Preparing Schools for natural disasters: the implementation of Disaster Risk Reduction Policies and the role of NGOs in building disaster preparedness for youth in Indonesia

NOHA Master Thesis
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This thesis is submitted for obtaining the Joint Master’s Degree in International Humanitarian Action. By submitting the thesis, the author certifies that the text is from his own hand, does not include the work of someone else unless clearly indicated, and that the thesis has been produced in accordance with proper academic practices.
ABSTRACT

This thesis explores the implementation of the Hyogo Framework for Action 2005-2015 and the development of disaster preparedness in schools of the Special Province of Yogyakarta in Indonesia. The focus of the study is put on priorities 1, 3 and 5 of the Hyogo Framework, therefore those related to the institutionalisation of disaster risk reduction, the use of knowledge, innovation and education to build disaster resilience and the development of disaster preparedness. The study analyses both the existing literature and data from semi-structured interviews with participants from local authorities, schools and non-governmental organisation representatives in order to derive appropriate findings and conclusions.

The study found that Indonesia, and particularly the Special Province of Yogyakarta, has made progress towards the implementation of the Hyogo Framework as far as risk reduction and school-based disaster preparedness in particular are concerned. Institutionalisation of disaster risk reduction is substantial, and school-based preparedness is developed, but to a lesser extent. This study aims to generate information for, and provide useful recommendations to, relevant stakeholders in the Special Province of Yogyakarta which are involved in school-based disaster preparedness, at a time when the agenda and timeframe of the Hyogo Framework for Action 2005-2015 are approaching to an end.
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LIST OF ACRONYMS

ADPC: Asian Disaster Preparedness Center
AMCDRR: Asian Ministerial Conference on Disaster Risk Reduction
ASB (Indonesia): Arbeiter-Samariter-Bund
ASEAN: Association of South-East Asian Nations
CDE (Indonesia): Consortium for Disaster Education
CRC: (UN) Convention of the Rights of the Child
DFID: Department for International Development
DM: Disaster Management
DRR: Disaster Risk Reduction
FISIPOL: Faculty of Social and Political Sciences
IDNDR: International Decade for Natural Disaster Reduction
IDR: Indonesian Rupiah
IFRC: International Federation of the Red Cross and Red Crescent Societies
MDMC: Muhammadiyah Disaster & Mitigation Centre
NGO: Non-Governmental Organisation
NOHA: Network on Humanitarian Action
POHA: Programme on Humanitarian Action
SC-DRR: Safer Communities through Disaster Risk Reduction
SOP: Standard Operating Procedure
STD: Sexually Transmitted Disease
UN: United Nations
UNDP: United Nations Development Programme
UNESCO: United Nations Educational, Scientific and Cultural Organization
UNICEF: United Nations Children’s Fund
UNISDR: United Nations International Strategy for Disaster Reduction

WCDR: World Conference on Disaster Reduction
INDONESIAN ACRONYMS

BAKORNAS BP: Badan Koordinasi Nasional Penanggulangan Bencana (National Disaster Mitigation Coordination Agency)

BAPPENAS: Badan Perencanaan Pembangunan Nasional (Ministry of National Development Planning)

BNPB: Badan Nasional Penanggulangan Bencana (National Disaster Management Agency)

BPBD: Badan Penanggulangan Bencana Daerah (Local Disaster Management Agency)

BPS: Badan Pusat Statistis (Indonesian Central Bureau of Statistics)

DIKPORA: Dinas Pendidikan Pemuda dan Olah Raga Provinsi (Provincial Department of Education, Youth and Sports)

DIY: Daerah Istimewa Yogyakarta (Special Region of Yogyakarta)

MBPI: Masyarakat Penanggulangan Bencana Indonesia (Indonesian Society for Disaster Management)

PMI: Palang Merah Indonesia (Indonesian Red Cross)

PRB: Pengurangan Risiko Bencana (DRR)

RAN-PRB: Rencana Aksi National Pengurangan Risiko Bencana (National Action Plan for Disaster Risk Reduction)

SSB: Sekolah Siaga Bencana (School-based Disaster Preparedness or Safe School)

SD: Sekolah Dasar (elementary school)

SMA: Sekolah Menengah Atas (senior high school)

SMP: Sekolah Menengah Pertama (junior high school)

UGM: Universitas Gadjah Mada
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CHAPTER I: INTRODUCTION

1.1 Background

In January 2005, the World Conference on Disaster Reduction (WCDR) was held in Kobe, Hyogo, Japan, resulting in the development of the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters, a comprehensive document that underlines the need for a proactive and systematic approach to risk reduction and prevention towards natural hazards, adopted by 168 member states of the United Nations (PreventionWeb, accessed 9/1/2014). The Hyogo Framework for Action 2005-2015 (HFA1), following the Yokohama Strategy for a safer world of 1994, develops further a global initiative of the international community to address the problems and reduce the losses caused by natural hazards, not by a response-based approach, but in a “pro-active” way that builds up the means for prevention, mitigation, preparedness and for reducing vulnerability (UNISDR, 2005, p.3). Therefore it is evident that the notion and the practice of Disaster Risk Reduction concept have been present in humanitarian and development action for at least two decades now. In fact, the HFA1 sets as an expected outcome “the substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries” (ibid.). This outcome actually describes what the concept of disaster reduction means and what it aims for. In a more recent and extensive definition, which also mentions the potential “risks”, Disaster Risk Reduction can be defined as

“the concept and practice of reducing disaster risks through systematic efforts to analyse 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).

Irrespective of the exact words to define Disaster Risk Reduction (DRR), one thing is clear, as stated also in the HFA1: In order to achieve any results in reducing the risks of natural disasters, the engagement of all stakeholders – government, local authorities, international and regional organisations, academic and scientific groups and individuals – is needed (UNISDR, 2005). Furthermore, it is claimed that a ‘natural disaster’ is a less appropriate term for hazards and catastrophes, since it is the level of human interventions and people’s way of living within a given natural environment that will define how hazardous a natural event will be (UNISDR online, accessed 7/12/2013). As a result to this perception, people are deemed able to work towards prevention and for reducing the potential harm of hazards like earthquakes, storms, fires, tsunamis.

To this end, and as the HFA1 is approaching its finishing timeframe, the steps for a post-2015 framework are already under preparation (UNISDR online, accessed
9/1/2014). So far, in the aim of implementing and monitoring the HFA1, several interpretation documents, strategic plans and mid-term reports have been produced since 2005. Unfortunately, in the meantime, several natural hazards have continued to occur and to result into casualties or economic loss. As an indication, the number of people affected by natural disasters in most countries of South-East Asia in 2005 and again in 2010 was above 100,000 (EM-DAT, accessed 14/12/2013). Among other root causes, environmental degradation, unplanned urbanisation, population growth and climate change are likely to increase disaster risks and maintain a high vulnerability in many regions (IFRC, 2007). Almost any country can potentially face the risk of a natural hazard, but in fact some regions or geographical areas are more prone to several types of natural catastrophes and this occurrence happens with a higher frequency. Yet, the impact that these hazardous events have varies not only according to their frequency and intensity, but most importantly according to the capacity of the affected communities to resist. The consequences of natural hazards are even more apparent in countries with lower financial capacities and development standards. To add to this fact, for the years 2000-2009, only 1% of funding for development aid in the top 40 humanitarian recipients has been accounted for Disaster Risk Reduction (Kellett and Sparks, 2012). However, apart from the funds to be allocated and the infrastructure that needs to be built in order to minimize the economic and human loss due to natural calamities, preparedness of groups and individuals is a key element in the Disaster Risk Reduction concept.

Indeed the focus of this master thesis will be on disaster preparedness as one of the very important elements of the DRR concept. Disaster preparedness is articulated as one of the five Priorities for Action which are presented in the Hyogo Framework of 2005 (p.6), cited as follows:

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

With disaster preparedness being the focus element of the Disaster Risk Reduction Concept (priority 5) in this research, what is additionally of most importance and relevance for the analysis are the defined priorities 1 and 3: In order to achieve its goals, each implementing member/state must develop a ‘strong institutional basis’ and build resilience through ‘knowledge’ and ‘education’. In addition, all the plans and

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actions of DRR and preparedness have to be aware of culture, age and vulnerable groups (UNISDR, 2005, p.2).²

According to UNICEF (2011), 50-60 per cent of those affected by disasters are children. Unfortunately, some disastrous events even have children as main victims, as in the case when in Leyte Island in Philippines a mudslide resulted in 200 students buried alive (ADPC, 2007). Children or youth in general are therefore to be specially considered for protection issues. As a group with potentially special needs, the way preparedness activities are implemented should be planned accordingly. In the humanitarian and development context, young people will most likely receive additional care and some programmes and activities will be specifically designed and tailored to meet young children’s needs. Although children are not to be seen as helpless and victimised individuals, their increased vulnerability - as far as their resources to respond to disastrous events are concerned - should be taken into account:

Children are often more vulnerable towards natural hazards as they have less developed capacities when facing a disaster. In order to reverse this fact, raising awareness about the nature of phenomena which potentially lead to disasters in their specific area and giving children the proper guidance for coping with it is an essential part of disaster preparedness (UNISDR, 2011, p.3).

Save the Children estimates that up to 175 million children a year are likely to be affected by disasters over the current decade (Save the Children UK, accessed 11/1/2014). According to the IFRC World Disaster Report (2009, p.70-71):

“[m]any countries recognize this special vulnerability of children, and now include teaching about natural hazards and disaster preparedness in their school curricula. About 40 per cent of countries responding to a United Nations survey at the World Conference on Disaster Reduction, held in Kobe, Japan, in 2005, said that they provided such education. There are also many stories of children taking the initiative in helping their families when crises happen because of what they have learnt in school.”

To this end, and according to the 3rd priority for action of the HFA1, preparedness and resilience could be built by including DRR knowledge into the school curriculum, implementing targeted programmes, and conducting appropriate training and learning activities (UNISDR, 2005, p.9). Schools seem consequently to be an appropriate ‘space’ for disseminating knowledge about natural hazards and risk reduction and at the same time they can serve as centres for community-based DRR, as long as their physical resistance and appropriate infrastructure is ensured (Wisner, 2006).

Disaster preparedness is particularly relevant and necessary in countries which are more exposed to natural disasters. Indonesia is the 9th most exposed in natural hazards

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² HFA, Priorities for Action- General Consideration: (e).
Asian country (20.49% according to the World Risk Index regarding “exposure”), and also scores high in “vulnerability” and “lack of coping capacities” in a world ranking among 173 countries (Birkmann et al., 2011, Table 1). Located in the so-called highly seismic geological area ‘Ring of Fire’, this country comprises 13,466 islands (Indonesian Ministry of Home Affairs, accessed 16/3/2014), and faces annually a big variety of natural hazards that quite often have a great economic and human impact: earthquakes, floods, volcanic eruptions, landslides, droughts and many more. As a terrible coincidence, while writing these words, a large part of the island of Java was covered in volcanic ash after the eruption of Mount Kelud in east Java, resulting in a less usual type of hazard due to a volcano (The Jakarta Globe, accessed 15/2/2014). Above all, the tsunami of 2004 that devastated the Province of Aceh and other parts of Sumatra island was probably one of the most catastrophic events of the decade, with an estimated death toll of 275,950 people (U.S Geological Survey, cited in NBC News, accessed 10/1/2014). In this event, 750 schools were completely destroyed and 2,135 more were damaged (Petal, 2008). But natural hazards continue to occur regularly in different parts of the country until today.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>World Risk Index</th>
<th>Exposure</th>
<th>Vulnerability</th>
<th>Susceptibility</th>
<th>Lack of coping capacities</th>
<th>Lack of adaptive capacities</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>Indonesia</td>
<td>11.69%</td>
<td>20.49%</td>
<td>57.06%</td>
<td>37.66%</td>
<td>83.31%</td>
<td>50.20%</td>
</tr>
</tbody>
</table>

Table 1: Indonesia's ranking according to the World Risk Index (100%), Birkmann et al., 2011, World Risk Report, Bündnis Entwicklung Hilft, p. 33

In the province of Yogyakarta alone (Central Java), two major disastrous events occurred within four years: the fatal Bantul earthquake in May 2006 and the Merapi volcanic eruption in October 2010, which resulted in a death toll of more than 3,500 (The Guardian, accessed 10/1/2014) and 200 (CNN, accessed 10/1/2014) people respectively and in disruption of normal life in both cases. The Merapi volcano is one of the most active and dangerous volcano in the world and as a result the surrounding area is regularly prone to seismic activity. In addition, the south coast (Parangtritis) is potentially prone to tsunamis. These facts make the province of Yogyakarta exposed to a variety of hazards and therefore appropriate of a study related to disaster preparedness.

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3 According to the authors, these indicators relate to aspects of the HFA and the Millennium Development Goals of the UN, and derive from raw data which are extracted from several global databases; they are converted into percentages for the purpose of better comprehension. For detailed information of how these indicators are created, used and interpreted, see the World Risk Report of 2011.
In November 2011, at the 19th ASEAN summit, the Indonesian President, Susilo Bambang Yudhoyono, was recognised as the first UNISDR global champion of DRR, by virtue of converting the HFA1 into a national plan and making DRR a national priority (UNISDR, accessed 10/2/2014). The following year, mayors and local government authorities, the National Red Cross and Red Crescent Societies, children, youth and child-centred organisations and various other stakeholders came together in Indonesia, affirming their commitment to strengthen local resilience and work for climate change adaptation and DRR implementation through the Yogyakarta Declaration. While all these parties are putting forward the implementation of the HFA1 objectives, at the same time policy making moves towards the post-HFA1 priorities and strategic goals to be set for after 2015. Apart from the Hyogo Framework for Action 2005-2015 and the Yogyakarta Declaration, there have been several other policy and legislation documents, as well as stakeholder conferences and meetings, both in the international and national scene, in order to discuss, plan and implement disaster preparedness. There have also been many more that constitute a framework basis for disaster preparedness of youth, in schools and in a disaster prone country like Indonesia. Most of these contribute to the theoretical framework for disaster preparedness and child-focused disaster risk reduction and are discussed in the 1st Chapter. However, as the research question which is discussed later suggests, although frameworks and policies are necessary and useful, they have to be appropriately implemented and have to lead to visible results:

“Disaster Plans are important, but they are not enough by themselves to assure preparedness... they can be an illusion of preparedness if they are not tied to training programs, not acceptable to the intended users, not tied to the necessary resources, or not based on valid assumptions. This illusion is called the paper plan syndrome” (Auf der Heide, 1989, cited by McEntire & Myers, 2004).

1.2 Research objective

This research is conducted with the aim to analyse and evaluate the extent to which disaster preparedness is appropriately implemented in schools of the Yogyakarta province in Indonesia. In other words, how the words of policy documents have been translated into action so far and to what extent the relevant stakeholders have managed to introduce and put into effect the actions that should result in adequately prepared children to face natural disasters.

The rationale of this research and its scientific relevance is based on the fact that a lot of discussion, meetings and effort have been made due to the widely acknowledged necessity of reducing the risk of natural disasters and enhancing the communities’ resilience. In addition, following the quite recent destruction and loss caused by an earthquake and a volcanic eruption, disaster preparedness would be expected to be a priority in the Indonesian Special Province of Yogyakarta (researcher’s hypothesis). Also taking under consideration that a variety of organisations for disaster response.
and preparedness have been present in the region since the latest disasters occurred, their roles, the level of collaboration between these organisations and their effectiveness towards the disaster preparedness goals merit attention and deeper analysis.

Since the HFA is an internationally acknowledged policy document, it is also of great interest to see how Indonesia, which was chosen for this case study, interprets, conceptualises and attempts to implement it. Due to the fact that Indonesia is geographically vast, with a particular administrative organisation and with a variety of local cultures which co-exist, and because it is a state facing a plethora of natural hazards in many of its regions on a regular basis, it was considered a suitable country to form a case study related to disaster preparedness. The aspect of how local culture and local perceptions may interfere with the concept of disaster preparedness was also taken into consideration during the research design and execution.

All in all, this study aims to incorporate and analyse the strategic and operational role of disaster management stakeholders in accordance with the development of disaster preparedness for youth, and particularly through school-based education in the Indonesian Special Province of Yogyakarta. While HFA1 is approaching to its end (2015) and while preparations are already actively underway for the HFA2, the researcher considers the timing when this research was conducted highly appropriate so that conclusions and recommendations will be relevant and useful for the near future.

For all the reasons above this study aspires to assess the level of disaster preparedness in the schools of the Special Province of Yogyakarta. Nevertheless, on a level of a master thesis it is likely that the research results will manage to grasp only a part of the ‘global picture’ of the actual implementation of disaster preparedness. Yet the researcher is using recent and concrete evidence from the field, with the aim to deliver a comprehensive academic report. Hopefully the latter will be used as a reference paper for local and international NGOs, governmental agencies for disaster preparedness and academics in the field of Disaster Management. In this way they can acknowledge the strengths and weaknesses of the implementing systems and they might be able to improve the disaster preparedness efforts and increase their coverage (if applicable). For this purpose, the researcher will make every possible effort so that this paper will be circulated to stakeholders involved and to the hosting academic institution which facilitated this research, namely Universitas Gadjah Mada.

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4 See http://www.preventionweb.net/posthfa/.
1.3 Scope of research and limitations

The present research focuses on investigating and analysing the implementation of international and national policies for disaster preparedness in the Special Region of Yogyakarta (Daerah Istimewa Yogyakarta - DIY), in Indonesia, with a focus on schools from primary to secondary education. The researcher, in collaboration with Gadjah Mada University, spent three months in the city of Yogyakarta in order to meet relevant stakeholders and access relevant sources. However, in the time provided and due to the fact that this research was conducted by a single person, there is a limit to the number of interviews that were conducted in person with staff of the disaster management organisations. Moreover, the Province of Yogyakarta consists of five districts, each having different governing representatives and local authorities responsible for disaster management issues. The researcher’s initial plan of collecting the data was to include every district since this research study is written on the basis of assessing preparedness in the whole of Yogyakarta province. However, after considering time, budget and human resources limitations, the selection of sources is made mostly according to their availability (purposeful sampling). Still, it was proved that some of the districts have a longer history of natural hazards and therefore more disaster management programmes have been implemented. Consequently the majority of research contacts and sources come mostly from the district of Bantul, where the earthquake of 2006 had the bigger impact, and Sleman, which inhabitants experienced the eruption of Merapi volcano, and some other came from the city (municipality) of Yogyakarta. The districts of Gunung-Kidul and Kulon Progo, although also prone to some types of hazards, received lesser attention once a choice had to be made because of the abovementioned limitations.

With regards to the policy analysis and documents, the researcher uses the Hyogo Framework for action 2005-2015 as a fundamental policy document through which the concepts of DRR and disaster preparedness are developed. Most of the documents for the policy analysis were accessed via Internet, but while living in Yogyakarta the researcher had also temporary access to a variety of printed documents from NGOs involved in DRR activities, some of which were not found in a digital version.

In terms of data analysis, the reader should consider that even though a large part of the population in Yogyakarta can speak English, some of the interviews had to be conducted in Bahasa Indonesia with the help of an interpreter, a fact that may have affected the accuracy and interpretation of the data. The same applies for a part of documents or digital material that the researcher had access to through the interviewees. The interviews were transcribed almost entirely, apart from the parts in Indonesian and several other parts which were written down as notes. This fact was a result of time constraints, and it mainly applies in cases where the recording included parts that were less relevant to the topic (interruptions, other informal conversations) or where bad recording (for instance, because of external noises) hindered the transcription of some interview parts. The researcher has made every possible effort to transcribe all information that are considered most “crucial” for the research,
however the absence of a full transcript file for some of the interviews is one of the limitations of this study.

1.4 Research question

As already elaborated above, the Hyogo Framework of Action 2005-2015 (HFA1) serves as a first plan setting out the responsibilities of different actors to work for disaster risk reduction (UNISDR, assessed 15/12/2013). Children are considered a vulnerable group when it comes to disastrous situations caused by natural phenomena, and it is argued that they should receive additional attention and also be involved in disaster preparedness projects. The province of Yogyakarta has already experienced two catastrophic events over the past six years, and possibly this would be an pertinent moment for a research study to evaluate whether disaster preparedness is built appropriately through institutions and organisations, meaning whether implementation has been put in place and has progressed against the HFA1 and the relevant policies that apply to this context. Therefore the research question will be as follows:

*To what extent have Indonesian governmental agencies and NGOs been able to implement the Hyogo Framework of Action 2005-2015, in order to appropriately build disaster preparedness for youth in the schools of the Special Province of Yogyakarta?*

The research question is formed considering a follow-up conceptualisation of the adoption on the HFA1 by the Indonesian state, which was expected to result in the formulation of frameworks and institutions for Disaster Management and Disaster Risk Reduction, according to the Hyogo Framework priorities for action.

This main question can be answered through more specific sub-questions:

- To what extent has Indonesia built a strong institutional basis of implementation for disaster risk reduction (through its policies), according to the HFA1?
- To what extent have the specific actions taken by the local provincial and district authorities achieved to implement the envisioned framework for disaster preparedness in the Special Province of Yogyakarta and in particular through the school curriculum?
- To what extent has the work of national and international non-governmental organizations contributed to disaster preparedness in the schools of Yogyakarta disaster-prone areas?

The above sub-questions should lead to conclusions that identify the opportunities and challenges of school-based disaster preparedness as well as useful recommendations for the actors involved.
1.5 Research design, methodology and thesis outline

Given that the research topic should be tailored according to a master’s thesis requirements, and also due to time and resources limitations, the research was conducted as a case study, namely the implementation of disaster preparedness in the schools of the Province of Yogyakarta alone. This was done so that the amount of data needed would still be feasible to gather. As a result the field research was conducted in the city of Yogyakarta and its neighbouring districts.

The province of Yogyakarta, in comparison to any other province in Indonesia, was selected for the following reasons:

i. The area is unique for the fact that was affected by two natural disasters within only four years (Bantul earthquake-2006, Merapi volcanic eruption 2010) and it is generally prone to various other hazards (tsunami, landslides, floods).

ii. Yet, Yogyakarta has not faced any other major disaster since 2010. Therefore there was an enabling environment for conducting research after recovery or reconstruction efforts were over.

iii. Like the other provinces in Indonesia, Yogyakarta is required to implement any national regulations for disaster management, fulfilling the purpose to systematically integrate disaster risk reduction efforts “into policies, plans and programmes for sustainable development [...]” according to the HFA1 (UNISDR, 2005, p.1).

iv. Due to the fact that the research in this area would be facilitated by the academic links with a local university, Universitas Gadjah Mada (UGM), and because there are various actors in the area of disaster management and DRR already working in the Special Province of Yogyakarta, a fact that would support adequate and timely data collection.

The research sub-questions have served as the guiding lines in establishing the research methodology. In detail, since DRR is a multi-disciplinary concept, and taking into account that the chosen topic investigates the implementation of policies, an appropriate approach would be to use both quantitative and qualitative data. However, the availability (and access to) quantitative data was not sufficient. One of the main reasons is the absence of documentation relevant to disaster preparedness programmes in schools; this could be statistics or figures that illustrate the number of schools which actually have a preparedness programme/plan, and the number of DRR/preparedness activities in relation to their regular curriculum. This meant that the researcher had to spend a significant amount of time looking for the appropriate sources of information and planning visits to local schools accordingly. Under these circumstances, since measuring the implementation of DRR policies with numerical data and figures was not facilitated by the local context, the researcher has chosen to answer these questions via qualitative data. This fact can be seen as a methodology limitation but, on the other hand, it enables a more in-depth analysis of the chosen case study.
According to Ragin, Nagel and White, “qualitative research often is used to assess the credibility or applicability of theory (2004, p.10). He maintains that quantitative research is of use for observing the “statistical relation between two variables, connect[ing] this relation to theory”, but it can still not explain “if the mechanisms producing the statistical relation are the same as those described in the theory. (...) Qualitative research can be used to test for the existence of these mechanisms through in-depth investigation of selected cases” (ibid.).

For the purpose of this research, the main part of the “theory”, here defined as “conceptual framework” was a policy document, namely the Hyogo Framework for Action 2005-2015, and the research was conducted through a case study, meaning the Indonesian Special Province of Yogyakarta. Therefore the reader should expect an analysis of the implemented policies (theory) in relation to the specific legal, geographical and socio-cultural context.

As a result of the above-mentioned research setup, this study was based on both primary and secondary qualitative data. At first, desk research was necessary for building an appropriate conceptual framework, collecting and analysing policy documents for the Disaster Management Policies of Indonesia (which were available online), and gather information related to the local disaster and educational context (triangulation of information was then made through field research). Desk research and analysis of secondary data were also essential for having access to an appropriate breadth of information that already existed from previous research and for complementing the field (primary) data collection. In detail, desk research has been fundamental in order to:

- Collect and review the documentation and theory regarding the international policies for the DRR and disaster preparedness concepts, elaborated under Chapter II “Conceptual Framework”.
- Identify the disaster preparedness frameworks, laws and policies of Indonesia and the institutional aspects that were relevant for the Special Province of Yogyakarta (Chapter III).
- Get familiar with and analyse the geographical (disaster-related) and educational context prior to field research, and triangulate the information during field research (Chapter IV).
- Triangulate the field data related to progress and implementation as those were reported by participants and as they were reported in other sources, i.e. in the “National” and “Local Progress Reports on the implementation of the HFA1” (Chapters III, IV and V).

The collection of primary data was done through discussions and semi-structured interviews with key informants, namely representatives of local authorities, NGOs and local schools. Semi-structured interviews were chosen as mostly appropriate as they “unfold in a conversational manner offering participants the chance to explore issues they feel are important” (Longhurst, 2010, p.103). At the same time, an
An interview guide with the appropriate type of questions for each participant (depending on whether it was a local authority, NGO or school representative) was used in order to “ensure that the same general areas of information are collected from each interviewee; this provides more focus than the conversational approach, but still allows a degree of freedom and adaptability in getting information from the interviewee” (McNamara, Types of Interviews par.2, accessed 30/03/2014). Samples of the interview guides can be seen in Annexes A and B. It is worthwhile mentioning that the first interview mainly served as a pilot tool, in an attempt to make the researcher familiar with the local context disaster management and the key stakeholders. Some other meetings were also conducted as less formal discussions rather than “interviews”, due to saturation of data collection. This means that very little new or less relevant information was emerging with respect to the topic (Saumure & Given, accessed 31/03/2014). Annex C provides the reader with an overview of the interviews conducted for this research study.

Almost all meetings were recorded to enhance accuracy in information collection. The interviews were transcribed to the extent possible (as mentioned in the “Limitations”, time constraints and recording flaws hindered the process). The researcher then proceeded in a basic coding of the transcripts as illustrated in Saldana, 2009. The purpose was to identify patterns and enlighten the emerging notions from the research participants’ responses.

At this point it is important to mention the cyclical nature of data collection and data interpretation. This is shown by the following quote:

You learn something ('collect some data'), then you try and make sense out of it ('analysis'), then you go back and see if the interpretation makes sense in light of new experience ('collect more data'), then you refine your interpretation ('more analysis'), and so on. The process is dialectic, not linear. (Garros, 1996, p. 62, cited in Becker, 2009)

The above describes in a clear and simple way how the researcher has experienced the study and research process. Considering that many details with regards to the context and the socio-cultural life were unknown, the research sub-questions and the topics around them had to be revisited and reviewed during field research and during the writing part. This was a necessary process to ensure the consistency of the different chapters and to ensure that the emerging topics would be included or at least taken into consideration in the study. Examples of this are the refinement of the interview questions before conducting a new interview with a participant (according to the observations from the previous one) and the re-phrasing and adaptation of the research sub-questions as a result of reflection to the analysis and data collection which was underway.

It should also be mentioned that local perceptions were an emerging theme during field research. A spontaneous reference made in the pilot interview stimulated the
topic of culture and perceptions in relation to DRR and preparedness. As a result, questions that investigate the connection between local beliefs and natural disasters or preparedness were integrated in the interview guide and sporadically mentioned during interviews. However, even if local culture may be an aspect that influences people’s perceptions and behaviour, and therefore the implementation of disaster preparedness programmes, it is a topic that would merit more investigation and cannot be adequately addressed in this study as a separate research question. Therefore the study has included quotes of participants with regards to local beliefs and culture, but more research is needed with regards to the relation of local culture and DRR concepts.

Lastly, with regards to the ethical aspects of the research, all participants took part entirely as volunteers and they would always be asked verbally for their consent to record the interview or the discussion and to take notes. The researcher would always inform them for the protection of their personal information and that their anonymity would be preserved. The questions were formed with the “do no harm” principle in mind, meaning that the researcher was aware of not asking questions that could create conflict within the participants working environment, and was very cautious when asking questions related to past disasters which could make emerge unpleasant past memories. On the other hand, in order to maximize the benefit for the participants, and ensure the transparency in the research process, a copy of the study is being shared with them upon completion and submission.

The research methods that were used were in accordance with the content and the aim of each sub-question. The structure of the study is also reflected on the methodology. Both research methods and outline are illustrated in the following table:

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Content/ Sub-question</th>
<th>Methods</th>
<th>Source Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>II: Conceptual Framework</td>
<td>Concepts of Disaster Management, DRR, disaster preparedness, the Hyogo Framework for Action and International Policies relevant to all the above</td>
<td>Desk Research</td>
<td>Secondary: Online</td>
</tr>
<tr>
<td>III: Institutional Framework in the Indonesian Context</td>
<td>(1) To what extent has Indonesia built a strong institutional basis of implementation for disaster risk reduction (through its policies), according to the HFA1?</td>
<td>Desk Research</td>
<td>Secondary: Online (National Policies on Disaster Management, previous academic reports and theses written on the topic)</td>
</tr>
<tr>
<td>IV: Disaster and Education in the Special Province of</td>
<td>(2) To what extent have the specific actions taken by the local provincial and</td>
<td>Desk Research</td>
<td>- Secondary: online and print (Local Progress)</td>
</tr>
<tr>
<td>Yogyakarta</td>
<td>district authorities achieved to implement the envisioned framework for disaster preparedness in the Special Province of Yogyakarta and in particular through the school curriculum?</td>
<td>reports on the implementation of HFA1)</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interviews</td>
<td>- Primary: field research (Interviews with Provincial Disaster Management Agency, interviews and observation of school premises in DIY)</td>
<td></td>
</tr>
</tbody>
</table>

V: The role of NGOs in school-based disaster preparedness

(3) To what extent the work of national and international non-governmental organizations has contributed to disaster preparedness in the schools of Yogyakarta disaster-prone areas?

Interviews

Primary: field research (Interviews and discussions with representatives of NGOs and schools)

| Conclusions & Recommendations | Conclusions and recommendations based on findings | n/a | n/a |

Table 2: Research methods and source types according to each of the research questions
CHAPTER II: CONCEPTUAL FRAMEWORK

The following chapter provides a conceptual framework for the study by exploring the theories and concepts of Disaster Management, Disaster Risk Reduction (DRR), and disaster preparedness. The Hyogo Framework for Action 2005-2015, which is the foundation and point of departure of this research, along with other international policies on DRR, are presented. Those policies also form the conceptual basis on which the first sub-question will be elaborated. In addition, the concepts of child-centred and school-based DRR and preparedness and the method of DRR integration into the school curriculum are presented and explained. Those concepts are also used as reference points and are compared against the primary and secondary research data in later chapters, eventually leading to the conclusions and the answers of the main research question and its sub-questions.

2.1 Natural disasters

Natural phenomena have been a source of creating curiosity since the existence of human kind. At the same time, many of these phenomena have catastrophic results when their intensity or frequency is disproportionate to what human societies can absorb. In this case, they are considered as natural “hazards”, meaning a source of potential or actual harm (Ramesh, Eisenberg and Schmitt, 2007). The IFRC describes natural hazards as physical phenomena that can have either a fast or slow onset or development, and their origin can be geophysical (earthquakes, landslides, tsunamis and volcanic activity), climatological (such as extreme temperature, drought and wildfires), meteorological (cyclones, storms) or biological (disease epidemics and insect or animal plagues). The severity, frequency and the impact of such natural phenomena is expected to aggravate in the following years due to climate change, unplanned urbanisation, and underdevelopment or poverty (www.ifrc.org, accessed 21/12/2013).

A disaster is a “non-routine event” occurring in a society, region or community that involves human harm and social disruption (Ramesh et. al, 2007, p.16). Similarly, UNISDR (2009) defines 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”. It can also be viewed as an “unforeseen and often sudden event that causes great damage, destruction and human suffering” (EM-DAT, accessed 22/12/2013). Disasters are most often thought to be acute situations, but they can also be chronic (Zibulewsky 2001). On average, one major disaster occurs every day around the world, and natural disasters which need international assistance occur on a weekly basis (ibid.).
Nowadays the term “natural disaster” is commonly used to describe the natural phenomena that cause substantial harm and losses, to the extent that the affected communities cannot cope with them directly. In addition, according to Ramesh et. al, “the term ‘disaster’ has significant policy implications; for example, a declaration of an event as a disaster is needed before certain resources are made available” (2007, p.16). Arguably, there is no such thing as a “natural disaster” so this term has been often the subject of a debate (UNISDR, accessed 7/12/2013; Twigg, 2001). The reason why is clearly illustrated by Twigg in his own words:

“Strictly speaking, there is no such thing as a natural disaster, but there are natural hazards, such as cyclones and earthquakes. The difference between a hazard and a disaster is an important one. A disaster takes place when a community is affected by a hazard (as we have seen, it is usually defined as an event that overwhelms that community’s capacity to cope). In other words, the impact of the disaster is determined by the extent of a community’s vulnerability to the hazard. This vulnerability is not natural. It is 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 that they live in” (2001, p.6; italics in original).

This argument builds on the conviction that communities, governments and nations should work on the aim of reducing vulnerability and the risks of natural hazards, and that these efforts will determine to what extent a hazard will become a “disaster”. To this end, the concepts of disaster risk reduction, mitigation and preparedness are the next to be discussed.

2.2 Disaster Management

Disaster Management, alternatively named emergency management, is a concept that

[...] involves the plans, structures, and arrangements established to engage the normal endeavours of governments, voluntary and private agencies in a comprehensive and coordinated way to respond to the whole spectrum of emergency needs. Such activities are carried out in an urgent manner where there is an onset of a disaster occurrence (Moe & Pathranarakul 2006).

According to a four-phased approach suggested by Coppola (2006), modern Disaster Management comprises Mitigation, Preparedness, Response and Recovery. Nevertheless, these are not absolute visualisations and definitions as in some cases phases can be intermixed and the continuum is less apparent. The figure below illustrates those phases, but as an adaptation from preceding time it mentions “preparation” instead of “preparedness”.

Mitigation “involves reducing or eliminating the likelihood or the consequences of a hazard, or both. Mitigation seeks to ‘treat’ the hazard such that it impacts society to a lesser degree” (Coppola 2006, p.34).

Response is “taking action to reduce or eliminate the impact of disasters that have occurred or are currently occurring, in order to prevent further suffering, financial loss, or a combination of both” (ibid.).

Recovery, a phase to begin after immediate response has ended and which can last from months to years, aims at “returning victims’ lives back to a normal state following the impact of disaster consequences” (ibid.).

According to Coppola, preparedness is about “equipping people [...] to increase their chance of survival or minimize their financial and other losses” (ibid.). In a more comprehensive explanation, preparedness “includes actions taken in advance of disasters to deal with anticipated problems of disaster response and recovery. Actions include training and exercises to improve readiness; development and refinement of response and recovery plans; development, deployment, testing and maintenance of systems used for disaster management; and public education and information programs for individuals, households, firms, and public agencies” (Ramesh et al., 2007, p.17). The concept of disaster preparedness is presented in detail in a following dedicated section.

Throughout the years, response and recovery have become more systematic due to past experiences and repetition, often requiring the mobilisation of international assistance (Coppola, 2006). As a result, internationally recognised standards and
guidelines were built for emergency response, such as the Sphere standards (since 1997). However, it soon became clear that response is not by itself a sufficient way to manage disasters, and a shift of international organisations and disaster management stakeholders to disaster prevention activities has been widely observed (ibid.). As illustrated in Table 3, the risk-reduction based efforts have a more comprehensive and long-term approach, and more actors may engage in such activities in comparison with response and recovery efforts.

<table>
<thead>
<tr>
<th>Response and Recovery Based Efforts</th>
<th>Prevention and risk reduction-based efforts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary focus on disaster events</td>
<td>Focus on vulnerability</td>
</tr>
<tr>
<td>Single, event-based scenarios</td>
<td>Dynamic, multiple risk issues and development scenarios</td>
</tr>
<tr>
<td>Basic Responsibility to respond to an event</td>
<td>Fundamental need to assess, monitor, and update exposure to changing conditions</td>
</tr>
<tr>
<td>Often fixed, location-specific conditions</td>
<td>Extended, changing, shared or regional, local variations</td>
</tr>
<tr>
<td>Responsibility in a single authority or agency</td>
<td>Involves multiple authorities, interests, actors</td>
</tr>
<tr>
<td>Dependent on specialized expertise</td>
<td>Focused on aligning specialized expertise with public views and priorities</td>
</tr>
<tr>
<td>Urgent, immediate, and short time frames in outlook, planning, attention, and returns</td>
<td>Moderate and long time frames in outlook, planning, values, and returns</td>
</tr>
<tr>
<td>Relates to matters of public security, safety</td>
<td>Matters of public interest, investment and safety</td>
</tr>
</tbody>
</table>

Table 3: Main differences in approaching Response & Recovery versus Prevention & Risk Reduction Efforts, UNISDR, 2004, adapted from Jeggle, 2001, p.13

Some key words that appear in this scheme are “planning”, “investment” and “public interest”. The international community, embracing the idea that natural disasters cannot be totally prevented from occurring, but recognising that their impact can be reduced (www.unisdr.org, accessed 29/12/2013), has gradually developed the concept of Disaster Risk Reduction.

2.2.1 Disaster Risk Reduction (DRR)

The concept of DRR finds its roots in the United Nations General Assembly resolution for the “International Decade for Natural Disaster Reduction” (IDNDR) in

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5 Available at http://www.sphereproject.org/
the beginning of the 1990s (Refworld, accessed 4/1/2014). In 1994, The Yokohama Strategy and the Plan of Action for a Safer World, set up in Japan by UN member states at the World Conference on Natural Disaster Reduction, followed the progress related to reducing the impact of natural disasters and shaped the principles on which states are responsible to take the appropriate measures and action.\(^6\)

As mentioned in the introduction, DRR involves these efforts that eventually result in better anticipating and responding to natural hazards, by reducing exposure and vulnerability of communities, by implementing contingency planning and by increasing awareness. Both infrastructure and people are important so that this process can be effectively developed. Besides, as mentioned in the HFA1, DRR includes “structural” and “non-structural measures”; the latter refer to “policies, awareness, knowledge” (UNISDR, 2005, p.10). According to the explanations above, DRR can be placed in the Mitigation and Preparedness phases (pre-disaster) in the Disaster Management Cycle (figure 1). However, DRR is considered to be a useful concept also in the post-disaster phase, as for building resilience to future hazards (Palliyaguru, 2010, cited by Grinwis, 2011).\(^7\)

DRR is a concept that should be transformed into programmes and activities in order to reach the potential beneficiaries. Taking into consideration the levels of social organisation as described by Petal (2007, cited in Peek et. al., 2012, p.34), the programme targets can belong to:

- The “micro” level, namely individuals and households,
- The “meso” level, which includes local government, schools, businesses, non-profit organisations, universities and
- The “macro” level, comprising international, national and regional policy making bodies.

According to this description, DRR policies and frameworks come from the macro-level, and are received and filtered through the meso-level in order to reach the individuals on the micro level. With respect to the present research structure, the first sub-question (Chapter III) relates to the macro-level, whereas the second and third sub-questions (Chapters IV and V) relate to the meso-level. The challenges and opportunities of programme implementation (that also relate to local perceptions) are relevant particularly to the micro-level but they can be relevant to all levels of social organisation.

Figure 2 illustrates a DRR framework (ISDR, 2004) which preceded the official introduction of the Hyogo Framework for Action 2005-2015, but which still serves as a reference for several scholars and organizations until today (based on online research). Among the essential elements of a risk reduction strategy, ISDR highlights

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\(^7\) See dissertation for an extensive analysis of “Incorporating DRR into recovery efforts in Indonesia”.

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27 | Page
as important the assessment of the vulnerability of facilities (for social and economic infrastructure), the early warning systems and the use of technical, educational and other skills (ibid.). Notwithstanding, a closer analysis in this scheme gives “awareness raising” an important role, since it appears to influence the level of “political commitment”, and more precisely the institutionalisation of frameworks, the development of policies and legislation and the community actions. “Community actions” is not a factor explored in-depth in the present study, but it could potentially be part of the analysis for another study, as it may contribute significantly, together with policies and the institutionalisation of DRR, to the “application of risk reduction measures”.
As for “preparedness”, which is the central element of the present research question, this appears as only being connected to early warning and emergency response management, even placed on the borderline of the “DRR focus”. However, not all disasters can be adequately and timely predicted therefore preparedness can be also “infused” into daily life and into development-related activities. Besides, this research study embraces the idea of disaster preparedness that is viewed from a broader perspective as a “continuous and integrated process” which is “more appropriately
conceived as a goal, rather than as a specialised programme or stage that immediately precedes disaster response” (IFRC, 2000, p. 20). Particularly when it comes to disaster preparedness for youth, it is argued that education and training, and any kind of “knowledge development” process, needs to be delivered by a sustainable learning process rather with short-term and one-time actions.

Overall, this framework is illustrative of a disaster risk management approach in a sustainable development context. It can be seen as a universal guide for generating a comprehensive strategy in risk reduction. Still, many of these elements have been researched on and developed over time. Similarly, disaster preparedness has gained more attention since risk reduction practices become more participatory and community-oriented. As a consequence, a significant part of the literature review and analysis that follows is allocated to the concept of disaster preparedness.

2.2.2 Disaster preparedness

Disaster preparedness is about the “measures taken to prepare for and reduce the effects of disasters” (IFRC, 2000, p.6). Disaster preparedness is a notion that focuses mainly on the people rather than on material infrastructure, and refers more to the human actions and less to the technical aspects of prevention towards natural hazards. However, it also involves equipping those affected by the disaster with the tools to increase their chance of surviving and decrease their financial or other losses (Coppola, 2006). Coppola devotes a significant part of his analysis to disaster preparedness as a part of the Disaster Management approach, in which he distinguishes different subjects or “recipients” of preparedness: one group of recipients is formed by governments and agencies which provide services and another group by individuals and businesses. The “government preparedness” actions consist of the following components: planning (Emergency Operations Plans), exercise (e.g. drills), training, equipment (for response/rescue/medical/public warning and alert) and finally, statutory authority (government officials and agencies to take over during emergencies). “Public preparedness” is all this that individuals (citizens) can do in case of a disastrous event. Public education, being one of the essential elements of public preparedness, aims at achieving “awareness” of the hazard risks, shaping the “behaviour” (pre- and post-disaster) from risk reduction to response and recovery, and create the base for “warning” (systems, messages, actions). As stated by the author, despite various impediments against the efforts of governments, NGOs and the media, disaster preparedness is gradually increasing around the world. In relation to this research study, the focus is on awareness and behaviour as those being crucial in providing individuals with the capacity to protect themselves and respond in the case of a natural disaster.
As for UNISDR, disaster preparedness is

“the knowledge and capacities developed by governments, professional response and recovery organisations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions” (2009, p.21).

According to that definition, which is more specific, disaster preparedness refers to the activities undertaken by organisations and individuals that contribute in building their capacities for disaster prevention, response and recovery. Such activities can be the contingency planning, stockpiling of supplies, public awareness and dissemination of the necessary information and the appropriate training for evacuation and coordination activities for when a disaster occurs. The appropriate institutional, legal and financial means are very necessary to support these activities (ibid.). The HFA stipulates also that early warning systems and identification and assessment of risks are among the priorities for action; a “culture of prevention” is what DRR actions aim to cultivate (UNISDR, 2005, p.5). The definition provided by ECHO shown in the textbox mentions local knowledge, practice and response mechanisms as the means of preparedness. Therefore the common elements that constitute the meaning of disaster preparedness seem to be knowledge and capacity or mechanisms to respond to a potential hazard.

Risk identification and assessment means to analyze the type, probability and intensity of hazards next to the level of exposure and the vulnerability of a particular community so that decisions on the appropriate preventive measures and resources mobilisation can be taken (Moe & Pathranarakul 2006). The participation and the consultation of the communities and the target beneficiaries for building disaster preparedness projects and strategies is another aspect that is increasingly taken into consideration among disaster management organisations (ibid.; www.ifrc.org, accessed 24/12/2013).

Preparedness also aims to increase communities’ “resilience”. In other words, “the ability [...] to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions” (UNISDR, 2009). The terms “resilience” and “resilient” are used in the disaster management context by various organisations. Resilient communities are characterised by the fact that “they understand the disaster risks they face, they can assess and monitor these risks and can protect and make
themselves safe to minimize losses and damage when the disaster strikes” (IFRC, 2008, p.2). The concept of community resilience is approached in two ways: firstly recognising that inherent knowledge, adaptation strategies, culture and experience form the existing levels of resilience, and secondly, that human initiatives such as disaster plans and information sharing can also enhance resilience (Maryena, 2006, cited in De Miliano, 2011). Disaster Risk Reduction, and consequently disaster preparedness is considered to be a factor that positively contributes to a community’s resilience (IFRC, 2008).

Overall, disaster preparedness, as a part of the Disaster Risk Reduction concept, aims at creating adequate levels of awareness and relevant skills among institutions, organisations and people so that they will be able to respond in case of a natural disaster. DRR and disaster preparedness are sometimes used interchangeably. For the purpose of this study, the researcher focuses on disaster preparedness and more precisely on the institutional, organisational and individual capacity building to respond (and in some cases recover) from natural hazards. On the other hand, it is important to note that the frameworks and policies that constitute the basis for the implementation of disaster preparedness are formulated on the “global” concept of DRR and are not exclusively targeted on preparedness. Nevertheless, according to the scope of this research, the conceptual framework of DRR is used for analysing and evaluating disaster preparedness of organisations and individuals and not for the material infrastructure that can mitigate disaster risks. The international policies which built on the DRR and preparedness concepts are examined right below.

2.3. International Policies for Disaster Risk Reduction

2.3.1 The Hyogo Framework for Action 2005-2015

Following the International Decade for Natural Disaster Risk Reduction (IDNDR), the Yokohama strategy and the Plan of Action for a Safer World, the Hyogo Framework for Action 2005-2015 (HFA1) is the most recent globally adopted framework to address the issues of extensive risks and losses due to natural hazards. The document produced through the UN World Conference on Disaster Reduction in Hyogo, Kobe, in Japan, in January of 2005, articulates the roles and the responsibility of states and relevant stakeholders to build resilient communities, and stresses the need for “disaster prevention, mitigation, preparedness and vulnerability reduction” (UNISDR, 2005, p.3). The HFA1 puts forward several general considerations that also guide the rationale of this research. The most relevant for this study according to the conceptual analysis made so far are the following (ibid. at p.4-5):
Each of the States has the main responsibility to ensure its own sustainable development and to take the effective measures for protecting its population and infrastructure, as well as for reducing the risks from disasters.

Disaster-prone countries should integrate a multi-hazard approach of disaster risk reduction into policies, and the whole cycle of disaster management activities (relief, rehabilitation and recovery).

The planning of DRR should take into account cultural diversity, age, vulnerable groups and the gender perspective.

Communities and local authorities should be empowered by being able to access the information, resources and authority which are essential to implement any actions for DRR.

International and regional cooperation for the purpose of DRR should be enhanced, and “awareness-raising initiatives” and “capacity-development measures” should be supported for increasing and improving resilience.

The phases following a disaster should be viewed as an opportunity to re-build and re-construct by reducing vulnerability to future disaster risks.

As mentioned in the introduction, the HFA1 focuses on five priorities for action:

1. Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.
2. Identify, assess and monitor disaster risks and enhance early warning.
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
4. Reduce the underlying risk factors.
5. Strengthen disaster preparedness for effective response at all levels. (ibid. at p.6).

Priorities 1, 3 and 5 form the framework of disaster preparedness and link it with a general institutional basis and particularly with the education sector, thus these are the aspects that are more relevant to the research questions. Priorities 2 and 4 are excluded from the analysis since are deemed less relevant. This is because they can mainly be developed by means of technology and infrastructure: for instance, a tsunami-related early warning system through SMS-mobile technology and the construction of seismic-proof buildings are ways to fulfil these two priorities respectively in order to monitor and prevent disasters caused by natural phenomena. While the priorities are all equally important, the researcher will investigate those related to the developed policies and human preparedness, while not focusing on the physical elements. An additional reason to exclude these from the analysis is the need to narrow down the focus of the study, in accordance with the time and resources limitations described in the first Chapter.

Based on these axes of action, states are expected to implement the key activities that are mentioned in the HFA1 under each priority. Therefore the current research is...
guiding by some of these key activities under the selected priorities 1, 3 and 5. The case study of the Indonesian Special Province of Yogyakarta will verify to what extent these have resulted in visible actions. In detail, these are:

- **Priority 1**, under pole (i) for “National institutional and legislative frameworks” - Key activities:
  
  (a) Support the creation and strengthening of national integrated disaster risk reduction mechanisms, such as multi sectoral national platforms, with designated responsibilities at the national through to the local levels to facilitate coordination across sectors. [...]  
  (b) Integrate risk reduction, as appropriate, into development policies and planning at all levels of government, [...] (UNISDR, 2005, p.6).

- **Priority 3**, under pole (ii) for “Education and training” - Key activities:
  
  (h) Promote the inclusion of disaster risk reduction knowledge in relevant sections of school curricula at all levels and the use of other formal and informal channels to reach youth and children with information; [...]  
  (i) Promote the implementation of local risk assessment and disaster preparedness programmes in schools and institutions of higher education  
  (j) Promote the implementation of programmes and activities in schools for learning how to minimize the effects of hazards, [...]  
  (l) Promote community-based training initiatives, considering the role of volunteers, as appropriate, to enhance local capacities to mitigate and cope with disasters (ibid. at p. 9-10).

- **Priority 5** - Key activities:
  
  (d) Prepare or review and periodically update disaster preparedness and contingency plans and policies at all levels, with a particular focus on the most vulnerable areas and groups. Promote regular disaster preparedness exercises, including evacuation drills, [...]  
  (f) Develop specific mechanisms to engage active participation and ownership of relevant stakeholders, including communities, in disaster risk reduction, in particular building on the spirit of volunteerism. (ibid. at p.12-13).

These key activities are selected and serve as guidelines for the present study with the purpose to narrow down the research scope. This is done by including only those which are most relevant for answering the research questions and according to the fact that the research focus is put on school-based disaster preparedness, a concept that is elaborated later in this chapter.

In addition, some key questions and means of verification are used to assess the level of progress achieved towards the Priorities for Action (according to the UNISDR HFA National and Local Progress Reports). These will be analysed in Chapters III to V, along with the findings of the study.
2.3.2 The Beijing Framework for Action 2005 and the regional follow-up of the HFA

Soon after the HFA was adopted by 168 UN member countries, the first Asian Ministerial Conference on DRR (1AMCDRR) took place in Beijing, in September 2005, resulting in the “Beijing Action for DRR in Asia” (Asian Disaster Management News - ADPC, 2010). National governments and regional institutions for DRR were encouraged to formulate their national plans and agendas following the HFA, and enhance regional cooperation and promote the respective mechanisms for monitoring and implementation. Subsequently, there were three more Asian Ministerial meetings held in New Delhi in India (2007), Kuala Lumpur in Malaysia (2008) and Incheon of S.Korea (2010) in order to follow-up the process of implementing the HFA in the region. As a result, many declarations, documents and frameworks that focused on specific areas of intervention for DRR were drafted and communicated amongst relevant stakeholders to a regional and international reach, also including children-specific DRR and special protection during disasters.

Additionally, a Global Platform for DRR was established in 2007, as a “biennial forum for information exchange”, with the aim of improving implementation and coordination amongst stakeholders (unisdr.org, accessed 7/3/2104). In the second session of the Global Platform (2009), the importance of integrating DRR into school curricula was highlighted through commitments for accomplishment until 2015, and those commitments were reinforced in the third session of 2011 (UNESCO & UNICEF, 2012). The last Global Platform took place in 2013, in which the Head of the National Disaster Management (BNPB) of Indonesia stressed the importance of empowering the local governments and integrating cross-cutting aspects such as gender, age and cultural diversity into DRR efforts, also in line with the outcomes of the Yogyakarta Declaration (PreventionWeb, accessed 7/3/2014).

Therefore, the range of widely adopted frameworks and declarations for DRR which can be linked to youth and school education continues further than the HFA1. Policy delineating children’s rights and needs as per the concept of DRR has been increasing since the HFA1 was launched, especially in the Asia-Pacific region: The Ahmedabad Action Agenda for School Safety (2007), the Bangkok Action Agenda for School Education and DRR (2007), the Kuala Lumpur Declaration on DRR (2008), the Beijing Declaration on South-South Cooperation for Child Rights in Asia-Pacific (2010), the Children’s Charter on DRR (2011) and the Yogyakarta Declaration are some of the documents that contribute to putting forward the issue of children affected by disaster. Hereafter are presented the initiatives and policies which, apart from being relevant beyond national boundaries, highlight the concepts of DRR and preparedness for school-based youth, and which have inspired the framework of this study. Due to time constraints, only the initiatives that link directly to the UNISDR or have a contextual relevance to the HFA1 and Indonesia are used for the analysis and elaborated below. Despite the fact that none of these are legally binding, they have
contributed in building DRR frameworks related to youth and they place the attention on prioritising school-based safety and preparedness.

2.3.3 The UNISDR Campaign for schools and the International Conference on School Safety, 2006-2007

Reflecting on the five key priorities of the HFA1, UNISDR launched the “Disaster Risk Reduction begins at School” 2006-2007 campaign, aiming at promoting the integration of DRR in school curricula and the safer construction or the retrofitting of school buildings in countries which are prone to natural hazards (UNISDR, 2006). This demonstrates that there is indeed a focus in age- and context-specific efforts to introduce risk reduction, which thereafter have been multiplied and re-enforced with relevant policies that are emerging both globally and regionally.

The International Conference on School Safety which took place in Ahmedabad (Gujarat) in India in January 2006 declared once more after the HFA1 a strong commitment in DRR and school resilience. Priority 3 of the HFA1 and the UN Millennium Development Goal 2 to “Achieve universal primary education” by 2015 were highlighted resulting in a comprehensive goal to achieve “zero mortality of Children by the year 2015” and a detailed agenda with specific objectives (ADPC, 2007), of which the ones that are related to school-based preparedness are cited below:

1. Disaster Reduction Education in Schools:
   
   Immediate Priority

   Action 1.a: Include disaster risk reduction in the formal curriculum at both primary as well as secondary levels

   Action 1.b: Promote disaster risk reduction through co-curricular activities in school acknowledging that children in schools need to develop “survival/life skills” first, along with ‘academic inputs”

   By 2015

   Action 1c: Promote exclusive initiatives among children in schools that make them leaders in risk reduction in the community

   Action 1d: Ensure effective partnership among schools to share risk reduction education and achieve higher levels of school safety.

2. Disaster Resistant School Infrastructure: […]

3. Safe School and Community Environment:

   Immediate Priority

   Action 3.a: Mobilize parent, student, local community and school staff to champion school safety.

   By 2015

   Action 3.b: Schools to prepare and implement school safety plans including measures to be taken both within school premises and in the immediate neighborhood. This must include regular safety drills.
Action 3c: Promote active dialogue and exchange between schools and local leaders including police, civil defense, fire safety, search and rescue, medical and other emergency service providers.
Action 3d: Schools children must practice safety measures in all aspects and places of their lives.

4. Advocacy and Government Policy on School Safety:
   **Immediate Priority**
   Action 4.a: A policy on school safety which would eventually be integrated with the existing policies on school education must be framed.
   **By 2015**
   Action 4.b: Enforce policy through budgetary allocation, strategic programs and effective monitoring.

These objectives give a precise idea of the immediate and long-term actions needed to fulfill an integrated approach to school safety and disaster preparedness. It is important however to note that when implementing DRR policies and plans, each state and community will tailor them according to specific context and environment. Still the above-mentioned content of the agenda is deemed highly relevant to this research as it describes a concise “checklist” of the DRR and preparedness school-based core activities.

2.3.4 Children’s Charter on DRR, 2011

The Children’s Charter on DRR, launched in 2011 at the Global Platform of DRR in Geneva (UNISDR), is a targeted DRR initiative for children, which highlights the priority areas for action and assessment in risk reduction. After consultations with more than 600 children in disaster-prone countries of Africa, Asia and Latin America, the editors, partners of the “Children in a Changing Climate Coalition” have prioritised five key responsibilities of the authorities or agencies in question:

1. Schools must be safe and education must not be interrupted;
2. Child protection must be a priority before, during and after a disaster;
3. Children have the right to participate and to access the information they need;
4. Community infrastructure must be safe, and relief and reconstruction must help reduce future risk;
5. DRR must reach the most vulnerable. (Children in a Changing Climate Coalition, 2013, p.9)

The Charter was followed by a reviewing report which researches upon the level of implementation of these priorities, along with the enabling factors and challenges to achieve these. Moreover, the report includes case studies with good practices in several schools and communities across the world. The existence of the Charter,

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which serves as a widely encompassed documentation and its consistent follow-up, if possible, can support advocating for and implementing child-centered DRR initiatives. This is demonstrated by the example of Plan Indonesia (a local branch of the international NGO), where the existence of the Children’s Charter on DRR facilitated their work in their field projects by showing that child-related DRR has become a “global priority” for various stakeholders (ibid. at p.46). The example of Mozambique, a country that decided to consider the Charter and made the issue of DRR integration in education the subject of a special meeting between the Mozambican Children’s Parliament, Ministries and UN agencies, saw important development in this sector (ibid. at p.11). Notwithstanding the importance of such initiatives, the Children’s Charter on DRR is not a binding document for any country but it contributes to international and national involvement of states in the development of child-centered disaster preparedness, as well as to raising awareness for safe school infrastructure. To bring this topic under geographical and chronological relevance, the Yogyakarta declaration is another case in the very recent years to encourage and reaffirm youth participation in the DRR development process.

2.3.5 The Yogyakarta Declaration

In October 2012, the fifth Asian Ministerial Conference on Disaster Risk Reduction in the city of Yogyakarta resulted in the “Yogyakarta Declaration on Disaster Risk Reduction in Asia and the Pacific 2012”, in which several stakeholders (local authorities, the Red Cross and Red Crescent Societies and youth and child-centred organisations) stated their commitment to integrate DRR into development planning, as well as to invest and to take action in order to increase the resilience of communities, particularly the ones that are prone to hazards. The children and youth representatives noted that “child-centered DRR places a child’s right to survival, protection, development and participation at the heart of development and humanitarian action” (BNPB & UNDP, 2012, Annex 1, p.1).

It is a fact that none of these initiatives and the respective documents produced is binding for any country, neither for Indonesia alone. However, they are still considered as “soft law” instruments and can be used as a driving force so that NGOs, states and institutions will adopt DRR practices for youth. In addition, the Yogyakarta Declaration exists as an advocacy tool, which can have even wider acceptance and response in Indonesia, who has hosted the meeting. As a consequence, these frameworks serve as the existing policy foundations that can potentially lead to comprehensive actions taken by states and governments. Therefore they can be viewed as complementary to the HFA1 in envisioning DRR and disaster preparedness for youth, providing with specific targets to define schools that are better prepared.

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9 Soft law “refers to guidelines, policy declarations or codes of conduct which set standards of conduct. However, they are not directly enforceable” or in other words, not legally binding (http://definitions.uslegal.com/s/soft-law/, accessed at 18/02/2014).
2.4 Child-centred DRR, school-based disaster preparedness and DRR integration into the curriculum

The planning and implementation of disaster management projects has been mostly dominated by adults; even when it addresses the needs of children, these are rather viewed as passive victims of disasters and with a limited capacity in response and preparedness efforts (Mitchell et al., 2009). However, in the last years a shift has drawn attention in voicing children’s rights in times of disaster by emergency response agencies. In the development context UN agencies and international NGOs work with the aim to build the capacity and make young members of communities adequately prepared for natural disasters. Children can be involved in disaster preparedness efforts by participating in community-based projects, but they are also considered to be a group with special vulnerabilities and capabilities. Education and communication of disaster risks to children can produce positive results, but more research needs to be done with regards to the impact of this type of education to their families and the wider communities (Mitchell et al., 2009). Due to the fact that school education is an integral part of a child’s life in most contexts, several case studies report the integration of disaster preparedness into the school curricula (UNESCO & UNICEF, 2012). Other approaches may suggest school-based trainings and extra-curricular activities. Hereafter follows a brief description of the basic terms and concepts according to which the concept for school-based disaster has been developed. These are linked to the purpose and research question of this study.

- **Definition and Rights of Children**

  According to the article 1 of the UN Convention of the Rights of the Child (CRC), “a child means every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier” (1989). Indonesia has signed and ratified the Convention in 1990 (UN, accessed 19/10/2014); also the Indonesian Law 23/2002 of Child Protection is consistent with the abovementioned definition (Republic of Indonesia, 2002). Especially in the latter, the “best interests of the child” as well as “the right to life, survival and development” are affirmed (ibid., article 2). Child vulnerability in emergencies is also recognised in the Sphere Humanitarian Charter and Minimum Standards in Disaster Response (The Sphere Project/Handbook, accessed 3/1/2014). In addition, article 12 of the CRC underlines the fact that children have the capacity of expressing themselves, therefore preparing the ground for child participation to be part of disaster management projects, and particularly in DRR and preparedness activities.

- **Child-centred DRR**

  Based on children’s rights, whether internationally recognised or not, previous experience of major disasters affecting millions of children, and the simple idea that children are the future citizens of the world, many humanitarian and development
agencies have put their focus on developing and pioneering child-centred DRR approaches (Tileva, 2013). According to Plan International (2010), child-centred DRR includes child-focused and child-led activities created “for” and “by” children respectively, described as follows:

Child-centred DRR is an innovative approach to DRR that fosters the agency of children and youth, in groups and as individuals, to work towards making their lives safer and their communities more resilient to disasters. It is empowering for children, and respectful of their views and rights as well as their vulnerabilities. (cited in Tileva, 2013, p.3)

Children are considered to be effective “risk communicators” when given adequate support and training, and an investment in child-centred DRR means that they will eventually grow up to be prepared and equipped adults in their own communities (Tileva, 2013).

- **School-based preparedness framework**

As mentioned before, there are various ways to introduce disaster preparedness to children, a process that normally takes place in ages from 6 to 17 (primary to high school), without excluding earlier ages (but in this case possibly without a deeper understanding of natural hazards and with limited discipline in implementing preparedness activities). Policy makers and disaster management agencies that engage with the child-centred DRR approach are therefore expected to assess the most appropriate ways of cultivating disaster preparedness according to the local culture and context and according to age-specific needs. Contemporary discussions for development issues put the achievement of basic education in the centre of international and national investment. Schools and educators are furthermore considered the ones to play a fundamental role in building the capacities of children and shaping responsible citizens and competent persons for the future (ASEAN-UNISDR, 2011). Consequently, schools can be an appropriate “place” for the apprehension of topics that are very pertinent in disaster prone countries, such as knowledge for the nature of natural hazards, ways to act for preventing loss and life-saving skills.

The Indonesian Consortium for Disaster Education (CDE) defines school-based disaster preparedness as the “capacity of school to manage disaster risks in its community”: this capacity is measured by safety plans, good infrastructure and

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11 CDE is a network organization established in 2006, following the International Risk Reduction Day with the theme “Disaster Risk Reduction Begins at School”. It consists of 62 members: UN agencies, NGOs, Government, the Red Cross society and Academic institutions. Its main goal and mission is to “support the development of sustainable policy and DRR education practices at national and local levels through formal, non formal, as well as informal approaches by improving the capacity, coordination and synergy among parties and making the commitment in DRR education” (CDE, 2011, p.30).
logistic availability, and also systems that support knowledge on preparedness such as standard operating procedures, early warning systems and simulation exercises and is built through institutionalisation of prevention practices at all school communities (CDE, 2011, p.8). More precisely, according to the framework of CDE (2011) for school-based disaster preparedness (SSB: Sekolah Siaga Bencana), the extent to which efforts for disaster preparedness are achieved is identified through certain “parameters” and “indicators”, and a set of evidence which serves as “verification” for each indicator. These parameters are attitude and action, school policy, preparedness planning and resource mobilisation (CDE, 2011, p.9). According to another source, which refers to an SSB model developed by the Indonesian Institute of Science and the UNESCO office in Jakarta, the five parameters for building the school capacity and safety are:

1. knowledge and attitude
2. school policy and standard operating procedures
3. emergency planning
4. school early warning system
5. school’s resource mobilisation capacity (Bastidas-UNISDR, 2011, p.32)

The second source is only complementary to the first. Therefore, for the purposes of this study, these parameters serve as a reference list for assessing the level of school-based disaster preparedness in the Special Province of Yogyakarta, particularly for the development of the interview guides and as a reference to assessing already developed school-based programmes in the area.12

- The integration of DRR into the curriculum

One of the dominant perspectives for appropriately engaging youth with DRR and built their preparedness capacity is to channel hazard-related topics and prevention issues into the school curriculum from an early age on. Yet some countries show reluctance to incorporate DRR materials into the curriculum claiming that the school curricula are already heavily charged (Tran, 2009). It seems, nevertheless, that many countries have already implemented or started implementing DRR-integration in school programmes (particularly into the primary level curriculum), although many of these projects remain incomplete (UNESCO & UNICEF, 2012).

One of the approaches of the integration of DRR into the school curriculum suggests that alternative options are placed on a continuum: on one end we can find “stand-alone courses”, meaning specialised subjects for DRR, then “curriculum units” refers to specially developed units or chapters integrated into specific courses and on the other end “curriculum infusion” integrates a variety of content into most of the curriculum courses by enriching it with DRR topics. The following table illustrates these approaches in relation to their advantages and disadvantages in implementation.

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12The detailed analysis and the link between parameter-indicator-verification of the CDE SSB concept is illustrated and further explained in the respective framework (CDE, 2011).
<table>
<thead>
<tr>
<th>Type of DRR integration</th>
<th>Stand-alone courses: single subjects</th>
<th>Curriculum units: several subjects</th>
<th>Curriculum infusion/integration: many subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>course, text</td>
<td>module, unit, chapter</td>
<td>lessons, activities, problems, readings</td>
</tr>
<tr>
<td>Description / Opportunities and Challenges</td>
<td>In-depth courses next to the original programme (often elective or specialised courses) but less students are reached</td>
<td>Designed to fit specific course curricula, with specific duration in specific grade levels and can be more easily sustained over time; but other modules might need to be “squeezed out”</td>
<td>Distributed throughout the curriculum; High-level policy, commitment and guidance are needed</td>
</tr>
</tbody>
</table>

Table 4: Types of DRR integration into the school curriculum, adapted by Petal M., 2008, UNISDR, Geneva

UNESCO & UNICEF’s publication with case studies (2012, p.8) also shows a broad range of ways to develop DRR learning in school including approaches as the “textbook-driven”, the “pilot-project”, the “centralised competency-based” (in which key competencies determine the development of curricula), the “centrally developed special subject”, the “symbiosis” (where education for life skills or sustainable development assist as a “carrier” for DRR) and the “special event” approach. Some of these coincide with the abovementioned types of integration by Petal but in some cases DRR is introduced in extra-curricular or optional activities and most likely in a “one-off event”, with no “evident follow-up” (ibid. at p.9) or dispersed events. The implementation of disaster preparedness and risk reduction school projects in most countries is still lacking more commitment and practice. There is also a need for more research to assess the efforts that are underway but some “good examples” or “best practices” from various countries have already been reported for making DRR a semi- or permanent module of school education. Part of this study will also reveal whether some of these have already been introduced in Yogyakarta schools and how far these efforts have reached.

Additionally, another important aspect for child-focused DRR and preparedness implementing stakeholders is being able to reach children with disabilities and children who do not attend school. Likewise, there might be cases of linguistic minority groups that need a separate educational and training material for disaster awareness and preparedness activities. The research scope of this study can only allow general and undistinguished investigation of approaches that are implemented
in schools by governmental and non-governmental disaster management organisations; however, when relevant findings exist, they will be included.

Conclusion

This chapter has described and analysed the concepts related to Disaster Management, DRR, and Disaster Preparedness which have resulted in the development of wider policies such as the Hyogo Framework for Action 2005-2015 (HFA1), and later on to more targeted frameworks related to school-based disaster preparedness. The priorities of the HFA1 and their respective activities which are relevant to school-based preparedness will guide this study so that the findings are framed under the research questions. More specifically, the three research sub-questions are analysed under priorities 1, 3 and 5 respectively as follows:

*To what extent has Indonesia built a strong institutional basis of implementation for disaster risk reduction (through its policies), according to the HFA1?*

- Priority 1: Ensure that DRR is a national and local priority with a strong institutional basis for implementation (under pole (i) for National institutional and legislative frameworks)

*To what extent have the specific actions taken by the local provincial and district authorities achieved to implement the envisioned framework for disaster preparedness in the Special Province of Yogyakarta and in particular through the school curriculum?*

*To what extent has the work of national and international non-governmental organizations contributed to disaster preparedness in the schools of Yogyakarta disaster-prone areas?*

- Priority 3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels (under pole (ii) for Education and training) and
- Priority 5: Strengthen disaster preparedness for effective response at all levels

Chapters 3 to 5 aim to analyse and provide the answers to these questions, using the concepts of school-based preparedness and DRR integration that were described in this chapter.

Furthermore, the school-based preparedness frameworks that have been mentioned in this chapter are conceptually linked to one or more of the key priorities of HFA1 (according to the key activities mentioned in 2.3.1), in a way that is illustrated in the following table, along with the elements that justify this link:
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Priority 1 (under pole (i) for National institutional and legislative frameworks)</td>
<td>Objective 4: Advocacy and Government Policy on School Safety</td>
<td>Commitment to integrate DRR into development planning</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Promoting the integration of DRR in school curricula and the safer construction or the retrofitting of school buildings</td>
<td>Objective 1: Disaster Reduction Education in Schools</td>
<td>A targeted DRR initiative for children, with five key priorities linked to “Education and training”</td>
<td>Children and youth groups promoting child-centered DRR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Priority 3 (under pole (ii) for Education and training)</td>
<td>Objective 3: Safe School and Community Environment (Schools to prepare and implement school safety plans)</td>
<td>Parameters for building the school capacity and safety: - knowledge and attitude; - school policy and standard operating procedures; - school’s resource mobilisation capacity</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Objective 3: Safe School and Community Environment (mobilise local communities and promote active dialogue between schools and local leaders)</td>
<td>Parameters for building the school capacity and safety: - emergency planning</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Priority 5</td>
<td></td>
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</tbody>
</table>

Table 5: The child-centred and school-based preparedness policies and frameworks and their positioning against the HFA1 priorities
This conceptual schema captures the DRR and preparedness frameworks related to youth and schools which translate the HFA1 into specific context and key activities.
CHAPTER III: INSTITUTIONAL FRAMEWORK IN THE INDONESIAN CONTEXT

“A country’s legislative and governmental systems provide the basis for plans and organisation in all areas of disaster risk reduction. An adequate institutional basis as well as good governance, therefore, is an important prerequisite for disaster risk management.” (UNISDR, 2007, p.21)

Introduction

This chapter will examine the national framework and the policies\textsuperscript{13} that constitute the foundations of disaster reduction and disaster preparedness, and which have been developed as a result of the Indonesian Government’s adoption of the HFA\textsuperscript{1} in 2005. In other words, the main objective is to answer the first research sub-question by identifying “to what extent have the Indonesian policies and frameworks built a strong institutional basis for disaster risk reduction”. The policies in question were mainly formed during the legal reform of Disaster Management which took place between 2005 and 2009. The reform’s main impetus was the post-disaster phase that followed the December 2004 tsunami, of which Indonesia was the biggest country-victim (UNDP, 2009). The key idea in this reform has been the shift from disaster response to disaster prevention and risk reduction and the integration of DRR in the development process.

3.1 The Disaster Management Law 24/2007

As stated in its preamble, the Disaster Management Law was enacted in 2007 as a result of the lack of sufficient legal ground in disaster management. The Law designates the Indonesian Government along with the regional governments to be the entities responsible for disaster management. DRR is intended to be in line with the national development policies and, reversely, the latter should include elements of DRR. Moreover, the legal and social aspects of Disaster Management (DM) are considered on the basis of, amongst others, humanity, justice and the principle of non-discrimination (article 3). The Law is founded on a human rights-based approach, which makes the government accountable for the protection of citizens during any stage of the DM cycle and also in the case it fails to deliver this protection (UNDP, 2009). Lastly, there should be a sufficient budget allocated for disaster management activities, included in the national budget. Indeed the Indonesian State Ministry for National Development Planning (BAPPENAS) and donor organisations (DFID, AusAid) earmarked funds for DRR programmes (ibid.).

\textsuperscript{13}All the policies that are analysed in this chapter come from English translated documents available online; however the documents in Bahasa Indonesia were also collected and consulted when a cross-check of organizational names and terminology was needed.
In the presidential regulation 8/ 2008 the Government is accountable for establishing a National Management Disaster Agency (Badan Nasional Penanggulangan Bencana - BNPB), labelled as a “Nondepartmental Government Institution” (article 1). This agency is responsible for disaster prevention, emergency response, rehabilitation and reconstruction, the relevant budget spending and for “preparing guidelines on the establishment of Regional Disaster Management Agency” (article 2). The principal aim of such an institution is to coordinate in an efficient way disaster management activities, particularly in case of an emergency. However its functions are not limited to emergency response but also include the pre- and post-disaster period. Regulation 23 of 2008 allocates a participating role to NGOs and International Organisations in activities of the DM cycle, with the purpose of supporting, and under coordination of, BNPB. Further to the establishment of BNPB, each regional government should establish a Regional Disaster Management Agency (Badan Penanggulangan Bencana Daerah -BPBD), which either on provincial or city/district level should coordinate with the BNPB, and has similar role with it. Article 14 of the 21/2008 Regulation stipulates that the central and regional governments should organise education and training which can take the form of formal, non-formal and informal education through simulation, technical and other capacity building programmes.

The Republic of Indonesia is administratively divided into provinces and districts (kabupaten) (WHO, accessed 10/01/2014), the latter having a high level of (regional) autonomy, as a result of decentralisation efforts that have been established under the Law 22/1999 on January 1st 2001 (abc.net.au, accessed 14/12/2013). This is also reflected in the 24/2007 Law, since the necessity of decentralisation is also apparent in the DM reform. Besides, according to article 25, the decisions regarding the establishment, the tasks and the organisational structure of a Regional BPBD agency are governed by a Regional Regulation. Therefore it could be expected that different regional agencies will have different structures, capacities and work procedures. According to the National Progress Report of the HFA 2011-2013, up to now all Indonesian provinces and more than 80% of districts and cities have established local disaster management agencies that deal with disaster preparedness, contingency planning and response (BNPB, 2013) including the Special Province of Yogyakarta (Daerah Istimewa Yogyakarta – DIY). Additionally, all provinces have by now formulated their Regional Disaster Management Plans (ibid.).

With regards to the framework of the pre-disaster phase, according to article 35, in a “situation without disaster”, DM is identified by planning, DRR, prevention, integration into development plans, spatial structure plan, risk analysis, education and training, and technical standard requirements. More specifically, DRR includes:

a. recognition and monitoring of disaster risk;

b. participatory disaster planning;

c. promotion of disaster-awareness practices;
d. greater commitment of disaster management team; and application of physical and non-physical efforts, and instructions on disaster management (BNPB, Law 24/2007, p.18).

Point (c) articulates the element of preparedness in the national legislation, which is the most relevant for the first research sub-question. Technically, the word “preparedness” feebly appears in the DM Law text, and is only mentioned in article 85 which refers to the reconstruction phase as a means of the “revival of community sociocultural life” through awareness campaigns (ibid. at p.44). However, it is quite explicit that the legal and institutional ground for prevention and preparedness is established through the DM Law 24/ 2007, and that the institutional bodies responsible for coordination and implementation are the National BNPB and the regional BPBDs. In addition, the DM Law defines children amongst the vulnerable group of the population which should be prioritized in terms of protection particularly during emergency response (article 55).

Lastly, it is important to mention the role of civil society in the legal reform and institutionalisation of disaster management and DRR. The Indonesian Society for Disaster Mitigation (MPBI: Masyarakat Penanggulangan Bencana Indonesia) led the advocacy process for the reform and participated in discussions and consultations for the creation of the Disaster Management Law. The MPBI was formed in 2003 by practitioners of disaster management, UN representatives, the Indonesian Red Cross (PMI), the International Federation of Red Cross and Red Crescent (IFRC), scientists from the government and private sector and national NGOs (UNDP, 2009). As a result, the Disaster Management Law reflects the significance of the civil society and encourages the participation of the local communities in the efforts for disaster risk reduction. Nevertheless, it becomes clear that the governmental bodies which are formed for the purpose of disaster management and prevention bear the responsibility and the authority to develop the necessary capacities related to emergency response within the disaster management cycle.

3.2 National Disaster Management Plan 2010-2014 (Renas PB)

Further to the DM Law 24/ 2007 and its subsequent Government Regulations of 2008, a National Disaster Management Plan had to be formulated by the national government (explicitly mentioned in the 21/2008 Regulation), whereas local governments are responsible for formulating Local DM Plans. The National DM Plan’s objectives are (a) to identify risks in the respective hazard-prone areas in Indonesia, in order to prioritize the actions in each area, and (b) serve as a reference for the government ministries and agencies, and disaster management stakeholders in Indonesia so that efforts for DM can be implemented in a “planned, integrated, coordinated and comprehensive manner”.

More specifically, the Special Region of Yogyakarta (DIY) is identified as “high risk zones” to the following hazards (presented for the region as a whole and for each district):

<table>
<thead>
<tr>
<th>DIY /District /Hazard</th>
<th>Special Region of Yogyakarta</th>
<th>Bantul</th>
<th>Sleman</th>
<th>KulonProgo</th>
<th>GunungKidul</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Volcanic eruption</td>
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Table 6: Potential disaster risks per district in the Special Region of Yogyakarta, adapted by BNPB - National Disaster Management Plan, 2010-2014

As seen from the table above, Kulon Progo and Gunung Kidul face a wide range of disaster risks. Nevertheless, Bantul is also prone to hazards that can cause extensive damage (earthquake, tsunami) which unfortunately proved to be the case with the 2006 earthquake, and many of Sleman’s communities (villages and sub-districts) have a high vulnerability due to their proximity to Merapi volcano. Overall, the National DM Plan 2010-2014 outlines the high risk zones of Indonesia, support by hazard-specific risk maps, along with the concepts of “vulnerability” and “capacity”. The document states that universities and community organisations (such as the Consortium for Disaster Education- CDE and the National Platform for DRR- Planas PRB and similar DRR forums) are expected to contribute in building capacity for vulnerable communities and support local governments.

The National DM Plan identifies specific programming areas of action:

- a. improvement of regulations and institutional capacity
- b. integrated disaster management planning
- c. research, education and training

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14 One of the factors that define vulnerability according to the National Disaster Management Plan 2010-2014 is “the distance of community to the source of the hazard” (p.21).
d. capacity building and community and stakeholder’s participation in disaster risk reduction (p.85)

Each programme area draws specific targets to be reached in the prospective five years of implementation. Under the programme for “research, education, and training”, the “integration of disaster management in the school curriculum”, the “implementation of disaster preparedness programmes at schools” and “the increase of human resources capacity for disaster education” (p.87) are amongst the priority focus areas.

3.3 National Action Plan for DRR 2010-2012 (RAN-PRB)

The National DM Plan aimed at the formulation of a specific strategic planning while incorporating the DRR perspective in disaster management activities. Meanwhile, BAPPENAS with BNPB formed the National Action Plan for Disaster Risk Reduction 2010-2012 (Rencana Aksi National Pengurangan Risiko Bencana: RAN-PRB), which followed the first Action Plan established for 2006-2009. The RAN-PRB of 2006-2009 was created in line with the HFA1 priorities but before the DM Law 24/2007 was introduced, therefore in the absence of a solid legal basis (UNDP, 2009). On the contrary, the 2010-2012 National Action Plan for DRR clearly stipulates how it relates to the National DM Plan (annex D-i) and its position in the DRR policies map (annex D-ii), including the HFA1. It is still aligned with the HFA1 priorities, comprising 7 (seven) main programmes and 33 activities of priority. The National Action Plan for DRR 2010-2012 presents a “master matrix” in which the specific activities and respective targets are clearly indicated, as well as the location (province and municipality) where they will take place, the respective performance indicators, the funding indication (in million IDR), the source of funding and the implementing party for each activity. To this end, the five main priorities of the HFA1 are tied to programmes which are tied with activities, and which are consequently defined by more specific targets.

In particular, in order to achieve the “development of disaster awareness culture” of programme C: research, education and training, which in the abovementioned matrix is specified for the Special Region of Yogyakarta (DIY), the following targets are set:

- Communities should become aware of disasters in the disaster-prone areas
- Community preparedness should be improved
- Disaster education to be achieved through the Internet in universities and research institutions
- An improved understanding and capacity of communities on DRR by strengthening the Government, NGOs, private sector and media in their role as DRR agents
- Mobilisation of communities in regions prone to volcanic eruption, flood, and landslide disasters (also through the implementation of Students Community Services –KKN)
Similarly, for the activity 3 articulated in “organisation of education as well as counselling and training”, among a wide range of targets, we can find those related to education in elementary and high schools in disaster-prone areas, development of learning materials that can be integrated into relevant courses in elementary schools, and integration of DRR into educational activities. Schools are a considerable element and are mentioned into several other programming areas of the National Action Plan, but in order to keep the analysis as short as necessary, the reader should refer to the master matrix of the National Action Plan 2010-2012 for more details.

In any case, it is obvious that both the National DM Plan and the National Action Plan are in line with priority three (3) of the HFA and that they intend to involve the educational sector for the purpose of building a culture of safety and resilience. The same applies to priority five (5) for the strengthening of disaster preparedness although not explicitly analysed in this chapter. More specifically, the National Action Plan 2010-2012 also takes into account the evaluation/verification process, hence it provides a group of indicators that can be used in collation with the HFA priorities to assess the outcomes of the activities as outlined in the National Action Plan. As far as the third HFA1 priority is concerned, namely the “use of knowledge, innovation and education to build a culture of safety and resilience at all levels”, the following indicators are specified:

1. Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, development of information sharing systems, etc)
2. School curricula, education material and relevant trainings include disaster risk reduction and recovery concepts and practices
3. Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened
4. Countrywide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities (p.8-8)

This list of indicators is very close to the key activities of priority three (3) of the HFA1 as mentioned in the Conceptual Framework (Chapter 2), which aim at promoting the inclusion of DRR knowledge in the school curricula, school-based activities on minimizing the effects of hazards, and community-based training initiatives through volunteers.

3.4 Institutionalisation of DRR and progress towards the HFA1

As already mentioned, the Law No 24/2007 on Disaster Management has initiated the creation of the National Disaster Management Agency, BNPB, which was enacted by the Presidential Decree 8/2008, and replaced the previous National Coordinating Agency for Disaster Management (Bakornas PB). Subsequently, the 46/2008 Regulation of the Minister of Home Affairs on the Organisation and Standard Procedures of the Regional Agency for Disaster Management has led to the
establishment of the subordinate BPBDs, which were required to exist in all provinces by the end of 2009; henceforth the provincial governments have to allocate a budget line for disaster management (UNDP, 2009). Therefore, the ad-hoc focus on disaster response is replaced by bodies that report to and have a direct connection with the Government, which are permanently established and are expected to function under the disaster risk reduction and mitigation perspective, build preparedness and enhance early warning systems.

Additionally to the governmental bodies for disaster management, another institution comprising multiple stakeholders was created, this of the Indonesian National Platform for Disaster Risk Reduction, Planas PRB. This is an independent forum inaugurated in 2008, which consists of government, NGO, international donor agencies, media, university and private sector representatives. It has a coordinating role of the DRR stakeholders, simultaneously trying to provide advocacy for DRR and harmonising DRR policies and implementation on a national level. Planas PRB also has the mission of supporting Indonesia in realising its commitment for the implementation of the Hyogo Action Plan (PreventionWeb, accessed 28/2/2014; RAN-PRB 2010-2012). Planas PRB has been acknowledged and has determined its mandate since UNISDR’s second Global Platform for DRR in Geneva in 2009, although it has already (unofficially) been active since 2005 (UNDP, 2009).

At this point it is necessary to revisit the Conceptual Framework of the second chapter of this study, and in particular the indicators for the 1st HFA Priority for Action which are used to guide the answer to the first research sub-question. Following the desk review of national policies and legislation in order to evaluate the level of DRR integration into Indonesia’s national strategies, the researcher has looked into the National HFA Progress Report (2011-2013). Produced according to the country’s self-assessment, the information provided in the Report describes the progress towards the first priority of Action via several indicators and verification pointers.

More specifically, the core indicator 1 of Priority for Action 1 investigates whether “national policy and legal framework for disaster risk reduction exists with decentralized responsibilities and capacities at all levels” (UNDP/BNPB, 2013, p.5). Indonesia is graded with 4 out of 5, meaning that: “substantial achievement [is] attained but with recognised limitations in key aspects, such as financial resources and/ or operational capacities” (ibid.). This is justified through specific means of verification, for instance whether DRR has been taken into account in the public investment and planning decisions, in the National Development Plan and strategies of different sectors, whether contingency planning is established and if legislative and/or regulatory provisions have been made for managing disaster risk. Indonesia claims to have established all the above. As far as the core indicator 4 is concerned, the level of progress is 3 out of 5, with 60 civil society members, two national finance

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15 Core indicator 1.4: “A national multi sectoral platform for disaster risk reduction is functioning” (UNDP/BNPB, 2013, p.9).

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and planning institutions and 20 sectoral organisations to be amongst the ones represented in the national DRR platform (Planas PRB). However, the role of this platform is admitted to need further recognition and a more systematic function. The progress assessment on the first priority of action in those indicators shows that even though the institutional mechanisms are established with all the relevant responsibilities in place, the local capacities in implementing DRR and preparedness as well as the comprehensive understanding of those concepts by all stakeholders are yet to be strengthened. The progress achieved against the first priority of the HFA1 will be assessed comprehensively following the analysis of field research and findings, in the final Conclusions chapter.

Conclusion

Overall, it is remarkable that Indonesia, following the Hyogo Framework for Action, has been quite prompt in responding to the need of creating a solid legal and institutional framework for disaster response and risk reduction. The unfortunate events of the 2004 Indian Ocean tsunami along with the internationally acknowledged call for institutionalisation of DRR have created a new space for dialogue and discussion among government and non-government actors. To this end, the Disaster Management Law 24/2007, followed by regulations that specify the organisational and financial means, namely the National Agency for Disaster Management and its subordinate provincial and district agencies, and the establishment of a National DRR Platform show that the state of Republic of Indonesia has processed a legal and institutional reform in order to move from disaster response to disaster prevention. Nevertheless, for this reform to be put into effect, the state should be able to secure the financial, technical and human resources capacity that will drive the implementation of the DRR frameworks at any time. Therefore the following chapters discuss the implementation of those DRR frameworks for achieving school-based disaster preparedness in the specific context of the Special Province of Yogyakarta.
CHAPTER IV: DISASTER AND EDUCATION IN THE SPECIAL PROVINCE OF YOGYAKARTA

This chapter presents a brief analysis of the context of the selected study region, starting with the most recent large-scale disasters (in terms of casualties and response by disaster management actors) that have occurred within the province of Yogyakarta. Following, there is an analysis of the Indonesian educational and school curriculum system. The purpose of this analysis is to give the reader a clearer understanding of the time and the place that this research was conducted. Still, the main purpose of this chapter is to answer the second research sub-question: “to what extent have the specific actions taken by the local provincial and district authorities achieved to implement the envisioned framework for disaster preparedness in the Special Province of Yogyakarta and in particular through the school curriculum?”. This will be achieved by linking the disaster and educational context with the information and findings from the meetings with the disaster preparedness authorities and school representatives in Yogyakarta.

4.1 The disaster context

The province of Yogyakarta, alternatively the Special Region of Yogyakarta (DIY), is located in the southern part of Java, and falls within the borders of Central Java, although it is an administratively separate region. According to the Indonesian Central Bureau of Statistics (BPS: Badan Pusat Statistik), its population in 2010 reached 3,457,491 (BPS, accessed 2/03/2014). Although it is the second smallest province in Indonesia, it is also one of the most densely populated (Indonesia-tourism.com, accessed 2/03/2014).

Between 2005 and 2013, the region was hit by two major disasters. On 27th May 2006, an earthquake that occurred approximately 15 miles south of Yogyakarta city, measured 6.2 on the Richter scale, resulted in more than 3,500 deaths (5,782 reported as a final number on June 5th 2006, ASEAN, citing TheJakartapost.com, accessed 2/3/2013) and thousands of destroyed buildings, mainly in the district of Bantul, where two-thirds of the fatalities occurred (The Guardian, accessed 10/1/2014). The time of the earthquake was reported at 05:54 a.m. local time; therefore many people were still at home, including children who normally go to school at 7.00 in the morning. Many schools were destroyed or significantly damaged; the economic loss in the education sector accounted for 1,739 billion IDR (BAPPENAS et al., 2006). Fortunately the national and international response was very large in terms of

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16Yogyakarta is a name that can refer either to the province of Yogyakarta or the city of Yogyakarta. The latter is the capital of the province and also forms a separate district, “Kota Yogyakarta” (city of Yogyakarta) among the five in total of the Province. In this research it is most often used to describe the whole province, unless noted otherwise. The name is also sometimes spelled alternatively, i.e. “Jogjakarta”; and abbreviations such as “Yogya” or “Jogja” are commonly used as well.
rebuilding the damaged infrastructure. There are several examples of organisations that contributed in the recovery and rehabilitation by providing emergency relief supplies, constructing temporary schools, and offering psycho-social support to children (ungei.org; id.amut.net; manulife.com, accessed 10/5/2014).

Not far from Yogyakarta city, and more precisely 30 km north of it, lies Mount Merapi which is one of the world’s most active and volatile volcanoes (National Geographic Daily News, accessed 2/3/2014). In late October 2010, a series of volcanic activity and eruptions lead to 386 reported deaths and 131 people injured, while at least 11,000 were displaced (Relief Web, citing information by IRIN, accessed 2/3/2014). The affected areas near the volcano are part of different districts such as Sleman (DI Yogyakarta), Magelang, Klaten and Boyolali as shown in Annex E. Although this disastrous event had significantly less casualties than the 2006 Java earthquake and affected mainly the people living on the slopes of Merapi volcano, it still forced the evacuation of thousands inhabitants and it was considered as one of the most powerful explosions of recent years.

Mount Merapi has been given a special role, almost humanized, as people living in the slopes of the volcano have experienced both its generous and “angry” side. This is one of the reasons why, apart from fear of losing their livestock, a great number of people could not easily be convinced to leave their houses when the catastrophic eruption took place in 2010. People also waited to see some signs of nature that normally occur before eruptions; for instance, unusual movement of animals or strong lightning storms (Donovan, 2010). As a result, less trust was shown to the authorities’ evacuation instructions and much time was lost before some of Merapi’s inhabitants decided to move away from the area (SMP 2 Negeri Imogiri participant, 19/9/2013). The Mount Merapi “spirit gatekeeper”, Mbah Maridjan, was one of the people that lost their lives in the 2010 eruption after he refused to leave his home based on his belief that he should not abandon his post (Theguardian.com, accessed 19/10/2014). Some people followed his example, but unfortunately the volcano’s force and “anger” was greater than most of them would have expected, resulting in casualties for those who failed or were late to evacuate their homes.

4.2 The Educational context

4.2.1 The Indonesian System of Education

Education in Indonesia is generally regulated by the Ministry of Education and Culture (Kementerian Pendidikan dan Kebudayaan or Kemdikbud), most recently named as Ministry of National Education (MONE), and the Ministry of Religious Affairs (Kementerian Agama or Kemenag). Nevertheless, the MONE operates through the Provincial Offices of Education in each of the Indonesian provinces, and through the District Offices respectively in 483 districts and municipalities (UNESCO-IBE, 2011). The educational system comprises of elementary, secondary
(lower or junior and senior) and higher education. The compulsory school years are nine, including elementary and junior high school. The secondary senior education may consist of general or vocational schools, depending on whether the students aim to attend higher education institutions or to orientate themselves in the job market. Parallel to the public or private elementary and high schools, the Islamic education system (madrasah) operates through religious schools which children can attend from the age of 4 (including kindergartens). There is also a non-formal education system, as well as an informal which comes through family (children who do not attend school), as shown in figure 3 (source: UNESCO-IBE, 2011).

![Diagram of Educational System in Indonesia](image-url)

In addition, according to Pribadi (2007), there are four sub-categories of Indonesian schools, according to their institutional source:

- **Public schools**: Overseen by national and local government, Ministry of Education, their own community.
- **Private schools**: Non-government social organisations.
- **Public religious schools**: Funded by national and local government, Ministry of Religious Affairs, community.
- **Non-government religious schools/informal boarding schools**: Non-government social (religious) organisations.

The institutional source is at the same time the source of funding for each type of school. As a result, this information is particularly useful for the financial planning and the design of disaster preparedness in the educational sector, specifically for targeting and appropriately including all schools’ sub-categories in disaster preparedness programmes.

### 4.2.2 The school curriculum

Under MONE, the Curriculum Development Centre (CDC) is the main responsible body for school curricula. The Indonesian school curriculum in primary and secondary education has been revised five times between 1968 and 2004 (MBPI, 2008). Nowadays it embodies both national and local content, the latter being developed on provincial or district level. The Minister’s Regulation No 22/2006 allows for autonomy and flexibility in terms of local content, so that each school can adapt the books and curriculum according to local context such as culture or specific disaster risks in the area (UNESCO & UNICEF, 2012). In other words, since the Education Unit Curriculum system (Kurikulum Tingkat Satuan Pendidikan / KSTP) for primary and secondary schools was introduced through the above regulation, the development of the Local Content Curriculum accommodates for the local social, cultural, environmental and disaster-related context to be taught in schools.

According to Ms. Harianti, Head of the CDC in 2011, the national strategy contemplates for DRR to be integrated through both intra- and extra-curricular activities (ASEAN-UNISDR, 2011). In more detail, the MONE has issued a policy document referred to as the National Strategy for Disaster Risk Reduction Mainstreaming in School System, which serves as a guide on how to embody DRR in Education, based on “three strategic components: (1) Empowerment of institutional roles and school community’s capacity; (2) DRR integration into the school curriculum; and (3) Establishment of partnership and network between various parties to support the implementation of DRR initiatives in schools” (ibid. at p.8).

Lastly, the Law No. 20/2003 on National Education system regulates, among others, the curriculum development that should be diverse but should align with education units, the local context and potentials, and students themselves (MPBI, 2008). Roughly the current formal school curriculum from primary to higher secondary
school has subjects that are grouped under the following categories: Religion and Culture, Language and Arts; Social Studies; Science and Technology; Physical Education and Health (UNESCO & UNICEF, 2012). DRR only appears in Social Sciences, Science and Physical Education and Health. The latter encompasses the biggest number of contents related to disaster and safety: for grades 1-3 (elementary), these are sanitation, traffic safety, safety from physical surroundings; for grades 7-9 (senior high school) these are safe outdoor activities, first aid, preservation of healthy environment, mutual help, cooperation and support (ibid.). According to Pandey, DRR-related topics have a more comprehensive presence in lower grades than in the high grades of education (2007, cited in: ibid.).

Overall the present educational scheme in Indonesia relies partly on the guidelines provided by both the central and regional governments and at the same time is based on the local school and teacher’s initiative for developing material (i.e. text-books) according to the specific needs of the area, the community and the students. Therefore schools in different regions or even within the same region but in different districts may have considerable variations in the teaching content which is related to disaster preparedness. As analysed later on in this study, the level of disaster preparedness related initiatives in Yogyakarta schools may range from very low to quite substantial.

4.2.3 School-based preparedness by the provincial and district agencies

- Local progress reports on the HFA1

According to the research methodology described in Chapter I, the analysis of the second sub-question is based on secondary (desk review) and primary data (interviews with key informants). The secondary data accessed online are the current school enrolment rates in Yogyakarta and the UNDP national and local progress reports. As a first step, the statistical data for the school participation rate in the province of Yogyakarta present an overview of the potential number of children which disaster preparedness programmes should target, and also give an idea of how many children would be missed because of being absent from formal education. Subsequently, the UNDP progress reports on the HFA1 provide qualitative information about disaster preparedness programmes and initiatives in the Province of Yogyakarta, and they are also a source of triangulation of information for the progress achieved towards the HFA1 objectives.

According to the “school participation rates”, 99.96% and 96.71% of children aged 7-12 and 13-15 respectively are recorded as being enrolled in education in 2013, including non-formal education17 (BPS, accessed 4/4/2014). On the other hand, data by BPS referring to the “school status” of children aged 5 and above show that there is a number of children who do not attend school, without specifying whether these children receive another type of education outside school. For instance, in the Special

17 Non-formal education (package A-C, as illustrated in image 2) is only recorded from 2007 onwards.
Province of Yogyakarta 319,625 children (approximately 10%) have never been in school (ibid., accessed 24/08/2014). In an attempt to interpret these numbers, it seems that the vast majority of children receive some type of education, but an estimate of 10% is not present at school. Therefore, it can be assumed that DRR and preparedness activities which may be implemented in schools of the region have the potential to reach most children of ages 7-15, at least for the duration of the students’ enrolment in school. However, the number of youth being absent or dropping out of school should be acknowledged and addressed through alternative channels of communication and participation.

At the time when this research study was conducted, the UNDP National and Local Progress reports 2011-2013, produced in collaboration with the National Agency for Disaster Management (BNPB), were amongst the most relevant bibliographic sources for assessing the level of implementation of the HFA. This is because they aim at assessing the level of implementation of DRR actions, according to the HFA1 strategic priorities, also highlighting the challenges to achieve those objectives. This progress review is done on a national level but also on a provincial and district level, including the area of Yogyakarta. Each priority is assessed based on certain core indicators and the level of progress is graded on a scale of 1-5. In accordance with the second research question, the core indicators which are most relevant to the implementation of school-based DRR and preparedness in schools are in Priority 3 (core indicator 2) and 5 (core indicators 1, 2 and 3). Due to its regional focus the assessment of the Local Progress reports is more likely to provide an answer to this research question comparing to the National Progress Report on the HFA1. However the National report can also contribute to this analysis since it evaluates the national achievements about DRR inclusion in education, which influence the implementation at a local level.

To this end, according to the National Progress report, the level of progress achieved with regards to the 3rd priority for action of the Hyogo Framework (core indicator 2) is 3 out of 5. In other words, this is described as a situation where “institutional commitment [is] attained, but achievements are neither comprehensive nor substantial” (UNDP/BNPB, 2013, Indonesia, p.18). The report states that DRR is included in the national educational curriculum, from primary school to University. Among the positive aspects is the piloting of DRR integration into the curriculum in 100 schools across the whole country, following the commitment of the Ministry of Education and of other governmental and non-governmental stakeholders to develop a relevant regulatory framework. However, it is admitted that stronger advocacy and global effort are necessary for incorporating DRR in education, especially on local (province and district) level (idem, p.19). With regards to Priority for Action 5 (core

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18 1: “Achievements are minor and there are a few signs of planning or forward action to improve the situation”- 5: “Comprehensive achievement has been attained, with the commitment and capacities to sustain efforts at all levels” (PreventionWeb, accessed 30/8/2014).

19Core Indicator 3.2: “School curricula, education material and relevant trainings include disaster risk reduction and recovery concepts and practices.”
indicator 1),20 the progress achieved is 4 out of 5, with “training and mock drills in school and hospitals for emergency preparedness” being an affirmative statement. This can be valued as a general statement which obviously does not cover the total of schools and hospital facilities across the country. Therefore the study has been focusing on comparing the information from the Local Progress reports and interviews with key informants in order to answer the second research question.

In Yogyakarta, the Local progress report on the implementation of the HFA (First Cycle 2011-2013), states that the notion of DRR is not perceived very clearly by a significant part of the population. In terms of progress on this matter, during these 2 years of the reporting period, information related to disaster preparedness has been disseminated through different media (television, radio, press) and various NGOs have also been conducting training programmes and DRR-related workshops. As far as the core indicator 3.2 is concerned, it is reported that “many schools have integrated DRR into core subjects as well as extra-curricular subjects” (UNDP/BNPB 2013, Yogyakarta, p.15). However, this information has not been used “widely and regularly” and “integration of DRR into the local curriculum needs to be reviewed for the potential of putting extra burden on the existing instructional system” (ibid.). Another argument for progress, according to the same source, is that almost all local universities have established research centres, graduate programmes in disaster management and community development programmes in hazard-prone areas. Additionally, the DIY province has a Disaster Management Plan for 2011-2016 that covers 12 hazards, and the “Resilient Village Programme” has been implemented in several areas of the province by introducing DRR, preparedness and mitigation towards natural hazards in the local communities. Overall, the level of progress achieved under the core indicator 3.2 was 4 (out of 5) when assessing the Province as a single unit. Similarly, indicator 5.2 scores 4 for the progress achieved in trainings and simulations, which are claimed to reach the frequency of at least 10 times a year, comprising flooding, tsunami, landslides and volcanic eruption drills. A key observation in the assessment is that “efforts need also to be done to encourage communities to conduct exercises on their own, even when there is no budget support from external parties” (ibid. at p.26), since some of the interviewees’ remarks related to the inconsistent implementation of programmes appears to be budget limitations (explained in the following chapter sections).

A sample of the district progress reports reveals similar observations. In Sleman, DRR is integrated into several subjects of some schools such as physics and social sciences, but the plan is to expand DRR education in all schools and not limit it to certain subjects of the curriculum. In Bantul, where the 2006 earthquake had damaged 60% of school buildings, DRR physical elements are integrated into some of the new schools (better access for people with disabilities and evacuation routes). Simulations

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20 Core Indicator 5.1: “Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place” (UNDP/BNPB, 2013, Indonesia, p.29).
form part of the existing school programme/curriculum, and in some cases being conducted regularly. The Bantul Local Progress Report states that disaster awareness and the integration of DRR into the curriculum rely heavily on the teachers themselves. However, some literature sources (in particular UNESCO and UNICEF, 2012) and some of the research interviews indicate that teachers are often not adequately trained in this respect. Both Sleman and Bantul districts scored 3 on the same scale of progress towards the core indicator 3.2 of the HFA1.

The Local Progress Reports on the HFA1 2011-2013 give a general indication for the development and integration of DRR and preparedness activities in the schools of Yogyakarta, since they do not provide any quantitative data or a detailed methodological plan of the assessment. Nevertheless, they are a useful tool in the triangulation of the information given by various interviewees. According to the brief analysis above, it is concluded that DRR has become part of the school curriculum and programme in several cases. At the same time implementation of programmes and activities happens in a dispersed and inconsistent way, depending on various factors. One of these factors is the school staff/teachers’ initiative, since they may understand to a lesser or greater extent the importance of preparedness, and therefore provide knowledge and trainings more or less consistently. The information accessed so far provides only an indication about the level of this implementation, hence the study will attempt hereafter to add data from local authorities and schools’ staff to achieve a more complete analysis and triangulation of facts with regards to the second research question.

- **Disaster preparedness: Vision and implementation by local authorities**

In the Province of Yogyakarta (DIY), the institutions or authorities which are directly linked to the Law 24/2007 mandate and in charge of progressing towards the HFA1 are the Provincial Disaster Management Agency (BPBD DIY) and the district agencies in Bantul, Kulon Progo, Kunung Kidul, Sleman, and Yogyakarta city. At the same time, the Department of Education, Youth and Sports (DIKPORA DIY) is responsible for carrying out the affairs of the local Government related to youth and for improving the quality of education. Consequently they are also involved in the development and reform of the school curriculum. DIKPORA DIY explicitly states in their website their compliance with the governmental and provincial laws and regulations related to education, child protection, and local government autonomy (relevant for the school curriculum development; DIKPORA online, accessed 8/3/2014). On the other hand, their official website does not mention the DM Law 24/2007 among the other legal documents with which they comply (ibid.). Based on interviews with the Disaster Management Agencies and NGO representatives, DIKPORA DIY is involved in disaster preparedness and in integrating relevant materials into the school curriculum, although collaboration among some of these parties has not reached optimal levels so far (BDPD Bantul participant, 5/9/2014). As stated by a former UNDP Project Officer who was working on Community-Based DRR programmes, DIKPORA DIY has conducted workshops on DRR integration.
into the school curriculum, using the “Teaching module PRB (Pengurangan Risiko Bencana: Indonesian for DRR)” by the program for Safer Communities through Disaster Risk Reduction (SCDRR) and the MONE. In 2012, DIKPORA DIY collaborated with Lingkar Association (local NGO) for integrating DRR training into the curriculum (UNDP interviewee, Oct. 2013). Overall, the role of the Provincial DIKPORA seems to be fundamental for the integration of DRR and preparedness subjects into the school curriculum, however time constraints did not allow for an interview directly with DIKPORA DIY participants, and as a result the information stated in this study comes only from their website or from third parties.

As a result, primary data related to the implementation of school-based programmes by local authorities were gathered only from the Local Disaster Management agencies (BPBDs), as them being the direct participants in the study, and indirectly from interviews with UNDP and NGO staff. Two Agencies were contacted and eventually interviewed for this study. The Provincial Disaster Management Agency of Yogyakarta, BPBD DIY, was prioritised for being amongst the first points of contact. This choice was made based on the assumption that its employees would have an overview of DRR and preparedness programmes for the Yogyakarta province and its districts and therefore they could guide and influence the selection of the following research participant(s) in a district BPBD. Sleman and Bantul were admitted to have an adequate number of school-based preparedness programmes for the study to investigate upon. Therefore, based on staff availability and the accessibility of the agency’s location an employee in BPBD Bantul was the next participant chosen to be interviewed, given that their role in the agency would be relevant to the study.

BPBD DIY launched the “Safe School” programme (Sekolah Siaga Bencana -SSB), which has been developed in collaboration with UN agencies, NGOs and government institutes. The first pilot project was introduced in one elementary school after the 2006 earthquake, supported by the UNDP & international NGOs. The project in total involves elementary, junior and senior high schools, and it has mainly focused on preparedness/mitigation measures for earthquakes and landslides.

The BPBD representative has stated that the indicators for the programme implementation are mainly the “socialisation” of risk reduction, teacher and parent awareness/training, community and school community involvement and mitigation of risks. Often this project has been supported by local or international NGOs who have provided teacher training and have undertaken the reconstruction or repairing of school buildings (BPBD DIY, 31/07/2013). The project is said to have been implemented in not more than 10% of all schools in the Province (annually this accounts for five schools), most likely the ones who are placed in higher risk disaster prone areas. The reason for these numbers was said to be financial limitations and budget allocation (50.000.000 IDR per school), for which BNPB advocates to DIKPORA and the local government in order to have more funds allocated to this school-based DRR initiative.
The definition of “safe school” is, according to BPBD DIY, a number of DRR elements that should be present in any school which is part of the SSB programme:

- Disaster Management (action) Plan
- Posters/calendars for awareness raising
- Facilitator (a person from the Red Cross or another NGO who trains teachers on disaster preparedness and communicates DRR issues to the school)
- Evacuation Plan (signs, procedures)
- Simulation/Evacuation Drill (1 per project)
- Contingency planning

After the end of the programme for each of the schools, it is upon the school to sustain these elements and continue organising simulations or updating the contingency and evacuation planning when necessary and appropriate.

On the other hand, according to interviews with NGO participants, there was a lack of reference to specific programmes or projects on which BPBD DIY and an NGO have worked together, but collaboration on the policy level (ASB with BNPB-National Agency) or on the district level (Save the Children in Magelang and the sub-districts) was mentioned instead. In other words, it is not entirely clear how the “Safe School” programme was implemented through other agencies or organisations, either in terms of finances or coordination between actors. Nevertheless, it is clear that there is an understanding of the need to focus on school-based preparedness in Yogyakarta, and some action has been already taken in a small number of schools by various actors. The details on NGO school-based DRR programmes are elaborated in the following chapter.

BPBD Bantul is a relatively recently established agency, responsible for disaster management and preparedness in the respective district. It started operating in 2010-2011, and only in 2012 it had its own budget planning. The research participant was chosen among other BPBD Bantul employees due to his role in the agency, which is “to provide training and education about disaster preparedness in Bantul” (BPBD Bantul, 5/9/2013). The focus of the agency so far is to provide assistance in the form of facilities, knowledge, and trainings to the society of Bantul (ibid.). Based on the information from the participant, BPDB Bantul is not yet able to implement or support the Safe School project, but their involvement in it was planned for 2014. On the other hand, all schools in the district were informed that if they were willing to conduct disaster preparedness seminars and simulations, the agency would be open to support and facilitate the actions, by sending a facilitator to train the teachers and the students, and by raising awareness linked to specific disasters according to the school’s needs (ibid.). Notwithstanding the absence of consistent budget allocation, and that of planning and monitoring activities for school-based preparedness, there are examples of disaster preparedness projects designated for schools by the UNDP in collaboration with students of Universitas Negeri Yogyakarta and BPBD Bantul, mentioned under the following sub-heading.
As far as the wider role of BPBD Bantul in the area is concerned, the agency disseminates knowledge about radio communication, and conducts various seminars and simulations throughout the year. In addition, an early warning system for tsunamis is established, monitored and tested monthly by the Agency, aiming to protect the population living in this area in case a tsunami would hit the south coast of Yogyakarta province. The participant stated that there is good relation and communication between the Agency and the community of Bantul, especially since people were directly affected by a disaster such as the 2006 earthquake. It was remarked that for this reason the local community has been largely welcoming DRR and preparedness activities. On the contrary, so far there has been neither any planning for developing specific DRR programmes nor any disaster preparedness activities implemented, and as a consequence there are considerable steps to be taken in order to ensure that all schools in Bantul have a minimum level of disaster preparedness.

- **Disaster-prepared schools in Yogyakarta**

Based on the information given by the research participants in the Local Disaster Management Agencies, the UNDP and NGOs, the study methodology included visiting at least one school that was part of a school-based disaster preparedness programme, in order to conduct interviews with school staff and to achieve direct observation on-site potential DRR elements. The schools that were indicated by the research participants as having had implemented or being underway of DRR projects were the following:

In Sleman district (BPDB DIY, 31/07/2013):

- SMP (junior high school) Cangkringan II
- SMK (vocational senior high school) II Muhammadiyah (Islamic) Cangkringan
- SD (primary) Umbulharjon II Cangkrigan
- SD (primary) Jangaran Kulon-Progo

In Bantul district (BDBD Bantul, 5/9/2013):

- SD (primary) 2 Parangtritis (focus on tsunami),
- SMP (junior high school) 2 Imogiri (focus on landslide and earthquake),
- SMA (senior high school) 1 Kretek (focus on earthquake).

According to a UNDP former employee (UNDP, 10/2013), SD 2 Parangtritis which is mentioned above has been piloting the integration of DRR subjects into the school curriculum. In SMP 2 Imogiri (also mentioned above) and SMA 1 Imogiri DRR and preparedness have been introduced through extra-curricular material and activities. Eventually representatives from two schools participated through semi-structured interviews in this study: SMP 2 Negeri Imogiri and SMP 2 Muhammadiyah. The first
school was selected based on the abovementioned list, and considering the fact that it had been mentioned by various participants (i.e. BPBD Bantul, UNDP) as being a showcase for DRR and preparedness in the area of Bantul, particularly because of its integration of the subjects into the curriculum. The second school was identified through informal discussions with research participants and was selected based on the fact that a Red Cross facilitator was regularly conducting extra-curricular preparedness activities with students. In addition, since SD 2 Parangtritis was identified by research participants and informal discussions as a significant example of school-based preparedness, it was deliberately chosen to complete this sample of schools.

As a result, this section consists of examples that present different types of school-based preparedness programmes, curriculum-integrated and extra-curriculum. To allow for a possible comparison in terms of school types (according to the Indonesian educational system), a religious (Islamic) school was chosen as part of the research (SMP 2 Muhammadiyah). In terms of school age, both schools from which primary data was collected were junior high schools.

- **SMP 2 Negeri Imogiri**

This school started implementing a disaster preparedness programme in 2006. The funding and implementing parties were UNDP, the SC-DRR (Safer Communities through Disaster Risk Reduction) programme, YP2SU (a local NGO) and UNY (Universitas Negeri Yogyakarta). DRR subjects have been incorporated into the school curriculum (for instance in Science, Indonesian Language and Social Studies) and in separate teaching materials, for instance, child-friendly brochures. One of the school teachers explained how knowledge about natural hazards is communicated through simple and creative ways, presenting examples of how story-telling is used for this purpose in Language, Maths and other subjects of the curriculum (“infusion” of DRR).

In addition, some extra-curricular preparedness activities that take place in or outside the school premises complement the disaster awareness and knowledge transmitted through the curriculum. For instance, earthquake or fire preparedness drills are conducted approximately twice a year into the school building. Secondly, the 1st and 2nd year students join the Scouts and the Youth Red Cross (PMR) groups respectively, normally once a week next to their normal school hours (or on Saturdays). Those groups aim to build skills for first-aid help, disaster preparedness before and during a natural disaster and also light training for a post disaster phase (assistance to wounded persons, emergency gathering points). Although normally participation is voluntary, the school participant claimed that all students are invited to join the Youth Red Cross group, since SMP 2 Negeri Imogiri aims to implement a preparedness pilot project in a comprehensive way. In any case, students who have had some kind of simulation or
seminar about DRR and preparedness are somehow expected to act as peer educators to their classmates who have not had similar experience, and also to their friends and family (SMP 2 Negeri Imogiri participant, 19/09/2013).

The SC-DRR Project Evaluation Report, of which SMP 2 Negeri Imogiri was part of, refers to the school’s pilot project as a “lighthouse for DRR and SSB”\(^{21}\) (UNDP & Government of Indonesia, 2011, p.15), since it serves as a benchmark for DRR and disaster preparedness in terms of physical safety (retro-fitting of building following the damage caused by the 2006 earthquake) but also knowledge and soft skills for risk reduction by teachers and students. Integration of DRR into the curriculum is officially part of the school’s mission statement and apparent in many of the school’s documents (ibid.). The researcher’s visit to the school confirmed that evacuation maps and SOP signs (Standard Operating Procedures), as well as sirens, which are part of the warning system’s equipment, are well identified only by a glimpse around the school (Annex F). Although all these elements are present only in the school’s premises, the purpose of the project is to benefit the whole surrounding community (ibid.). In detail, knowledge is expected to be transferred from children to their parents and disaster awareness by inviting other schools to participate in simulations and seminars that take place in the school (SMP 2 Negeri Imogiri participant, 19/09/2013). In fact, disaster preparedness programmes implemented in schools are generally expected to reach neighbouring schools, parents, or parts of the local community, since people are somehow expected to communicate their knowledge to their peers (ibid.).

In addition to their views on disaster preparedness programmes and activities, the participants expressed some interesting views on cultural aspects. For instance, a participant referred to a Javanese saying that describes the acceptance of leaving one’s fate in God’s hands and which is articulated in the phrase “mati ya mati”, meaning “when is your time (to die), so it is” (ibid.). A general observation mentioned during this interview was that people are less concerned about disaster preparedness unless there is a stimulus or recent disastrous event that motivates action for the present or the near future. As a result, this sense of lower urgency for preparedness activities in times of “no disaster” can affect the prioritisation and funding of disaster preparedness programmes (ibid.). Lastly, it was stated that “Indonesian people are not very confident about buildings’ strength; this can sometimes result in them being panicked” (ibid.). This statement not only refers to the earthquake resistance of local infrastructure, but also to the lack of evacuation routes and some other functional elements: defective door handles or narrow hallways were mentioned as examples by the participants of this particular school. It also emphasizes the need for proper trainings and drills, and the fact that people have been traumatized from past experience since the construction of buildings and safety regulations are often not properly implemented.

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\(^{21}\) SSB: Sekolah Siaga Bencana or Safer School
Overall this brief case study has shown that a comprehensive DRR project can lead to a school that is perceived adequately safe and where teachers and staff feel prepared, and that this investment can be sustainable and long-lasting to a large extent. The participants stated that their knowledge for disaster preparedness was very limited before the project was introduced, and they thought the project had been very beneficial. On the other hand, they indicated a few improvements that could be made in order to maximise this benefit, such as making sure that students in all grades are part of a simulation or a training every year. As a conclusion, the example of SMP 2 Imogiri demonstrates elements of DRR and preparedness such as the safety of the building, the Youth peer groups run by the Red Cross, school subjects that are already integrated into the curriculum and the student teaching material, which can be considered affordable, necessary and appropriate for all schools in the area of Yogyakarta, as long as the resources are used in a cost-effective way.

- **SMP 2 Muhammadiyah**

This is an Islamic junior high school in Yogyakarta city. The research study was conducted mainly through a Red Cross “facilitator” under the presence of other school staff (teachers). The school had not been part of a specific DRR or preparedness programme, and by meeting one of the Red Cross facilitors there was an opportunity for the study to obtain more detailed information on the role and function of the Youth Red Cross. This extracurricular activity started in 2006, based on the approach of peer education, which “is believed to be effective in improving life skills, changing health behaviour, increasing environmental awareness and reducing disaster risks” (Soemantri, 2012, p.14)

The facilitator of SMP 2 Muhammadiyah comes in the school twice a week, teaches the history of the Red Cross, provides first-aid training and conducts drills that show students how to safely evacuate the classrooms. In addition, these extra-curriculum sessions provide students with education material titled “Pendidikan Remaja Sebaya” (Teen Peer Education), which focuses on public health or social issues such as drugs and SDTs (Sexually Transmitted Diseases). The Youth Red Cross or PMR is a not a compulsory activity, and any 1st and 2nd year student is free to join. At the moment where the research took place, there was an estimate that approximately a number of 38 students were participating in the Youth Red Cross group (percentage of the total number of students not known), but since the activity was not compulsory the number was nor fixed neither was it recorded.

The rationale behind the PMR is that children will share information with each other, they will promote positive behaviour from an early stage, and they will be better prepared in public health issues and in case of an emergency. The presence of a Red Cross facilitator is to some extent relevant to DRR but not exclusively linked to school-based DRR activities. The management of SMP 2 Muhammadiyah, for instance, had already taken the initiative to conduct an earthquake drill themselves in the past with the presence of a Red Cross facilitator that they invited especially for
this activity. It was also mentioned by the participant that schools who want to conduct simulations and drills often ask for guidance and facilitation from a Red Cross representative. The participant facilitator stated to have instigated the creation of evacuation route maps in each of the floor buildings, as well as that of evacuation “lines”. This practically means that students learn how to move without causing congestion in the hallways, something that they also practice during regular school activities and in the absence of an organised drill (SMP 2 Muhammadiyah school participant, 28/09/2013).

Some additional regular or ad-hoc activities were also mentioned. To begin with, the Red Cross organises an outdoors youth camp “competition”, called Jumbara. This takes place every two years on the provincial level, and once every three years nationally. The participants are Youth Red Cross student representatives from all schools, who gather and take part in outdoor survival activities: setting up tents, food preparation, etc. On another occasion that involves the school itself, and more specifically in the response phase of the Merapi eruption, the school initiated a charity action and students were invited to make their donation for the affected population. The money was collected through Muhammadiyah (Islamic Organisation dedicated to social and educational activities), which then distributed to the ones in need. Following this action, the Ikatan Pemuda Muhammadiyah (student association) along with the SMP 2 Muhammadiyah school engaged members of the Youth Red Cross and school teachers in implementing a rehabilitation project in an area close to Merapi volcano, including environmental rehabilitation, e.g. the planting of trees (ibid.).

To sum up, the Youth Red Cross has a significant role for children who attend school, as it provides them with very useful skills related to preparedness, which nevertheless is not strictly devoted to natural disasters. This means the Youth Red Cross encompasses a wider range of awareness activities, part of which can be DRR. SMP 2 Muhammadiyah is the example of a school which is not linked to a specific DRR programme neither it has specially integrated subjects into the curriculum, but it has achieved to a greater extent to communicate preparedness and disaster awareness through the Red Cross. On the other hand, it is not clear whether the function of the Youth Red Cross peer groups is mostly driven by the school teachers’ and headmaster’s motivation or by the Red Cross’s initiative, and whether it will be a continuously implemented activity. Also the visit to SMP 2 Muhammadiyah did not show any link between the Local Disaster Management Agency and the “Safe School” programme. In the next chapter, the role of Red Cross as a non-governmental actor in disaster preparedness is further explored.

In addition to the above school cases, SD 2 Parangtritis (elementary school) was pointed out by key informants as an exemplar for the pilot of a comprehensive DRR programme. Although a visit to this school or direct contact with its staff had not been possible, data from secondary sources demonstrate considerable investment by various actors on developing a disaster prepared school with numerous DRR elements. Since 2007, several programmes have been implemented in the school in
the area of DRR and preparedness which show that this school had developed a considerable of preparedness through contingency plans and art/drama activities for students (Tsukamoto, 2013).

**Conclusion**

This chapter began with a brief overview of the disaster context in the Special Province of Yogyakarta. Next, it provided the reader with a description and analysis of the Indonesian educational system, and also the policies and regulations related to the National and Local Content Curriculum. Lastly, the role of the Regional Department of Education and of the Local Disaster Management Agencies (BPBDs) in school-based disaster preparedness was explored, followed by two examples of schools in the area of Yogyakarta. This was done on the basis of secondary research (Local Progress Reports on the HFA) and primary research through interviews and discussions with the research participants.

Hence, to what extent have the specific actions taken by the local provincial and district authorities achieved to implement the envisioned framework for disaster preparedness in the Special Province of Yogyakarta and in particular through the school curriculum? When looking into the educational policies and the curriculum development in relation to the HFA priorities, it is apparent that by now the Ministry of National Education has acknowledged the importance of infusing DRR in education. Schools and teachers are therefore allowed certain flexibility to develop DRR subjects in the curriculum according to the local disaster risks. Furthermore, the Local Disaster Management Agencies are to a significant extent involved in DRR activities in their area of operation, either related to schools or to the wider local communities. In particular, the “Safe School” programme is said to have been introduced by BPBD DIY, although it has been implemented with the involvement of non-governmental actors, academic institutions, local government/ local educational units and communities. The “Safe School” initiative practically leads schools to have their own action and contingency planning, disaster awareness material and to run disaster preparedness drills. However, the programme seems to depend heavily on irregular funding, which makes the number of active “safe schools” to be quite low in the Province.

As a result, the example of the junior high school SMP2 Negeri Imogiri has demonstrated how a school can conform almost entirely to the indicators of the Safe School (SSB) concept (knowledge and attitude, school policy and standard operating procedures, emergency planning, school early warning system, school’s resource mobilisation capacity; as mentioned in the Conceptual Framework) but this is only one example in the Province where a comprehensive programme is implemented, with quantitative information not being available to support or contradict this argument. Nevertheless, the cases of two junior high schools showed the way disaster preparedness is built through the integration in the school curriculum and/or through
extra-curricular activities, therefore demonstrating how school-based preparedness can be implemented in practice.

If one would compare the two methods of developing school-based disaster preparedness, namely DRR integration into the school curriculum and extra-curricular activities, it is obvious that the first one has already involved several stakeholders (DIKPORA DIY, BPBD DIY, BPBD Bantul) and there are examples that demonstrate implementation, although these are not widely spread in Yogyakarta. In schools where the DRR integration takes place, this disaster awareness and knowledge is “infused” into existing subjects. In fact, this is claimed to be a method that eliminates the burden of additional DRR subjects, but the downside is that its implementation and outcome rely exclusively upon the teachers’ understanding and capacity. The National and Local Content Curriculum guidelines allow flexibility for subjects and modules that are relevant to the local context and disasters, but since these are not compulsory and not followed by systematic and large scale DRR programmes by the local authorities, only a few schools will benefit by comprehensive school-based disaster preparedness. On the other hand, the presence of the Youth Red Cross groups which exist independently and run almost autonomously in a number of schools is encouraging in the sense that more students can be reached in having disaster awareness and some practical skills as first-aid training. Still, participation in these groups more likely reaches only a small number of students in the school (percentages unknown, and they may vary). There is no other example of extra-curricular activities apart from the Youth Red Cross and the drills that a school may organise from time to time. To sum up, it seems that these two school-based preparedness initiatives (DRR infusion in the curriculum and the Youth Red Cross) would work better if they co-existed in all school, but either of the two would be beneficial for any school in the Province of Yogyakarta.

As far as the following key activities (priority 3) as per the HFA1 (cited in chapter 2: Conceptual Framework) are concerned, this chapter concludes as following:

- The local authorities promote, to a considerable extent, the inclusion of DRR knowledge in relevant sections of the school curricula. The guidelines for the DRR integration exist, on a national and local level. Yet, the extent to which this is implemented remains upon the decision and motivation of the school and the teachers. Therefore the quality of knowledge, as well as its outcome (whether knowledge and awareness lead to attitude and practice), remain a challenge and cannot be assessed further given the absence of solid evidence.
- The implementation of local risk assessment and disaster preparedness programmes in schools is confirmed through specific case studies, but it still seems to be very small considering the total number of schools in the province. Again, the Local Disaster Management Agencies that were part of the study did not provide comprehensive evidence or figures of schools being part of the “Safe School” programme or other preparedness initiatives.
The implementation of programmes and activities in schools for learning how to minimize the effects of hazards is encouraged through participation in the Youth Red Cross and the carrying out of drills, but the coverage and volume of these initiatives remains limited or unknown. Promotion and synergy of the activities of the Youth Red Cross, the funds and programmes of BPBDs and the Local Department of Education would be very likely to achieve higher coverage of school-based preparedness and a better understanding of DRR by teachers, students and local communities.

The statements above are partly in accordance with the Local Progress Report on the HFA (Yogyakarta province), in particular with the assessment based on the indicator 3.2 “school curricula, education material and relevant trainings include disaster risk reduction and recovery concepts and practices”, where the level of progress scores 4 out of 5: substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities (UNDP/BNPB, 2013, Yogyakarta). The research findings however, always taking into account the limitations of this study, lead to the conclusion that the Local Progress Report slightly overestimates the progress achieved. Therefore the research findings suggest that “institutional commitment [is] attained, but achievements are neither comprehensive nor substantial” (UNDP/BNPB, 2013, Indonesia, p.18). In other words, progress should be marked with “3” in the proposed scale, since the existing DRR and school-based preparedness activities were quite scattered and not systematic at the moment when the research was conducted.
CHAPTER V: THE ROLE OF NGOs IN SCHOOL-BASED DISASTER PREPAREDNESS

“Indonesia has got no shortage of plans, no shortage of regulations. Can those be implemented? That’s a different issue…. ” (Research participant, ASB, 3/9/2013)

The previous chapter aimed at assessing the progress in the implementation of disaster preparedness in schools of Yogyakarta province by the local authorities and presented case studies of school-based disaster preparedness. However, as desk research indicated, and field work has confirmed, international and national NGOs that are specialised in Disaster Management complement the role of the local government and the Local Disaster Management Agencies (BPBDs) in implementing programmes for hazard risk reduction and preparedness. Hence, this chapter will attempt to give a comprehensive answer to the 3rd research sub-question: “to what extent has the work of national and international non-governmental organizations contributed to disaster preparedness in the schools of Yogyakarta disaster-prone areas?” To this end, interviews with participants of NGOs located in the Province of Yogyakarta were conducted following desk research.

5.1 The Non-Governmental Stakeholders involved in school-based preparedness in Yogyakarta

As already explained in previous chapters, the development of policies and laws for Disaster Risk Reduction and disaster preparedness have resulted in the establishment of the Provincial and District Disaster Management Agencies (BPBDs) in Yogyakarta. In addition, there are plenty of other organisations and institutions involved in DDR, such as international and national/local NGOs, the Indonesian Red Cross (PMI), the DRR Forum of Yogyakarta (Forum PRB DIY), and some newly established academic programmes and associations; for instance, the Programme on Humanitarian Action (POHA) within the Faculty of Social and Political Sciences (FISIPOl) of Gadjah Mada University. This section looks into the role of those Disaster Management stakeholders in building school-based disaster preparedness based mainly on information gathered through primary research and interviews with staff or volunteers in each organisation.

5.1.1 NGOs in school-based disaster preparedness of Yogyakarta

As mentioned earlier, there is a considerable number of NGOs that are active in DRR and preparedness in the Special Province of Yogyakarta. The 2006 earthquake response and the 2010 eruption of the Merapi volcano triggered action from national
and international organisations in and outside Yogyakarta, which were established locally or received additional funding from the government or international donors to run rehabilitation and preparedness programmes. Those two most devastating disasters had as a result that more attention was placed on disaster preparedness and that many organisations were mobilised to be actively involved in the institutionalisation of DRR and its integration in the school curricula. This fact can be positive for the development of DRR and preparedness in Yogyakarta; however it also reveals that in the absence of natural disasters for a long period of time, there might be a lack of motivation for being prepared. As an example, it was said that “disaster preparedness in schools is like a trend that only emerges when there is a sequence of disasters” (PMI participant, 2/8/2014).

Whether or not the recent disasters in Yogyakarta have significantly influenced the establishment of new programmes for preparedness, desk research in advance of field research indicated that “a number of child-led and/or child-centred DRR programmes and materials have been developed by NGOs and UN organizations. Some examples include the Disaster Awareness in Primary School (DAPS) project and the Yogyakarta earthquake response programme” (UNESCO & UNICEF, 2012, p.99). The latter is a programme implemented by Save the Children through the earthquake response, supporting 99 elementary schools in Bantul and Klaten districts. In collaboration with the local government education office (sub-district) and four other NGOs, 642 teachers were trained from 99 affected schools. Further training with selected teachers resulted in a manual of “Samples of Lesson Plans on Integrating Disaster Preparedness into Elementary Schools Subjects” which was published by the Curriculum Development Centre, and was revised again by Save the Children in 2010, and was distributed to the participating schools (ibid. at p.99-100).

Field research aimed at complementing desk review and gather information about similar programmes that might not have been reported or be accessible through bibliographical sources, and also at gaining the participants’ point of view on the implementation of school-based preparedness in Yogyakarta. Four of the NGO representatives that took part in the field research were relevant to school-based preparedness: ASB Indonesia, Muhammadiyah Disaster Management Centre (MDMC), Save the Children and KYPA (including one participant from another NGO, Perkumpulan Lingkar (former part of the Consortium for Disaster Education-CDE. It had not been possible to conduct interviews with all the disaster preparedness stakeholders who were present in the area, however participants were also prompted to give information about school-based disaster DRR and preparedness initiated by any organisation. In addition, the work of some of these actors that participated in the study is not restricted to the administrative borders of the Special Province of Yogyakarta, but they were still included in the research as long as they provided relevant information to the study. Overall, the interviews with NGO participants were

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22 Implemented in eight provinces by the Science Education Quality Improvement Project and the German Government from October 2005 to December 2008.
useful in shaping a comprehensive picture of the actors involved in disaster preparedness in Yogyakarta.

According to the Yogyakarta Progress Report on the HFA1, in terms of awareness raising and disaster preparedness for local communities, most of the work that has been done (DRR-related workshops, training programmes) is delivered by NGOs rather than the local government (UNDP/BNPB 2013, Yogyakarta). The field research looked into what actions have been taken from the Yogyakarta-based NGOs in the areas of advocacy and development of disaster preparedness guidelines, DRR curriculum integration, implementation of pilot programmes, and awareness raising, which fall under the three out of five HFA1 Priorities of Action that are mentioned in Chapter II (namely Institutional and legislative frameworks, Education and training, Strengthening disaster preparedness). The data gathered are summarised under the following sub-headings:

- **Institutional frameworks and advocacy**

A few actors based in Yogyakarta go further than just implementing locally-based programmes, but they also advocate for school-based DRR and preparedness with a wider scope (national and regional). ASB Indonesia is one of them, operating as an international NGO in Yogyakarta since 2006 under a Memorandum of Understanding. DRR and Inclusive Education for children with disabilities and/or special needs are two of ASB Indonesia’s core areas of operation and advocacy. The NGO claims to be actively involved in the policy level of Disaster Management and Risk Reduction. As an example, they have advocated for disability-inclusive DRR for the “Bangkok Action Agenda on School Education and DRR” and the Yogyakarta Declaration -5th Asian Ministerial Conference on DRR, 2012, (asbindonesia.org, accessed 24/5/2014) and for “ensuring that the HFA2 (2015) will be more inclusive” (ASB Indonesia participant, 3/9/2013). ASB Indonesia has also been collaborating with BNPB on a national level and with the corresponding BPBDs in the districts where they are implementing programmes. The participant stressed the need for this collaboration since, as an example, any contingency and disaster management plan that should be established locally should be linked to the five-year development plan of the respective district. The ASB participant also stated that: “comparing with some years ago, in terms of programming, we don’t work so much directly in communities, [but] we try to work with the local government and support their programmes in the communities” (ibid.).

Muhammadiyah Disaster Management Centre (MDMC) is a newly established agency (2010) with the purpose of engaging in Disaster Management and Preparedness activities. It forms part of a larger faith-based Muslim organisation, Muhammadiyah, which was founded in Indonesia in 1912. MDMC has been part of the Consortium of Disaster Education – Indonesia (CDE) in order to promote guidelines and recommendations for school-based disaster preparedness (MDMC
participant, 8/9/2013). It is also part of the National DRR Platform, Planas PRB (mdmc.or.id, accessed 20/9/2014).

Interviews were conducted also with participants in Save the Children and KYPA, but they did not give any new data on institutionalisation of DRR or advocacy for school-based preparedness.

- **DRR integration into the school curriculum**

According to the institutionalisation of DRR with regards to education (Chapters 3 and 4), integration of DRR into the school curriculum is amongst the activities implemented by NGOs in Yogyakarta. Indeed, it was found that several organisations have produced manuals, booklets and methods related to school-based preparedness and their programmes were focused on introducing ways to include DRR education in the curriculum.

MDMC has produced disaster awareness school material for primary school, with individual work books for each level - class 1 to 6 (Annex G, student learning books). MDMC is in the process of expanding following the governmental structure (with units from national, provincial, district to sub-district level) and is present in 19 provinces in the country. 18,000 schools across the country are managed by Muhammadiyah, therefore belonging to the Islamic type of schools that operate in parallel with the secular ones. (MDMC participant, 8/9/2013). Based on these numbers, it is not clear what percentage of the Muhammadiyah schools actually have and use these booklets, as this would need a systematic planning and follow-up of DRR curriculum integration. The participant stated that the DRR integration in the school curriculum is still in an early stage of implementation. Apart from the fact that many more resources would need to be allocated to produce visible results, there is a lack of monitoring the progress of these initiatives and programmes (ibid.), which does not allow for clear conclusions to be drawn with regards to whether integration in the curriculum is taking place and to what extent.

The NGO KYPA collaborated with the Education Unit (Dinas Pendidikan) of Bantul, in order to assist in the planning of DRR integration in the curriculum, as part of a pilot project in one school. Overall, they had a number of materials especially made for school-based preparedness and awareness (key-holder brochures, posters) but adequate funding has been a restriction for continuing programmes in a systematic way (KYPA participant, 18/9/2013).

Save the Children cooperated with the Curriculum Centre (Pusat Kurikulum dan Perbukuan) in Jakarta in 2009 in an attempt to promote DRR integration into school subjects, for instance in Language (Bahasa), Natural and Social sciences (Save the

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23 KYPA is a local NGO that has worked under the guidance of Plan Indonesia for school-based DRR in Bantul before the 2006 earthquake. The interview was conducted with a representative of KYPA and one from Perkumpulan Lingkar, another organisation with which they had collaborated in the past (and was also a member of the CDE Indonesia).
Children Participant, 13/9/2013). The organisation also collaborated with local Teacher Working Groups (Gugus), and together they have tried to include DRR subjects into the local content (muatan lokal), which was deemed the easiest way to introduce DRR in schools. Nevertheless, the participant did not have knowledge or view on whether this plan was fully put in place, as the curriculum integration of DRR remains a recommendation and not a prerequisite for all schools (ibi.).

ASB was found to be focusing on disaster preparedness more than the DRR curriculum integration. In the participant’s view, knowledge about disasters and reducing risks through school subjects is still important, but preparedness activities for all students is more crucial (ASB participant, 3/9/2013), as described in the next section.

- **Pilot programmes in schools**

In 2007, ASB Indonesia conducted a disaster preparedness programme which included earthquake evacuation drills in primary schools of all Yogyakarta province districts: Sleman Bantul, Gunung-Kidul, Kulon Progo, and also Klaten (not officially belonging to the province). Their strategy was to cover as many schools as possible within a district and deliver basic life-saving skills to students, which are important for when the disaster strikes. As it was stated, knowledge about natural hazards is important (through the curriculum), but developing human reflexes for protecting one’s self during an earthquake is more likely to save lives (ibid.). Besides, drills can be faster in execution and more easily organised, they are more enjoyable to children as an activity and a smaller burden for teachers (ibid.). Despite the fact that those drills were conducted to over 6,000 primary, 90 special needs and 130 inclusive schools (asbindonesia.org, accessed 24/5/2014), it is unlikely that the schools will have continued to carry them out by themselves.

Save the Children (Yogyakarta) has carried out a participatory school-based DRR project in schools of villages in the Merapi volcano surroundings (mostly in Magelang districts), reaching 650 students and 264 teachers. Even though they did not implement this project in Yogyakarta, but they have first piloted it in a few schools in order to replicate it in more schools over 2013-2014, this information was considered relevant for this study. After conducting a baseline KAP (Knowledge, Attitudes and Practice) survey, which disclosed poor knowledge on risk reduction and preparedness, Save the Children conducted awareness sessions, trained teachers and worked with students to identify vulnerabilities and create DRR action plans. The organisation involved the local authorities (district BPBD and Education Unit) in order to align the plans and the commitments which were made during that time with the local policies.

Similarly, the MDMC participant gave an example of two pilot programmes in Magelang and Malang (neighbouring the Yogyakarta province), where the safety of the school was evaluated and developed based on physical (construction) and non-physical (teachers’ awareness) elements. The MDMC participant said that the
organisation would want this school-based project to be expanded eventually in all Muhammadiyah schools, but there has not yet been any timeline, budget or plan formed to demonstrate this aspiration. In the past, MDMC has worked closely with the Local Disaster Management Agencies in Yogyakarta but for disaster response. As far as disaster preparedness is concerned, the MDMC participant has stated that the government and BPBDs have usually done pilot projects in different areas than MDMC has worked on (MDMC participant, 8/9/2013).

KYPA’s participant gave the example of a school-based 9-month DRR programme, piloted in one school (approximately 2,000 children), where the outputs included an earthquake simulation, education material/manual related to disaster awareness and training of teachers on the integration/infusion of DRR into the curriculum. Lingkar’s participant mentioned some other types of activities as part of Plan’s programme: Hazard and Vulnerability Assessments (VCA) such as risk mapping made by students, the school committee, parents and teachers, puppet show for disaster knowledge and awareness, and a teachers’ workshop relevant to the school curriculum integration (KYPA & Perkumpulan Lingkar participants, 18/9/2013).

In brief, these examples show that there is a number of school-based preparedness initiatives by NGOs that covers a period from 2006 to the date when primary research was completed (September 2013) in the Special Province of Yogyakarta. Integration in the implementation of programmes or alignment in planning and advocacy with the Local Disaster Management agencies or amongst NGOs is quite low, although it exists on an ad-hoc basis. A considerable limitation to these findings is that much of the information provided by the abovementioned interviews could not be checked through any kind of documentation or triangulated via any type of quantitative data.

5.1.2 The Indonesian Red Cross

The Indonesian Red Cross (PMI) is another important “actor” involved in disaster preparedness. With several units in the Province (one provincial and five others on district level), PMI carries out DRR and preparedness activities in the area of Yogyakarta and particularly in hospitals and schools, independently but often in collaboration with the local authorities, other NGOs or the schools themselves. The role of PMI is significant not only because it is a non-governmental, independent and active stakeholder, but also because of introducing a unique initiative, that of the Youth Red Cross (PMR). As mentioned in the previous chapter, PMR is a youth, mainly school-based initiative that delivers disaster preparedness, first aid training and awareness for public health issues to students ranging from elementary to senior high school.

To briefly reiterate what was presented in the previous chapter (but based on the group discussion that took place in the provincial PMI’s offices), the student’s participation as members of PMR happens on a voluntary basis as an extra-curricular activity of the school. A Red Cross “coach” trains students on the materials mentioned
above, usually once a week. Awareness and dissemination of information related to preparedness is expected to happen in the following ways: first, from the PMR members to their peer students, and second, from the trainer to the teachers and the school in general (PMI participant, 2/8/2014). At the moment when the interview was conducted, the PMR groups were established at 5 elementary, 20 junior high schools and 30 senior high schools in the Province (ibid.).

In terms of school-based disaster preparedness activities and projects, the staff of the Indonesian Red Cross in the Province of Yogyakarta:

- Have received several requests from schools in the Province, following the 2006 Yogyakarta earthquake and the 2010 Merapi eruption, to do “socialisation” of disaster preparedness. This is a concept articulated and used quite frequently in Indonesia, and it can mean various combined actions. In this context, socialisation meant the “sharing of information and booklets, and providing training or conducting simulations” (ibid.).
- In 2008-2009, they provided a disaster preparedness “socialisation” for school teachers.
- Have supervised the construction of school buildings, in order to identify the emergency exits and ensure their technical safety.

The Indonesian Red Cross and its provincial/district level units or “branches” operate under a bottom-up approach, meaning that they collaborate and consult with the local government and communities, but also with a top-down approach, meaning that each unit seeks for guidance on how to implement disaster preparedness from the central office in Jakarta (ibid.). The latter advocates for DRR on a national level and undertakes the production of educational/ awareness material (i.e. booklets) and its distribution to the PMI local units. In general, the participant stated that the Indonesian Red Cross generates programmes on its own initiative, and that means that the organisation collaborates less with the local government or other NGOs for their implementation.

It is also clear that school-based preparedness activities from the PMI are optional to schools. The Indonesian Red Cross acts like an “advisor” and can only promote DRR initiatives (ibid.). The PMI participant admitted that disaster preparedness has been a “trend” since major disasters hit the region. When hazards do not occur for a long period of time for example, there is a “declining enthusiasm” from schools to arrange simulations or take care of the building safety (ibid.). These circumstances pose a challenge in measuring the level at which these activities can achieve comprehensive preparedness for all students. In any case, the PMR seems to play a pivotal role in school-based preparedness because its effects can be both direct, to the students who are directly part of the groups, and indirect, for the teachers and the peer students in the same school. As it was stated in interviews with participants presented in this and the previous chapter, knowledge obtained through less formal communication, meaning outside formal education and trainings (i.e. peer-to-peer contact, discussions
between students and their parents) is a quite common norm in Indonesia. Therefore the PMR is school-based initiative relevant to the local context that could be further developed in the majority of schools. Although the Red Cross constitutionally operates independently from the local government, there are opportunities that can be explored with regards to the expansion of the PMR as part of the DRR institutionalisation mandate.

5.1.3 Other DRR Stakeholders and a global overview

Apart from the disaster management NGOs and the Indonesian Red Cross, there are also a few other organisations that exist and act as coordinators and facilitators in the area of DRR. For instance, as mentioned earlier in this chapter, the DRR Forum which was established in 2009 consists of community organizations, government, business, media, universities, nongovernmental organizations, and international agencies working in the Special Region of Yogyakarta. Its goal is collaboration, advocacy, facilitation of activities and communication amongst all those stakeholders (http://prbdiy.net, accessed 11/04/2014). The DRR Forum has also become part of the National DRR Platform (DRR Planas). According to the Yogyakarta Local Progress Report on the implementation of the HFA 2011-2013, its activities are meant to take place not only in times of frequent disaster incidents, but in any context. However, according to the Report’s assessment there has not been a significant achievement so far in terms of coordination, and the (intended) involvement of the private sector has not been established (UNDP/BNPB, 2013). Some of the organisations who participated in the current research are registered as members (i.e. PMI, KYP, COMBINE); however the information disclosed during those interviews does not highlight the role of the DRR Forum as to be significant in the area of school-based disaster preparedness.

The POHA programme in Gadjah Mada University (the researcher’s hosting institution) links the academic with the local community through the student’s community service programme. The community service programme is common and compulsory in many higher education institutions. In this 2-month programme university students stay in a selected village (for instance, in the Province of Yogyakarta) while carrying out DRR and preparedness activities with the participation of the village itself (risk assessments, evacuation maps, drills). This “Resilient Village” programme involves all the members of the community and school children are also included in the activities although the programme targets the village/ sub-village as a whole unit. During the researcher’s stay in Yogyakarta, the students who participated in the Resilient Village programme run an awareness session in schools and produced a “Disaster Manual Handbook” that would be distributed to school-age children of the targeted village. In addition to these actors, COMBINE Resource Institution is a national NGO based in Yogyakarta which is involved in DRR. It is specialised in Information Management and supports the
development of local communities through Information and Communication Technology (ICT), as part of the approach that more information leads to community empowerment (http://ww1.combine.or.id, accessed 1/6/2014). The organisation does not have a special programme for disaster preparedness in schools but they are very active in implementing trainings and activities on a community-based approach, particularly in villages near the Merapi volcano where technology and early warning systems play a significant role in people’s preparedness capacity (COMBINE interview, 18/9/2013). Potentially, this NGO could be an implementing stakeholder of school-based preparedness programmes, particularly regarding schools in the proximity of the volcano, however at the time when the research was conducted it was clear that COMBINE is not specifically focusing on youth preparedness.

The findings emerging from the analysis of the non-governmental stakeholders reveal a complex environment where organisations implement programmes independently but where they also collaborate for the purpose of advocacy and partnerships to achieve community and school-based preparedness. The existence of non-operational actors such as the DRR Forum reveals the “good intentions” of the DRR stakeholders and civil society, driven also by the Disaster Management Laws, to discuss and work on disaster preparedness initiatives. However, it is noteworthy that the existence of all those actors and institutions does not always translate into specific objectives, actions and results in practice.

In other words, it is evident that even though cooperation on a provincial and national level for advocacy issues and for the implementation of certain projects has occurred, a strategic view on how all these actors can work together or complementary on DRR and preparedness in order to achieve maximum coverage, efficient use of resources avoid duplication is missing. Each agency amongst NGOs or Local Disaster Management Agencies in Yogyakarta seems to be carrying out certain projects independently, even if their objectives correspond to the implementation of the HFA1. Thus the collaboration of NGOs with the local authorities (and vice versa) has been irregular. Still, there might be a few examples of coordination between NGOs and the local authorities: ASB works “more closely with the district governmental authorities in the recent years, since they are the ones with lower capacities (compared to the Provincial authorities) and the ones that bear the responsibility to establish a BPBD, according to the Indonesian laws for the regional autonomy” (ASB, 3/9/2013). On the other hand, in terms of consistently implementing DRR and preparedness programmes in schools, a participant’s view demonstrates one of the current challenges: “since there is no law enforcement, there is not a systematic way of delivering disaster preparedness programmes” (Muhammadiya MDMC, 8/9/2013). This statement does not necessarily imply that the only way of achieving an adequate level of disaster preparedness is by having legally-binding rules, but it demonstrates the lack of continuity and coordination in the implementation of programmes.

Finally, it should be mentioned that the primary research of this study is based on a certain number of interviews with participants but not all NGOs are represented in the
findings. Hence, there is a risk of omitting some data related to the relevant research sub-question. However, the findings from interviews and discussions with local representatives working on DRR and preparedness are mostly in accordance with the results from the Local Progress Reports on the HFA1, in other words suggesting that NGOs are significant contributors in building a school-based disaster preparedness environment despite the absence of strategic and coordinated initiatives and programmes.

**Conclusion**

Non-governmental disaster management organisations and institutions seem to play an important role in implementing disasters preparedness programmes in the Special Province of Yogyakarta. Especially after their mobilisation due to major disasters that occurred in the area, NGOs have been instrumental in promoting DRR and preparedness, often carrying out activities focused on youth and schools. Yet, their work is only occasionally harmonised with the work of the local Disaster Management Agencies or other organisations working in DRR, mainly because:

- Some BPBDs have not yet fully developed budget planning and programmes, so a regional or local strategic plan for DRR and preparedness that could encompass a variety of actors is not put in place
- As a result, NGOs and disaster management agencies have implemented preparedness programmes on an ad-hoc basis, but not as a component of an integrated DRR strategy

Practically, no “leader” organisation has been designated to strategically tune the work of all “actors”. Interviews and discussions with participants in the Special Province of Yogyakarta indicated that there have been some smaller-scale pilot programmes in few schools (the case of SMP 2 Negeri Imogiri and KYPA) or larger-scale preparedness projects but with a specific focus (the example of ASB Indonesia’s earthquake preparedness programme which involved drills conducted in all primary schools of the province). Overall, the participants’ information and desk research led to the conclusion that many schools in Yogyakarta are not involved in DRR and preparedness projects and activities, and that the integration of DRR concepts into the curriculum has been implemented only to a certain percentage of schools. This means that some teachers and students in this specific hazard-prone area still have a lack of knowledge in disaster preparedness.

In consequence, based on desk research and interviews conducted with local authorities, the work of NGOs in disaster preparedness seems to be instrumental in achieving progress towards the HFA1 priorities related to school-based preparedness. Overall, the extent to which disaster preparedness is built is only qualitatively assessed in this research study as there is little evidence via specific documentation. A few bright examples of “safe schools”, as well as of the work of the Youth Red Cross
in trainings and awareness, show that NGO presence is making a difference in preparing youth towards natural disasters, and that these projects should be sustained and continuous, but aligned with local policies and practice.
CHAPTER VI: CONCLUSIONS AND RECOMMENDATIONS

This chapter aims to present the conclusion to the main research question, which also includes an analysis related to each of the research sub-questions. Recommendations will be provided for the appropriate implementation of the HFA and the development of disaster preparedness programmes in the Special Province of Yogyakarta.

6.1 Research findings

Like many other amongst the 33 Indonesian provinces, the Special Province of Yogyakarta is susceptible to a number of natural hazards and has faced two major natural disasters since 2006, the Bantul earthquake and the Merapi volcano eruption. Indonesia was quite prompt in following-up the Hyogo Framework for Action 2005-2015 and therefore initiating a legal and institutional reform to promote DRR strategies and policies. The purpose of this study was to focus on preparedness as an element of DRR, and on youth via a school-based environment. The attempt to answer this central question was directed through the research sub-questions but also through the respective HFA1 priorities for action. As a result, in order to answer the central research question “to what extent have Indonesian governmental agencies and NGOs been able to implement the Hyogo Framework of Action 2005-2015, in order to appropriately build disaster preparedness for youth in the schools of the Special Province of Yogyakarta?”, the study focused on three levels of implementation: the national level with the development of policies and institutional commitment on DRR, the implementation by local authorities in the area of Yogyakarta and the role of NGOs in implementation of DRR and school-based preparedness. The answer according to these levels and the three priorities of the HFA1 is summarised in the following table, including the respective recommendations.
<table>
<thead>
<tr>
<th>HFA1 Priority and activities</th>
<th>National and Policy-making level/ Institutional commitment</th>
<th>Local authorities (province and kabupaten)</th>
<th>Non-governmental institutions and disaster management organisations</th>
<th>Need for recommendations</th>
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<tbody>
<tr>
<td>Implementation Level</td>
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<tr>
<td>(assessment according to this research study)</td>
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<tr>
<td>Low-Medium-High</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>-</td>
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<tr>
<td>Priority 1, under pole (i) for “National institutional and legislative frameworks”</td>
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<tr>
<td>Key activities:</td>
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<tr>
<td>(a) Support the creation and strengthening of national integrated disaster risk reduction mechanisms, such as multi sectoral national platform, with designated responsibilities at the national through to the local levels to facilitate coordination across sectors. [...]</td>
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<tr>
<td>(b) Integrate risk reduction, as appropriate, into development policies and planning at all levels of government, [...] (UNISDR, 2005, p.6).</td>
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<tr>
<td>• DM Law 24/2007</td>
<td>• Establishment of Local Disaster Management Agencies (BPBDs) achieved in all districts of DIY</td>
<td></td>
<td>• Yogyakarta DRR Forum</td>
<td>BNPB to coordinate with local BPBDs. A clear strategy on local DRR and preparedness activities needs to be set, with specific objectives, monitoring mechanisms and budget allocation</td>
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<td>• National DM Plan 2010-2014/ Identification of hazard prone areas in the DIY and the Yogyakarta districts</td>
<td>• National Action Plan for DRR 2010-2012</td>
<td></td>
<td>• NGOs involved in advocacy for DRR</td>
<td></td>
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<tr>
<td>• National policy and legal framework for disaster risk reduction exists with decentralized responsibilities and capacities at all levels: 4/5 according to National Progress report on the HFA1</td>
<td>• Indonesian Platform for DRR (Planas PRB)</td>
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<tr>
<td>Priority 3, under pole (ii) for “Education and training”</td>
<td>• National Strategy for Disaster Risk Reduction Mainstreaming in School System</td>
<td>• “Safe school programme launched by BPBD DIY”</td>
<td>• Plethora of school-based preparedness projects by a variety of DM NGOs and other types of institutions</td>
<td></td>
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<tr>
<td>Key activities:</td>
<td>• Commitment from the ministry of Education and Culture (MONE)</td>
<td>• Inadequate funding and strategy put in place that specifically targets schools or youth in relation to preparedness</td>
<td>• Lack of coordination and integration of programmes to ensure comprehensiveness coverage and capacity building for all</td>
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<tr>
<td>(h) Promote the inclusion of disaster risk reduction knowledge in relevant sections of school curricula at all levels and the use of other formal and informal channels to reach youth and children with information; [...]</td>
<td>• Pilot DRR curriculum has been implemented in a number of schools across the country and</td>
<td>• Since school-based DRR and disaster preparedness projects have been already implemented, coordination between NGOs and local authorities need to be strengthened (with a lead agency like the Provincial BPBD and/or the PMI DIY).</td>
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<tr>
<td>(i) Promote the implementation of local risk assessment and disaster preparedness programmes in schools and institutions of higher education</td>
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<td>(j) Promote the implementation of programmes and activities in schools for learning how to</td>
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minimize the effects of hazards, [...] (l) Promote community-based training initiatives, considering the role of volunteers, as appropriate, to enhance local capacities to mitigate and cope with disasters (UNISDR, 2005, p. 9-10).

Priority 5
Key activities:
(d) Prepare or review and periodically update disaster preparedness and contingency plans and policies at all levels, with a particular focus on the most vulnerable areas and groups. Promote regular disaster preparedness exercises, including evacuation drills, [...].
(l) Develop specific mechanisms to engage active participation and ownership of relevant stakeholders, including communities, in disaster risk reduction, in particular building on the spirit of volunteerism. (UNISDR, 2005, p.12-13).

| Priority 5 | National Action Plan for DRR 2010-2012/ Specific targets set for DIY to achieve the "development of disaster awareness culture" of programme C: research, education and training, including mobilisation of communities, NGOs and academic institutions | Lack of data to assess the level of implementation for all the BPBDs of the province |
| School-based DRR programmes need to be included in the planning and budget of BPBDs. The PMR initiative needs to be expanded and promoted in more schools. |

| Key activities: | Preparedness exercises are part of NGO preparedness programmes, but not regular |
| National Action Plan for DRR 2010-2012/ Specific targets set for DIY to achieve the "development of disaster awareness culture" of programme C: research, education and training, including mobilisation of communities, NGOs and academic institutions | Based on the data available, the local BPBDs lack planning and budget allocation dedicated to DRR activities and the level of engagement with NGOs in less obvious and regular |
| POHA-UGM student community service for DRR and preparedness | Monitoring of activities needs to be enhanced (with BNPB collecting the progress reports from local BPBDs). |

Communities can be engaged more in DRR and school-based preparedness once a clear strategy and set-up of activities are in place

Table 7: Implementation Level of disaster preparedness in the Special Province of Yogyakarta according to priorities 1, 3 and 5 of the HFA

6.1.1 Institutionalisation of DRR and preparedness

The 24/2007 Disaster Management Law has been a milestone in creating a solid legal basis for disaster management and risk reduction. According to Indonesia’s administrative organisation, which results in a certain degree of regional (legal and administrative) autonomy, every province is designated to form a Regional Disaster Management Agency (BPBD), and respective DM Agencies for its districts, following the DM Law 24/2007 and the respective Regional Regulations. The Special Province of Yogyakarta has not only established BPBDs for all its five districts, but it has also formed a Regional Disaster Management Plan according to the same legal mandate. Moreover, according to the National DM Plan 2010-2014, several high risk zones have been identified among all the region’s districts. These high risk zones are identified for different types of disaster, allowing for a suitable design of DRR and preparedness activities. In addition, the National Action Plan for DRR 2010-2012 is inherently in line with the HFA1 priorities, setting specific targets per region.
Community preparedness and disaster education are amongst those targets. Accordingly, school curricula, educational material and trainings that encompass DRR form a specified indicator for activities related to the “use of knowledge, innovation and education to build a culture of safety and resilience at all levels”, as per Priority 3 of the HFA1.

A National Platform for DRR (Planas PRB), a multi-stakeholder institution acting as a DRR advocate and coordinator, is another example of DRR institutionalisation and progress towards the HFA1. In Yogyakarta a corresponding organisation has been formed, the DRR Platform, and it has also become part of the National Platform. However, based on field research and in the absence of secondary sources that can refute this argument, those bodies do not seem to be significantly active, particularly when there is a prolonged absence of natural disasters. Overall, the research concludes that Indonesia has built a substantial institutional basis for DRR, according to the key activities of the HFA1:

a. Support the creation and strengthening of national integrated disaster risk reduction mechanisms, such as multi sectoral national platform, with designated responsibilities at the national through to the local levels to facilitate coordination across sectors. […]

b. Integrate risk reduction, as appropriate, into development policies and planning at all levels of government […] (UNISDR, 2005, p.6).

Yet, this institutionalisation does not automatically get across the regional levels of administration in the country. This is primarily due to the regional autonomy of the Indonesian provinces, and the fact that the national authority cannot be imposed in any of the provinces. Secondly, there are challenges related to the financial, technical and human resource capacities of the regional authorities (provincial and district level). Budgets and designated personnel should be allocated specifically on DRR and preparedness under a strategy which targets hazard-prone areas within a specific timeframe. Nevertheless, the level of implementation according to the first priority of the HFA1 is deemed to be “high” based on the research findings.

6.1.2 Implementation of school-based preparedness by the local authorities

The acknowledgement of DRR integration into the school curriculum by the Ministry of National Education is a positive step towards progress in the HFA1 priorities. The provincial Department of Education (DIKPORA DIY) has also made attempts to communicate to officials and school staff ways of integrating disaster preparedness into school subjects. Teachers have the flexibility to alter some of the subjects’ content in favour of disaster awareness topics. Nevertheless, this is not a compulsory policy, and many local officials and school staff are not yet adequately aware or trained on DRR and school-based DRR issues. The local Disaster Management Agency of Yogyakarta Province has undertaken the “Safe School” (SSB) programme,
which is carried out in a limited number of schools. In addition, its continuation by the schools themselves cannot be ensured because of the frequent rotation of teachers and school staff, and because of the fact that the programme is not transferred and “owned” by schools in a way that makes it sustainable. Other Local Disaster Management agencies (for instance BPBD Bantul) seem to be aware and supporting the idea of school-based disaster preparedness programmes, but they are not actively involved in implementing them. The main reason appears to be that many BPBDs are only recently established, therefore they have not yet put together a DRR strategy or plan for their area of operation nor do they have sufficient budgets to conduct DRR activities. Disaster Management and DRR in the local communities are definitely prioritised issues in their agendas but school-based preparedness tends to occur either on an ad-hoc or on unsystematic basis and mostly because of NGO-driven projects.

Schools in which DRR and disaster preparedness programmes have been piloted, such as the SMP 2 Imogiri (junior high school in Bantul district), serve as great examples of schools where physical safety and skills related to disaster awareness and preparedness of persons co-exist. What remains as a concern is that there is very little evidence about the coverage of those programmes, as well as follow-up of their implementation, and as a result disaster preparedness programmes do not exist in all schools in the Special Province of Yogyakarta. This study has presented some successful examples of the implementation of disaster preparedness programmes through activities such as: infusion and integration of risk reduction and preparedness subjects into the school curriculum, evacuation drills carried out in schools, participation of students in first-aid and preparedness trainings conducted by the Youth Red Cross and participation of school groups in the Scouts’ activities. These are certainly very positive steps towards the HFA1 priorities, but they need to be more systematised and consistent. Therefore, based on the abovementioned findings and analysis, the level of implementation in the Special Province of Yogyakarta according to the third and fifth priority of the HFA1 by the local authorities is rated as “medium”.

6.1.3 NGOs in school-based disaster preparedness

Non-governmental organisations and institutions in Yogyakarta are quite active in Disaster Management (DM) and DRR; particularly after the 2006 earthquake that hit the area and resulted in international assistance being offered to the local community. The DM Law 24/2007 and the Presidential regulations for DM explicitly mention the involvement of NGOs in disaster response and the fact that they can participate in the National Action Plan for DRR (article 8 of 21/2008 Government Regulation). Although national regulations have to be transferred into regional regulations, it was proved that NGOs form, to a great extent, a group of stakeholders critical in implementing school-based disaster preparedness programmes. Almost all NGO representatives who were interviewed stated that they have had in the past, or were at
that time, implementing school-based DRR programmes, despite the fact that these were not continuous or always sustained by schools and the local authorities. Some of the participants (for instance, in ASB Indonesia) reported programmes that could potentially built preparedness capacities for almost all of the schools in every district, but these programmes have not been replicated after their first completion. In addition, there are other NGOs who due to the research limitations did not participate in the study and who are also active in DRR and youth preparedness (for instance, YAKKUM), and organisations that are not operational but have either developed DRR and preparedness initiatives or have them as part of their mission statement (academic institutions, DRR Forum, etc.). There has been a level of cooperation between local authorities - specifically the Regional Government, Disaster Management Agencies, and Education Departments - and NGOs for making progress in establishing DRR and preparedness programmes; however most often all these stakeholders have only occasionally coordinated to achieve the same or similar goals related to DRR and preparedness in the Special Province of Yogyakarta. Although non-governmental organisations and institutions seem to be significantly contributing in the development of programmes, overall, the level of implementation according to priorities 3 and 5 of the HFA1 is rated “medium” in this research study.

6.1.4 Challenges and opportunities in implementing disaster preparedness in the Special Province of Yogyakarta

Several challenges in implementing school-based disaster preparedness programmes have emerged in the study: these are related to the lack of continuous commitment, time restrictions, limits in funding and human resources allocation challenges. Most of these seem to be also influenced by local perceptions about disasters and preparedness, which exist among people living in the Special Province of Yogyakarta. The study is limited in analysing thoroughly the role of local culture and perceptions in disaster preparedness, but some anecdotal references provide with an idea of how local beliefs may influence the effectiveness and impact of programmes with regards to this particular region. At the same time, local culture offers opportunities in promoting programmes and initiatives that can make youth and communities feeling ready and confident in anticipating disasters, such as the participation in youth groups that work together and share knowledge around DRR and preparedness. On the one hand, some fatalistic beliefs about natural phenomena and Mount Merapi seem to have been overthrown over time. On the other hand, people feel less compelled to think about disaster and prepare for it in times of its absence.

Although this topic merits further research, an intuitive conclusion is that local culture and perceptions are, to a certain extent, an influential factor to how people in Yogyakarta understand and embrace the need to be prepared and equipped before a disaster strikes. In any case, many research participants stated that most people that have experienced damage by disasters in the past within their communities are keen
on receiving trainings and gaining knowledge that will prevent future loss and harm. This can prove to be particularly helpful in promoting disaster preparedness in communities and eventually implementing school-based DRR and preparedness programmes and could be considered as an opportunity by local stakeholders involved in disaster preparedness.

6.2 Lessons and Recommendations

One of the main goals of the present study was to be able to provide recommendations for the disaster management and risk reduction stakeholders in the Special Province of Yogyakarta to improve disaster preparedness programmes’ implementation for youth. The lessons learnt from this research study and the recommendations can be summarised as following:

- The Republic of Indonesia has been a state prompt in adopting and following-up the Hyogo Framework for Action 2005-2015, responding with a legal reform for Disaster Management and creating an institutional basis for Disaster Risk Reduction.

- The regional autonomy of the Indonesian district (locally called kabupaten) can be considered both as a risk and as an opportunity in the development of DRR and preparedness programmes. On the one hand, national policies and regulations are not directly applied by the regional and local governments because of the regional autonomy. On the other hand, regional autonomy can result in programmes that target specific disaster contexts and are adapted to the local culture, taking into account the vastness of the country of Indonesia. In the case of the Special Province of Yogyakarta where the research is focused, Local Disaster Management Agencies for every district have been already established but they need to become fully functional and maximise the use of their resources. For this purpose, the Provincial BPBD needs to take the lead and advocate for the necessary financial and human resources. Even though the BPBDs of each district are independent from each other, and even though the districts in Yogyakarta are under the risk of different hazards, it seems much more effective for them to communicate and collaborate in order to build their capacity. This way they could share experiences, organise group trainings and become more visible to the communities that they serve. In addition, the national BNPB should have a central role in monitoring the progress of regional BPBDs and advocate for DRR budget allocation to the Regional Governments.

- The study has indicated that, at present, there are many stakeholders involved in DRR and preparedness. These do not systematically collaborate, however they often operate in parallel and they have managed to reach a number of
schools and people who become aware of DRR and obtain a level of disaster preparedness. This is achieved through the integration of subjects into the curriculum, emergency drills and sensitisation on disaster risks. For these efforts and preparedness programmes to become more sustainable, an evidence-based assessment of local needs and perceptions and a mapping of all stakeholders need to be made, followed by a strategic action plan according to the resources that are primarily available. Since there is a considerable number of actors that are active in the Province, there should be a leading agency to undertake coordination of all stakeholders, develop monitoring and evaluation mechanisms, and link representatives of non-governmental organisations with the regional and national governments and among themselves when necessary. This agency is more likely to be the Provincial Disaster Management Agency (BPBD DIY), acting as a link between BNPB and the local BPBDs of Yogyakarta. Alternatively, the Provincial Red Cross (PMI DIY) could link the non-governmental agencies with the provincial BPBD and provide technical support on DRR which stems from the National Indonesian Red Cross society’s expertise.

- Lack of adequate funding has been held responsible by various participants for the limited consistency in disaster preparedness programmes implementation. However, there can be several creative and community-based ways of implementing preparedness (example of the student’s community service) and academic institutions can definitely contribute to this effort. Also, since much of the disaster preparedness education that should be ‘infused’ in the school curriculum depends heavily on teachers’ capacity, there should be more effort placed in building this capacity. This means that action should be taken by local BPBDs and NGOs in conducting regular awareness raising meetings and trainings around DRR and preparedness with teachers and school staff. Ensuring that the people who are responsible for children’s education have themselves understood the concept and importance of disaster preparedness and that they are sufficiently trained, can lead to increased motivation and better results in school-based disaster preparedness programmes.

- The role of the Youth Red Cross (PMR) can be a key in strengthening school-based preparedness. It is an already established activity in the region of Yogyakarta which is implemented by facilitators of the Red Cross without additional cost of the local governments. However, its coverage in order to reach all schools and the levels of student participation in each PMR group should be increased. The Provincial and the local branches of the Red Cross can promote the importance of peer youth groups in disaster preparedness. Similarly, local authorities and BPBDs should integrate the promotion of PMR youth groups in their DRR and preparedness strategy for the province and the districts of Yogyakarta.
In all, this research has been conducted with the purpose of linking internationally acknowledged frameworks such as the Hyogo Framework for Action 2005-2015, which calls for building resilient communities towards natural hazards, with the end results on a “grassroots” level. In other words, the research attempted to assess how this framework has been implemented on a school-based level in the communities of the Special Province of Yogyakarta, by bringing together the existing bibliography and the views and knowledge of research participants. The fact that the study was conducted and completed at the end of the HFA1 timeframe, while focusing on a particular hazard-prone region, makes it relevant for this particular community. The study concludes that there is a substantial part of work towards disaster preparedness already in place, but there are aspects of implementation that need to be strengthened, while recommendations are provided in order to hopefully inspire and guide the local stakeholders involved in DRR and disaster preparedness. Finally, the author suggests that additional research on this or similar topic could be done in the future upon the end of the HFA1 timeframe, either in this particular region or other parts of Indonesia, in order to further assess progress or compare results with other parts of the country, and provide the local communities with baseline information that can be used by various DRR and disaster preparedness stakeholders.
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ANNEXES

Annex A: Interview Guide NGOs / Indonesian Red Cross (PMI) DI Yogyakarta

Introductory Questions:

- What is your position in the organisation/agency?
- How long have you been working for this organisation/agency?
- To what extend are you involved in disaster preparedness?
- What are your main duties and responsibilities?
- Where does your funding come from?

Opening Questions

- Are you familiar with the Hyogo Framework for Action?
- Are you familiar with the national policies of Indonesia for Disaster Management and DRR?
- How do you understand disaster preparedness in comparison with DRR?

Key Questions:

- To what extent the organisation/agency is collaborating with the Indonesian (provincial/district level) government for the development and the implementation of DRR policies and initiatives?
- To what extent have you collaborated with other organizations/agencies (NGOs) for planning or implementing DRR/DP in schools in Yogyakarta district?
- Are you aware of any courses for disaster preparedness that are integrated into the school curriculum in the Special Province of Yogyakarta?
- Does the organisation/agency have projects for disaster preparedness in schools? If yes, can you give a brief description of those projects and in which schools are they taking place?
- To what extent do you think educational material on disaster preparedness is adequate?
- To what extent do you think that disaster preparedness programmes have been (continuously and/or appropriately) implemented in schools of Yogyakarta province following the 2006 earthquake and the 2010 volcanic eruption?
- To what extent do you think DRR/preparedness policies of Indonesia are implemented in Yogyakarta?
- What is the biggest challenge for appropriately implementing disaster preparedness programmes in schools?
- How are DRR/ disaster preparedness programmes being monitored/evaluated?
- Do you think that the local culture affects the implementation of disaster preparedness programmes, either as an obstacle or as an opportunity?
• What role do you think local wisdom plays in disaster preparedness programmes?

Closing Questions

• How prepared do you think people in Yogyakarta feel towards a possible disaster?
• What are your professional future plans?
• Do you have anything to add?

Annex B: Interview Guide - Regional/Local Disaster Management Agencies (BPBD)

Introductory Questions:

• What is your position in the agency?
• How long have you been working for this agency?
• To what extent are you involved in disaster preparedness?
• What are your main duties and responsibilities?
• Where does your funding come from?

Opening Questions

• Are you familiar with the Hyogo Framework for Action?
• Are you familiar with the national policies of Indonesia for Disaster Management and DRR?
• What does “disaster preparedness” mean for you?
• How do you understand disaster preparedness in comparison with DRR?

Key Questions:

• Can you describe some disaster preparedness projects that are taking place at this moment in the region/district?
• Can you describe any disaster preparedness projects in the schools of (specify which) kapubaten (district) that have taken place after the 2006 earthquake?
• Do you know if lessons for disaster preparedness are integrated into the school curriculum? If yes, in how many/ which schools?
• Can you give me an idea of how much of your funding is allocated to disaster preparedness (in schools) since BPBD (specify district) operates (define when)?
• Are there any specialised disaster risk reduction/ preparedness programmes for schools (“safe school” programme)?
• (If yes is the answer to the question above) How many schools participate in this district? Can you specify some of them? Can you describe how the disaster preparedness programmes are implemented in these schools?
• Can you describe if there are any early warning systems in (district) from which schools can benefit?
• Are there any examples of this BPBD cooperating with any NGOs for implementing disaster preparedness in schools?
• Do you know any schools in your district that are conducting simulations/trainings/disaster awareness sessions in the coming month (September 2013)?
• To which type of schools (elementary, junior/senior high schools) are disaster preparedness projects mostly implemented?
• To whom is BPBD accountable for implementing disaster preparedness programmes? Is there any internal/external evaluation or monitoring? (If yes) how often does it take place?
• Do you think that the local culture affects the implementation of disaster preparedness, either as an obstacle or as an opportunity?

Closing Questions

• To what extent do you personally think that disaster preparedness is necessary for the Province of Yogyakarta?
• Is there another job that you would also be happy to be doing if you were not working for BPBD?
• Do you have anything to add?
Annex C: Research participants list (organisation) and data collection methods

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<thead>
<tr>
<th>Date</th>
<th>Organisation/ Agency</th>
<th>Data collection method</th>
<th>Data collected</th>
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<td>Save the Children  (Yogyakarta)</td>
<td>Unstructured interview / Presentation</td>
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<td>Unstructured interview</td>
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<td>Semi- structured interview /discussion</td>
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<td>Questionnaire via e-mail</td>
<td>Partly answered Questionnaire (English)</td>
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<td>October 2013</td>
<td>UNDP (former Project Officer)</td>
<td>Questionnaire via e-mail</td>
<td>Partly answered Questionnaire (English)</td>
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</table>
Annex D

Annex D i. The formulation of Disaster Management Plan (RPB) and National Action Plan for Disaster Risk Reduction (NAP-DRR). [Image via NAP-DRR 2010-2014, p.3]
Annex E: Affected areas near the Merapi volcano as shown on 5th November 2010.

Annex F: Evacuation route maps and signs, and Standard Operational Procedures (SOP) in SMP Negeri 2 Imogiri School, Bantul, Yogyakarta

Annex G: MDMC school-based preparedness student learning material