UNDERSTANDING TEACHING, LEARNING AND ASSESSMENT PRACTICES IN NEPAL IN THE CONTEXT OF DISASTERS

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ACKNOWLEDGMENTS

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EXECUTIVE SUMMARY

The project is led by Street Child (UK) in the South Asian region. ASER Nepal hosted by Galli Galli serves as a country partner in Nepal for the South Asian Assessment Alliance: Communication and Collaboration for Change (SAAA) project, which is now being executed in Afghanistan, Myanmar, Bangladesh, and Nepal. In this context, research was conducted to explore teaching, learning, and assessment practices in the context of disasters are vital for building disaster-resilient communities. Assessment methods should measure practical skills and promote ongoing improvement. Additionally, technology and innovation have opened new avenues for disaster education, enhancing its effectiveness. Ultimately, the ongoing assessment and adaptation of disaster education practices are crucial in preparing individuals and communities to respond effectively to disasters and mitigate their impact. In this context, a case study was done in three different locations, followed by a detailed literature review of the policies and practices of teaching and learning in Nepal's disaster-prone contexts.

The main objective of this research task is to gain comprehensive insights into teaching learning and assessment practices by schools and communities in Nepal's disaster-prone contexts.

As per the preliminary analysis of disaster incidents, it was found that floods were the most frequently occurring disaster in Nepal. So, three communities were selected, which were the flood-affected areas in the last five years. Melamchi (Sindhupalchowk), Bagmati River Basin (Rautahat), Birendranagar (Surkhet). The interviews with the following members were conducted in each location: senior citizens (more than 60 years of age), head teacher, SMC representatives, teachers, parents, and students. The field researcher conducted observation in each research site.

There are several policies developed by the Nepal government regarding education in a disaster risk context. Twelve different policies are reviewed in this report. The flood had a significant effect on teaching, learning and assessment. The schools were closed after the flood in all three locations. But the alternative management (such as classes under tree, virtual classes, and phone follow-up) was done to continue the teaching and learning activities. Around half of the students benefited from such alternative management. The assessment was disturbed in all locations due to the flood. The data from all three locations shows that schools were not able to apply the alternative assessment approaches and informal system of assessment. However, the exam was conducted in some situations by providing questions and papers in the open sky under the trees. After some months, the exam was held in the open sky under a tree, but the achievement of students was not satisfactory. It was a situation of great pain, and people faced trouble. We couldn't find any special and disaster-focused practices in teaching learning and assessment; they just follow the traditional and as usual activity even in the disaster situation. The students' well-being has not been addressed.

Although there are different policies regarding education in a disaster risk context, it was observed that those policies are not well in practice. The educational institutions and local communities should be aware of the policies and make necessary arrangements for continuing teaching, learning and assessment-related activities. The alternative teaching, learning, and assessment approaches should be discussed and simulated.

INTRODUCTION

This chapter provides the overall content of the study, background, research objectives, and limitations, together with a review of the existing literature and method employed in this research.

STUDY CONTEXT

The South Asian Assessment Alliance (SAAA): Communicating and Collaborating for change is a multi-year (2021-2023) initiative supported by Global Partnership for Education (GPE) under Education Out Loud (EOL) OC3 program. The project is led by Street Child (UK) and ASER Nepal hosted by Galli Galli serves as an implementing partner in Nepal. This project has been implemented in Afghanistan, Myanmar, Bangladesh, and Nepal.

The South Asia-level transnational project known as the SAAA seeks to establish a transnational coalition of stakeholders with the purpose of overseeing educational initiatives and promoting the efficacy and efficiency of equitable education, particularly for the most vulnerable children and communities. The primary objective of the initiative is to enhance the availability and accessibility of evaluations for individuals and communities. In addition, the initiative has placed emphasis on enhancing the analysis and utilization of assessments in order to support evidence-based and equitable educational interventions.

This initiative aims to enhance accountability towards transnational targets in education, such as the Education 2030 Framework for Action and SDG 4, through a range of actions conducted at the local, subnational, national, and transnational levels. The topic of discussion pertains to the ASER (Annual Status of Education Report) initiative, specifically focusing on the Galli Galli's program. As the country partner, Nepal is interested in initiating a research endeavor aimed at comprehending the pedagogical methods, foundational learning, educational practices, and assessment techniques employed within the educational framework of Nepal's regions that are vulnerable to or have been impacted by disasters.

BACKGROUND

In the face of an increasingly unpredictable world, understanding disasters and their management has become a critical aspect of education. Disasters, whether natural or human-induced, can have devastating consequences on communities and ecosystems. To effectively respond to and mitigate these incidents, it is essential to have well-informed individuals who can contribute to disaster resilience and recovery efforts. This paper explores the teaching, learning, and assessment practices in the context of disasters, highlighting the importance of education in disaster management. It will also delve into the role of technology and innovation in enhancing disaster education, and the need for ongoing assessment to measure disaster preparedness and response capabilities.

The focus of this study was to explore the teaching, learning and assessment practices in disaster-prone contexts. Teaching practices in disaster-prone contexts are pivotal in equipping individuals and communities with the necessary knowledge and skills to respond effectively in times of crisis. Disaster education encompasses a wide range of topics, from understanding the types and causes of disasters to developing preparedness and response plans. Effective teaching practices in this context should be comprehensive, inclusive, and participatory.

One of the key elements for effective teaching and learning in disaster-prone contexts is the use of case studies and real-life examples. These help learners grasp the complexities and realities of disasters. For instance, educators can present case studies of past disasters, such as Hurricane Katrina or the 2011 Tohoku earthquake and tsunami, to illustrate the multifaceted nature of disasters and their impact on different communities (Mileti, 1999). Furthermore, disaster education should adopt an interdisciplinary approach. It should draw knowledge from various fields, including geography, environmental science, social sciences, and engineering. This interdisciplinary approach allows learners to understand the interconnectedness of various factors that contribute to disaster risk and management (Paton et al., 2008).

Learning practices in disaster-prone contexts should foster critical thinking, problem-solving, and active participation. Learners should not only acquire theoretical knowledge but also develop practical skills that can be applied in real-life situations. Experiential learning is a valuable approach to disaster education. Simulations, field exercises, and role-playing activities can immerse learners in disaster scenarios, allowing them to apply their knowledge and practice decision-making under pressure (Perry & Lindell, 2003). For example, students can participate in tabletop exercises where they simulate the response to a fictional disaster event, helping them understand the complexities of coordination and decision-making in emergency situations.

Additionally, fostering a culture of community engagement and volunteerism can enhance disaster education. Encouraging students to participate in disaster response and recovery efforts can provide them with practical experience and a deeper understanding of the challenges and opportunities in disaster management (Tierney et al., 2001).

Assessment practices in disaster-prone contexts play a critical role in evaluating the effectiveness of teaching and learning. Assessments should go beyond traditional exams and focus on measuring practical skills, decision-making abilities, and disaster preparedness. One effective assessment method is the use of scenario-based evaluations. In these assessments, students are presented with

a disaster scenario and are required to make decisions and take action as if they were in a real-life situation. These scenarios can be evaluated by experts in disaster management and provide valuable insights into students' readiness to respond to disasters (Johnson & Burby, 2006).

Another important aspect of assessment is continuous feedback and reflection. Students should have opportunities to reflect on their experiences and learn from them. This can be done through the use of journals, debriefing sessions, and peer assessments (Spielmann et al., 2010). Reflection allows students to understand their strengths and weaknesses in disaster management and encourages ongoing improvement.

Technology and innovation have revolutionized disaster education, providing new tools and methods for teaching, learning, and assessment. The use of Virtual Reality (VR) and Augmented Reality (AR) technologies, for example, allows students to immerse themselves in realistic disaster scenarios, enhancing their understanding and decision-making skills (Cuttance et al., 2020). Online platforms and mobile applications have also become valuable resources for ensuring learning in disasters. These platforms can provide access to up-to-date information, interactive modules, and virtual communities where learners can discuss and share their experiences (Fuchs et al., 2021). Moreover, remote sensing technologies and geographic information systems (GIS) enable students to analyze and visualize disaster data, enhancing their ability to assess risks and vulnerabilities (Dilley et al., 2005). Disasters may happen anytime, and the strategies and knowledge required to respond to them must evolve accordingly. Therefore, ongoing assessment and adaptation of teaching and learning practices are essential in disaster education.

Educational institutions and organizations should regularly review their curriculum and instructional methods to ensure they remain relevant and effective in addressing emerging challenges during and after disasters. Continuous feedback from students, practitioners, and experts in the field should inform these adaptations (Eriksen & Prior, 2016). Teaching, learning, and assessment practices in the context of disasters are vital for building disaster-resilient communities. Effective teaching practices should be inclusive and interdisciplinary, while learning practices should focus on experiential learning and community engagement. Assessment methods should measure practical skills and promote ongoing improvement. Technology and innovation have also opened new avenues for disaster education, enhancing its effectiveness. Ultimately, the continuing assessment and adaptation of disaster education practices are crucial in preparing individuals and communities to respond effectively to disasters and mitigate their impact.

OBJECTIVES

The main objective of this research task is to explore teaching, learning and assessment practices by schools and communities in Nepal's disaster-prone contexts.

The research outcomes enhance the development of a resilient education system for effective teaching, learning and assessment in the disaster-prone context.

LIMITATION OF THE STUDY

Different types of disasters affect teaching and learning. This study's initial purpose was to cover the effects of floods, landslides, and earthquakes. As per the preliminary analysis of disaster incidents, it was found that floods were the most frequently occurring disaster. So, all three communities, which were flood-affected areas in the last five years, were selected. After the completion of the data collection, the Jajarkot earthquake (3 Nov 2023) made a significant impact on education and other people's daily lives. The case of Jajarkot could not be considered in the field study.

The disaster affected several dimensions of people's lives in the society. This study focused on the continuation of teaching and learning activities and assessment approaches in the disaster-affected context. The major data sources were participants' interview texts and field researchers' observations.

LITERATURE REVIEW

This section deals with a comprehensive review of major disasters, their effect on education, and the ways of addressing them. Similarly, the policy and legal provisions are also reviewed and summarized.

In the face of an increasingly unpredictable world, understanding disasters and their management has become a critical aspect of education. Disasters, whether natural or human-induced, can have devastating consequences on communities and ecosystems. To effectively respond to and mitigate these events, it is essential to have well-informed individuals who can contribute to disaster resilience and recovery efforts. This review explores the teaching, learning, and assessment practices in the context of disasters, highlighting the importance of education in disaster management. It also delves into the role of technology and innovation in enhancing disaster education, and the need for ongoing assessment to measure disaster preparedness and response capabilities.

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Educational institutions and organizations should regularly review their curriculum and instructional methods to ensure they remain relevant and effective in addressing emerging challenges during and after disasters. Continuous feedback from students, practitioners, and experts in the field should inform these adaptations (Eriksen & Prior, 2016). Teaching, learning, and assessment practices in the context of disasters are vital for building disaster-resilient communities. Effective teaching practices should be inclusive and interdisciplinary, while learning practices should focus on experiential learning and community engagement. Assessment methods should measure practical skills and promote ongoing improvement. Additionally, technology and innovation have opened new avenues for disaster education, enhancing its effectiveness. Ultimately, the ongoing assessment and adaptation of disaster education practices are crucial in preparing individuals and communities to respond effectively to disasters and mitigate their impact.

OBJECTIVES OF THE DOCUMENT REVIEW

The main objective of this literature-based document is to review the documents on teaching learning and assessment practices in the disaster contexts of Nepal.

DOCUMENTS REVIEW METHODOLOGIES

This report is developed based on the available literature on teaching learning and assessment practices in the disaster contexts of Nepal. The following strategies were used while reviewing the literature and developing the report.

a)   Developing the protocol for collecting the documents
b)   Collection of relevant documents
c)   Review of the documents
d)   Critical Analysis
e)   Gap identified in the document

NEPAL GEOLOGICAL CONTEXT

Nepal   is located on the southern slopes of the Central Himalaya between 26°22' and 30°27' N latitudes and 80°04' and 88°12' E longitudes. It covers an area of 147,641.28 sq. km. and is roughly rectangular in shape with 885 km of length along the east-west direction, and 145 km to 241 km of width along the north-south direction. It is landlocked, bordering China in the north and with India in the east, south, and west. The vast majority of the area of Nepal consists of mountains and hills, and the remaining area is covered by low-lying Terai plains. Along the country's South-North axis, altitude changes rapidly. Within a short span of 145 km to 241 km, the altitude ranges from 67m above mean sea level in the south to 8849m in the north at the peak of Mt. Everest.

Nepal, as one of the nations, is regularly exposed to a multitude of natural hazards and experiences hazardous events (Aksha & Emrich, 2020). Due to its diverse tropological landscape and geographical differences, Nepal is considered a disaster-prone country (Pant, 2019). Nepal falls in the top 20 list of the most multi-hazard-prone countries in the world and is ranked 4th, 11th, and 30th in terms of vulnerabilities to climate change, earthquake, and flood risk, respectively (UNDRR, 2019). According to the Global Platform for Disaster Risk Reduction (GPDRR), (2022) report, the most recurring hazards in Nepal between 2015 and 2021 were fire, landslide, thunderbolt, heavy rainfall, and flood, respectively. These disasters have had varying impacts on different social groups, with vulnerable groups such as women, children, the elderly, people with disabilities and marginalized communities being particularly affected. Due to the lack of disaster preparedness, weak governance, insufficient financial resources, and a lack of technical knowledge for effectively mitigating natural disasters have contributed to the overall vulnerability of Nepal's population (Tuladhar et al., 2015). Moreover, these factors have also hindered effective disaster response and recovery efforts, further exacerbating the impact of the disasters.

Ever-increasing disasters due to urban growth and a changing climate have been some of the global challenges of the 21st century. The increasing frequency of all kinds of disasters such as landslides, earthquakes, floods, wind and ice storms, droughts, volcanic eruptions, and tsunamis, have increased the impact of losses of life, property and infrastructure worldwide (Xu et al., 2020). The United Nations International Strategy for Disaster Reduction (UNISDR) (2009), defines disasters as "serious disruption of the functioning of a community or society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources." According to Ritchi et al. (2022), natural

disasters kill on average 45,000 people per year globally. The impacts of disasters differ among individuals and societies depending on the level of exposure, vulnerability, and capacity to reduce, adapt to, and recover from the potential negative consequences (Brooks et al., 2005). Disasters tend to affect those in poverty most severely, with high death tolls centered in low-to-middle-income countries without the adequate infrastructure to protect and respond to the events.

An earthquake struck the Jajarkot and Rukum Paschim regions on November 3 2023, affecting the local population and disrupting educational activities. A total of 289 schools in Jajarkot have been affected. In a same manner, a total of 28 schools have been affected by damage in Rukum Paschim. Classes in many schools are typically held in open areas. Due to extensive damage and loss of study materials, teachers are resorting to delivering classes only through verbal instruction. Resuming the process of teaching and learning has presented significant challenges. According to an article in The Kathmandu Post on December 9, 2023, only 30 percent of kids had returned to school, causing concern among teachers on the children' academic performance. The school's conventional teaching, learning, and assessment methods are inadequate for post-disaster situations.

DISASTER RISK AND VULNERABILITIES TO EDUCATION

Disaster risk refers to the potential loss expressed in terms of lives, health, livelihoods, assets, and services, that a particular community or society may experience as a result of the impact of a natural hazard. In Nepal, recurring disasters such as earthquakes, landslides, floods, and storms have devastating consequences. These disasters not only result in loss of lives and damage to properties, but also have detrimental effects on education and the resilience of communities, thereby disrupting the normal functioning of society (Chongbang, 2022). Among the various vulnerable groups, children are particularly affected the most during and after disasters, with the loss of access to education being a significant concern.

Nepal has witnessed several school-related disasters in recent years, including the 2015 earthquake which affected 8,242 public schools, as well as numerous disasters such as floods and landslides that have had an impact on human life, economy and education (Averted Disaster Award, 2022; Bista, 2023; Chaudhary, 2022; Jhilko, 2023). The impact of disasters on education is multifaceted and includes factors such as loss of instructional time, failure to enroll, increased dropouts, repetition, damage to school buildings, decline in educational quality, lack of reinvestment, and loss of income in the community, all of which hinder the continuation of education (Bista, 2023; Chaudhary, 2022). Similarly, it causes regular attendance, concentration in class, losing the book, copy and stationery. Consequently, millions of children are deprived of their fundamental right to education, putting their future at risk. Disaster affects not only the student but also the teacher and school system, like head teacher school management and parent teacher association, directly or indirectly.

The school-related disaster data around the world, combined with Nepal's past disaster scenarios, clearly suggests that the educational rights of children are always disrupted when schools are affected by a disaster. As a result, students, teachers, school administrators, and parents suffer from both the physical and psychological impacts of these events (Apronti et al., 2015; Ronan et al., 2015; UNISDR, 2005). These increased risks and threats from disasters emphasize the necessity to enhance the resilience of schools and communities to potential disasters. This will ensure the safety of students and other related stakeholders by maintaining continuity of education during and after a disaster, as well as maintain the functional capacity of the educational system and economy.

DISASTER RISK REDUCTION AND RESILIENCE IN EDUCATION

Disaster Risk Reduction (DRR), as defined by UNISDR (2009), is "the concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events." Disaster Risk Reduction and Management (DRRM) is, therefore an approach or set of activities aimed at minimizing the impacts of disasters and increasing the resilience of individuals and communities. It involves implementing strategies, policies, and improved coping capacities to lessen the adverse impacts of hazards and the possibility of disaster through disaster preparedness, response, and recovery (Ministry of Home Affairs [MoHA], 2019).

DRR and Resilience in Education (DRRRE) is critical to Nepal's education system. Unfortunately, many schools in Nepal are at risk and vulnerable due to improper school construction, geographical location of the construction site, lack of disaster preparedness and response plans, and limited provision of DRR content in the school curriculum (Gautam, 2010; Blaeser, 2014, Tuladhar et al., 2013). To address this issue, DRR can be integrated into teaching and learning practices by incorporating it into the curriculum and pedagogy of educational institutions. This would play a crucial role in raising awareness among students, parents, teachers as well as general public awareness on how to prevent, cope and recover from disasters. Orientation to the stakeholders can make education meaningful to mitigate disaster risk and to reduce the educational loss during and after disaster.

The Sendai Framework (2015-2030) is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters (UNISDR, 2015). Sendai Framework has also highlighted the importance of using knowledge, innovation, and education to build a culture of safety at all levels, as an action priority. And one of the indicators of achieving this goal is the inclusion of DRR knowledge in relevant sections of school curricula at all levels. Schools, as significant community hubs, have the crucial responsibilities of informing the public and disseminating DRR knowledge, fostering safe behavior models and skills among students, and the development and implementation of relevant education programmes to address the issues of DRR.

The impact of disaster on education is multifaceted. This is interlinked with other different dimensions. The 2015 earthquake data showed that approximately 3,000 children were killed, and thousands were injured as well as 35,000 classrooms (Kruhl et al., 2018) were damaged or destroyed. At least 950,000 children were not able to return to school. The impact of disaster is not only in a short time, but it has also impacted in a long time as well. The impact is not in physical wellbeing but also on psychosocial wellbeing and economic status. Children's education in a disaster period has been affected by different factors such as loss and injury of the family member, loss of the home accessories and assets, reading materials and other stationery. The role of teachers and schools during and after disasters is important to provide psychosocial support to students for their education continuation.

GLOBAL IMPLEMENTATION OF DRR CURRICULUM PROVISION

DRR education has a practical and vital role in reducing vulnerability to disasters and is widely recognized as a necessary component of the school curriculum globally. International organizations such as United Nations Educational, Scientific and Cultural Organization (UNESCO), UNICEF, and Global Action for Disaster Risk Reduction and Resilience in Education Settings (GADRRRES) have joined together for the integration of DRR into the school curriculum and achieve disaster resilience (UNICEF, 2014) to mitigate the impact of disaster in education. Many countries such as the US, New Zealand and Australia, have also mainstreamed DRR into the national school curriculum and implemented it through resources including teaching and learning materials (Johnson, 2011; Ronan et al., 2015). According to Apronti et al. (2015), effective DRR education can only occur if critical attention is given to the scope and content of disaster themes and topics and the teaching, learning, and evaluation techniques used in the classroom. In addition, the provision of information and resources, and encouraging participation in disaster preparedness, recovery, response and rehabilitation activities with proper safety and security at schools will also reduce students and other relevant individuals' vulnerability to disaster. This type of holistic integration of all the themes in DRR has been emphasized by various child rights-based organizations such as Save the Children and Plan International, who advocate for child-centered DRR activities in schools and communities and promote DRR education relevant to the needs of society (Hore et al., 2018). Thus, the incorporation of DRR through different aspects in curriculum focuses on life skills and allow improved recognition and understanding of natural hazards, including the potential impacts and environment and sustainable development to benefit communities at large.

IMPORTANCE OF TEACHING, LEARNING AND ASSESSMENT PRACTICES

The United Nations (2015) states that the provision of relevant curricular initiatives is further required at national, regional and local level to address the need of resilience capabilities development. This refers to educational opportunities in the curriculum that help children acquire knowledge, skills and attitudes required to protect themselves from disasters that are likely in their surroundings. According to the study conducted by UNICEF (2012), entitled, Disaster Risk Reduction in School Curricula: Case Studies from Thirty Countries, there are still limited DRR education experiences, practices and integration around different countries (including Nepal). In terms of teaching practices, it is identified that education should address the social, political, historical, and cultural factors that shape the cause, course, and outcomes of disasters (Oliver-Smith & Hoffman, 1999). However, in most of the countries, traditional methods of DRR education have been dominating, where problematic active instructor/ passive learner relationship-teaching style exists (Nakano, 2021). The study of UNICEF (2012) further noted that in most contexts, teachers' participation in the curriculum development process is limited and that teachers mainly focus on theoretical ideas and give less importance to the practical application of DRR curriculum. The teaching practices must ensure a proactive attitude on the part of learners with the aim to provide learners with practical and applicable knowledge, skills, and strategies. As John Dewey 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 (Berding, 1997). Moreover, the use of context-specific curriculum delivery approaches encourages them to connect personally through active learning.

In terms of learning practices, children and vulnerable groups have limited understanding of disasters without adequate DRR knowledge and skills (Haydon, 2007; Jones et al., 2013; Fothergill & Squier, 2017). Considering the varied learning intelligences of students and other influencing factors such as gender, disability, exclusion, etc., it is necessary to strengthen the capacity of teachers on teaching pedagogical strategies and skills to effectively deliver the curriculum materials to students (ADPC, 2010; Pant, 2019). It is also crucial to provide opportunities for children to acquire DRR knowledge, skills, and attitudes to protect themselves from disaster (UNISDR, 2005). The provision of comprehensive DRR content in the curriculum can hence offer opportunities for learners to understand DRR science and mechanisms, learn safety measures, and practice risk assessment and build disaster preparedness capability (Petal, 2009; UNICEF, 2014).

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. Assessment practices in DRR education involves ensuring that teaching and learning strategies are effective and efficient (Aghaei et al., 2018). It helps to identify gaps and the need to correct those in time. Monitoring of DRR interventions at a local level leads to more effective implementation of DRR education (Kagawa & Selby, 2015). Sometimes the confusion occurs when the key messages associated with DRR provided to the students and other members were not actually context-specific, but rather creating

confusion amongst them to make wise decision during emergency for their safety and security (Pant, 2019). In such cases, proper assessment can ensure that the DRR curriculum content is relevant to learners' needs and communicated through effective teaching and learning practices. Appropriate assessment methods should be employed to evaluate the effectiveness of DRR in education in achieving its intended outcomes. The provision of technical skills such as hazard and risk assessment is essential to reduce vulnerability (UNISDR, 2017), which is also often ignored in school education. Hence, these areas need not be overlooked but rather incorporated as a DRR in education curriculum, for reducing disaster risk and developing resilience within communities.

Only in a few rural communities, DRR works have been implemented to raise awareness levels through activities including teacher training, disaster quiz competitions, and youth club activities on DRR knowledge, disaster safety campaigns, and disaster drills (Tuladhar et al., 2015). However, there remains a lack of a comprehensive approach for school DRR intervention, as well as appropriate coordination and collaboration among relevant stakeholders (Blaeser, 2014; Gautam, 2013). Although the Government of Nepal has developed the required policies and plans, such as the National DRR Policy and Action Plan (2017-2030) following the Sendai Framework DRR targets to reduce disaster vulnerability, challenges remain in translating policy into practice amidst the resources of the country.

POLICIES AND PROVISIONS IN NEPAL

The policy and institutional provisions of the government is one of the important aspects of DRR and management. The success of disaster management (rescue/recovery/rehabilitation) activities largely depends on the systematic formulation of policy strategies, legal provisions, institutions and its roles and responsibilities in dealing with disasters (Wisner, 2004; UNISDR, 2009). The Constitution of Nepal (2015) which is a guiding document for all other national policies and instruments, recognizes disaster management as a challenge, and recommends state actors to address all likely deficits during disasters to ensure safe life and wellbeing as one's Fundamental Rights and duties (Dhungana, 2017). The constitution provides space for DRR policy formulation for all three levels of government and allows institutions to mainstream DRR education components required for disaster resilience. In response to this, the DRRM Act was enacted in 2017, emphasizing capacity enhancement at all levels and all institutions in the country including schools. The legal provisions of the government of Nepal and the education sector are listed in the box below.

1. **Disaster Risk Reduction and Management Act 2074 BS**
2. **Disaster Risk Reduction and Management Regulation 2076 BS**
3. **Disaster Risk Reduction National Policy 2075 BS**
4. **Disaster Risk Reduction National Strategic Action Plan 2018-2030**
5. **Sendai Framework for Disaster Risk Reduction 2015-2030**
6. **School Education Sector Plan 2022-2032**
7. **Recovery and Accelerated Learning Plan (ReAL) (2023-2028)**
8. **Comprehensive School Safety Master Plan 2017 (Revised 2022)**
9. **Comprehensive School Safety Minimum Package 2018**
10. **Education Sector Disaster Preparedness and Response Plan 2022**
11. **Education Sector Monsoon Preparedness and Response Plan 2022**
12. **Education Sector Winterization Preparedness and Response Plan 2022**

According to the Disaster Risk Reduction Act and Regulation 2074, and Disaster Risk Reduction and Management Rules 2076, a Provincial Disaster Management Council and district or local level Disaster Management Committee shall be established for the purposes of implementation of Disaster Risk Reduction and Management activities.

The Act mandates incorporating DRM components into the curriculum from school level to higher education. The Act further mentions the use of schools as shelter during emergencies, which creates an ambiguity, as it disrupts individuals' fundamental rights to education.

Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted at the Third United Nations

World Conference held in 2015 on Disaster Risk Reduction. Nepal has committed to implement the Sendai framework. The government of Nepal formulated the National Disaster Risk Reduction Policy 2018 and National Strategic Action Plan for Disaster Risk Reduction 2018-2030. The NDRRP provisioned is 'the concept of disaster risk integrate in curriculum from school to higher education.

The Ministry of Education promulgated the Comprehensive School Safety Minimum Package 2018 based on the Comprehensive School Safety Master Plan 2017. The minimum package expected outcomes stated students and parents' contribution to resilient education by managing disaster risk in school and community. School Education Sector Plan SESP (2022-2030) highlights that the government is committed to safeguarding children's right to education during an emergency and crisis. Therefore, Disaster Risk Reduction has been recognized as one of the most important thematic areas. It has been emphasized that 'Education in Emergencies' and 'School safety' are vital to ensure learning continuity even during the emergency and crisis situations to guarantee children's rights in all situations.

Recovery and Accelerated Learning (ReAL) Plan (2023-2028) envisioned for the teaching and learning activity during the different kinds of disaster and emergencies. The plan stated the importance of continuation of the teacher learning with analysis of risks of school closure in this way; 'Nepal is a country that is highly prone to different forms of natural and human induced disaster and therefore school closure has time and again remained as a common phenomenon (p.7). The need for social and emotional skills is also identified in the plan.

A study by Bhandari et al. (2020), reported the existing capacity of local, provincial and federal governments to exercise their DRRM authority in the context of effective DRRM measures in the education sector. The study found the existing capacity of local levels on comprehensive school safety plans for schools linking with School Improvement Plans (SIP) to be negligible, while that of provincial levels was non-existent. Similarly, in terms of knowledge and education, for formal and informal education linked with DRRM, school level DRR activities in school development and management plan the existing capacity of local and federal levels was also low, indicating a lack of functional capacity of the majority of schools and local palikas. For disaster preparedness and response, the existing capacity of local and provincial levels was non-existent in terms of contingency plans for school continuity and learning space. The study questions the responsibility and ability of the federal government, which was to ensure the provincial and local government built their institutional capacity on DRRM for them to exercise their authority effectively.

METHODOLOGY

The exploratory qualitative research design has been used in this research task. Exploratory qualitative research design investigates and explores a phenomenon or research issue when there is a gap in the existing knowledge or when the topic needs detailed exploration (Creswell, 2012). This method is particularly useful when researchers want to gain a deeper understanding of a subject, generate suggestions, or develop theories. The primary purpose of exploratory qualitative research is to gain insights, generate ideas, and explore new areas of study.

FIELD SITES

The field sites for this study were three disaster-affected areas. These areas were highly deserter-risk areas as well. The purpose of choosing those sites were given below.

Melamchi (Sindhupalchowk): This is a flood-affected area. Almost every year, the flood makes a huge disturbance for running schools, and continuing education in the community areas. Due to this context, Melamchi was chosen as one of the research sites for the study.

Bagmati River Basin (Rautahat): This place lies in the Terai region and is one of the affected areas in almost every rainy season. The human settlement got affected, and there were difficulties in continuing educational activities.

Birendranagar (Surkhet): This is western part of Nepal, and normally gets affected on learning due to the flood. To explore their status, and ways of adoption in teaching and learning activities, this site provides a good insight to the research activity.

In each location, two schools were selected for the in-depth exploration of teaching, learning and assessment practices. The total number of schools was six.

RESEARCH PARTICIPANTS

During the field visit, the following individuals were interviewed to gather information regarding teaching, learning and assessment practices in disaster-risk areas.
1. Seniors citizens (more than 60 years of age) (2 in each case) for collecting historical data and anecdotal information.
2. Head teachers (2 in each case) for overall school management and teaching learning activity.
3. SMC representatives (1 in each case): to collect information related to school management and community engagement.
4. Teachers (2 in each case): to collect the experience and teaching learning as well as assessment practices.
5. Parents (2 in each case): to collect the information about the learning continuation in school and home.
6. Students (4 in each case): collect the student experiences, trouble and, the support they receive and expectations.

DATA COLLECTION TECHNIQUES

The case study method was used to explore comprehensive insights into teaching, learning and assessment practices of a school and the community around the school. This qualitative approach explored a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information and reports a case description and case themes (Creswell & Poth, 2016).

For data collection, interview guidelines and observation protocol were developed (See Annex). For this, a consultation meeting was held among experts and teachers who have been working in the field of learning in the disaster context.

DATA ANALYSIS TECHNIQUES

The following specific steps of the analysis were used for data analysis. As this is a study of three cases, we analyzed the data by making meaning of interview texts and observations notes, exploring patterns and themes that emerged from the field work. The interpretation of the results was done with the different perspectives of learning and teaching.

For case study, we use the following procedure to analyze the data.

Data reduction is a common challenge encountered by researchers doing case studies, as they are frequently confronted with a substantial volume of data. In order to facilitate the analytical process, data reduction techniques was utilized. This process entails the identification and extraction of the most pertinent and consequential facts, while disregarding superfluous or less value information. The process of data reduction is accomplished by means of coding, a technique that entails the assignment of labels or categories to segments of data according to their content or thematic characteristics.

Pattern recognition and coding play a pivotal role in the qualitative data analysis of case studies. The process entails the methodical classification or grouping of data in order to discern repetitive themes, concepts, or patterns. Codes are derived from the content of the data and serve the purpose of structuring and comprehending the information.

In certain instances, we employed a **theoretical framework** to provide guidance for their analysis in case studies. This framework offered a perspective through which data can be analyzed and understood. The process of connecting the data to existing ideas and concepts served to enhance the rigor and depth of the research. The determination of this aspect was made at a later stage by the study team, taking into consideration the data that has been gathered.

Triangulation is frequently employed by researchers to augment the validity and dependability of their analysis. In this study, different data sources (interviews, documents, and observations) were used to maintain the triangulation criteria.

ETHICAL CONSIDERATIONS

There are several ethical issues we are aware of conducting such studies, and we maintain the following ethical issues.

INFORMED CONSENT

It is a fundamental principle in the field of ethics and research. It refers to the process through which individuals are well informed of the purpose of the research, their roles to contribute in the knowledge generation process. We shared the purpose of the research to all research participants. We also took the consent from all participants for their voluntary participation in the interview process. Voluntary Participation refers to individuals willingly choosing to take part in a certain activity or study without any form of pressure. It is imperative for researchers to refrain from employing any means of coercion in order to obtain involvement.

PRIVACY AND CONFIDENTIALITY

The research team assured the privacy and confidentiality of research participants' identities and information they shared. For that, the research team does not use the real names of participants and does not share the data with any other persons and individuals. The entire data will not be used other than the research purpose.

CULTURAL SENSITIVITY

We are aware of it. It refers to the ability to recognize, respect, and appreciate their beliefs, values, customs, and practices. The research team valued their belief, practices and respect for their identity during the fieldwork. Also respecting to the field and people was considered in writing the report. The local persons were mobilized while conducting the field work to understand the essence of the field and context.

DATA ANALYSIS AND INTERPRETATION

This section consists of the data analysis and interpretation part. While doing so, three cases are presented separately at first. Later, the comparative analysis was done.

CASE 1: MELAMCHI

This region, located approximately 40-50 kilometers east-south from Kathmandu, despite its proximity to the capital, faced developmental challenges and was sometimes referred to as Karnali due to recent natural disasters. The key events shaping this area's reputation included the devastating earthquakes of 2072 BS and Ashad 1, 2078 BS followed by persistent floods and landslides. In this region, two schools significantly affected by these natural disasters: Shree Terse Secondary School in Ward No - 6 of Melamchi Municipality and East Point Academy in Ward No - 4 of Helambu Rural Municipality.

CASE 2: RAUTAHAT

Shree Secondary School Madhopur is one of the best government schools in terms of physical infrastructure, computer, labs, and facilities and for quality education. This school was established in 2008 B.S. in the southern part and east past part of Rautahat district near Bagmati river. At that time, the school was made of bamboo and mud. After some decades, the school was upgraded to a lower secondary level, and later into a higher secondary level. This is one of the most famous, popular and renowned schools of this region. Now, there are twenty-two hundred students and eighteen teachers.

There was a school named Shree Primary School, Bakhari which was situated in the southern and east of Rautahat district. There was a village named Pakha Bakhari. Unfortunately, the flood fled completely from the village and school in 2050 BS. There was nothing left except the river. The Bagmati River went through the village which fled many animals, children, houses, and school. All the people of that village were displaced to other villages and places. Some people from those villages and places. Some people resided in neighboring villages like Dharampur, Hajariya and Santpur Katani. Many people became homeless, with no land. They faced great trouble in their lives.

CASE 3: SURKHET

Two schools were selected in Surkhet. One is Bijayashowri Secondary School Barahtal, Ga Pa-10 Hariharpur Surkhet. And the other is Shree Kalika Primary School Panchapuri No Pa-10 Bachchi, Surkhet. Both schools were affected due to floods in the past, and the teaching, learning, and assessment practices were affected.

DISCUSSIONS OF FIELD DATA

In this section, the thematic analysis was done based on the field data. After careful observation of the interview texts and observation notes, the discussion was made under teaching and learning practices and assessment approaches.

TEACHING AND LEARNING

Teaching and learning activities are considered important components in disserting affected content right after the rehabilitation of the people. Education plays a pivotal role in facilitating the sustained recovery and restoration. The acquisition of skills and information essential for the purpose of reconstruction and development plays a significant role in the restoration of communities, thereby highlighting its importance within the realm of education.

One of the major concerns in the disaster-affected areas was to resume the teaching and learning process for school going children. In this regard, the head teacher (A), who has a two-decade-long association with the institution from Melamchi Said,

> *The face-to-face classes were disrupted. We developed Temporary Learning Centers (TLC) to run the classes in the community. Mobile classes were also used during that time, which became a lifeline. The flood of 2078 BS disturbed the school for a considerable period, forcing a shift to online classes to ensure the continuity of education amidst the deluge.*

The school resume process was difficult in Melamchi due to the heavy flood of 2078 BS. The senior citizen shared that the priority was on shelter and food for the people rather than education. He further added.

> *There was no shelter to live and food to eat. At that time, physical safety should come first. If children can be saved in such context, they can study next year too.*

The parents and SMC members also had similar voices regarding the resume of teaching and learning process. One of the parents from Melamchi said;

> *The children could not directly participate in the teaching and learning activities. But even when it was difficult for them to go to school, they were also thankful that the school connected the daily teaching and learning activities of the students through alternative means such as mobile learning.*

During the observation of the field researcher, based on the in-depth interaction with parents and students who experienced the disaster, the local government and school tried to resume the teaching and learning activities through alternative means (online, mobile, CLCs), but it did not become so effective due to the lack of preparation and available resources and skills needed for running alternative means. However, students got opportunities to engage with such alternative means of learning.

In the case of Rautahat, regarding the continuation of teaching and learning activities, one head

teacher said that the classes were managed in parents' houses for continuing teaching in the co-ordination of school management committee, parents, and teachers. However, it became challenging to continue due to resource availability.

One of the parents from Rautahat shared that the classes were run in a temple. In this regard, he said;

>*Because of the disturbance of regular classes, the achievement of students was not satisfactory, and the exam date was also not held on a fixed date. During such a period, we took our children to school ourselves. We took active participation in repairing the school building, cleaning the school room, and guiding children in the house. School had called parent meeting and school management committee meeting for running regular class. The school building was repaired and cleaned by the school with the help of the community. By that time, we used the temple to run temporary arrangements.*

The field data from parents, SMC members and students were in the same direction. The major intent of those interviews was that the teaching and learning activities normally closed for a month after the flood. After a month, the school managed for alternative places such as open places, temple, and community building.
In the case of Surkhet, the schools
were near the Bheri river. Due to the time of flood, the headteacher of the school requested all the villagers for support to resume the teaching activities. After that, all the villages together built a temporary tent of bamboo and Tripal. It shows the support of community members to resume the teaching and learning process.

One parent from the Surkhet added that,

>*The School Management Committee worked closely with parents, local government, and other supportive organizations. Parents provided materials like bamboo and tents for temporary shelters, and the local government assisted with financial support and necessary paperwork for the school.*

The students reported that it was difficult to concentrate on learning during that time. Almost all students shared that they were worried about their shelter and chaotic situation rather than their studies. The parents from both schools reported that their children were in fear and not in the condition to go to schools or any other provisional settlements for study.

Based on the above data received from three different locations, it was found that in all three locations, the schools and community tried to resume teaching and learning activities in disaster-affected areas. But the notion of teaching and learning was the same in the regular classes.

Analyzing the above cases, it was observed that the case of Rautahat (where, almost every year, such situation happens) was more serious in such a condition. Almost all stakeholders raised the effectiveness of teaching and learning. In the case of Melamchi, the effect was serious, and it was discussed on the national levels and almost all national-level media covered this conduction. The federal, provincial, and local level government paid attention to it. There seem to have been several attempts to resume educational activities. However, due to the lack of readiness to run online classes and other alternative arrangements, teaching and learning activities could not be as effective as planned. In the case of Surkhet, the level from the community level and local government level was noted. But, teaching and learning activities could not be a priority.

It was noted that almost all schools tried to cover the regular syllabus during that time. Motivating students to engage in disaster response and recovery endeavors can offer them hands-on experience and a more profound comprehension of the difficulties and possibilities in disaster management (Tierney et al., 2001). The focus of education in disaster-prone contexts should not be only the regular curriculum. Such situations can be a natural setting to learn adaptive skills. These adaptations should be developed by ongoing feedback from students, practitioners, and experts in the subject (Eriksen & Prior, 2016). For this, the interdisciplinary approach of education should be practiced. Such processes should incorporate insights from diverse disciplines, including geography, environmental science and social sciences. The utilization of an interdisciplinary strategy enables learners to comprehend the interdependence of diverse elements that contribute to disaster risk and management (Paton et al., 2008). Psychosocial support and counseling to the students and parents should be a major purpose of education in disaster-prone contexts.

There are several policies that discuss teaching and learning approaches in disaster-prone contexts. But, during the interview, nobody shared that they are well aware of the policies. It was observed that sufficient preparedness was not done in the schools. Tuladhar et al. (2015) argued that Nepal's population is vulnerable to natural catastrophes due to inadequate disaster preparedness, ineffective governance, limited financial resources, and a lack of professional expertise in mitigating such events. However, support from community level and local level governments has been noted for mitigating such incidents.

ASSESSMENT PRACTICES

Assessment is the process of collecting information on student learning progression. In the time of disaster, the regular teaching and learning process has been stopped and not as regular basic and the assessment has not been in place. The field data shows that there was no summative examination during the disaster incident. The regular classroom assessment has also been disturbed. One of the students from Melamchi expressed his anxiety towards the examination. Due to this kind of disaster, he was not able to concentrate on studying for a long time. Schools started the teaching-learning process but the students were not able to concentrate on their study. As per the student's opinion, 'he was in a dilemma as to why the study is important in such kind of trouble in personal life'. He expects some kind of activity to forget the incident, some life skills training and different activities, but the school and teacher talked about the assessment and result.

In the case of Rauthat and Surkhet, floods destroyed the school buildings and documents. Then, the documents related to student assessment and other records were lost and destroyed. We have revived many things but can't revive the student assessment records and other information expressed by the head teacher of school. The head teacher further explained

> *We discussed this issue among the staff and school management committee. Some of the staff and SMC members expressed their opinion to take the exam again and some had different opinions.*

The re-examination was conducted in Surkhet and the terminal exam was conducted in Rautahat after the month of the disaster incident. The teacher from Melamchi said we did not feel any issues in the assessment activity because there were no summative assessments. It seems schools were not so concerned about classroom assessment and student learning enhancement. After resuming regular teaching, it was going on as a regular basis and we took exams. Supporting these teacher

statements, the students shared the experience of participating in exams as usual from the tent (temporary learning center). The practice of assessment (assessments were conducted as usual in tarpaulin/tent)

Some responses:
- *One month later, the exam was held.*
- *The exam was not held in time. The achievements of students were not good.*
- *The exam was conducted by providing questions and papers in the open sky under the trees.*
- *After some months, the exam was held in the open sky under a tree, but the achievement of students was not satisfactory. It was a situation of great pain and people faced trouble.*

Based on the different field cases and responses from the participants, it has been concluded that schools did not give much attention to the formative classroom assessment and the alternative mode of assessment. The traditional paper pencil test has been practiced in schools, even in tents and open places. Certainly, parents and school management committees are not much familiar with the assessment process. They normally want to the written examination, but the teacher and school has not been proposed alternative mode and approaches for the assessment. They engage in teaching and continuation. There is no such kind of policy direction and alternative approach identified in the disaster time. The regular assessment practices were conducted as usual, although the situation was different and critical.

As per the students' sharing, the assessment system adopted by the school was not attentive to the students' wellbeing. The alternative mode of assessment has to be designed and implemented. The teacher shared about learning achievement; however, the use of formative assessment and providing feedback and support to students was missing.

As per the field observation, interviews with different teachers/students/parents and the community the assessment have not been a prioritized activity in the disaster. Certainly, teaching-learning is more important than assessment, however, the assessment for student learning is equally important with teaching-learning to enhance students' learning. The students' well-being is also a subject of concern in the disaster period, but it has not been found that the students' well-being and learning are supportive mechanisms. Only the regular assessment approaches have been used in school even the disaster situation does not clear understanding of the assessment process and approaches. Assessment should be in place but not on a regular basis and only the paper pencil test for student summative evaluation. All three field data show that schools were not able to apply the alternative assessment approaches and informal system of assessment. As per the teacher's response, it seems that conducting the written paper-pencil test in an open space (under a tree) was a success for the school. The lack of understanding of disaster, its impact on students' overall well-being, and the different assessment approaches seem good but insufficient.

As discussed with the head teacher and teacher in the school, they agree that assessment approaches should be different and informal assessment should be in place. However, they are not trying by themselves, and they ask for the policy. There is no such kind of policy that directs the assessment practice during the disaster and post-disaster. And even months after the disasters, despite being officially open, the critical reality was managing to resume regular classes and

follow the daily routines after a break period (Save the Children, 2016 b). Schools struggle to offer full-day classes and experience interruption of schedules, ultimately leaving both learners and teachers stressed and disoriented. Due to disruptions in routine teaching, learning is likely to take place even beyond a classroom context, and hence, conducting assessments. In such situations, conducting assessments of children both in and out of school demands distinctive strategies (Brown, 2001), which might be either costlier or may require an entirely different organizational set-up. As mentioned by UNESCO (2020), most of the guidelines are for ensuring the safety of learning environments, and few include policy guidelines on learning assessments. In the case of Nepal, there is also a similar situation as stated by (Barakat et al., 2013), Nepal also does not have a systematic mechanism to collect data, monitor the educational participation of the children and manage assessment systems amidst emergency circumstances. Only focusing on the written test is not sufficient to assess the learning. Before conducting any kind of assessment, teachers should focus on reducing anxiety by engaging students in relaxation activities such as deep breathing, small breaks, positive self-talk, focusing on past success, exercising, and games. Similarly, the construction of student-friendly tests is also important and it can support by fostering motivation, relating questions to student's lives, giving choices while responding to items, working in collaborative groups, and embedding visual reminders are some of the suggested ways to reduce anxiety (Salend, 2012). The assessment practice and approaches should develop the disaster, focusing the different disasters and its context.

FINDINGS AND CONCLUSIONS

The understanding of education in the disaster-risk zone is limiting. When should schools/ communities start educating the children in the place where the disaster happened? The educational activities can be resumed right after the temporary settlement of the people who were affected by the disaster. Before going to the national curriculum, the school needs to educate students on pandemic education, adaptation skills due to disasters, basic health and safety issues, etc. Such practices can support the students (and parents) in normalizing the situation with some skills on being healthy and safe.

The school curriculum has some content on deserter. But, the field data demonstrated that the schools, teachers and community members of disaster-risk zones are not consulted during the curriculum development. A psychosocial counseling program can be run by the school to minimize fear and be cost-effective. The earthquake-related safety (safe building, etc.) has been discussed widely. However, the flood-related issues are not well acknowledged. There are several cases in which school education was affected due to the flood.

Schools and other stakeholders lack sufficient awareness of the assessment process both during and after a crisis. The conventional evaluation approach has proven inadequate in measuring both the advancement of student learning and their overall well-being, as well as identifying any learning deficits. Therefore, it is imperative that schools implement alternative assessment methods that are officially acknowledged by the relevant assessment authority.

RECOMMENDATION

The following recommendations are made from this study.

1. Each school should conduct a disaster risk assessment, and prioritize interventions based on the assessment findings. The following information will be provided: the architectural characteristics of the building, its geographical position, the date of its construction, any hazards associated with the building, any previous incidents that have occurred, and recommended steps to be taken in the event of a tragedy.

2. The Nepal Disaster Risk Reduction Policy 2018 mandates that educational institutions are strongly advised to obtain insurance coverage for their physical infrastructure. However, this study takes into account the mandatory insurance requirement (the aforementioned data analysis parts rely on this data).

3. The Nepal Disaster Risk Reduction Policy 2018 stipulates that educational institutions can serve as a venue for the process of recovery. However, this approach fails to see schools as a potential source or system that can actively contribute to the recovery process by coordinating many essential educational initiatives, such as mobilizing teachers and students to educate both students and parents during the recovery phase.

4. It is important to have policy measures in place to carry out assessment activities both during and after disaster situations. The school should have implemented many assessment methodologies.

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