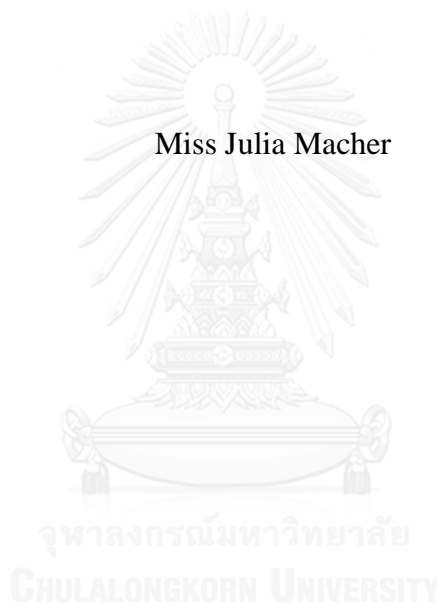


DISASTER RISK REDUCTION IN THE EDUCATION SECTOR: A CASE
STUDY OF SCHOOLS AFFECTED BY TYPHOON HAIYAN (YOLANDA) IN
THE PHILIPPINES

Miss Julia Macher



บทคัดย่อและแฟ้มข้อมูลฉบับเต็มของวิทยานิพนธ์ตั้งแต่ปีการศึกษา 2554 ที่ให้บริการในคลังปัญญาจุฬาฯ (CUIR)
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การลดความเลียงภัยพิบัติในภาคการศึกษา: กรณีศึกษาโรงเรียนที่ได้รับผลกระทบจากไต้ฝุ่นไฮ
เยิน(โยลันดา) ในฟิลิปปินส์



วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต

สาขาวิชาการพัฒนาระหว่างประเทศ

คณะรัฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

ปีการศึกษา 2557

ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

จูเลีย มาเชอร์ : การลดความเสี่ยงภัยพิบัติในภาคการศึกษา: กรณีศึกษาโรงเรียนที่ได้รับผลกระทบจากไต้ฝุ่นไห่เยียน (โยลันดา) ในฟิลิปปินส์ (DISASTER RISK REDUCTION IN THE EDUCATION SECTOR: A CASE STUDY OF SCHOOLS AFFECTED BY TYPHOON HAIYAN (YOLANDA) IN THE PHILIPPINES) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: ศศ.ดร. นฤมล ทับจุมพล, อ.ที่ปรึกษาวิทยานิพนธ์ร่วม: ดร. แอลเบิร์ต ซาลามังกา, 63 หน้า.

พายุไต้ฝุ่นไห่เยียน (โยลันดา) ที่เกิดขึ้นในประเทศฟิลิปปินส์เป็นตัวอย่างที่โดดเด่นของอันตรายที่เกิดจากภัยพิบัติซึ่งมีผลกระทบในหลายชุมชนทั่วโลก ซึ่งมีความจำเป็นที่จะต้องแสวงหาวิธีการที่มีประสิทธิภาพเพื่อรับมือกับภัยธรรมชาติที่เกิดขึ้น การลดความเสี่ยงจากภัยพิบัติได้สร้างกรอบแนวคิดสำหรับการป้องกัน, บรรเทา และเตรียมความพร้อมต่อภัยพิบัติซึ่งเป็นการจำกัดผลกระทบของภัยธรรมชาติลงได้

ปฏิสัมพันธ์ ระหว่างการลดความเสี่ยงจากภัยพิบัติและการศึกษามีลักษณะเฉพาะที่สำคัญ เพราะการลดความเสี่ยงจากภัยพิบัติช่วยในการสร้างความสามารถในการปรับตัว และความยืดหยุ่นต่อภัยพิบัติในภาคส่วนการศึกษา และการศึกษามีบทบาทสำคัญในการให้ความรู้และทักษะกับสังคมที่มีความเสี่ยงเพื่อลดผลกระทบของภัยพิบัติที่จะเกิดขึ้น ในอนาคต ดังนั้นวิธีการที่ครอบคลุมเพื่อลดความเสี่ยงจากภัยพิบัติจะต้องถูกบูรณาการเข้าในภาคส่วนการศึกษาของประเทศฟิลิปปินส์เพื่อสร้างการปรับตัว และความยืดหยุ่นสำหรับภัยพิบัติที่จะเกิดขึ้นในอนาคต

กรณีศึกษาพายุไต้ฝุ่นไห่เยียน มีความสำคัญอย่างยิ่งเพราะ เกิดการบูรณาการยุทธศาสตร์การลดความเสี่ยงจากภัยพิบัติในกระบวนการตอบสนอง ฟื้นฟู และการทำให้กลับคืนสู่สภาพเดิม เพื่อป้องกันไม่ให้เกิดการสร้างความเสี่ยงใหม่และลดความเสี่ยงที่มีอยู่ วิทยานิพนธ์ฉบับนี้ได้ทำการวิเคราะห์การดำเนินงานของยุทธศาสตร์การลดความเสี่ยงจากภัยพิบัติในระดับโรงเรียนและชุมชน งานวิจัยชิ้นนี้ได้ใช้วิธีวิจัยเชิงคุณภาพ โดยเป็นการสำรวจโรงเรียน และการสัมภาษณ์ส่วนตัวกับ ครูและบุคลากรทางการศึกษา, เจ้าหน้าที่องค์กรพัฒนาเอกชนและอาสาสมัครท้องถิ่น ตลอดจนสมาชิกในชุมชน วัตถุประสงค์ของงานวิจัยชิ้นนี้คือการให้ข้อมูลเชิงลึกในการดำเนินการเพื่อลดความเสี่ยงจากภัยพิบัติในภาคส่วนการศึกษาหลังจากการเกิดภัยพิบัติ และการสร้างข้อค้นพบเพื่อนำไปสู่การนำเสนอข้อเสนอแนะเพื่อรับมือกับภัยพิบัติในอนาคต

ข้อค้นพบที่สำคัญจากงานวิทยานิพนธ์ฉบับนี้ได้บ่งชี้ถึงการขาดความตระหนัก และขาดการดำเนินการเพื่อลดความเสี่ยงจากภัยพิบัติในระดับโรงเรียน ผลการศึกษาพบว่า มีความจำเป็นอย่างยิ่งที่จะต้องเพิ่มควมมีประสิทธิภาพในการถ่ายทอดนโยบายระดับชาติสู่ระดับท้องถิ่น เพิ่มความพยายามในการพัฒนาอย่างต่อเนื่อง เช่นเดียวกับ เพิ่มความสนใจในมาตรการลดความเสี่ยงจากภัยพิบัติก่อนเหตุการณ์เกิดขึ้น สำหรับภัยพิบัติที่จะเกิดขึ้นในอนาคต การเสริมสร้างทรัพยากรมนุษย์และศักยภาพมีความสำคัญอย่างยิ่ง นอกจากนี้การสร้างระบบการศึกษาที่สร้างการปรับตัว และความยืดหยุ่นต่อภัยพิบัติจำเป็นต้องใช้ความพยายามอย่างต่อเนื่อง และการสนับสนุนวิธีการที่ครอบคลุมในการลดความเสี่ยงจากภัยพิบัติในภาคส่วนการศึกษาทุกระดับ

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ปีการศึกษา 2557

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JULIA MACHER: DISASTER RISK REDUCTION IN THE EDUCATION SECTOR: A CASE STUDY OF SCHOOLS AFFECTED BY TYPHOON HAIYAN (YOLANDA) IN THE PHILIPPINES. ADVISOR: ASST. PROF. NARUEMON THABCHUMPON, Ph.D., CO-ADVISOR: ALBERT SALAMANCA, Ph.D., 63 pp.

Typhoon Haiyan (Yolanda) in the Philippines is a powerful example of the type of disaster risk experienced by many communities around the globe, and the need for effective ways to cope with natural hazards when they strike. Disaster Risk Reduction provides the conceptual framework for disaster prevention, mitigation and preparedness to limit the impact of natural hazards.

The interplay of Disaster Risk Reduction and education is unique in that both Disaster Risk Reduction helps to build resilience of the education sector itself and education plays an important role to provide at-risk societies with the knowledge and skills to reduce the impact of future disasters. Therefore, a comprehensive approach for Disaster Risk Reduction needs to be integrated in the Philippine education sector to build resilience for future disasters.

Typhoon Haiyan represents an important case study, as its response, recovery and rehabilitation phase offers a critical opportunity to integrate Disaster Risk Reduction strategies in order to prevent the creation of new risk and reduce existing risk. This thesis analyses their implementation on school and community level. The research used a qualitative design, including school visits and semi-structured interviews with teachers and education personnel, NGO staff and local volunteers as well as community members. The purpose of this research is to provide insights on action for Disaster Risk Reduction in education in the post-disaster phase, and, drawing on these findings, highlight recommendations for dealing with future disasters.

Key findings indicate lack of awareness and implementation of Disaster Risk Reduction on school level. The study showed needs for more effective translation of national policies to local level, continued development efforts as well as increased focus on pre-emptive Disaster Risk Reduction measures. With regard to future disaster, strengthen human resources and capacities is of greatest importance. Further, building a disaster resilient education system requires continued effort and advocacy for a comprehensive approach to Disaster Risk Reduction in the Education sector at all levels.

Field of Study: International Development Studies

Academic Year: 2014

Student's Signature

Advisor's Signature

Co-Advisor's Signature

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CHAPTER I INTRODUCTION

On the 8th of November 2013, Typhoon Haiyan (known locally as Yolanda) made landfall in the Philippines. It was one of the strongest storms ever recorded and affected around 16 million people in nine provinces of the Visayas, quickly creating a humanitarian crisis. The typhoon is a powerful example of the type of disaster risk experienced by many communities around the globe, and calls for the need for effective ways of coping with natural hazards.

Due to climate change, disasters represent an increasing humanitarian concern (IPCC, 2012). The impact of natural hazards has grown over the years and especially the poor and socially disadvantaged groups of societies in developing countries are extremely vulnerable (IDNDR, 1994). While extreme weather events are largely not avoidable, they do not need to become disasters. Recognition has been growing that not disaster response, but disaster prevention, mitigation and preparedness are the key to reduce the impact of natural hazards when they strike. The focus must be not only on managing the impact of disasters, but instead on reducing risk and building resilience. Therefore, Disaster Risk Reduction (DRR) provides the “ [...] conceptual framework intended to systematically avoid (prevent) and limit (prepare/mitigate) disaster risks with regard to losses in lives and the social, economic and environmental assets of communities and countries” (Center for Development and Environment (CDE), 2009, p. 4). Successful Disaster Risk Reduction requires a holistic approach, and enjoins national governments to integrate DRR into their policies, planning and programs as well as into disaster response and recovery efforts.

The Hyogo Framework for Action (HFA) serves as the first effort to explain how disaster risks can be reduced by work of all sectors – including education (UNISDR, 2005). The interplay of education and Disaster Risk Reduction is unique in that both DRR has a great impact on the education sector itself and, as identified in HFA Priority Action 3, education plays an important role in building resilience of at-risk communities.

Typhoon Haiyan has again brought the mutual linkages of Disaster Risk Reduction and education, as well as related challenges, into focus. While the Philippines is one of the most disaster-prone countries in the world and Filipinos are long accustomed to extreme weather events, there still exists a great need for raising awareness about hazards, related risks and responses. Also, the disaster has caused extensive damages to school infrastructure and continuing the teaching-learning process has been one of the struggles within the relief efforts following the typhoon.

In order to strengthen individual's and community's resilience to hazards while also enhancing the education system's preparedness for and response to disasters, a comprehensive approach for Disaster Risk Reduction needs to be integrated in the Philippine education sector. Disaster Risk Reduction measures in education involves addressing DRR in teaching and learning, school safety and disaster management and the provision of safe school facilities (UNESCO, 2011a). Combining these components helps to strengthen risk reduction and resilience through education, ensure education continuity in the face of disasters and safeguard education sector investments. Therefore, policies and plans need to address the interplay of Disaster Risk Reduction and education aligned with disaster risk management at national, regional, district and local school site levels (Global Alliance for Disaster Risk Reduction & Resilience in the Education Sector, 2014).

The Philippines does have Disaster Risk Reduction and Management policies in place. In 2010, the Philippine Disaster Risk Reduction, Management and Recovery Act was passed (Government of the Republic of the Philippines, 2010) enhancing the role of local governments in disaster mitigation and preparedness (DRR Knowledge Center, 2013). Also, efforts were made to mainstream Disaster Risk Reduction in the education sector (Asian Disaster Preparedness Center, Department of Education of the Philippines, & United Nations Development Programme, 2008). However, the scale and severity of Typhoon Haiyan has put existing strategies to test.

The most pressing concern now is recovery and rehabilitation following the disaster. This process offers a critical opportunity to invest in and improve Disaster

Risk Reduction in order to prevent the creation of new risk and reduce existing risk. The right actions in the recovery and rehabilitation phase aiming to address issues prior to future disasters can help to build resilience. Further, Disaster Risk Reduction measures can also contribute and safeguard the development of sectors as a whole (UNISDR, 2005). In view of education's role for building disaster resilience, this is particularly important for the education sector.

1.1 Statement of the Research Problem

This thesis argues that the need for Disaster Risk Reduction strategies in the education sector should be thoroughly considered during the response, recovery and rehabilitation phase of any disaster, as they have an important role to play in building future resilience. Disaster Risk Reduction in education aims to 1) save lives and prevent injuries in school should a hazardous event occur, 2) prevent interruptions to the provision of education, or ensure its swift resumption in the event of an interruption, and 3) develop a resilient society that is able to reduce the economic, social and cultural impacts in case of a hazardous event through education (Website of UNESCO, 2014a). Consequently, there exists a need to integrate Disaster Risk Reduction in the education sector to ensure the provision of education, while education should also be used as an important tool to promote Disaster Risk Reduction. However, recent disasters have shown that the challenge remains to integrate a comprehensive approach for Disaster Risk Reduction in education (Sorensen, Rumsey, & Garcia, 2014).

Typhoon Haiyan has caused extensive impact on the Philippine education sector, undoing hard-won educational achievements and slowing the development of the education system in the Philippines (Philippine Education Cluster, 2014b). The purpose of this research is to assess the response, recovery and rehabilitation process of the education sector following Typhoon Haiyan with focus on Disaster Risk Reduction strategies on school and community level. In the face of the enormous costs for current recovery and reconstruction, integration of Disaster Risk Reduction should be a priority investment within the rehabilitation in order to increase the resilience of the education sector to withstand future disasters. The analysis aims to provide insights on action for

Disaster Risk Reduction in education in the post-disaster phase, and, drawing on these findings, highlight recommendations for dealing with future disasters.

1.2 Terminology

The following section shall define and briefly discuss the core terminology of the research to build a common understanding and to maintain their consistent use throughout the thesis.

1.2.1 Risk, Hazard and Disaster

The difference between a hazard and a disaster is an important one; a disaster takes place when a society or a community is affected by a hazard. There exists no ‘natural disaster’, only natural hazards (Twigg, 2004). Hazards are rare or extreme events that have different origins. Some are natural while others are man made. When such an event affects people, it might lead to a disaster (Blaikie, Cannon, Davies, & Wisner, 1994)

The UNISDR defines a disaster as “a serious disruption of the functioning of a community or a 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” (UNISDR, 2009, p. 9). Disasters are outcomes of continuously present conditions of risk and disaster risk is defined as “the potential disaster losses, in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period” (UNISDR, 2009, p. 9-10).

The risk of a disaster increases as the frequency or severity of hazards increases, people’s vulnerability increases and people’s capacity to cope with the consequences is decreased (UNISDR, 2009), as illustrated by the equation below:

$$\text{Risk [R]} = \frac{\text{Hazard [H]} \times \text{Vulnerability [V]}}{\text{Capacity to cope [C]}}$$

Although disaster risk is sometimes used as synonymous with hazard, it includes an additional likelihood of a particular hazard to occur and cause damage or loss to vulnerable communities or groups (Cardona, 2004).

1.2.2 Vulnerability and Resilience

Vulnerability and resilience describe how individuals, communities and systems can cope in adverse circumstances. Vulnerability can be understood as the “the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard” (UNISDR, 2009, p. 30). It represents the human dimension of disasters, the result of the whole range of economic, social, cultural, institutional, political and even psychological factors that shape people’s lives, and create the environment they live in (UNISDR, 2009).

The focus on resilience means greater emphasis on strengthening the capacities of communities or systems rather than concentrating on their vulnerability to disasters (Twigg, 2007). Resilience is defined as “the capacity of a system, community or society exposed to hazards, to resist or to change in order that it may obtain an acceptable level in functioning and structure” (UNISDR, 2009, p. 24). Resilience is also to “build back better” not just “back to normal” (Fordham, 2004), as it is necessary to learn from past disasters for better future protection (UNISDR, 2009).

1.2.3 Capacity and Manageability

Capacity and Manageability are defined as the “the combination of all the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals” (UNISDR, 2009, p. 5). Capacity includes infrastructure and physical means, institutions, societal coping abilities, as well as human knowledge, skills and collective attributes such as social relationships, leadership and management, that can reduce levels of risk (UNISDR, 2009). Therefore,

capacity focuses on measures that help to improve the understanding, specific abilities, coping mechanisms and management of disasters by the public, government and other actors effectively and sustainable (Capacity for Disaster Reduction Initiative, 2011).

1.2.4 Disaster Management

The UNISDR defines 'Disaster Risk Management' as "systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster" (UNISDR, 2009, p. 10). Among humanitarian actors Disaster Management is defined "as the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular preparedness, response and recovery in order to lessen the impact of disasters" (Website of IFRC, 2014).

1.2.5 Disaster Risk Reduction

Disaster Risk Reduction means 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" (UNISDR, 2009, p. 10-11). Therefore, Disaster Risk Reduction (DRR) is the broad range of actions to reduce the impact of natural hazards to individuals and communities and to minimize their vulnerabilities (Oxfam, 2009).

1.2.6 Education for Disaster Risk Reduction

Education is one of the core foundations in building community resilience. According to UNESCO, "the role of education for disaster risk reduction strategies can be presented according to three types of activities: 1) save lives and prevent injuries should a hazard occur; 2) prevent interruptions to the provision of education, or ensure its swift resumption in the event of an interruption; and 3) develop a resilient population that is able to reduce the economic, social and cultural impacts should a hazardous event

occur” (Website of UNESCO, 2014b). Education for Disaster Risk Reduction (EDRR) is part of a broader framework of Education for Sustainable Development (ESD). EDRR underscores “the relationships between society, environment, economy, culture and their impacts” (Website of UNESCO, 2014b) and explains how these relationships can affect the well being of the people.

1.2.7 Education in Emergencies (EiE)

Education in Emergencies (EiE) describes theories and practices guiding the provision of education in crisis and post-crisis provision (Sinclair, 2001). It refers to multiple types and levels of education (formal/non-formal/vocational & pre-primary, primary, secondary and tertiary) as well as to multiple forms of crisis (from acute emergencies, from post-conflict recovery to natural disaster). Several terms are used to describe the field such as emergency education, education in conflict, education and fragile states, education and crisis, education and post-crisis transition, and education and natural disasters. Although the practice of providing education in times of crisis is not new, Education in Emergencies has emerged as a new field of study and policy only in recent years (Winthrop, 2009). Several trends since the mid 1990s explained this such as the changing nature of humanitarian action and the recognition that the Millennium Development Goal of Education for All (EFA) will not be met without education in emergencies (INEE, 2014b).

1.3 Conceptual Framework

The conceptual framework for this study relies on 1) the concept of Disaster Risk Reduction and 2) the framework for comprehensive school safety, to provide the basis to understand what happened and analyze the education sector’s response, recovery and rehabilitation process following a disaster.

1.3.1 Concept of Disaster Risk Reduction

Figure 1 displays the connections between the various elements of Disaster Risk Reduction, resilience, emergency preparedness, disaster risk management, response,

recovery and reconstruction, prevention and climate change adaption. It is a concept aiming to build resilient nations and communities as an essential element for sustainable development (UN United Nations, 2005). The key elements of Disaster Risk Reduction are reflected in the *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (HFA)*, which elaborates the five priorities for action adopted at the World Conference on Disaster Reduction held in Kobe, Hyogo, Japan in 2005 (UNISDR, 2005). It summarizes the guiding principles and priorities for actions for Disaster Risk Reduction. The value of the framework is its ability to promote a holistic approach to Disaster Risk Reduction and demonstrate the relationships between hazard risks/disasters and development. However, related themes and issues within the Disaster Risk Reduction domain are wide and cross-cutting (UNISDR, 2011). Therefore, the understanding of Disaster Risk Reduction in this thesis is taken from the UN International Strategy for Disaster Reduction (UNISDR) (see Chapter 1, Section 1.2.5).

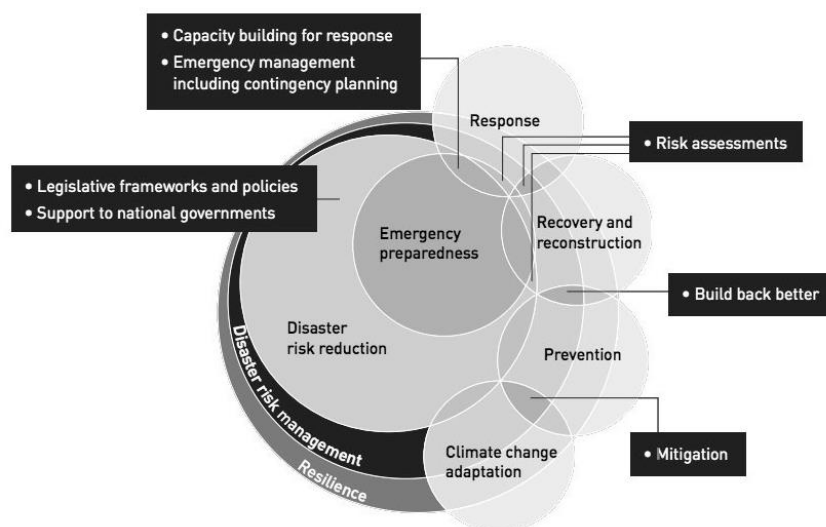


Figure 1: Elements of Disaster Risk Reduction (Adapted from Global Humanitarian Assistance, 2012, p. 33)

1.3.2 Framework for Comprehensive School Safety

Within the education sector, it is essential to integrate Disaster Risk Reduction in the structural, functional and pedagogical aspects, as each of the components has a

vital role to play in order to reduce risk from natural disasters (UNESCO, 2011a). This is addressed by 1) education policy aligned with disaster risk reduction and management, and rests on the following main components of 2) School Disaster Management, 3) Risk Reduction and Resilience Education, and 4) Safe Learning Facilities (Figure 2). Within the categories, actions and strategies apply before, during and after a disaster in order to strengthen a nation's education sector (Global Alliance for Disaster Risk Reduction & Resilience in the Education Sector, 2014).

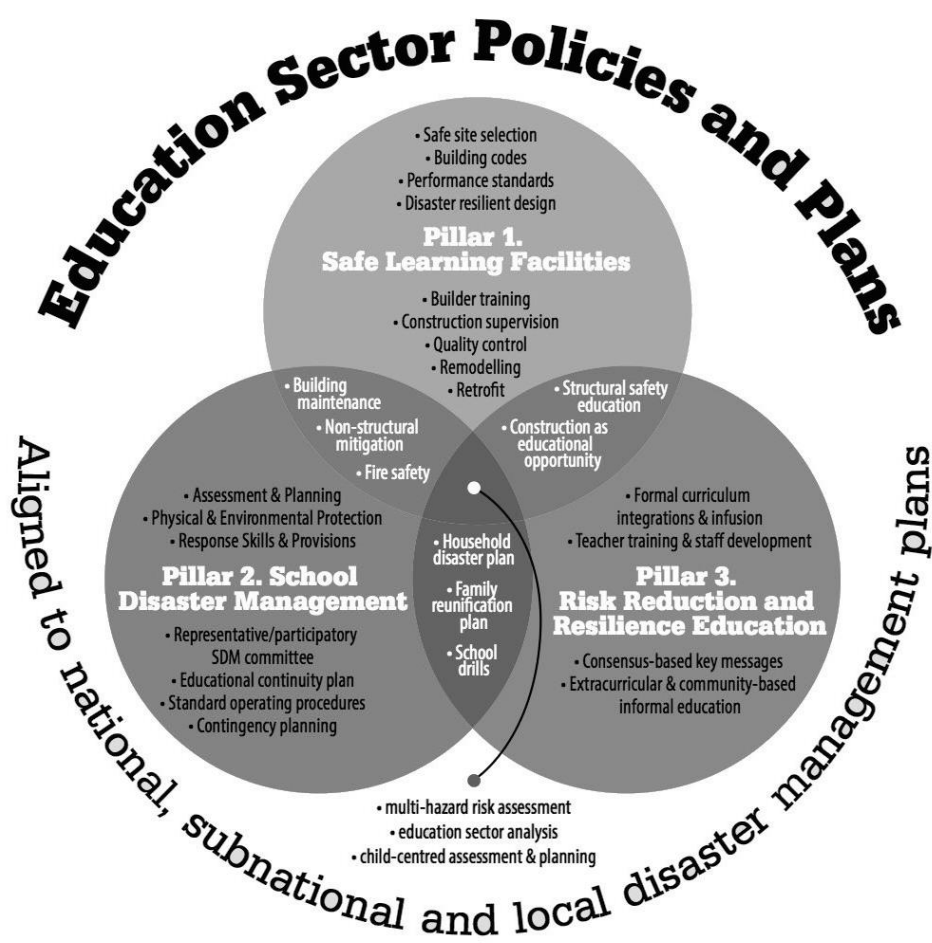


Figure 2: Framework for comprehensive school safety (Adapted from Global Alliance for Disaster Risk Reduction & Resilience in the Education Sector, 2014, p. 3)

The framework consists of three pillars of comprehensive school safety that are in line with the interpretation of the *Hyogo Framework for Action 2005-2015* for the Education Sector. It was published in preparation for the 3rd U.N. World Conference on

Disaster Risk Reduction in 2015 to promote school safety as a priority area of post-2015 frameworks for disaster risk reduction (Global Alliance for Disaster Risk Reduction & Resilience in the Education Sector, 2014).

Within this thesis, the framework is used to frame the research on Disaster Risk Reduction and education. The focus of this analysis is on the post-disaster (response, recovery, rehabilitation) phase following Typhoon Haiyan, both analyzing the existing policies as well as the strategies and undertaken actions on school and community level by various actors. The framework provides the basis for organizing the major findings of the education system response analysis, identifying gaps and strengths. The essential components are further explained in the methodology section (see Chapter 1.6).

1.4 Research Questions

Against this background, the guiding research question of the thesis is the following:

What lessons and insights can we learn from the responses of various actors in order to build a disaster-resilient education system in the Philippines in the post-disaster phase of Typhoon Haiyan?

1.4.1 Sub-questions

To explore the above research question further, the following sub-questions have been identified:

- In the case of Typhoon Haiyan, what are the major challenges to action on disaster risk reduction and building resilience of the education system?
- In the case of Typhoon Haiyan, what are the underlying factors that contribute to these challenges?
- In the case of Typhoon Haiyan, how are these challenges addressed and tackled?

- What recommendations can be made to ensure that the lessons and insights of Typhoon Haiyan are integrated in efforts to build a disaster resilient education system?

1.5 Research Objectives

This study has four main objectives. The objectives build on the identified strategies for Disaster Risk Reduction and School Safety in the Education Sector and are examined through different methodological approaches. Specifically, the research aims to:

- Describe the existing policies and strategies for Disaster Risk Reduction in the education sector response in the Philippines;
- Explore how safe learning facilities are provided in the case of Typhoon Haiyan;
- Analyze how School Disaster Management was undertaken in the case of Typhoon Haiyan;
- Examine how Risk Reduction and Resilience Education is integrated in schools affected by Typhoon Haiyan;

1.6 Methodology

The research question and objectives of this research will be explored qualitatively, including both documentary and field research. The research is undertaken in July 2014, eight months after Typhoon Haiyan hit the Philippines. Despite the long period of time since the storm, the research is very much determined by the post-disaster setting. The researcher has been able to visit two different sites that have been affected by the disaster. The first week was spent in Daanbantayan, in the province of Cebu, Central Visayas (Region VII). Following, the researcher was based in Tacloban, in the 1st district of Leyte, Eastern Visayas (Region VIII) for another 2 ½ weeks. Both areas were heavily affected by the typhoon and are still recovering from the disaster.

1.6.1 Case-study approach

As a large number of reports discuss the damages, needs and strategies in the Philippine education sector following Typhoon Haiyan (Philippine Education Cluster, 2014a, 2014b), case study research offers the opportunity to extend the understanding of the complex issue. Detailed contextual analysis of a limited number of schools provides information on the range of challenges for application of Disaster Risk Reduction in the schools. Assessing the situation at the ground shows which resources and capacities schools are able to access and what issues exist for those who are overlooked by humanitarian and development organizations. Understanding the strategies on local level is important for identifying to what extent existing policies and frameworks are implemented on the ground.

The research includes case studies of 12 schools, all greatly affected by the typhoon. While the schools were chosen randomly, depending mainly on the contacts made during the research, each of the schools turned out to be dealing with their unique challenges due to their different characteristics. The research included both public and private schools for greater understanding and comparison. The aim of the research is primarily to capture the range of factors that both hinder and facilitate Disaster Risk Reduction in the Philippine education sector following Typhoon Haiyan.

1.6.2 Semi-structured interviews

Given the context and post-disaster environment, a less-formal approach was chosen for the research. Semi-structured interviews allowed more sensitivity to the interviewees and provided greater insight in the recovery and rehabilitation efforts following the disaster. In order to gain a comprehensive understanding of the challenges and contributing factors, interviews were conducted within different target groups. Interviewees were teachers in the visited schools, but also staff and local volunteers who are helping in the response and rehabilitation of the affected communities. In

addition, community members were interviewed, to capture their perspectives and to recognize their desire to tell their story.

The interviews were structured using an interview guide designed for the target group. The questions and order were flexible, to have the possibility to ask for detailed information on interesting issues and to respond to the agenda of the interviewees. A list of all conducted interviews is included in the appendix.

1.6.3 Research Elements of Disaster Risk Reduction in Education

The following sections briefly explain the elements within the components of Disaster Risk Reduction in education, based on the framework for comprehensive school safety (Global Alliance for Disaster Risk Reduction & Resilience in the Education Sector, 2014). The strategies are also in line with the Education Cluster's guidance note for Disaster Risk Reduction in Education in Emergencies (Global Education Cluster, 2011). Both documents provided the basis for the data collection in the visited schools. However, the strategies and actions are not equally present in the schools, which is why the obtained details differ between the individual components of Disaster Risk Reduction. A detailed list of all elements within the theoretical model for comprehensive school safety is displayed within the appendix.

1.6.3.1 Policy and Plans for DRR

In order to respond to the first research objective, the data collection method consists of reviewing the existing policies and programs for Disaster Risk Reduction in the Philippine Education Sector in general and with regard to Typhoon Haiyan. The policy review has the purpose of gaining a deeper understanding of the policy basis and institutional framework for Disaster Risk Reduction in education of various actors in the Philippines.

Following the documentary research, the field research allows analysis of the actual implementation of policies in the case of Typhoon Haiyan. Therefore, it needs to

be explained how international frameworks are translated into national disaster risk reduction and management in the Philippines following the recent disaster. In addition, information on the state of implementation of Disaster Risk Reduction policies is gained through observation and information provided by the interviewees.

1.6.3.2 Safe learning facilities

Safe learning facilities can be ensured through a safe site selection for schools and the regular assessment of school buildings. These need to be constructed according to building-codes and hazard-resistant standards. As schools are often used as evacuation centers in the case of disaster, adaptations regarding facilities should be made accordingly. The rebuilding process following disasters offers the opportunity to revise and improve building designs and construction.

1.6.3.3 School Disaster Management

School Disaster Management relies on the development of standard operation procedures in the case of disaster. The starting point provides a hazard assessment *before* and a need assessment *after* a natural hazard occurred. On this basis, evacuation, contingency and continuity plans should be developed. It also includes preparedness for emergencies in the schools, as for example conducting of simulation drills. Necessary for functioning disaster management are capacity building of school administrators, teachers and personnel as well as community organizing and linkages building.

1.6.3.4 Disaster Risk and Resilience Education

Education for Disaster Risk Reduction requires not only the integration of DRR in the school curriculum on policy level. It also needs the development of teaching materials on natural hazards and disaster preparedness, and their translation into local languages. Moreover, teachers need to be trained to strengthen their capacity for disaster risk education, education in emergencies and psychosocial support.

1.6.4 Research Scope

The study is focused on the case of Typhoon Haiyan in the Philippines, its impact, and the actions and strategies for Disaster Risk Reduction within the education sector. It is concerned with the formal education system in the affected areas as well as with its role and importance for building resilience to future disasters. It is especially assessing the strategies in the post-disaster response, recovery and rehabilitation phase towards a comprehensive Disaster Risk Reduction approach in the education sector.

1.6.5 Research Limitations

The research in the post-disaster setting was accompanied by a number of unique challenges. While some have been considered prior to the fieldwork, others were only discovered during the process.

The critical role of language has been an important aspect of the field interviews. Even though many Filipinos speak English and no translator was needed, the communication turned out to be difficult. The level of language skills varied greatly among the interviewees and sometimes it lacked understanding over technical terms or concepts. While some phrases have obviously been framed within the post-disaster response process, an inconsistent understanding of their meaning was experienced during the research. The challenge was addressed by breaking down widely used terms during the humanitarian response in detailed and concrete questions, to avoid misunderstandings and resulting misinformation.

Another noticeable factor has been the researcher's role in the field. As white and female researcher, the gender and ethnic identity certainly framed the local perceptions of the researcher's position in the field. This created both opportunities as well as challenges. Being a female researcher has been an asset to get access to female informants. Especially in schools, where teachers are mostly female, the researcher has been warmly welcomed. However, as an outsider in a country that is still suffering from

the effects of a highly traumatic disaster, it was at times presumed that the researcher would provide funding or other forms of assistance. Therefore, the school visits were made together with local volunteers or another gatekeeper, who introduced the researcher to the school personnel. Barriers were usually overcome when explaining the purpose of the research and people came to understand the reasons for the interest in the topic.

Also, it must be noted that the number of schools visited represents only a very small number of all the schools that were affected by the disaster. Therefore no generality of the findings should be made. However, the qualitative study explores the range of existing issues on individual school level, and examines insightful questions of Disaster Risk Reduction in education within its real-life context.

1.7 Significance of the Study

The prior analysis and literature review showed a lack of academic research on Disaster Risk Reduction in Education in Emergencies or post-disaster situations, as well as in general education sector planning. Therefore, contribution to the academic work on this subject is strongly needed. The thesis strives to provide relevant information and insights on the topic. Most literature is primarily concerned with either Education for Disaster Risk Reduction, ensuring continuity in emergencies or following disasters, or safeguarding schools (Sorensen et al., 2014). The model of comprehensive school safety is relatively new and offers a framework for holistic Disaster Risk Reduction in education that can be used as basis for the research including all the relevant elements. Therefore, this study is new in taking on a comprehensive perspective on Disaster Risk Reduction and Education and explores it in a recent case. Moreover, the recent disaster made visible that there still exists importance for work to highlight the need for stronger cooperation between humanitarian response and long-term development work through Disaster Risk Reduction, in general and in the education sector.

The case study of the large-scale Typhoon Haiyan offers insights on how the disaster response and recovery phase strategies can be the starting point for DRR and greater resilience of the education system. It focuses on community and school level, emphasizing the importance of capacities on local level and community participation. It therefore provides information on issues that are easily overlooked in research carried out by humanitarian or development organizations. The research aims to contribute to the existing knowledge on the topic and provide recommendations for future disasters.

1.8 Ethical Issues

In post-disaster situations ethical issues and considerations are of particular importance. The research was concerned with the education sector and schools proved to be an environment that is relatively easy to access. However, a great emphasis was placed on respecting ethical concerns during the research. With the many struggles of the survivors and helpers following the disaster, the less-formal approach made the research more personal and appropriate in the post-disaster context. The day-to-day work and life following the disaster is challenging for the most, and talking about personal experiences is one strategy to cope with the situation and move on emotionally. The flexibility of the approach allowed the researcher to be sensitive to the emotional state of the interviewees. It was designed in such a way that all respondents were treated with honesty, respect and sensitivity.

As the disaster response and rehabilitation process represents a highly politicized issue, maintaining confidentiality and anonymity is a high priority. The names of participants and organizations as well as of the visited schools are not listed in the study. This is required in respect for the interviewees, their positions and assurance of anonymity allowed them to speak more freely. The time and effort devoted by each informant is highly appreciated.

CHAPTER II LITERATURE REVIEW

This chapter provides a review of the existing literature on the topic, which is relevant for the entire research. It includes a discussion of the International Strategy for Disaster Risk Reduction, including the approach of Community-based Disaster Risk Reduction, as well as information on humanitarian assistance and Education in Emergencies.

2.1 International Strategy for Disaster Reduction

The international agenda on disaster reduction originated due to increasing concern about the effects of disasters, their human and economic costs and impact on development efforts. Current international policy frameworks have been shaped during the United Nations' *International Decade for Natural Disaster Reduction* (IDNDR) (1990-1999), which provoked the recognition that disaster reduction represents a social and economic attempt that would take long time to fulfill. As stated in its Resolution 42/169 the UN General Assembly defined the aim of the decade as “to reduce, through concerted international action, especially in developing countries, the loss of life, property damage, and social and economic disruption caused by natural disasters, such as earthquakes, windstorms, tsunamis, floods, landslides, volcanic eruptions, wildfires, grasshopper and locust infestations, drought and desertification, and other calamities of natural origin” (UN General Assembly, 1987).

This initial approach, however, has been criticized for too great focus on the natural hazards themselves, instead than emphasizing the examination of processes and factors generating vulnerability (Blaikie et al., 1994). The *Yokohama Strategy and Plan of Action for a Safe World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action* as the output of the World Conference on Natural Disaster Reduction in Yokohama, Japan in 1994, resulted in changing the approach. Human actions and vulnerabilities are now considered as the main causes of disasters (IDNDR, 1994). Following the IDNDR, in 2000 the *International Strategy for Disaster*

Reduction (ISDR) has been established within the United Nations to promote action for reducing social vulnerability and risks of natural hazards, technological and environmental disasters (UN General Assembly, 2000).

2.1.1 The Hyogo Framework for Action (HFA)

The interest in reducing disasters has been continued with the UN World Conference on Disaster Reduction in 2005. In Kobe, Japan the *Hyogo Framework for Action 2005-2015 (HFA)* was developed and agreed on; a 10-year strategy to integrate disaster risk reduction into the development programs of individual nations and outlining five priorities where focus should be given for achieving disaster resilience (UNISDR, 2005). The five priority actions of the HFA are to:

- Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.
- Identify, assess and monitor disaster risks and enhance early warning.
- Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
- Reduce the underlying risk factors.
- Strengthen disaster preparedness for effective response at all levels.

While the framework is a commitment of governments and has significant symbolic status, it is not legally binding. Nevertheless, as the end date of the HFA draws closer, the development of a post-2015 framework for disaster risk reduction needs to be targeted, offering the opportunity to scale-up disaster risk reduction efforts that can be measured against development outcomes (UNISDR, 2012).

2.1.2 Education for Disaster Risk Reduction (EDRR)

The goal of improving the capacity of individuals and communities to reduce the risk of disasters is widely understood to rest heavily upon disaster risk reduction education (UNESCO Bangkok, 2007). In 2000, the theme ‘Disaster Reduction,

Education and Youth' was already introduced with the UN World Disaster Reduction Campaign (United Nations, 2000). The priority for education has become further integrated as part of the HFA's priority action 3, focusing on knowledge, innovation, and education as long-term solution to prepare for and mitigate disasters (UNISDR, 2005). Also, UNESCO has identified education for natural disaster preparedness as core issue to be addressed within the broader framework of Education for Sustainable Development (ESD), providing a long-term focus for taking this priority forward (UNESCO, 2005).

Early efforts in education for disaster risk reduction focused mainly on teaching about hazards that happened in other places, to other people and in other times (Lidstone, 1999). More recent attempts have aimed to integrate pupils and students, from primary school to post-graduate study, in studies on the safety of their schools and in working with teachers and community members to find ways to protect them. Today, both formal as well as informal education are recognized as essential part of successful education for disaster risk reduction (Wisner, 2006).

2.1.3 Disaster Risk Reduction (DRR) in the Education Sector

The 2006-7 UNISDR *Disaster risk reduction begins at school* – campaign strived to promote the integration of disaster risk reduction into government plans for the development of school curricula and safe school building construction (UNISDR, 2006). However, according to UNESCO, “the role of education for disaster risk reduction strategies can [...] be presented according to three types of activities: 1) Save lives and prevent injuries should a hazardous event occur, 2) Prevent interruptions to the provision of education, or ensure its swift resumption in the event of an interruption, and 3) Develop a resilient population that is able to reduce the economic, social and cultural impacts should a hazardous event occur (UNESCO, 2014a).

Thus, successful education for disaster risk reduction requires diverse and comprehensive approaches, as well as continuous integration of disaster risk reduction in education sector planning. Building a disaster - resilient education system for the

implementation of formal and informal education for disaster preparedness, with linkages to community-based risk-reduction may promise the development of societies less vulnerable and more resilient to the impact of disasters. The review of the literature illustrates that there exist several guidelines and efforts but no comprehensive framework for Disaster Risk Reduction and education (Sorensen et al., 2014).

2.3 Humanitarian Assistance and Education in Emergencies

The reduction of disaster risk, and the improvement of other elements of risk management, will not fully eliminate the need for humanitarian response to extreme events, particularly in more vulnerable areas and communities. When, and especially until, local resilience and capacity is increased, support by humanitarian assistance will still be strongly needed (Inter-Agency, 2008). During and following disasters, education systems face a variety of stresses. Disasters can cause the destruction of schools, damage of education facilities, displacement or death of large numbers of students, parents, teachers and other education staff. School resources can be lost due to disasters. Families can be unwilling to send their children to school because of the risks, the costs or the household needs. Also, during or following a disaster the government can be unwilling or unable to provide education (Nicolai & Triplehorn, 2003). Disasters often result in large numbers of internally displaced people and the complete breakdown of normal societal processes and coping mechanisms for the affected population. During such emergencies support is required for the provision of basic services; and assistance is necessary as long the education system is affected by the stresses following a disaster (Save the Children, 2008).

2.3.1 The Provision of Education in Emergencies

While numerous nuanced definitions of education in emergencies exist, all of them agree on the overall goal of continued provision of quality education during an emergency. According to the traditional understanding, education has long been

regarded as development work, but not as fundamental part of humanitarian aid (Sinclair, 2001). From the 1960s until the 1980s, foreign assistance was divided between relief and development, and only in the 1990s international agencies started to rely on the 'relief to development continuum' concept. Even though the concept aimed to bridge the gap between the two types of assistance, agencies are still largely specialized and bound by mandates, funding and different understanding of priorities (Smillie, 2000).

The provision of education during humanitarian response to crises was often restricted enormous because of the widely held view that humanitarian aid has to show short-term consequences. This has led to a focus on measures to supply with food, shelter and medical services, both by humanitarian organizations and governments. UNESCO noted that actors in humanitarian aid were often surprised by the demand for education in disaster-affected communities who consider education as a vital service, a right and a source of dignity that must be protected (UNESCO, 2011b).

Following, humanitarian assistance to the education sector has been increasingly recognized as a priority during an emergency, not only from human rights and humanitarian perspectives, but also respecting the social and economic development of the disaster affected country (Gonzalo & Aedo-Richmond, 1998). These are also the three different conceptual approaches that are shaping the field of education in emergencies. The human rights approach views crises such as natural disasters as potential obstacle to the fulfillment of children's right to education, whereas the humanitarian approach emphasizes the potential for humanitarian relief activities for education to provide protection to children during and following a crisis. In contrast, the development approach recognizes education as long-term social investment and its provision in emergencies as means to prevent backward development. All three conceptual approaches are apparent in the justifications for education in emergencies, as they are not mutually exclusive and can exist in parallel to one other (Burde, 2005). Due to these multiple justifications, many education advisors, non-governmental organizations (NGOs), multinational agencies and other stakeholders have started to

advocate for education programs in crises leading to the establishment of the Inter-Agency Network for Education in Emergencies (INEE).

2.3.2 Inter-Agency Network for Education in Emergencies (INEE)

The Inter-Agency Network for Education in Emergencies (INEE) was constituted following the World Education Forum in Dakar in 2000; an open global network of individuals and members from NGOs, UN Agencies, donor agencies, governments, academic institutions, schools and affected population working together within both a humanitarian and a development framework to ensure all persons the right to quality, relevant and safe education in emergencies and post-crisis recovery (INEE, 2014a). The INEE works to sustain commitment and strengthen collaboration in the field of education during emergencies and it is to a great extent due to its advocacy that education is part of humanitarian relief and its agenda (Rose & Greeley, 2006) (UNESCO, 2011b). In order to respond to increased recognition for the importance of investment in education in emergencies and to ensure quality in the education provided, the INEE has developed the Handbook for Minimum Standards for Education in Emergencies, Chronic Crises and Early Reconstruction (INEE, 2004). It represents a framework for Education in Emergencies built on foundations of the Convention on Rights of the Child (CRC), the Education for All (EFA) framework, the UN Millennium Development Goals (MDG), and the Sphere Project's Humanitarian Charter (INEE, 2004). The standards are designed as an immediate and effective tool to promote protection and coordination at the start of an emergency while providing the basis for holistic, quality education and disaster preparedness during reconstruction.

Therefore it can contribute to disaster risk reduction through focusing on essential survival, school safety and life skills information, and establishing a safe and secure environment. The INEE Minimum Standards also provide a basis to enforce a holistic approach to emergencies and humanitarian aid, promoting educational responses that incorporate a view to longer-term reconstruction and development of 'building back better' (INEE, n.a.). While the holistic risk reduction cycle is not strongly enough articulated in the standards yet, disaster risk reduction is envisaged to

be made more explicit within a future revision of the INEE Minimum Standards (INEE, n.a.).

2.3.3 Humanitarian Reform and the IASC Education Cluster

The 1991 UN Resolution 46/182 *Strengthening of the coordination of humanitarian emergency assistance* of the United Nations was the first step to improve the international coordination and effectiveness of humanitarian relief (UN General Assembly, 1991). It established the Inter-Agency Standing Committee (IASC) that is responsible for inter-agency decision-making in humanitarian responses. Following the Department of Humanitarian Affairs, now reorganized as the Office for the Coordination of Humanitarian Affairs (OCHA), has been installed (OCHA, n.a.). The IASC together with the OCHA form the primary institutional mechanism for the inter-agency coordination of humanitarian assistance (IASC, 2013). Although, international responses to humanitarian crises remained to be characterized as unpredictable and ad hoc (Özerdem & Gianni, 2005).

In 2005, the IASC launched the process of ‘humanitarian reform’ and the development of the ‘cluster approach’ for humanitarian assistance (Derderian, Stobbaerts, Singh, Rocha, & Melody, 2007). The UN-led reform aimed to strengthen the capacity and effectiveness of humanitarian relief by targeting greater predictability, accountability and cooperation for responses to emergencies. Today, the reform and cluster approach are widely regarded as the prevailing humanitarian response paradigm (Featherstone, 2010) and used as the standard framework in any humanitarian emergency that requires a multi-sector response and participation of many different actors (The NGOs and Humanitarian Reform Project, 2010). Each of the clusters consists of UN agencies, NGOs and other civil society organizations, government representatives and other local stakeholders. Not considered as priority in humanitarian response, education was not included in the initial humanitarian response process (Price, 2010).

Due to strong advocacy for education in emergencies by the INEE, in 2006 the IASC established the education cluster “to enable all children and young people to have immediate access or ensured continuity to a good-quality education in a safe environment, in order to protect, develop and facilitate a return to normality and stability” (Price, 2010). The Global Education Cluster is managed under the leadership of UNICEF and Save the Children, who are responsible for standards and policy setting, capacity building and provision of operational support within the cluster (Global Education Cluster, 2010).



CHAPTER 3 RESEARCH RESULTS

This chapter will provide an overview of the results of the case study. It outlines the relevant factors that are necessary for a comprehensive answer of the research question. This includes a description of disaster risk management in the Philippines, its legislative framework and institutions. Also, the general attempts to mainstream Disaster Risk Reduction in the Philippine education sector are explained. Following information is given on the case study of Typhoon Haiyan, including general information about its impact and on the disaster preparedness of the affected communities prior to its landfall. Further, the longer-term effects on children and their families are described. These findings are relevant not only to understand the difficulties in the education sector, but also to emphasize the importance of Disaster Risk Reduction in education. The chapter ends with a summary of the effects on the education sector and undertaken actions for Disaster Risk Reduction.

3.1 Disaster Risk Management in the Philippines

The Philippines is highly exposed to natural hazards, such as storms, flooding and earthquakes (CRED, 2014). At least 60 per cent of the total land area is exposed to multiple hazards, and as a result 74 per cent of the population is vulnerable. Demographic growth and rapid urbanization, poor land-use planning as well as low economic development in many regions determine the Philippines vulnerability (World Bank, GFDRR, & UNISDR, 2011). An increase in damaging extreme events is likely to continue due to climate change (World Bank, 2011).

3.1.1 Policy Framework for DRR in the Philippines

The *PD 1566 Strengthening the Philippine Disaster Control Capability and Establishing the National Program on Community Disaster Preparedness* (Presidential Decree 1566 of June 11, 1978) is the Philippine's basis for its disaster management and lays down the policy, institutional and operational framework. The PD 1566 stipulates

that Disaster Management, specifically disaster preparedness and emergency operations is to be pursued with a great emphasis on ‘self-reliance’, ‘self-help’ and ‘mutual assistance’. The law also created the National Disaster Coordination Council (NDCC); the legal authority for collaborative efforts in disaster preparedness planning, as well as disaster response operations and rehabilitation, both in the public and private sectors in the country. In response to the local and international community pushing for more focus on reducing disaster risks, the NDCC has started to shift its disaster management approaches from reactive (emergency management, disaster response) to pro-active (disaster risk reduction/management) (Asian Disaster Reduction Center, 2014). Since 2008, the Government of the Philippines has been working towards the *Philippine Disaster Risk Reduction, Management and Recovery Act* that was passed and approved in May 2010 (Government of the Republic of the Philippines, 2010). This new law restructured the national and local institutions to be pro-active to disaster mitigation and preparedness measures (DRR Knowledge Center, 2013).

In 2011, a *National Disaster Risk Reduction and Management Plan* (NDRRMP) for 2011 – 2028 has been completed (Government of the Republic of the Philippines, 2011a). The policy has shifted from a response-orientated to a more holistic approach. It is now guiding “how sustainable development can be achieved through inclusive growth while building the adaptive capacities of communities; increasing the resilience of vulnerable sectors; and optimizing disaster mitigation opportunities with view of promoting people’s welfare and security towards gender-responsive and rights-based sustainable development” (Online article by Amador, 2013).

3.1.2 Institutional Arrangement for DRR in the Philippines

The National Disaster Risk Reduction & Management Council (NDRRMC), formerly known as the National Disaster Coordinating Council (NDCC) is the highest policy-making, coordinating and supervising body on matters pertaining to disaster in the Philippines. It is a working group of various government, non-government, civil sector and private sector organizations that is administered by the Office of Civil Defense under the Department of National Defense. All members work together for

carrying out respective tasks and responsibilities in disaster preparedness, mitigation, response and rehabilitation (Asian Disaster Reduction Center, 2014).

The Department of Education (DepEd) is both a member agency of the NDCC and of the Technical Management Group (TMG). The specific actions of the DepEd under the above functions include organizational development, emergency response, curriculum development, and awareness raising, training and campaigns as well as infrastructure development (Asian Disaster Preparedness Center et al., 2008).

The responsibility of mitigating, preparing, and responding to disaster and emergencies are lodged with the Local Government Units. Each province, city and municipality has a Local Disaster Risk Reduction and Management Office (LDRRMO), and a Barangay Disaster Risk Reduction and Management Committee (BDRRMC) in every barangay is responsible for setting the direction, development, territorial jurisdiction (Government of the Republic of the Philippines, 2010). With decentralization of governance, each local, provincial, city and municipal government unit is responsible in responding to disasters, with the support of the various agencies.

Also, the Philippines adopts the cluster approach that is in line with the United Nations Humanitarian Reform Agenda. The legal basis is contained in the *National Disaster Coordinating Council Circular No. 5* of May 2007 (National Disaster Coordinating Council, 2007). It is instrumental in the coordination, sharing information and cooperation among the agencies and NGOs concerned with the different sectors, such as education.

3.1.3 Mainstreaming DRR in the Education Sector in the Philippines

In 2000 the Asian Disaster Preparedness Center established the Regional Committee (RCC) on Disaster Management. On its 5th meeting in Hanoi, the RRC adopted the Hanoi 5 statement on Mainstreaming Disaster Risk Reduction into Development in Asian Countries that prioritizes DRR to be integrated in the national development planning process (Asian Disaster Preparedness Center, 2005). Within the

education sector, the Hanoi RCC 5 statement identified 1) integrating DRR modules into school curriculum, 2) promoting hazard resilient construction of new schools, and 3) introducing features into schools for their use as emergency shelters, as sub-themes to initiate mainstreaming of DRR.

Following, the project *Support to Implementation of Hyogo Framework for Action (HFA) through Mainstreaming of Disaster Risk Reduction into Development Planning, Policy and Implementation in Asia: Advocacy and Pilot Implementation Project in Education Sector in 3 South East Asian RCC member countries (Cambodia, Lao PDR and the Philippines)* has been implemented by the UNDP and ADPC, with support from ECHO (Asian Disaster Preparedness Center et al., 2008). The MRRD-Education project included four main activities, namely: i) Initiating Mainstreaming of Disaster Risk Reduction into Secondary School Curriculum, ii) Study on Impacts of Disasters on the Education Sector, iii) Advocacy Workshop on Mainstreaming Disaster Risk Reduction into the Education Sector, and iv) Stakeholder consultation as a follow up to the Advocacy Workshop. The Phase I (2007-2008) of the project aimed to advance the mainstreaming of disaster risk reduction in the three countries, strengthen networking, enhance the government commitment in making communities safer and holding governments responsible in ensuring public safety. In the Philippines, the project was implemented in coordination with the NDCC and the Department of Education (DepEd) (Asian Disaster Preparedness Center et al., 2008).

3.2 Introducing the case study: Typhoon Haiyan

According to the National Disaster Risk Reduction and Management Council, Typhoon Haiyan affected a total of 3424593 families/16078181 persons in 12139 barangays in 44 provinces, 591 municipalities and 57 cities of Regions IV-A, IV-B, V, VI, VII, VIII, X, XI, and CARAGA (NDRRMC, 2014). The most affected provinces include Leyte, Eastern Samar, Samar, Cebu, Capiz, Iloilo, Aklan, Antique, and Camarines Sur.

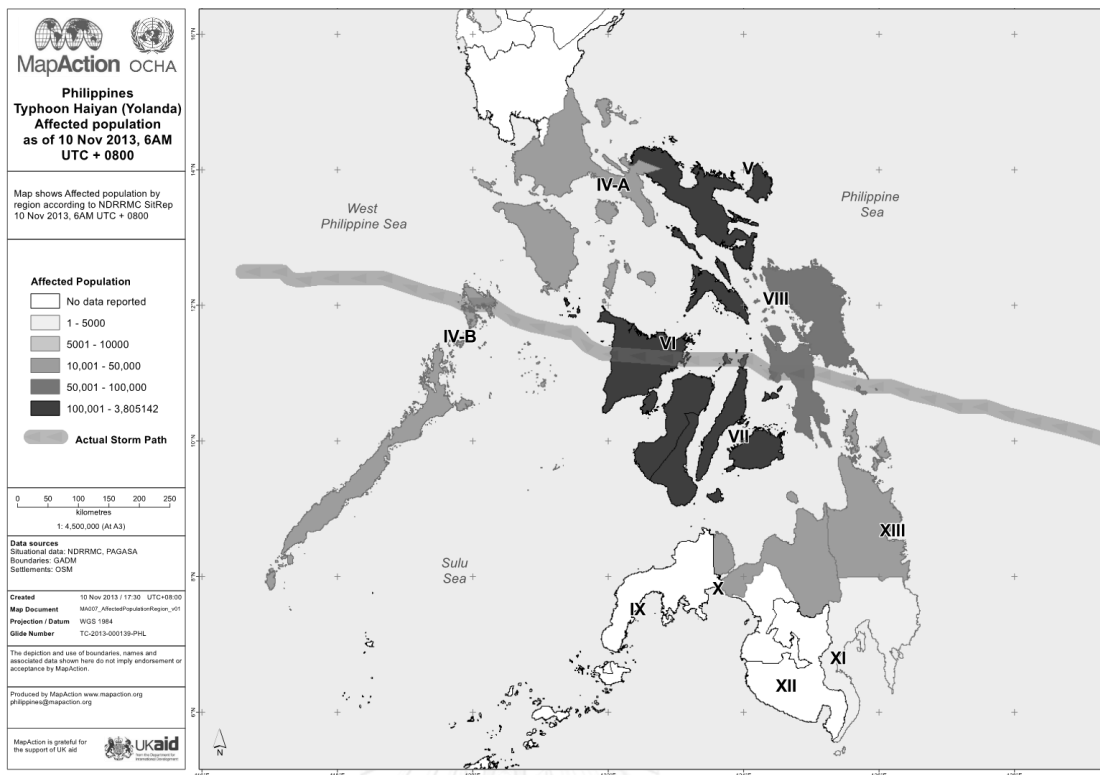


Figure 3: Map of the affected areas by Typhoon Haiyan (Yolanda) (Adapted from UN Office for the Coordination of Humanitarian Affairs, 2013)

The scale and severity of the typhoon dramatically revealed the Philippines's vulnerability to disaster. It put everyday life on hold and to date, the affected areas are still recovering.

3.2.1 Disaster Preparedness of the communities

One important factor influencing the scale of disaster caused by Typhoon Haiyan represents the preparedness of the affected communities before the storm. Understanding of local disaster risk and community preparedness is essential for the protection of lives and livelihoods. Public awareness and knowledge mobilize local action to reduce disaster risks, which are often little things that make a difference. Typhoon Haiyan affected both areas that are within the so called Philippine's typhoon belt and those that usually do not experience typhoons. In all locations where the typhoon can potentially make a landfall, people were informed and some preparations were made.

Although the communities received warnings, most did not know how to prepare best. In areas that are usually not affected by typhoons, people went to ask their neighbors of whom they knew had experienced typhoons before (Interview No.10, 1st July 2014). In typhoon prone areas people were preparing in line with their own experience with previous typhoons (Interview No.1, 11th June 2014).

In both cases, Typhoon Haiyan was not within the experience of the affected communities (Interview No.2, 23rd June 2014). While people were expecting the strong winds, they were surprised by the huge waves from the sea. Even though they have been warned, “most of them have never heard about ‘storm surge’ before” (Interview No.3, 29th June 2014). Many did not know what was going to happen within the duration of the storm and were trapped in their houses when the water started to rise. The warnings were not sufficiently explained to the communities, an example for failure in turning scientific knowledge in clear messages enabling local actions.

During the typhoon, people were staying in their houses. Many were praying together with their family members, hoping to be safe of the natural hazard. Religious activities, such as prayers and family gatherings, were one coping strategy to calm themselves during the storm. Their faith also provided them strength to help themselves when the situation worsened (Interview No.5, 29th June 2014; Interview No.7, 30th June 2014; Interview No.25, 14th July 2014).

3.2.2 Impact on children and young people

The groups of interest for this thesis are children and young people. Those are also among the most vulnerable to the negative effects of disasters. According to UNICEF, 5.9 million children are affected by Typhoon Haiyan (UNICEF, 2014). Many lost their homes, their schools and maybe family members at the same time (Interview No.4, 29th June). Most of the affected communities relied on farming, fishing and the service sector for their livelihoods. Families live together in basic houses, and eight months after the typhoon many are still without homes (Interview No.9 in School Nr.1,

1st July 2014; Interview No.16, in School No.5, 5th July 2014; Interview No.24 in School No.8, 14th July 2014).

The reasons for the slow rebuilding process are manifold. Even when the materials are affordable for families, workers are very expensive because not enough skilled labor exists for the large quantity of rebuilding projects (Interview No.11, 1st July 2014). Many live in coastal communities within 40 meters from the shoreline that are now declared as 'no-build zones'. While the people have nowhere else to live, they are also not allowed to build permanent structures in these areas (Interview No.15, 5th July 2014). Also, following the disaster and resulting from unsafe conditions, many families evacuated to their relatives or friends in other provinces. When they came back after a few months, they might have missed the assessment phase and are now not included in reconstruction initiatives (Interview No.15, 5th July 2014). Although most families simply want to restore their houses (Interview No.1, 11th June 2014), lack of resources and land issues related to the mentioned 'no built zones' impede the rehabilitation of homes and communities.

This post-disaster environment creates various stresses and risks for children and young people. Above all, the need for food was severe. Many children are malnourished and "cannot concentrate on studying when they are hungry" (Interview No.9 in School No.1, 1st July 2014). Due to the losses caused by the Typhoon, many struggle to make their living and to feed their families. The temporary housing situation results in lack of access to sanitation and hygiene, especially among girls who found it difficult.

In addition, children face risks outside their homes, especially on their way to school. Many have to walk longer distances, and have to swim in some areas during rainy season, to reach their school (Interview No.12 in School No.2, 4th July 2014). They are highly vulnerable to abuse, sexual violence, human trafficking and exploitation following the disaster (Interview No.4, 29th June 2014 & Interview No.17, 6th July 2014). Also, early pregnancy is perceived as a problem in the Philippines (Interview No.8, 30th June 2014). Indeed, many risks were acknowledged as pre-

existing to the disaster, but “both the number of cases and the attention has increased following Yolanda” (Interview No.17, 6th July 2014).

In addition, the children do not only face difficulties at home, but also regarding their access to education. School attendance offers the children a sense of normality and provides distraction that is important for dealing with their experiences. Meanwhile, the schools have reopened and most children are back in school, but the lessons are held under difficult conditions (Interview No.2, 23rd June 2014).

3.2.3 Effects of Typhoon Haiyan on the Education Sector

According to the Education Cluster, Typhoon Haiyan affected more than 2500 schools and more than 2500 day-care centers (Philippine Education Cluster, 2014b). In all schools visited, classrooms and facilities have been partially or totally damaged resulting in the disruption of the teaching-learning process. Besides the damages caused by the strong wind and rising water, others are man-made destruction following the disaster (Interview No.19 in School No.6, 11th July 2014). In many places, law and order broke down after the typhoon struck and massive supply disruption has caused a desperate search for materials by community member to build temporary houses.

Typhoon Haiyan did not strike during school hours. Classes were suspended that Friday morning, as instructed by the local governments (Interview No.9 in School No.1, 1st July 2014 & Interview No.26 in School No.9, 15th July 2014). Following the typhoon, schools remained closed. The resumption of classes varied between two weeks to a few months after the typhoon. On the 6th of January, schools in the affected areas were officially re-opened within the ‘Back to Learning’ Campaign of the Department of Education and the Department of Social Welfare and Development (UNICEF Philippines, 2014a). The damages by the typhoon caused a lack of useable classrooms in most schools. Re-opening plans required alternative arrangements for the schools. The pupils are now studying in temporary classrooms or tents set up outside, in shifts or sharing their classroom with other grades.

In addition, many schools have been used as evacuation centers for affected community members. Although most schools are not designed to accommodate a large number of people, they are often the only possible facilities for evacuation within an area (Interview No.13 in School No.3, 4th July 2014). The reasons for schools not being used as evacuation center are that schools are too greatly damaged (Interview No.16 in School No.5, 5th July 2014), located in high-risk areas (Interview No.12 in School No.2, 4th July 2014) or private schools (Interview No.26 in School No.10 & Interview No.27 in School No.11, both 26th July 2014). Most other schools accommodated a number of community members or the families of teachers and students for a few weeks. This complicated the resumption of classes in schools, since classrooms could not be used for classes while they were occupied by the evacuees (Interview No.13 in School No.3, 4th July 2014).

Also, the number of school dropouts has increased following the disaster. Because of displacement and transfer to other regions, lack of food, lack of resources for school supplies and transport, a number of enrolled children did not attend school. In recent months, more and more children have returned and the majority of them are back to school (Interview No.26 in School No.9, 15th July 2014).

3.2.4 DRR in the education sector following Typhoon Haiyan

Eight months following the typhoon, the education sector is concerned with Post-Haiyan rehabilitation. The process offers opportunities to address the risk to ensure that the next disaster will not cause similar impacts. Therefore, longer-term disaster risk reduction and resilience building should be made a strong component of the education sector rehabilitation and embedded in its implementation and process plans.

The following subsections explain the measures undertaken for Disaster Risk Reduction in the education sector following the typhoon, which are organized along the four objectives. A resilient education system and safe schools have been defined as

combining all of the following components (Global Alliance for Disaster Risk Reduction & Resilience in the Education Sector, 2014):

- Education Sector Policy and Plans for Disaster Risk Reduction,
- School Disaster Management,
- Risk Reduction and Resilience Education,
- Safe Learning Facilities.

The following sections summarize the results of the research regarding each element for Disaster Risk Reduction in Education within the Typhoon Haiyan response, recovery and rehabilitation phase.

3.2.4.1 Policies and Plans for DRR in the Education Sector Response

On the 18th of December 2013, the Philippine government launched its ‘Reconstruction Assistance on Yolanda’ program and expressed its commitment to ‘Build Back Better’. The president himself, Benigno S. Aquino III, declared, “We know that we cannot allow ourselves to be trapped in a vicious cycle of destruction and reconstruction. We know that it is more efficient to prioritize resilience now, rather than to keep rebuilding. This is why we are going to build back better” (Government of the Republic of the Philippines, 2013). Also, the Department of Education (DepEd) launched a ‘Back to learning in a safe school’ campaign, promoting schools as ‘safe havens’ for children following Typhoon Haiyan (UNICEF Philippines, 2014b), and highlighting the 2014 ‘Making our Schools Safer’ theme of the annual school maintenance week (‘Brigada Eskwela’) (Department of Education of the Philippines, 2014).

However, the Typhoon Haiyan response and rehabilitation process shows a large gap between the policies, written reports and the situation on the ground. The implementation of the envisaged national policies is not uniform within the regions and even in the same areas. Especially in Leyte, the response and rehabilitation process was

described as very slow and with little commitment and support of the local government (Interview No.30, 17th July 2014).

When visiting the schools, it became clear that two different types of schools exist. The 'pilot schools', are usually schools with a large number of students and located in the city area. Organizations and donors often focus on that kind of schools and as a result these are also the target of Disaster Risk Reduction actions. However, there also exist all the smaller or more remote schools that don't get that kind of support (Interview No.18, 8th July 2014). High visibility and easy accessibility are main factors for the implementation of Disaster Risk Reduction policies within the education sector response to Typhoon Haiyan.

3.2.4.2 Safe Learning Facilities

The rebuilding and reconstruction of school buildings is by far the most common intervention following the typhoon. However, the current situation in the schools varies greatly. While some schools have brand new buildings, others are still holding classes in temporary learning spaces. The great number of schools affected resulted in a lack of resources and available funding for the rehabilitation, and lead to some schools receiving more support than others. In general, most schools depend on the help of international or local NGOs and receive little by the government. In addition, the availability of resources is very much depending on the location and size of the school, partnerships with overseas institutions or other beneficial connections.

The schools visited differ in their specifics and thus also in their ability to rebuild. In principle, the situation in private schools is much better as they are receiving support from international partners overseas and, to a certain degree, have more resources available through their tuition fees (Interview No.28 in School No.11 & Interview No.29 in School No.12, both 16th July 2014). Also, schools with a large number of pupils and located within the city areas are receiving increased attention by international NGOs and donors (Interview No.26 in School No.9, 15th July 2014 & Interview No.30, 17th July 2014). Another school was rebuilt by a governor, whose

wife grew up in the community (Interview No.19 in School No.6, 11th July 2014). On the contrary, schools located close to the 'no-build zone' are still struggling for funding for the reconstruction. Located close to the seashore, the schools are not receiving support from the government and other organizations (Interview No.22 in School No.7, 11th July 2014).

Regarding improvement of building design and safer construction, the situation and approaches also vary between the cases. In general, to build a hazard-resistant school is more expensive. This does not only apply to the materials, but also to the need for skilled labor. Due to the lack of resources, most schools are simply getting roofed and painted, and "nobody knows if it will survive another typhoon" (Interview No.16 in School No.5, 5th July 2014). Sometimes the funding by organizations stops for internal reasons during the process, and schools cannot be finished (Interview No.16 in School No.5, 5th July 2014).

One school reported that their new hazard-resistant building, accommodating only two classrooms, costs around 1.2 million pesos (Interview No.9 in School No.1, 1st July 2014). Another school, that is located in a high-risk area for landslides, will be relocated to land donated by a family of a politician of the province. The new school will be constructed with pre-fabricated building-parts from Vietnam. This was explained to be cost saving, as the school should be built easily in six days once the building parts arrive (Interview No.12 in School No.2, 4th July 2014).

However, supporting and funding a school was reported to be complicated with many parties and organizations involved. Transparency and accountability is one great problem, as well as the bureaucratic process. When new buildings or facilities have already been completed, their usage requires official certificates. This application process often takes a long time (Interview 13 in School No.3, 4th July 2014).

In summary, improvement of building design and safer construction is not always the case or rather the exception. The reason is simply the lack of available

resources. Since school somehow has to go on, it is hardly possible to wait for greater support and proper improvement.

3.2.4.3 School Disaster Management

Following the typhoon, most schools are struggling to rebuild their classrooms and facilities and to resume their classes. Dealing with the damages of the school buildings, they set up temporary learning spaces, shifted or merged classes. Motivated and engaged teachers and personnel tried to get the schools “back on their feet” (Interview No.29 in School No.12, 16th July 2014). In some cases, the teachers did not receive their salaries following the typhoon (Interview No.16 in School No.5, 5th July 2014) or are paying themselves for the repairs of the classrooms (Interview No.12 in School No.2, 4th July 2014). Many schools were used as temporary shelters or evacuation centers without the necessary amenities or facilities to support a large number of affected people. Alternative venues for classes needed to be found while the remaining classrooms accommodated community members and their families (Interview No.9 in School No.1, 1st July 2014). The schools make do with what was possible to reopen and resume the classes following Haiyan.

However, planning ahead for future disasters remains low and preparedness is not part of normal school management and improvement. Standard operating procedures, such as evacuation and contingency plans, were not available in the schools. The reasons range from lack of awareness to lack of time and staff due to other competing tasks following the disaster.

Most schools reported to conduct simulation drills annually. According to the news, multi-hazard drills were held in public schools nationwide on Wednesday 2nd July 2014 (Andrade, 2014). However, none of the schools visited mentioned a planned or recently undertaken disaster drill. This indicates that response preparedness remains relatively low in many schools or at the very least certain schools are not included in the reported multi-hazard drills.

In the Philippines, schools are usually institutions that are very much imbedded in the communities (Interview No.18, 8th July 2014). The teachers live together with their families in the communities and are often locals from the same area or region. Also, the schools are often used as venue for community activities (Interview No.15, 5th July 2014). During the research, it was observed that schools served as meeting places of communities and build strong relationships between teachers, parents and children. Therefore, schools could be the center for disaster risk reduction programs involving the communities. However, activities on education for disaster reduction, evacuation management and disaster documentation are rare and mainly undertaken by non-governmental organizations, with little support of the local government (Interview No.15, 5th July 2014).

3.2.4.4 Risk Reduction and Resilience Education

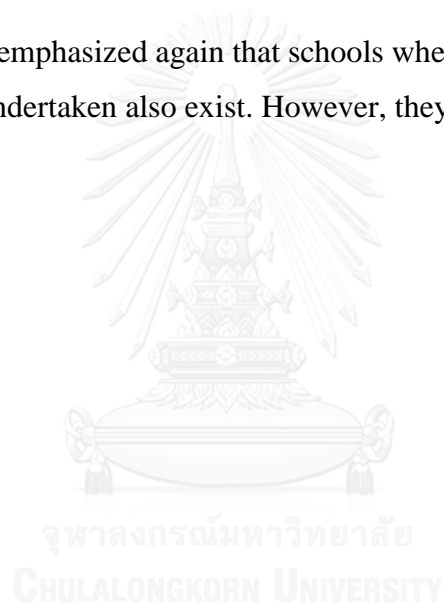
The research showed Risk Reduction and Resilience Education as not present in the curriculum and teaching in the schools. All schools visited said that their pupils neither study natural hazards nor disaster preparedness. The main reason is the lack of awareness and sense of responsibility for education for disaster risk reduction. Teaching about disaster preparedness is not regarded as a responsibility of the school, but of the 'barangay' (meaning the smallest local government unit in the Philippines and refers to a 'village' or 'community') (Interview No.29 in School No.12, 16th July 2014). Therefore, capacities and priorities for Education for Disaster Risk Reduction in the schools are limited.

Even though it was referred to efforts of the Department of Education (DepEd) to integrate hazards and disaster preparedness in the curriculum, the schools are lacking trained staff and materials. In the schools visited, teachers are from the surrounding 'barangays' and also affected by Typhoon Haiyan. When asked during the interviews, none of the teachers stated knowledge about teaching on natural hazards and disaster preparedness. It has been explained that the government and other organizations attempt to train educational personnel on DRR, but that these actions often do not reach the schools. One reason mentioned, is that teacher trainings are usually held in bigger

towns, requiring travel to attend. Often there are no travel expenses available (Interview No.9 in School No.1, 1st July 2014).

Another problem is the lack of teaching materials on natural hazards and disaster preparedness. The Department of Education published a module on DRR, but there are no teaching materials available in the local dialects (Interview No.9 in School No.1, 1st July 2014). Overall, the mind-set on disasters is very conservative with little awareness on the importance of knowledge on natural hazards. It lacks attention and responsibility to prevention and preparedness at the school level.

It needs to be emphasized again that schools where all components for Disaster Risk Reduction are undertaken also exist. However, they are the exception.



CHAPTER IV ANALYSIS AND DISCUSSION

This chapter discusses the key findings of the research. The flow of the discussion is organized according to the four sub-questions identified in Chapter 1.5.1. This chapter also offers recommendations on how to pursue an education system that is resilient to natural hazards.

4.1 Challenges for Action on DRR in the Education Sector

The findings revealed several challenges impeding actions towards successful Disaster Risk Reduction especially in the education sector. These are:

- Lack of financial resources,
- Lack of capacity,
- Focus on response and post-disaster phase,
- Focus on rebuilding and infrastructure,
- Lack of cooperation and constituency.

The following sections explain the identified challenges in further detail.

4.1.1 Lack of financial resources

The main challenge for Action on Disaster Risk Reduction in the Philippine education sector is the enormous lack of financial resources. More than eight months following Typhoon Haiyan the affected areas are still recovering. The government is on the hard road to reconstruction, and in need of more than 100 Billion Pesos for rehabilitation (National Economic and Development Authority, 2013).

The biggest need still represents shelter, as whole communities need to be rebuilt. At the same time, public schools are struggling with raising the necessary funds

for the reconstruction of school buildings. Under these circumstances, it is difficult, and in most cases impossible, to ‘build back better’ as envisaged by the Philippine government (Government of the Republic of the Philippines, 2013). The ability of the Philippines to bounce back following the disaster is limited, as just not enough resources exist for the countless urgent needs. To fill the gaps, the international community provides significant humanitarian assistance in response to the large-scale disaster and its impacts (Government of the Republic of the Philippines, 2014).

Furthermore, disaster risk reduction struggles for government attention among a number of competing priorities resulting in DRR to be among the least prioritized. Sufficient resources to initiate a working system of DRR continue to be a challenge. Decision-makers are also unable to have a long-term perspective of the challenge and opt for short-term solutions. Even donors tend to support projects that are visible.

4.1.2 Lack of capacity

While the Philippines has in place specific disaster risk reduction policies, implementation is lacking. National policies can serve as the basis for community actions and locally driven disaster risk reduction processes, but an enabling environment is essential. Disaster Risk Reduction requires multi-stakeholder engagement and capacity development at many levels.

At the local level, Disaster Risk Reduction is often viewed as a separate sector and not a crosscutting one. This results in non-inclusion in sectoral plans and Disaster Risk Reduction strategies as not properly budgeted. Despite a number of efforts, the awareness and capacity for disaster risk reduction on the ground remains low. The response to Typhoon Haiyan shows a large gap between the targeted aim of the national government, published strategy papers and the actual implementation at sub-national levels.

4.1.3 Focus on response and post-disaster phase

Although at the national level, the Disaster Risk Reduction approach has been identified as a means to reduce disaster losses, disaster management is still primarily focused on the response and rehabilitation after disasters. Following Typhoon Haiyan, the education sector aimed to reopen schools and resume classes as quickly as possible. The schools set up temporary learning spaces, shifted classes or used multi-grading to continue the teaching-learning process in a post-disaster environment. These actions were necessary to limit the interruption in the provision of education.

However, vulnerability reduction in view of future disasters is not adopted in many cases. During the research process, Disaster Risk Reduction appeared as term widely known by the interviewees. However, establishing a universal understanding of what precisely DRR entails appeared as difficult not only within the education sector, but among many involved in disaster response. Most commonly, the undertaken actions following Typhoon Haiyan were explained in detail during the interviews. In contrast, preparedness-planning measures are not part of the normal school management in many communities. Classes were suspended when warnings were received before Typhoon Haiyan, but the schools are not prepared for unforeseen disaster occurring during school hours.

The same applies for disaster risk and resilience education. Disaster Preparedness has been formally included in the curriculum of public schools within the Philippine Disaster Risk Reduction and Management (DRRM) Act of 2010. However, teaching on natural hazards and disaster preparedness often does not take place due to lack of capacities and teaching materials in the schools. While admitting that they “had to learn the hard way” (Interview No.31, 17th July 2014) that they lacked preparation and knowledge in the case of Typhoon Haiyan, education for disaster risk reduction is not a future priority of most schools. The government is deemed responsible for information and education on disaster preparedness (Interview No.29 in School No.12, 16th July 2014).

Furthermore, insufficient financial resources lead to simple repairs and rebuilding of schools. For many, improvements of building designs incorporating hazard-resistant building standards are not affordable. In new school buildings, features to accommodate a large number of people and to serve as evacuation center in the future are rarely included in the plans for equipment and facilities.

4.1.4 Focus on rebuilding and infrastructure

In general, actions following a disaster undergo different phases from immediate response to long-term rehabilitation. More than eight months after Haiyan, efforts have shifted towards long-term recovery and reconstruction. Most initiatives are targeting reconstruction and infrastructure efforts. In the education sector, this means to repair the 2500 schools that have been affected by Typhoon Haiyan.

Obviously, the repair of classrooms and facilities is necessary to establish a functioning school system. Also, it appears plausible that resources should be spent for safe building construction to withstand future typhoons. Nevertheless, safe school facilities do only represent one integral part of disaster risk reduction in education (UNESCO, 2011a).

Disaster Risk Reduction also depends on teaching and learning about DRR and school-level disaster management. In the Philippines, the month of July of every year is declared as ‘National disaster consciousness month’ (Government of the Republic of the Philippines, 1999). However, activities on Disaster Risk Reduction in schools remain little and were not actually observed during the research. Echoing what the Philippine Education Cluster had already advocated, a great need exists for “[...] education in emergencies to be streamlined in teacher training, incorporating child protection in emergencies, and psychosocial support training” (Philippine Education Cluster, 2014b). Even though the Education Cluster partners are accelerating the training of education officials, it remains difficult to reach the large number of schools.

4.1.5 Lack of cooperation and constituency

Already before Typhoon Haiyan, coordination and cooperation on Disaster Risk Reduction and Management in the Philippines has not been considered effective (Interview No.2, 23rd June 2013). However, the large-scale devastation brought by Typhoon Haiyan has highlighted the problems once again.

First, the coordination in disaster risk reduction and management between the different levels of government is difficult. That is visible in that the implementation of national policies differs from region, province and barangay. Second, the cooperation of the local government and non-governmental organizations is complicated and bureaucratic. The Philippine government leads the disaster response and every project undertaken requires the permission of local officials. However, the Philippine Government could not be able to handle the situation without international support. Third, the collaboration between the different organizations, donor agencies and other actors is tricky. Recovery efforts following a disaster are typically very complex with numerous actors and international entities involved, all pursuing their own approaches.

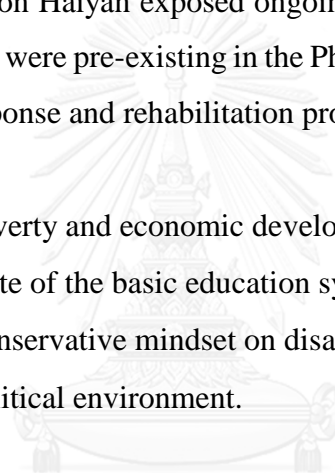
This results in various different concepts, training methods and materials for Disaster Risk Reduction. While some argue for a standardized training curriculum, others give preference to diversity and instead suggest sharing of lessons learned for successful Disaster Risk Reduction initiatives. Changes in the local government also often leads to pursuing new projects and strategies for Disaster Risk Reduction.

Even within the Education Cluster, the cooperation on strategies for Disaster Risk Reduction is difficult to pursue. The involvement of national and local NGOs in the cluster remains challenging and they are far from reaching all actors. The undertaken research has shown that the situation between the schools and communities could not be more different. While some schools can be considered as role models for the implementation of disaster risk reduction measures, actions on disaster risk reduction are non-existent in other schools. These major differences pose a great challenge for building a disaster resilient education system.

The increased focus on specific cities or regions, also poses the danger that existing challenges on the ground are overlooked (Interview No.17, 6th July 2014). If certain schools are repeatedly used as benchmark for actions undertaken on Disaster Risk Reduction, the risk arises that it distorts the overall status of measures for Disaster Risk Reduction in the education sector – both intended and unintended.

4.2 Underlying Factors contributing to the challenges

In general, Typhoon Haiyan exposed ongoing vulnerabilities of those affected by the storm. Many issues were pre-existing in the Philippines, but become increasingly visible in the disaster response and rehabilitation process. These include:

- 
- Poverty and economic development,
 - State of the basic education system,
 - Conservative mindset on disaster,
 - Political environment.

The following section discusses the four prevailing circumstances in the Philippines in order to provide a greater understanding for the challenges.

4.2.1 Poverty and economic development

Even though the Philippines is currently one of the most dynamic economies in the region, there are still great challenges in trickling down (World Bank, 2014a). The areas struck by Haiyan are among the poorest regions in the Philippines (World Bank, 2014b). While Typhoon Haiyan was outstanding in its size, scope and severity, the cycle of disasters and poverty is not. Linkages between poverty and vulnerability are mutually reinforcing. Socially disadvantaged and poor groups are the most vulnerable to natural hazards. Disasters, in turn, contribute to persistent poverty. In the Philippines, these linkages have been existing for many years and are clearly still apparent (World

Bank, 2006) (World Bank, 2014b). The major destruction following Typhoon Haiyan is likely to set back poverty reduction and development programs, as government funds are now needed for recovery and reconstruction efforts. This also applies to the education sectors as discussed in the next section.

4.2.2 State of the basic education system

The education sector represents a central concern in the Philippine political and economic discourse and is seen as important pillar of national development. Within the Philippine Government's *Philippine Development Plan 2011-2016* high priority has been given to achieve universal basic education (Government of the Republic of the Philippines, 2011b). The *School First Initiative* (SFI) and the *Basic Education Sector Reform Agenda (BESRA)* declare schools as heart of the formal education system and target local communities for school improvement (Department of Education of the Philippines, 2005). Also, the *K to 12 Basic Education Program* has been started to be implemented in 2011 (Department of Education of the Philippines, 2011).

While these policies have improved the basic education system, government spending is struggling to catch up with population growth and to resolve shortages in textbooks and school buildings (World Bank, 2014c). The severe destruction of classrooms and school facilities following Typhoon Haiyan (Philippine Education Cluster, 2014a), has intensified the situation. The fieldwork has shown that many, often anyway very basic, schools are not rebuilt yet. Schools reported that there just is no funding available from the department of education in face of the large number of affected schools and high costs for reconstruction. The disaster has clearly thrown back and slowed down development efforts in the Philippine basic education sector.

4.2.3 Conservative mindset on disaster

A phenomenon that was strongly noticed during the research has been the mindset and adjustment of the Filipino people to disaster. The 'Filipino spirit' that resists even the worst disasters has been mentioned numerous times during the

fieldwork. Typhoon Haiyan has been a highly traumatic experience, which the affected population is still processing. Determining why such a positive attitude and resilience exists within the Filipino society goes beyond the scope of this research. However, it can be stated that religion is an important factor influencing the thinking and living in the Philippines.

The Philippines is a highly religious country, with most of the population being Catholic Christians. The church plays an active role, not only in shaping beliefs and values, but also for social networks and community building. Many religious organizations further support the response and rehabilitation efforts following Typhoon Haiyan and function as donors for the reconstruction of churches, hospitals, schools and communities. Similarly, religion plays an important role on personal and individual level. Many of the interviewees and informants have referred to their religious beliefs and faith as support for coping with their situation.

This is all positive and the resolve and resilience of the Filipino people is admirable. However, their positive attitude and spirit should not be the only thing they must rely on. During the fieldwork, just as often has been explained that disasters are inevitable and caused by higher power. Prone to disaster, their strike is considered as just part of the life of Filipinos and the people have adapted to the efforts getting back on their feet afterwards. It can be argued that their faith certainly supports their response and recovery, by giving them the strength and motivation to deal with the experience and resulting difficulties. What has been observed as missing is a change in attitude to prevention and preparedness to natural hazards. While the concept of disaster risk reduction is proven to be the logical strategy to limit the impact of natural hazards, it does not reflect the mindset of the affected population. This became apparent during the research, as its purpose in general has not been understood as well as in the little awareness for importance of risk reduction and resilience education. The research was unable to assess the exact causes, but it can be noted that in general a conservative mindset exists that is very much focused on response following a disaster.

4.2.4 Political environment

Other reasons contributing to the challenges for Disaster Risk Reduction are political constellations and relations. Disaster response in the Philippines represents a highly politicized issue, which even intensified for the major disaster following Typhoon Haiyan. Political parties demonstrate their help through support packages and rebuilding projects, blaming rival parties for lack in response and rehabilitation (Interview No.2, 23rd June 2014). The post-disaster phase is shaped by competition for votes and approval of the people.

The response following the disaster was described as “case study to see how everything can go wrong” (Interview No.2, 23rd June 2014). The response and recovery efforts were criticized of being slow, and the Philippine government of relying too much on foreign assistance and aid. In Leyte, the current congressman and the city mayor are from two different parties, making their cooperation enormously complicated. This does not only apply to the response to Typhoon Haiyan, but to government efforts in general and regarding Disaster Risk Reduction. Successful Disaster Risk Reduction strategies require common action of all actors on all levels for a longer time, which is not given in parts of the affected region.

Similar factors also influence the humanitarian assistance. As noted before, the situation of schools regarding Disaster Risk Reduction differs significantly. This is highly dependent on the size and location of the schools, as visibility and accessibility are important for supporting organizations. Therefore, the response is very much focused on Tacloban City, which is thus getting most of the attention. NGOs are concentrated in the city and have used the destruction for more fund raising wherein often “the logo is bigger than the funding” (Interview No.16 in School No.5, 5th July 2014). Within the support every organization strives to maintain the best possible image, also a competition between the different actors. Even within the cluster system, power relations exist. It is still regarded as very UN-centric and national and local NGOs feel powerless and not equally involved (Interview No.17, 6th July 2014). The cluster approach can probably also interfere with the independence of NGOs especially when

they depend on funding from the cluster or lead agency. The invitations to cluster meetings are also usually undertaken by the lead agencies, resulting in unsystematic selection of local organizations.

4.3 Strategies and Actions for Addressing the Challenges

In view of the challenges, the research also aimed to assess the strategies and actions undertaken to tackle the problems. As such, the following were identified:

- Greater visibility and relevance of Disaster Risk Reduction,
- Strengthening partnerships through the Cluster Approach,
- Self-organized community groups,
- Role of social networks.

These are outlined in the following chapters. The first two sections are concerned with the organizational level and offer a bottom-down approach for Disaster Risk Reduction. These are long-term processes and the direct impact on the affected population is slow. In contrast, the third and fourth section deal with strategies of the affected communities that can be viewed as starting points for bottom-up Disaster Risk Reduction actions.

4.3.1 Greater visibility and relevance of DRR

News of the calamity and devastation flooded the media. The scale of the disaster made the Philippines the center of international attention. Such large-scale disasters bring the most interest, and also funding, for Disaster Risk Reduction. Within response and recovery efforts, Disaster Risk Reduction can achieve higher visibility and relevance.

The Philippines does have policies for Disaster Risk Reduction in place that emphasize the role of the local governments for disaster mitigation and preparedness.

However, the size of the impacts of Typhoon Haiyan has undermined those existing policies and strategies. It also highlighted that there are still many needs existing at all levels, especially for the integration of Disaster Risk Reduction in the response and rehabilitation process.

Successful Disaster Risk Reduction requires a strong institutional basis for effective implementation. The recent disaster offers new opportunities for enhanced advocacy on Disaster Risk Reduction and its mainstreaming as cross-cutting theme. In the numerous reports of the organizations involved in the response and rehabilitation process, this endeavor is highly visible. In the education sector, attention was directed to activities for disaster preparedness and conducted multi-hazard drills. Although the research showed that there still is a long way to go, the greater advocacy for Disaster Risk Reduction within the humanitarian response to Typhoon Haiyan may offers opportunities for resource mobilization for Disaster Risk Reduction in national development plans.

4.3.2 Strengthening partnerships through the Cluster Approach

In the Philippines, the cluster approach has been established by the National Disaster Coordinating Council in May 2007 (National Disaster Coordinating Council, 2007) It is part of the global response aiming for provision of more timely and consistent help to the affected people in complex emergencies. As in the case for Haiyan, the cluster system is striving to enhance the partnership between UN agencies, international, national, and local NGOs as well was with government departments (IASC, 2006).

Even though one observed problem for Disaster Risk Reduction during the research was the weak cooperation between international agencies and organizations with national and local NGOs, the cluster approach can be considered to strengthen the complex relief coordination. It provides an important structure for mutual sharing of challenges and strategies in the response, beneficial for Disaster Risk Reduction (DRR). While challenges do exist regarding the participation of NGOs, the cluster structure is

supportive of the strengthening of the partnerships of the different stakeholders involved after the Typhoon. Within these partnerships, there is potential for increased advocacy and a common understanding of Disaster Risk Reduction.

4.3.3 Self-organized community groups

In the response to the many needs on the ground, the affected communities are often self-organizing and mobilize resources to help themselves. In many cases, waiting for help from the outside takes too long so the communities organize themselves. Teachers spend their own money for school repairs to be able to resume their classes (Interview No.12 in School No.2, 4th July 2014). In other communities, informal gatherings developed by women's groups to protect children and women from abuses (Interview No.17, 6th July).

The Philippines is known for 'people power' (Interview No.17, 6th July), and these local organizations offer opportunities for effective coping strategies following Typhoon Haiyan. They can also provide a starting point for community-based disaster risk reduction actions. The community groups may have different resources and capacities, and are able to contribute to successful Disaster Risk Reduction with their local knowledge. Their strong relationships can also support the spread of information and knowledge on risks and disaster preparedness, building resilience of the community for future disasters.

4.3.4 Role of social networks

In the aftermath of Typhoon Haiyan, families and households relied on the support of their friends and family. The Filipinos have strong social networks and are one large community (Interview No.1, 11th June 2014). Following the disaster, their social networks was useful in getting information on the status of family members, providing shelter for those who lost their home and receiving remittances sent by family members working abroad (Interview No.1, 11th June 2014). Many families transferred to other regions to stay with their relatives, instead of staying in the evacuation centers.

In addition to the support by the international community, a big part of aid came from Filipinos working and living overseas.

Also regarding the financing of school buildings, many schools could count on the support of partner schools overseas or other friends of the school. It was found that social networks are the most effective tools for action on the ground. Particular international partners would support actions for Disaster Risk Reduction, such as funding hazard-resistant school buildings (Interview No.9 in School No.1, 1st July 2014). More importantly, this is another example of how knowledge and information on natural hazards and preparedness could be exchanged and spread through already existing social relationships and networks.

4.4 Recommendations for a Disaster Resilient Education System

From the research, a few suggestions can be made to contribute to establish a disaster resilient education system in the Philippines. These recommendations are:

- Strengthen focus on prevention, mitigation and preparedness,
- Strengthen community participation,
- Strengthen educating and training,
- Strengthen coordination and organization,
- Strengthen continued advocacy of all stakeholders.

In the process of writing these observations, it should be noted that these recommendations also correspond with the needs that are repeatedly highlighted within the international agenda for disaster reduction. The findings of this thesis support their timeliness and importance. Unfortunately, the research has also shown how complex the successful integration of Disaster Risk Reduction in education sector planning can be. Numerous factors make actions difficult and require, above all, continued effort for mainstreaming effective Disaster Risk Reduction at all levels. The following sections explain the recommendations for addressing the challenges.

4.4.1 Strengthen focus on prevention, mitigation and preparedness

While recognizing that response and rehabilitation following a disaster remains important and necessary, the overarching aim needs to be to reduce the vulnerability of people and communities. Therefore, Disaster Risk Reduction is concerned with measures to prevent, mitigate and prepare. However, the Philippines still rely too much on disaster response. The government needs more and more funding to meet the needs of the people affected by the numerous natural hazards striking the Philippines each year, and struggles with allocating the resources. Especially in the view of the large costs caused by Typhoon Haiyan, measures to limit the impact of future disasters should be targeted.

The education sector and its infrastructure have been severely affected. Thus, the school system, despite measures taken after the typhoon, has been only limited functioning in the affected areas for a long time. Stronger focus on preparedness by enhancing school disaster management could limit the disruption of the teaching-learning process in the event of a future disaster. New or repaired schools should be made hazard-resistant and equipped for a possible use as an evacuation center. This would not only save costs for the education sector in the long run, but also contribute to the safety of communities. Of highest importance should be the safety of the children, which can be increased by both disaster preparedness measures at school and more far-reaching, by education on natural hazards that can be communicated at home. To do so, it needs thinking ahead and the integration of Disaster Risk Reduction measures should be undertaken already within the response and rehabilitation phase. This offers an opportunity, to finally shift the focus from disaster response to prevention, mitigation and preparedness.

4.4.2 Strengthen community participation

While the Philippines has been working for years now on policies and strategies for Disaster Risk Reduction at the national level, the research showed that they clearly are not properly applied at the community level yet.

An important step in reaching the most vulnerable would be to adopt a community based approach for disaster risk reduction and management. The culture of community cooperation has proven to be strong in the Philippines, offering opportunities for disaster prevention, mitigation and preparedness. Disaster education can have a far-reaching impact through existing networks. In communities, a certain way exists of how the people communicate among their peers. Internal learning processes can be stimulated through engaging the community in disaster risk reduction and management.

This applies also very strongly to the education sector. Schools are usually very much imbedded in the communities and can be institutions for mutual exchange of capacities. The research showed that a bottom-down has not been effective in many cases, therefore strengthening the local and community level provides greater chances for sustainable disaster risk reduction in the Philippines. Community participation can also build confidence among community members and further empower them for disaster mitigation.

4.4.3 Strengthen educating and training

Further, the research undertaken showed a strong focus of projects by various actors on physical assets such as infrastructure safety. In order to build resilient institutions and communities, however, human assets are of greatest importance. Training and education are important tools for building capacities, especially at the local level. Successful disaster risk reduction requires strong efforts on all levels, which can only be achieved through increased capacities of all stakeholders.

Especially at the school level, an obstacle for disaster risk and resilience education represents the lack of capacities of teachers and school personnel. They can function as gatekeepers for increased information and knowledge on disasters within the communities. Therefore, training on disaster risk reduction, education in

emergencies as well psychosocial support is strongly needed to enhance their capacities.

Also within the local government units and the cluster approach, the need for training and capacity building has been identified. Cooperation on disaster risk reduction can only be achieved through creating awareness for the importance and changing the mind-set towards pre-disaster strategies.

4.4.4 Strengthen cooperation and organization

The magnitude of Typhoon Haiyan would have been a challenge for any government. However, the disaster put the Philippines Disaster Management System to a test and experts, politicians and practitioners are now calling for a stand-alone disaster management agency or a “centralized inter-agency integrated task force” (Interview No.2, 23rd June 2014). This results from a need for more effective cooperation and organization for disaster risk reduction and response.

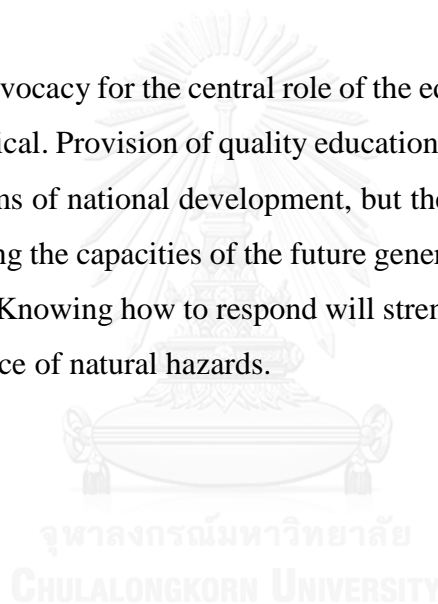
The National Disaster Risk Reduction and Management Plan transferred the responsibilities for disaster risk reduction and management to the local level. Therefore, decentralization has been an attempt to engage the local government units, who know the situation on the ground well and can be effective first responders. However, during the past years has been experienced that the local government units often lack capacities to effectively carry out the task. Also approaches and levels of implementation of policies differ between areas. As emphasized before, successful disaster risk reduction within sectors needs a strong institutional basis and cooperation between different levels and sectors.

While the cluster approach already represents a strategy to strengthen the coordination in case of a disaster, there are still opportunities to improve the cooperation of local organizations within this structure. Their stronger engagement should be given attention in view of future disaster.

4.4.5 Strengthen continued advocacy of all stakeholders

Above all, continued advocacy of Disaster Risk Reduction is of importance for building a disaster resilient education system in the Philippines. Awareness and capacity building can lead towards changing the disaster management strategy of nations and shifting the focus on prevention, mitigation and preparedness issues. Especially the Philippines as disaster prone country needs new ways to tackle disasters that do not slow down their development efforts. Disaster Risk Reduction offers the concept, and mainstreaming it within all sectors represents a way to building disaster resilient communities.

In addition, advocacy for the central role of the education sector within Disaster Risk Reduction is critical. Provision of quality education even in times of disaster is not only important in terms of national development, but the education sector also plays a crucial role for building the capacities of the future generation and communities to deal with natural hazards. Knowing how to respond will strengthen the safety of people and communities in the face of natural hazards.



CHAPTER V CONCLUSION

This study is built on the argument that Disaster Risk Reduction strategies in the education sector should be an essential part of disaster response, recovery and rehabilitation. Disaster Risk Reduction measures can help to both strengthen the education sector as well as enable education that supports building resilience of communities in the face of natural hazards. Therefore, the research assessed the response, recovery and rehabilitation phase following Typhoon Haiyan, with particular focus on Disaster Risk Reduction strategies on school and community level.

In order to obtain a comprehensive understanding, the analysis included existing policies and strategies, as well as school disaster management, risk reduction and resilience education, and safe learning facilities in the Philippine education sector and schools affected by Typhoon Haiyan. The undertaken research provides insights in the education sector response and discusses the challenges, contributing factors, and strategies for Disaster Risk Reduction in education. Drawing on the findings, recommendations are made for building a disaster-resilient education system in the Philippines.

The following sections review the main findings of the discussion. These represent the identified priorities for successful Disaster Risk Reduction in the Philippine education sector.

5.1 Alignment of national policies and local priorities

The research made visible that the implementation of international strategies and national policies at the local level remains incomplete and pretty much a work in progress. While the Philippines has been widely praised for its leadership regarding Disaster Risk Reduction and Management policies within the international community, the research showed that their widespread translation to action at the local level still

needs time and political will. The response and rehabilitation process following Typhoon Haiyan is strongly influenced by political factors and power relations in the affected areas. It is also hampered by organizational and coordination issues.

Despite Disaster Risk Reduction has been on the national agenda for years, many at the local level are still unaware of the opportunities to build resilience to natural hazards. This especially applies to the education sector. The existing policies and strategy papers for Disaster Risk Reduction in the Philippine education sector show a different state of progress than the implementation on local level. Likewise, teachers and school administration were both little aware and also lacking resources for Disaster Risk Reduction. The research assessed the people's and schools' concerns and needs that are caused by political, economic and structural processes. This shows that the main reasons for disasters and vulnerability lie far beyond the scope of fragmented Disaster Risk Reduction strategies. It also highlights that the local governments are the essential stakeholders to align the overarching strategies to local priorities and capacities, leading to meaningful actions for effective Disaster Risk Reduction.

5.2 Everyday Development

One of the most visible findings of the research is that many challenges exist due to factors that lie beyond the power of those who are affected by the disaster. Lack of financial, and resulting lack of human, resources, often limits the implementation of Disaster Risk Reduction actions on community level. Community-based Disaster Risk Reduction cannot be enabled without tackling poverty. Disaster Risk Reduction in general and in the education sector therefore needs to go hand in hand with everyday development efforts. While Disaster Risk Reduction supports these investments, more equal distribution of resources and power within the Filipino society is also necessary to increase Disaster Risk Reduction.

The research showed that most schools are struggling with their reconstruction due to insufficient resources and within these efforts remains little capacity for disaster

risk reduction strategies. Many schools were very basic and the public school system in the affected areas appeared to be not of high quality. Therefore, supporting requirements for actions on Disaster Risk Reduction in the Education sector are investments in the public education system. These investments would be mutual safeguarded by Disaster Risk Reduction. Disaster Risk Reduction needs to be strongly integrated into education sector development plans, rather than viewed as separately.

5.3 Pre-emptive Disaster Risk Reduction

Another finding noted during the research has been the thinking in terms of disaster response and relief. Nevertheless the research has been focused on the post-disaster phase, the concept of Disaster Risk Reduction is to build resilience to future disasters. These actions should be already integrated within the response and rehabilitation phase, in order to build back better.

During the fieldwork, it was found that Disaster Risk Reduction for many still applies to the coping after the disaster. Schools are focused on setting up temporary learning spaces and continuing education following the Typhoon, rebuilding their classrooms and facilities. However, when asked about preparedness for future disasters, little activities have been undertaken. Especially in a disaster prone country such as the Philippines, rethinking the way to cope with disasters is an urgent need. This must not only taken be seriously at the national level, but increased focus and effort must be made to translate it to the local level.

5.4 Human resources and capacities

Disaster Risk Reduction depends heavily on information and knowledge of people about hazard risk and preparedness. Therefore risk reduction and resilience education is of highest priority. The case study of Typhoon Haiyan showed tragically the consequences of lack of knowledge about natural hazards and preparedness.

Despite this, the research showed that many are not aware of the important role of education to limit disaster loss. Disaster Risk Reduction actions, if any, were mainly focused on safer construction of school buildings and facilities. Teachers and education staff were wondering about their task to teach on Disaster Risk Reduction and referred to the responsibility of the local government. Trainings also focus mainly on local government officials, which is of course important but not far reaching enough.

With regard to future disasters, strengthen human resources and capacities needs to be one of the priorities. It is also probably more sustainable and effective investment, as knowledge can be easily shared within families and communities and helps to save lives. Therefore, education for disaster risk reduction should be promoted within the schools, facilitated by widespread teacher trainings and the development of teaching materials in local dialects.

5.5 Comprehensive Approach for DRR in Education

Disaster Risk Reduction in Education is often referred to as the role of education in Disaster Risk Reduction, not including the role of Disaster Risk Reduction for the education sector. Therefore, the study chose a holistic approach including School Disaster Management, Disaster Risk and Resilience Education, and safe learning facilities.

However, based on the information gathered during the research, not all of these elements exist to the same extent in the schools. If Disaster Risk Reduction goes beyond disaster response, it is focused on safe learning facilities in most cases. International sponsors would pay and call for hazard-resistant building construction. In contrast, school disaster management and disaster risk and resilience education are the responsibility of the schools themselves. Again due to lack of resources and capacities, these two components for comprehensive school safety just don't exist in many cases. Building a disaster resilient education system requires continued effort and advocacy to promote a comprehensive approach to Disaster Risk Reduction in the Education

sector at all levels. The reasons for their importance and connections between the elements are so strongly interconnected, making the holistic approach even more important. This research intended to do exactly that, to contribute to the advocacy for comprehensive Disaster Risk Reduction in Education in the Philippines.



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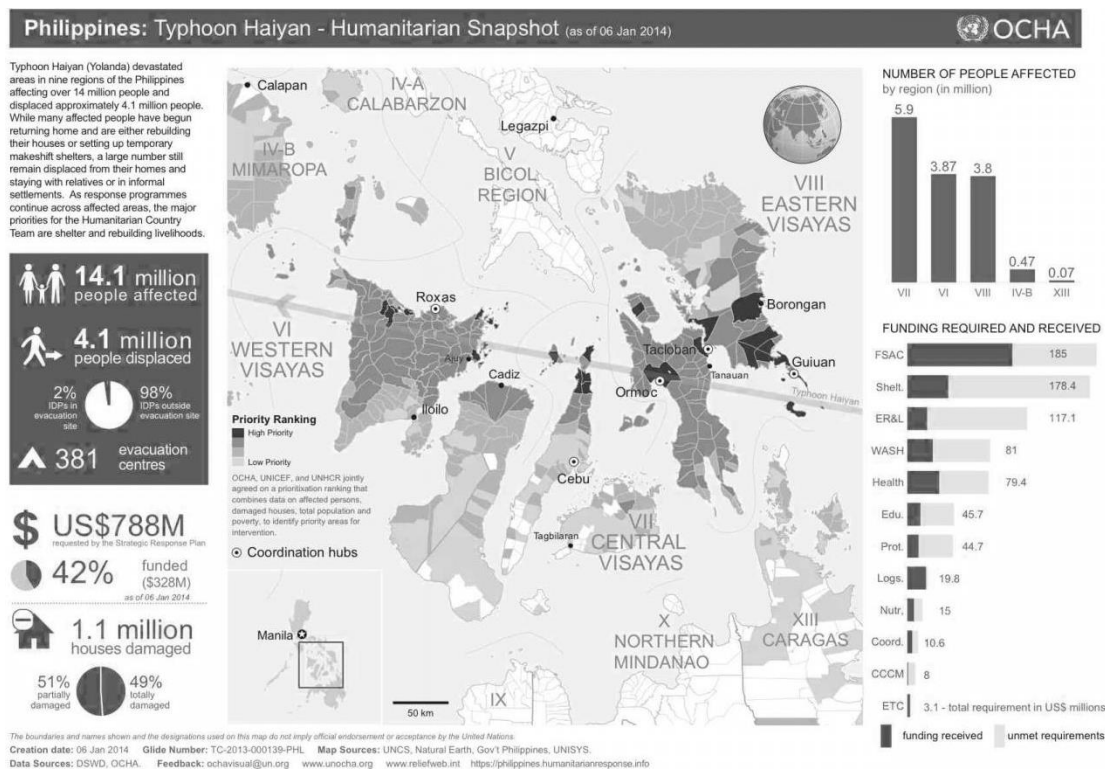
APPENDIX



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APPENDIX A

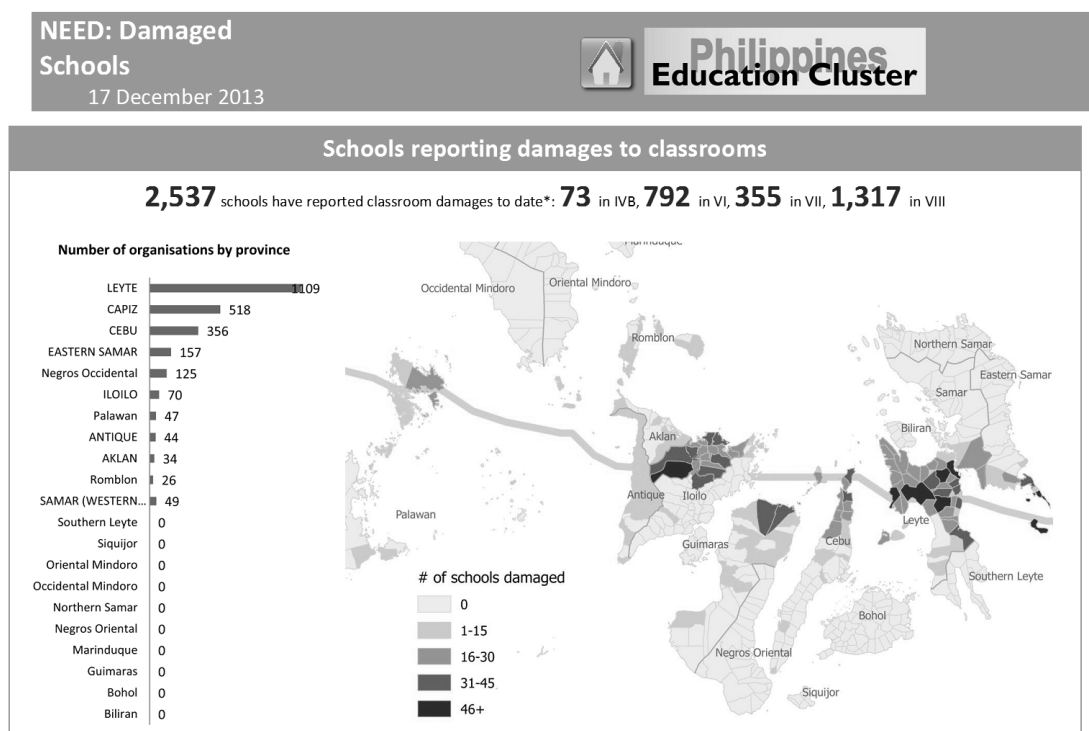
Philippines: Typhoon Haiyan – Humanitarian Snapshot (06 Jan 2014)



Source: UN Office for the Coordination of Humanitarian Affairs. Philippines: Typhoon Haiyan - Humanitarian Snapshot (as of 04 February 2014).

APPENDIX B

Education Cluster Philippines: Damaged schools by Province



Date : 17 December 2013 Contact :Yolanda.educluster@gmail.com Raw data in the 3W matrix is available on our website. NB: *Only agencies that have provided activity information at the municipality level have been included in this analysis; activities include all interventions that are planned, ongoing or completed.

Source: HumanitarianResponse.info. Education Cluster Philippines. Need: Damaged Schools (17 December 2013). Damaged Schools by Province.

APPENDIX C

Three pillars of comprehensive school safety

Three Pillars of Comprehensive School Safety

1. Safe Learning Facilities involves education authorities, planners, architects, engineers, builders, and school community members in safe site selection, design, construction and maintenance (including safe and continuous access to the facility). The key responsibilities for both public and private schools are to:

- Select safe school sites and implement disaster-resilient design and construction to make every new school a safe school.
- Implement prioritization schema for retrofit and replacement (eg. including relocation of unsafe schools).
- Minimize structural, non-structural and infrastructural risks to make buildings and facilities for survival and evacuation.
- Incorporate access and safety for people with disabilities in design and construction of school facilities.
- If schools are planned as temporary community shelters, design them to meet these needs, and be sure to plan for suitable alternate facilities for educational continuity.
- Ensure that children's access to schools is free from physical risks (eg. pedestrian paths, road and river crossings).
- Adapt water and sanitation facilities to potential risks (eg. rain-fed and lined latrines).
- Implement climate-smart interventions to enhance water, energy and food security (eg. rainwater harvesting, solar panels, renewable energy, school gardens).
- Plan for continuous monitoring, financing, and oversight for ongoing facilities maintenance and safety.

2. School Disaster Management is established via national and sub-national education authorities and local school communities (including children and parents), working in collaboration with their disaster management counterparts at each jurisdiction, in order to maintain safe learning environments and plan for educational continuity, conforming to international standards. The key responsibilities are to:

- Establish national and/or sub-national level committee and full-time focal point(s) leading comprehensive school safety efforts.
- Provide policies, guidance at sub-national and school-site levels for ongoing site-based assessment and planning, risk reduction, and response preparedness as part of normal school management and improvement.
- Develop, train, institutionalize, monitor and evaluate school committees. These should be empowered to lead identification and mapping of all hazards inside and outside school and community and action-planning for ongoing risk reduction and preparedness activities. Encourage participation of staff, students, parents and community stakeholders in this work.
- Adapt standard operating procedures as needed, for hazards with and without warnings, including: drop cover and hold, building evacuation, evacuation to safe haven, shelter-in-place and lockdown, and safe family reunification.
- Engage schools in making early warning and early action systems meaningful and effective.
- Establish national and sub-national contingency plans, based on the Interagency Network for Education in Emergencies (INEE) Minimum Standards (2010), to support educational continuity, including plans and criteria to limit the temporary use of schools as temporary shelters.
- Identify alternate locations for temporary learning spaces and alternate modes of instruction
- Incorporate the needs of pre-school and out-of-school children, children with disabilities, and both girls and boys.
- Link education sector and disaster management sector, and public safety policies and plans at each level of social organization (national, sub-national levels, and local and school-site level) and establish communication and coordination linkages across sectors.
- Practice, critically evaluate, and improve on response preparedness, with regular school-wide and community-linked simulation drills. Adapt standard operating procedures to specific context of each school.

3. Risk Reduction and Resilience Education should be designed to develop a culture of safety and resilient communities. Key responsibilities are to:

- Develop consensus-based key messages for reducing household and community vulnerabilities, and for preparing for and responding to hazard impacts as a foundation for formal and non-formal education.
- Engage students and staff in real-life school and community disaster management activities, including school drills for fire (and other hazards, where applicable).
- Develop scope and sequence for teaching about critical thinking for all hazards.
- Infuse risk reduction throughout the curriculum and provide guidelines for integration of risk reduction and resilience into carrier subjects.
- Develop quality teaching and learning materials for students and teachers. Address all dimensions of climate-smart risk reduction education: disaster mechanisms, key messages for safety and preparedness, understanding risk drivers and mitigating the consequences of disasters, building community risk reduction capacity and a culture of safety and resilience, and learning to live together.
- Provide teacher training for both teachers and teacher trainees on risk reduction curriculum materials and methodologies.
- Develop strategies to scale-up teacher involvement for effective integration of these topics into formal curriculum as well as non-formal and extra-curricular approaches with local communities.

Source: UNISDR/Global Alliance for Disaster Risk Reduction & Resilience in the Education Sector. Comprehensive School Safety. p.

APPENDIX D

List of interviewees

* Interviews in schools

Nr.	Date	Location	Interviewee
1	11 th June 2014	Tacloban, Philippines	Affected Community Member
2	23 rd June 2014	Bangkok, Thailand	Filipino Politician
3	29 th June 2014	Cebu City, Philippines	NGO Staff Member
4	29 th June 2014	Daanbantayan, Philippines	NGO Staff Member
5	29 th June 2014	Daanbantayan, Philippines	NGO Staff Member
6	30 th June 2014	Daanbantayan, Philippines	Affected Community Member
7	30 th June 2014	Daanbantayan, Philippines	Affected Community Member
8	30 th June 2014	Daanbantayan, Philippines	Day Care Teacher
9*	1 st July 2014	Daanbantayan, Philippines	Head teacher
10	1 st July 2014	Daanbantayan, Philippines	NGO Staff Member
11	1 st July 2014	Daanbantayan, Philippines	NGO Staff Member
12*	4 th July 2014	Albuera, Philippines	Teacher
13*	4 th July 2014	Albuera, Philippines	Teacher

Nr.	Date	Location	Interviewee
14*	4 th July 2014	Albuera, Philippines	Teacher
15	5 th July 2014	Bislig, Philippines	NGO Staff Member
16*	5 th July	Tolosa, Philippines	NGO Staff Member
17	6 th July 2014	Tacloban City, Philippines	NGO Staff Member
18	8 th July 2014	Tacloban City, Philippines	NGO Staff Member (Regional Coordinator)
19*	11 th July 2014	Tolosa, Philippines	Teacher
20	11 th July 2014	Tacloban City, Philippines	NGO Staff Member
21	11 th July 2014	Bislig, Philippines	Affected Community Member
22*	11 th July 2014	Tolosa, Philippines	Teacher
23	14 th July 2014	Tacloban City, Philippines	NGO Staff Member
24*	14 th July 2014	Basey, Philippines	Teacher
25	14 th July 2014	Basey, Philippines	NGO Staff Member (Local Volunteer)
26*	15 th July 2014	Tacloban City, Philippines	Teacher
27*	16 th July 2014	Tacloban City, Philippines	Principal
28*	16 th July 2014	Tacloban City, Philippines	Administrative School Staff Member
29*	16 th July 2014	Tacloban City, Philippines	Administrative School Staff Member

Nr.	Date	Location	Interviewee
30	17 th July 2014	Tacloban City, Philippines	NGO Staff Member
31	17 th July 2014	Tacloban City, Philippines	Affected Community Member



APPENDIX E

List of case-study schools

Nr.	Location	Type
1	Region VII, Cebu, Daanbantayan	Public
2	Region VIII, Leyte, Albuera	Public
3	Region VIII, Leyte, Albuera	Public
4	Region VIII, Leyte, Albuera	Public
5	Region VIII, Leyte, Tolosa	Public
6	Region VIII, Leyte Tolosa	Public
7	Region VIII, Leyte, Tolosa	Public
8	Region VIII, Western Samar, Basey	Public
9	Region VIII, Leyte, Tacloban City	Public
10	Region VIII, Leyte, Tacloban City	Private
11	Region VIII, Leyte, Tacloban City	Private
12	Region VIII, Leyte, Tacloban City	Private

REFERENCES



APPENDIX



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VITA

Julia Macher was born and raised in Graz, Austria. She first came to work in education during her high-school time at a nursery teaching training college. As part of her graduation she planned and performed a project on supporting early language and communication development with respect to children from migrant backgrounds.

In 2013, Julia received her undergraduate degrees in Political Science and Journalism and Communication Studies from the University of Vienna, Austria. While in Vienna, she worked as a kindergarten teacher and started researching on education for sustainable development as Intern at the Austrian Commission for UNESCO. As environmental communicator of Global 2000 – Friends of the Earth Austria, she was teaching children about climate change and environmental protection.

Upon graduating, she supported the Youth Development Forum (YDF); a community-based organization in Nairobi, Kenya in promotion and protection of children's rights in the Kibera Slum. There she was responsible for a project to raise the awareness of children in Laini Saba, Kibera for their rights, through introducing rights education in the classroom. Part of the project has been to provide a forum for the older girls to talk about their questions and challenges of growing up.

In October 2013, Julia started the Master of Arts in International Development Studies program at Chulalongkorn University, Bangkok. She is hopeful that her experiences and studies will lead to a meaningful future career in the field of education in international development work. Following completion of her degree, Julia intends to continue working within the Southeast Asia region.