by Dale et al. (2002). Taking DRR education practices and provisions as an example, this study has outlined the issues of education governance. These issues, identified in the DRR area, are reflective of broader challenges in the governance in education in Nepal. The governance mechanism is not truly decentralised and reflects devolution of some power and authority to a local governance mechanism. Discussions show that increased donor-based funding in education decreased the feeling of ownership by the local people towards public education. Similarly, centralised governance practices promote the expansion of general education interventions rather than contextualised and needs-based interventions. These results are also associated with poor legal provisions and weak regulations. Because of globalisation and neo-liberalism influences in education governance, both in terms of activities and in terms of scale, the state is only minimally involved. The centralised nature of education policy-making practices and lack of resources at the grass roots level, mean that DRR education interventions are not enough to address disaster risk and social vulnerability issues. Lack of inclusive practices in education, traditional teaching practices, poor school facilities, weak school management and leadership, decreased community participation, limited teacher development opportunities, lack of political will and commitment, political instability, and weak regulation mechanisms all have negative consequences for the overall education system. It is concluded that a well-functioning governance mechanism in the education system is a cornerstone to carry out relevant and contextualised DRR educational interventions at school level and this is lacking in Nepal.

## **Chapter 10 : Conclusion, implications and recommendations**

### **Introduction**

This research was motivated by my own personal experiences of disasters and DRR initiatives carried out as an education and community development practitioner, and disaster survivor, in Nepal. This study explored stakeholders' perceptions of the provisions, practices and effectiveness of current DRR education school curricula in reducing social vulnerability and disaster risk in the country. To do so, four research questions were created: (a) What are the current DRR education practices and provisions in Nepal? (b) How did this curriculum come to be developed? (c) What are the stakeholders' perspectives of relevant and contextualised DRR curricula for Nepal? (d) How can relevant authorities develop and implement a more effective DRR curriculum?

This study is based on a sociological disciplinary framework and comprises the sociology of disaster, education and development. The sociological concepts of vulnerability, hazards, and risks were used while analysing DRR and disaster management initiatives in the education sector in Nepal. Analysis of the influences of sociological, political and historical aspects of disasters helped me to explore the context of social vulnerability, risk and resilience. It also assisted in identifying the disaster needs in the education and development sectors. Using Dale's pluri-scalar model of education governance to discuss the findings of this study assisted in exploring the influence of various actors on carrying out governance actions in education. Furthermore, it also allowed me to analyse the influences of neo-liberalism and globalisation on education reform in Nepal.

This qualitative case study research involved three public schools located in the Bhaktapur district of Kathmandu valley (the capital city of Nepal). This research provided a snapshot of practices and provisions of DRR education in these public schools in Nepal. Teachers, the School Management Committee and Parent Teacher Association members, school principals, and community representatives were the study participants at the school level. Education sector government officials and a representative from a local NGO involved in DRR education participated at the district level. Similarly, policy level officials and representatives from INGOs working in the DRR area were consulted at the national level. The DRR and disaster management experience and perceptions of these participants were investigated

further to explore the effects of social, political, cultural and historical discourses on social vulnerability, disaster risks and resilience.

I begin this final chapter with a discussion of social and educational perspectives on natural disasters, which is one of the major areas of contribution of this thesis, followed by consideration of some of the limitations of this study. I then highlight the contribution made by this study to DRR education, in particular, and to the improvement of the overall education system of the country in general. I present the implications of the study and some relevant recommendations for further research and development of this area. I finally analyse the wider ideas and draw inferences, presenting a conclusion which highlights the essence of my research.

### **10.1 Social and educational perspectives on natural disasters**

This thesis provides a comprehensive overview that identifies DRR and disaster management as largely a social concern. Access to DRR education, access to information, and social considerations play a significant role in recognising the disaster risk, vulnerability and mitigation of communities. It also identifies that social values and practices, social hierarchies, and power relationships that influence DRR and disaster management interventions. The disaster risk and social vulnerability concepts are useful for identifying the most vulnerable groups in communities and their levels of risk.

This study highlighted that disasters are socially constructed events influenced by demography, socio-economic status, and social and cultural values and norms. It noted the importance of identifying and understanding the local context in designing and implementing effective DRR education interventions. It also highlighted the central role of the social system and structures in disaster mitigation, preparedness, response and recovery. This study showed the influence of social power structures on the decision-making processes that play an important role in determining disaster vulnerability. It was revealed that social factors such as power, resource distribution, participation, political influences on the decision-making process, and social discrimination on the basis of caste and creed contribute significantly to defining a hazard as a disaster. Moreover, this study shows that social and political hierarchical structures appear to ignore vulnerable groups in disaster response, recovery and rehabilitation. It highlighted the major roles played by the social system and social structure

in DRR and disaster management and reinforced ideas of social, political and historical influences in disasters (see Quarantelli, 1978 and Nigg, 1995).

This study revealed that poor, powerless and excluded groups are more vulnerable to disasters. Loss of livelihood, property and lives in their own family or in neighbours' and community create stress and depression. Since they were not well prepared, they suffered badly during and after a disaster. This study concludes that incorporation of basic DRR skills and knowledge, including social issues and their consequences, in DRR education lessons in formal and non-formal education is helpful for reducing social vulnerability to disasters. This study reflects the need for the integration of social aspects of disasters into DRR education initiatives.

Because of deeply-rooted social discrimination and unequal power relations, weaker groups such as disabled people, women, and Dalits have limited opportunities to participate in the education decision-making process. Moreover, the study noted that these groups have limited access to educational opportunity, employment and social networks. The Ministry of Home Affairs (2011) identifies social inclusion as a priority in DRR and disaster management. However, in practice there is no evidence that this provision is incorporated in the education area.

The value of relevant and contextualised DRR education to address disaster needs in disaster-prone context was brought into sharp focus through the study. Education plays a crucial role in the all-round development of children. It helps to develop common understandings of disaster events and to prepare children for the best fit in their surroundings. Providing DRR and disaster management lessons across school curricula and conducting relevant extra-curricular activities encourage children to understand disaster risks properly.

By contrast, the consequences of disasters such as the destruction of learning facilities, injuries and deaths, obstruction to the regular schooling and other economic and social losses have negative influences and raise the educational vulnerability of children. The literature confirms that disasters increased the drop-out rate of children from poor and marginalised groups. Furthermore, the impact of disasters on poor and marginalised families also affects the educational provision for children. This literature review also noted that families, including their children, of lower socio-economic and excluded groups have more distress, anxiety and depression. These traumatic experiences have a negative influence on children's study. It is revealed that schools faced challenges when responding to the crisis situation.

These events created an extra financial burden to school leadership for rebuilding. Moreover, the impact of disasters on teachers and loss of educational documents, including learning resources, have a direct impact on children's education in a post-disaster context.

This thesis identified the need for proper education governance in order to address sociological and educational perspectives of disaster risk and vulnerability. DRR education interventions start from households. It realised the significant roles of household, community, local NGOs, schools, governmental line agencies and other development partners in addressing risk and vulnerabilities. These actors play important roles in implementing funding, ownership, regulation and provisions actions in education governance mechanisms. Particularly for the DRR education interventions in disaster-prone developing countries, states need to regulate the governance system in a coordinating manner. Furthermore, participation of vulnerable groups in DRR decision-making processes and more decentralised authorities enhances the sustainability of DRR interventions at local level.

## **10.2 Barriers to DRR education**

This study highlighted the various challenges and barriers to DRR education. It identified that a lack of awareness about DRR and disaster management in relevant stakeholders is one of the major challenges to mainstreaming DRR in education in an effective and efficient manner. Similarly, this research project found that a lack of funding, trained teachers, teachers' training in DRR education, of DRR content and of DRR educational resources were barriers to implementing DRR education initiatives. These findings are supported by DRR education scholars, nationally and internationally. Scholars in DRR education report that most of the developing disaster-prone countries in the world are struggling to carry out DRR education initiatives due to financial constraints, a lack of trained teachers, centralised education structures, ingrained socio-cultural beliefs and traditions, and continued reliance on development partners to get financial support (Izadkhah & Hosseini, 2005; Selby & Kagawa, 2012).

Likewise, scholars such as Shaw (2012); Petal (2008); Johnson and Ronan (2012) note that exam-oriented curricula, lack of coordination between schools and communities to address the local disaster needs, parents' interest in literacy and numeracy rather than other subjects including development of life skills, and lack of a DRR governance structure in education are challenges to DRR education. They further noticed that lack of support for increasing

expertise in teachers and school leadership for addressing the DRR issues at a local level, lack of coordination and communication among relevant stakeholders for collaborative action, and the sustainability of the NGO-supported DRR interventions in the absence of resources create challenges for the sustainability of DRR education initiatives at the local level. Much of this was confirmed by this current study.

In addition, this study noted that the lack of psycho-social counselling support for teachers and students in school was also a major challenge to ensuring education continued after disaster. This reflects the findings of Gilbert (2006) who also identifies psycho-social, language and economic factors as barriers in DRR education.

The findings also identified that a curriculum developed by experts and concerned authorities may not address the needs of the community unless local stakeholders are involved in curriculum development and the implementation process. Having a participatory model for curriculum governance can help to widen ownership of DRR initiatives at the school and community level. Furthermore, this study identified that curriculum governance needs proper resources, legal provisions and an effective structure in order to reduce social vulnerability and risks. It appears that a lack of relevant regulations and the poor implementation of policies are significant concerns in DRR education management in Nepal. Moreover, as described in Chapter 6, a lack of political will and involvement, the negative attitude of teachers and their political engagement and the exclusion of poor and marginalized groups in the education decision-making process are other challenges in DRR education.

This study revealed that compared with other subjects, DRR education was not a prioritised area of learning. Since teachers were unprepared, DRR lessons remain untaught in classrooms. Selby and Kagawa (2012) also find that DRR is not a prioritised area by schools and teachers. They also point out the importance of teacher development activities in the DRR sector.

In addition, donor organisations have taken a dominant role in initiating DRR interventions at various levels and even the establishment of a disaster governance mechanism is also an agenda in national policy discourse as a prerequisite of the donor community, rather than local choice. Because of this reason these mechanisms lack ownership and become passive after the project completion date. Governance structures and provisions, legal instruments, resources and wider participation are required to perform such roles effectively. Many of the issues noted in the international literature are actually related to the way in which the

education sector is governed in many disaster-prone places. According to HFA and Sendai Framework (UN, 2015), there is an assumption that the state has a key role to play in managing these processes. However, as discussed in Chapter 9, it is noted that the reality is that many of these processes are managed by sub- or supranational actors. This, in turn, has the result of reproducing rather than interrupting patterns of vulnerability to disasters.

### **10.3 Strengths and limitations of the study**

This thesis is one of the first to place local DRR responses within the broader frame of education governance in Nepal. In doing so, it seeks to move away from a purely problem-solving focus to a more critical understanding of the phenomena at hand. Also, in terms of methodological strengths, this thesis is ethnographic in nature, and includes my disaster-related experiences from childhood to now. Moreover, the position that I occupied as an insider-outsider granted me particular insight into the situation at hand.

One of the strengths of this study was the descriptive dialogue arising from semi-structured interviews and focus groups. The study was carried out in the authentic context of post-disaster Nepal, and there was a real willingness to engage in active participation from each of the research participants from the local to the policy level.

The selection of three study schools ensured representation from central and remote locations within the distinct disaster context of the district. It also allowed me to gain wider ideas about the social vulnerability and possible disaster risks and hazards in the education sector that the school curriculum needs to address. Interaction with various study participants from mixed socio-economic backgrounds and deprived groups was another strength of this study. These different contexts add value to this study by enhancing trustworthiness, relevance and context specificity (Creswell, 2007).

There are several limitations associated with this study. The data collection of this study was carried out one year after the devastating earthquakes in 2015. Most of the communities including schools were affected badly. As children are the group most vulnerable to disaster and considering the importance of their mental health and emotional wellbeing in a post-disaster context (Tatebe & Mutch, 2015), this study did not include children participants and therefore was not able to cover their perspectives on DRR education.

Another limitation of this study is related to my own role as a researcher and my personal biases that influenced data analysis. The three selected public schools were completely new to me. The research participants at local, district and national level represented discrete social backgrounds with which I was not familiar prior to the research. Most of the local level study participants were from the Newari community. As I have discussed in Chapter 2, in a highly divided and hierarchical societal context, some of my identities, such as upper caste Brahmin, university lecturer, PhD student studying in New Zealand and Nepali-speaking person, might have impinged on the way the study participants observed me and constructed and shared their data. As most of the study participants at local level represented Newars, it also took time to create a congenial environment to get them to open up during interviews and focus groups. In addition, other people, each from their distinct community, had come and interacted with these people in the post-disaster context but these interactions had led to nothing; perhaps the participants might have thought sharing disaster experiences with me meant misuse of their time and information. Therefore, I worked hard to develop rapport with various people. To help me develop trust, I shared my disaster experiences and my empathetic feeling towards them and their experiences.

Issues of generalisation are another limitation of this study. In this study, a sample of three schools from one of Nepal's 75 districts cannot hope to capture the wider DRR needs and education practices. Thus, it limits the scope of generalisation to the larger population. The main purpose of this case study research is to provide layered descriptions rather than overall generalisations of DRR education initiatives, social vulnerability and disaster risks.

The study schools represent both urban and rural contexts. However, as the significant number of schools in Nepal are located in more remote areas of the country, such rural areas, specifically schools from mountain and hills, are not represented; this is another limitation of this study. Further research focused on these rural schools will be helpful for identifying other issues of social vulnerability, disaster risks and DRR education for addressing social, political, and historical contexts.

There are three types of schools: public, institutional and private in the education system in Nepal. Private schools can choose their own curriculum. These are motivated by profit and this study does not include DRR practices in private schools. Since 20 per cent of all schools in Nepal are private schools, which is a significant portion, exclusion of private schools in this study is also another limitation. The DRR education-related policies and provisions are

the same for all schools, but further research in private schools may bring out some further implications to support this study. Institutional schools are like charity schools which follow the government curriculum in the same way as public schools. A more systematic contrast between formal schooling, and non-formal and informal education could be undertaken.

#### **10.4 Potential areas for further research**

There are several areas for further research. These include a need for further research exploring the provision and practices of DRR education in a greater variety of schools in other districts to find out how the national provisions and policies of DRR education and practices are enacted. This study revealed that there were gaps in implementing DRR education policies and practices in schools. A larger scale study could investigate how the local, district and national level stakeholders understand and perceive the need and importance of DRR education in mainstream school education.

Future research could also further investigate barriers to developing and implementing relevant and contextualised DRR education. It could also identify the factors contributing to disaster-resilient schools and communities that provide inclusive practices to foster a sense of belongingness for all social groups.

Since children were excluded from this particular study because of their vulnerability in the post-disaster context, future research could explore children's perspectives of the need and importance of DRR education. This would also allow a comparison, in the understanding of disaster vulnerability, disaster risk and resilience, between students on the basis of their gender, caste and ethnicity.

This study has taken a broader approach to exploring the provision, practices and usefulness of DRR education in reducing social vulnerability and disaster risks. Using a sociological disciplinary framework, I have undertaken an analysis of DRR education policies and provisions by investigating the perspectives and practices surrounding the policies of DRR education in Nepal. I have also put some effort into analysing the policies that provide the informational base upon which the existing policies are constructed (Codd, 1988). Both areas of analysis were helpful in explaining the relationships in national and local contexts (Brown 1994; UNESCO, 2003). Comparative studies between countries could be a further useful area of research by comparing best practices of provision of DRR education, and efforts to combat social vulnerability and disaster risk.

Another area for further research would be bringing a comparative dimension to the study. For example, a study could look comparatively at the DRR local curriculum development and implementation practices in different school types and settings. Similarly, further research to identify the DRR education learning outcomes of students representing various social groups could also be other areas of study. Although inclusiveness and social justice practices have recently been introduced in the governance mechanism, the hierarchical social nature inhibits people's engagement in the process of decentralisation (Jones et al., 2014). Furthermore, this study provides background to carry out further research on the role of education in a disaster-prone context, and the impact of disasters in different social, cultural, geographical and socio-political contexts.

### **10.5 Implications of this research**

This study suggests the following implications for policy (curriculum governance, curriculum participation, curriculum content and curriculum delivery) and practices. This research found that with the help of development partners, the Government of Nepal initiated some actions for mainstreaming DRR in education policies and plans in line with the Hyogo Framework of Action and the Sendai Framework of Action. However, these policies and plans have not been fully implemented in local schools effectively. There was a huge gap between policy development and local level implementation. Thus, the Government of Nepal could revise the existing education policies, plans and curricula in line with global DRR frameworks and the constitution of Nepal. The DRR-sensitive education policies, plans and curricula could be better communicated, enacted and implemented effectively at national, provincial, district, village and school level.

This study found that a lack of trained teachers was a significant barrier to implementing DRR education initiatives in schools. Teachers' capability and capacity development in DRR can be enhanced through including DRR content in teacher education courses in the universities, and incorporating DRR into in-service teacher training packages as a mandatory component of the training. Similarly, school administrators, School Management Committees and Parent Teacher Association members could be trained to address disaster issues at a school level.

Social disparities are the main causes of social vulnerability. DRR education interventions promote greater inclusivity and participation while delivering relevant knowledge and skills

in a friendly environment to address the social inequalities and discrimination. The following section highlights specific recommendations of this study.

## **10.6 Recommendations**

The existing DRR and Disaster Management Act (2017) and other DRR policies provide genuine space for stakeholder participation in disaster governance and DRR interventions. However, the country has not yet introduced a separate disaster governance mechanism in the education sector; the existing School Management Committees are allowed to look after DRR activities. In the new changed political context, the new act could be introduced aimed at establishing disaster governance at various levels that will allow active community engagement in the DRR in near future.

Education governance should incorporate global commitments in national and local level policies and programmes. This is crucial for carrying out planned interventions effectively and measuring the progress for reporting to wider communities. My findings revealed that the centralised governance mechanism is not adequate for addressing local issues and ensuring the effective implementation of rules and regulations. Therefore, a strong decentralised system of education governance is found to be helpful in making governance actors accountable and responsible. A decentralised governance mechanism, having essential decision-making authority, ensures effective implementation of rules and regulations.

It is a recommendation of this research that the Department of Education, the Curriculum Development Centre and the National Centre for Educational Development coordinate in order to design and implement relevant and contextualised DRR education interventions. It is essential to introduce useful and relevant DRR and disaster management content in the curriculum at each level. This provision will develop a culture of safety which is essential for establishing disaster- resilient communities. The existing DRR curriculum, pedagogy and assessment system need to be revised as per the wider local needs.

This study found that teacher development in the DRR area is still not valued in the country. Existing teacher education courses (B.Ed. and M.Ed.) currently do not have DRR education content, which implies that most of the teachers coming into the teaching profession are unaware of the highly disaster-prone DRR context. Universities should therefore incorporate DRR education into higher education programmes for teachers. This would allow teachers to have basic DRR knowledge and skills in order to work effectively with parents belonging to

different social, cultural and ethnic groups. It is crucial because teachers are the change agents at a local level, and they play a pivotal role in disaster mitigation, preparedness, response and recovery. Given that Nepal is a highly disaster-prone country, basic DRR knowledge and skills should be a minimum requirement and therefore DRR education should also be part of the teachers' development courses. Most of the teachers in this study believe that having the opportunity to participate in DR-related training helped them with the effective delivery of DRR education in the classroom. The National Centre for Education Development recently developed and piloted a DRR training manual for teachers. As DRR is a wide-ranging issue, a DRR training manual should be made compulsory for each teacher in their in-service training package.

Considering the disaster-prone context of the country and importance of DRR education, this study also recommends that the Government strengthens the capacity for Educational Counselling and the Disaster Management Unit at the central level and the relevant unit at federal level to carry out school and community-based DRR initiatives effectively and efficiently.

DRR resources are essential for disseminating disaster information. Use of the internet and documentation of published materials are useful for increasing access to DRR information. Lack of DRR information was seen to be a major component of disaster loss, thus the development of locally acceptable and affordable materials is helpful for raising awareness in DRR. As most of the participants noted, a lack of resources is a major problem in delivering DRR education in classrooms. What they would benefit from is an online resource hub where teachers can access relevant and useful educational resources to carry out their classroom teaching effectively<sup>14</sup>. The Department of Education could take a lead role in establishing such a knowledge hub where DRR-related guidelines, teaching resources, and best practices produced by various organisations<sup>15</sup> can be uploaded and shared with others.

Only selected schools in some areas have been receiving support from NGOs to carry out DRR education. This study raised some of the issues related to schools and NGOs' working relationships which hinder DRR education interventions. There is a need for development of a proper working channel to minimise these issues. NGOs could work through the

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<sup>14</sup> Provision of online DRR education materials are found to be useful in various countries such as Australia, Japan, US and New Zealand.

<sup>15</sup> Using online resources and database also align with the government program which has a target of schools having internet access by 2020 (SESP, 2015).

Department of Education and District Education Office rather than directly with schools. This provision would also help to establish two-way accountability. This study identified that, where it was available, school partnerships with NGOs played a significant role in disaster preparedness and raising awareness of the school family and community. To utilise available resources at the local level, the Department of Education can also encourage schools to build partnerships with relevant institutions to work in the DRR area. Such partnerships enhance mutual respect and support for mainstreaming DRR in education.

The development and dissemination of standardised and consistent key messages on disasters play a crucial role in making school families and communities aware of disaster preparedness, response and recovery (see Chapter 8). The Curriculum Development Centre can take a lead role in developing relevant and useful key messages which can be published in various languages to assist children to get the correct information. Moreover, the Curriculum Development Centre could revisit the school curriculum policy to encourage schools to incorporate curricular lessons in order to practise disaster drills for different scenarios.

To address the social, political, cultural and historical aspects of disasters and their influence in DRR, schools need to develop culturally appropriate and locally accepted DRR education innovations. This study suggests that schools should strengthen community participation in DRR education and school development. This can be done through establishing partnerships with local governance and other like-minded organisations to carry out collaborative work in the catchment area.

To address the immediate need at the local level, this study also recommends that schools establish emergency relief funds under the provision of essential guidelines. This provision is helpful for addressing the issues of poor and marginalised people affected by disaster for improved response and recovery. Due to social factors, a significant number of young children leave school before completing their primary and secondary education (UNICEF, 2009). Provision of such funds at the local level can help to retain students from marginalised groups in schools.

The study recommends that the existing infrastructure and resources are not enough for addressing potential disasters. The government could coordinate with like-minded actors to work closely to address these issues at the local level.

Taking a wider perspective and drawing on the literature and my personal experiences, I also make recommendations beyond the scope of this thesis.

The Government of Nepal has drafted the DRR national policy and strategy on the basis of the recently approved DRR and Disaster Management Act. Some research study on disaster vulnerability of the capital city has been carried out at a national level. Learning from the recent earthquake, the Government of Nepal realised the need to develop guidelines for mobilising international assistance in the wake of a disaster and crisis in the country. Similarly, initiatives have been taken to establish warehouses to manage a crisis in the disaster vulnerable areas. With the help of development partners, DRR and disaster management capacity development initiatives at various levels were carried out, including initiatives to train volunteers at the local level to carry out DRR and disaster management activities. It is essential to develop this kind of disaster preparedness, rescue structures and regular capacity development at the federal, provincial and local levels. I suggest the establishment of warehouses to store relief and support materials for the disaster victims.

Mainstreaming DRR and disaster management in each sector and level of development is crucial. Considering DRR is a wide-ranging issue, this study restates the importance of mainstreaming DRR in various sectoral plans to help to reduce social vulnerability and enhance the resilience of the people.

An information management system in disaster management is also essential. A disaster-related information system plays a crucial role in each stage of disaster management. Pre-disaster information plays a pivotal role in disaster management in the education sector, therefore I suggest that the establishment of a proper information system in the pre- and post-disaster context would help to carry out response and rescue actions more effectively.

## **10.7 Concluding comments**

The findings in this thesis confirm the importance of DRR education in building disaster-resilient societies in a disaster-prone context. The findings confirm the need for relevant and contextualised DRR education curriculum development through a participatory local curriculum development process. This research confirms that proper curriculum governance, curriculum participation, selection of relevant and contextualised content and effective

delivery of DRR lessons areas are fundamental parts of an effective DRR education. A lack of inclusive practice in curriculum development and implementation, of resources and of collaboration and coordination among stakeholders were identified as critical constraints in the building of DRR knowledge and skills of students and communities.

This research project was carried out a year after the Gorakha earthquake, at a time when the country was struggling with responding to needs, especially rebuilding and rehabilitation. At that time there was huge frustration among community people and other marginalised groups as they were not treated well in response to their disaster needs. Thus, it may be the right time to introduce DRR and disaster management in various sectors more effectively (the Government of Nepal, 2017). The findings of this research project may be helpful for the policy makers in revising DRR education practices and school safety policies.

It is hoped that this study, which has explored how the provision and practices of DRR education contribute to building disaster-resilient communities in a diversified social context, will have wider impact. The study described the need for relevant and contextualised DRR initiatives, as well as identifying the key education governance actions to work collaboratively to ensure that learners, communities and society are less vulnerable to the risks and hazards they might face, especially given the prevalence of disasters worldwide.

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## Appendix 1: Participant Information Sheet



### EDUCATION AND SOCIAL WORK

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#### **Epsom Campus**

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Auckland, New Zealand

**T** +64 9 623 8899

**W**

education.auckland.ac.nz

#### **The University of Auckland**

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Symonds Street

Auckland 1135

New Zealand

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### **PARTICIPANT INFORMATION SHEET (District Education Officer)**

**Project Title:** Disaster Risk Reduction education theory to practice: A case study from Nepal

**Researcher:** Yagya Raj Pant, student I.D. 6431231, PhD Candidate, the Faculty of Education and Social Work, the University of Auckland

#### **Project description and invitation**

My name is Yagya Raj Pant, and I am currently studying for a Doctorate in Education at the Faculty of Education and Social Work, University of Auckland. My study will investigate the curriculum provisions and practices of Disaster Risk Reduction (DRR) education in schools in Nepal. In this research, I will explore in-depth ideas on how can we develop and implement a more effective DRR curriculum to support individual and community resilience to natural disasters in Nepal.

**Purpose of the research:** This study aims to capture perspectives from educational actors and stakeholders about the importance, current provision, practices and appropriateness of the DRR education school curriculum in Nepal. It aims to explore further ways to mainstream DRR content into the education system that fits to local contexts. It also aims to explore teacher support systems to deliver DRR content more effectively. The research will propose an appropriate DRR curriculum development framework that will include relevant DRR content and teachers' professional development in DRR areas.

**What you will be asked to do:** As part of this study, I would like to conduct an individual interview with you, which will take approximately up to one hour. During the interview, topics to be discussed will include:

1. Your observation about the appropriateness of the existing DRR school curriculum in Nepal.
2. Your experiences on how it was developed and who was engaged at various levels.
3. Your experiences about how the schools/ and teachers are delivering the existing DRR curriculum.
4. Your suggestions for developing a relevant and more appropriate DRR education school curriculum.
5. Your understanding of the current provision of teacher support and development in DRR education in Nepal.
6. Your ideas for improving teacher professional development in the area of DRR in Nepal.

**Participation:** The researcher has already gained assurance that your choice to participate or not will not affect relationship with DEO. Your participation in this study is voluntary. You can withdraw your participation in the interview at any time without giving a reason by informing the researcher, and all data provided by you to that point will be destroyed. As part of the interview, permission is being sought to tape record the conversations, so that they can be later reviewed, transcribed and translated by the researcher. The written transcript will be made available to you by email, and you will have two weeks to provide any corrections to the transcript, request removal of aspects of the transcript or choose to withdraw your interview from further analysis and inclusion in the research. A printed consent form will be provided to you prior to the interview. If you choose to participate, please sign the consent form and return it to me.

If discussing about recent earthquake matters distresses you, please contact Centre for Mental Health Centre (CMC), Kathmandu. Phone Number: 01-4102037, 4226041. Email: [cmcnepal@wlink.com.np](mailto:cmcnepal@wlink.com.np)

**Sharing of documentation:** At the end of the interview, you will be asked, if willing to provide any DRR related policies, plans and relevant documents that were discussed. These can be shared in either hard or electronic form. All documentation shared will not be shared or reviewed by anyone other than the researcher involved in this study.

**Research data/anonymity:** While your data may be published in reports, journal articles, conference presentations, and my PhD thesis, no individual or institution will be identified. Institutions will be described only in general terms, e.g. a public school in Nepal. All data will be securely stored at the University of Auckland in locked cupboards and/or on password-protected computers backed on a server, and will be destroyed after six years by shredding and/or permanent deletion of all electronic files. All data will be treated in confidence.

**Finding out about the project’s deliverables and outcomes:** If you wish a summary of fieldwork findings and a copy of the publication resulting from this study, please provide your email address on your consent form.

Thank you very much for your time and support in making this research possible. I hope your participation in my research will provide insight regarding the existing DRR curriculum.

Should you need to contact me at any time, my details are below:

Yagya Pant Raj

School of Critical Studies in Education, Faculty of Education and Social Work

University of Auckland

[y.pant@auckland.ac.nz](mailto:y.pant@auckland.ac.nz)

Professor Peter O’ Connor (Acting Head of School)

The School of Critical Studies in Education

University of Auckland

0064 09 6238899 ext 48477, mobile: 0064272933059

Associate Prof. Carol Mutch (Main Supervisor)

School of Critical Studies in Education, Faculty of Education and Social Work

University of Auckland

[c.mutch@auckland.ac.nz](mailto:c.mutch@auckland.ac.nz)

**For any queries regarding ethical concerns you may contact the Chair, The University of Auckland Human Participants Ethics Committee, The University of Auckland, Office of the Vice Chancellor, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711.**

**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE ON for 3 years until \_\_\_\_\_ , Reference Number \_\_\_\_\_.**

## Appendix 2: Consent form



### EDUCATION AND SOCIAL WORK

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#### **CONSENT FORM (District Education Officer)**

**Project Title:** Disaster Risk Reduction education theory to practice: A case study from Nepal

**Name(s) of Researcher(s):** Yagya Raj Pant. Student I.D. 6431231, PhD candidate from the Faculty of Education and Social Work, the University of Auckland

I have read the Participant Information Sheet, have understood the nature of the research and why I have been invited to take part. I have been given the opportunity to ask any questions about the research and have them answered to my satisfaction. I agree to participate in this interview.

I understand that

- My participation is voluntary, and I can choose to withdraw my data at any point of my interview or up to two weeks after I receive a copy of my interview transcript.
- My data may be published in an anonymised form in reports, journal articles and conference presentations.
- Neither my name nor my institution will be identified (institutions will be described only in general terms).
- I agree / do not agree (please circle one) to be digital audio recorded.
- All data will be kept in a locked cabinet at The University of Auckland and/or a password protected computer, backed by a server.
- I agree/ disagree to share relevant DRR related policies, plans and relevant documents in either electronic or hard copy at the end of the interview.

- The data will be kept for 6 years, after which they will be destroyed.
- I wish/ do not wish (please circle one) to receive the summary of findings (If you wish for a copy, please provide your email address below).

Name:

Signature:

Date:

Email:

Address:

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS  
ETHICS COMMITTEE ON 21/10/2016 FOR (3) YEARS REFERENCE NUMBER 017773  
**(THIS FORM WILL BE SECURELY STORED FOR A PERIOD OF 6 YEARS)**

## Appendix: 3

### Semi –structured interview questions: Governmental and Non- governmental Officials

1. Could you please tell me your observations about how the school curriculum in Nepal is developed? What about the existing DRR school curriculum, how it is developed? (primary, lower secondary and secondary level)
2. Is it appropriate? What are strengths and weakness of the current DRR curriculum?
3. Could you please share your experiences about how the existing DRR curriculum was developed and who were engaged at various levels? (situation analysis, objective and learning achievement development, content selection, teaching learning activities, and evaluation)
4. What are the main possible national hazards that may affect the schools and communities? How the schools/ and teachers are incorporating these issues in the current DRR curriculum provisions?
5. What are the current provisions of teacher support and teacher development in DRR education area available at various levels? (governmental, non-governmental and others)
6. Are you satisfied with these support provisions? Could you tell me more, how could we develop an effective teacher support to deliver DRR curriculum effectively? (at school, RC, Lead RC, District, regional and national level)
7. What materials, and resources relates to DRR education are currently available at your school? Are there any materials available that address the local context? What other things would be useful at local level?
8. What would you suggest for developing a relevant and appropriate DRR education school curriculum (need identification, objectives determination, content selection, materials/methods, and evaluation)?
9. What would you suggest to making these more contextualized and relevant?

## **Appendix 4: Focus Groups guidelines**

1. Your observation about the appropriateness of the existing DRR school curriculum in Nepal?
2. Your experiences how it was developed and who were engaged at local and district level?
3. Your experiences about how the schools/ and teachers are delivering DRR curriculum?
4. Your suggestions for developing a relevant and appropriate DRR education school curriculum?
5. Your understanding of the current provision of teacher support and development in DRR education area in Nepal?
6. Your ideas on improving teacher professional development in the area of DRR in Nepal?

## Appendix 5

### Semi –structured interview questions for school principals

1. Could you please tell me your observations about how the school curriculum in Nepal is developed? What about the existing DRR school curriculum, how it is developed? (primary, lower secondary and secondary level)
2. Is it appropriate? What are strengths and weakness of the current DRR curriculum?
3. Could you please share your experiences about how the existing DRR curriculum was developed and who were engaged at local level? ( situation analysis, objective and learning achievement development, content selection, teaching learning activities, and evaluation)
4. What are the main possible local hazards that may affect the school and communities? How your school/ and teachers are incorporating these issues in the current DRR curriculum provisions?
5. What are the current provisions of teacher support and teacher development in DRR education area available at local and district level? (governmental, non-governmental and others)
6. Are you satisfied with these support provisions? Could you tell me more, how could we develop an effective teacher support to deliver DRR curriculum effectively? (at school, RC, Lead RC, District, regional and national level)
7. What materials, and resources relates to DRR education are currently available at your school? Are there any materials available that address the local context? What other things would be useful at local level?
8. What would you suggest for developing a relevant and appropriate DRR education school curriculum (need identification, objectives determination, content selection, materials/methods, and evaluation?  
What would you suggest to making these more contextualized and relevant?