

# DRR Education in Indonesia

*How does the organisation of DRR and DRR education in Indonesia affect the implementation of DRR education programmes? And does it contribute to a reduction of children's vulnerability?*



*Sediakan payung sebelum hujan*

*'Make sure you have an umbrella before it rains' – an old Indonesian proverb*

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*DRR Education in Indonesia - How does the organisation of the DRR and DRR education in Indonesia affect the implementation of DRR education programmes? And does it contribute to a reduction of children's vulnerability?*

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**EMNEORD/STIKKORD:** Disaster Risk Reduction, Disaster, Risk, DRR education, Vulnerability, Hyogo Framework for Action, Humanitarian organisations, Indonesia

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## Abstract

UNISDR created a concept for reducing disaster risks that focuses on strengthening the capacities of vulnerable societies and promotion of sustainable development. The Hyogo Framework for Action (HFA) aims to substantially reduce disaster losses and 168 UN countries have adopted this framework. The HFA consists of 5 Priorities for Action and this thesis has a particular focus on DRR education in Primary Schools, which comes under Priority 3 (knowledge, innovation to build a culture of safety and resilience at all levels). The aim of the research was to how the organisation of DRR and DRR education in Indonesia affects the implementation process and to assess whether this contributes to a reduction of children's vulnerability.

The theoretical basis of this thesis is the HFA guidelines that provide a norm for how DRR activities should be organised and the PAR model was used to assess vulnerability. The research aimed to gain an insight from the DRR education implementing organisation's point of view. Interviews were carried out and a DRR education conference was attended.

The main finding is that strong policy from the Ministry of Education is important for the implementation and sustainability of DRR education. And without it, a reduction of children's vulnerability cannot be guaranteed.

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Emma Willmott

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## List of Abbreviations

<b>ASB</b>	Arbeiter Samariter Bund
<b>BAPPENAS</b>	Badan Perencanaan Pembangunan Nasional (National Development Planning Agency)
<b>CDE</b>	Consortium for Disaster Education
<b>DM Law</b>	Disaster Management Law
<b>DRR</b>	Disaster Risk Reduction
<b>GoI</b>	Government of Indonesia
<b>INGO</b>	International non-governmental organisation
<b>KOGAMI</b>	Tsunami Alert Community
<b>LNGO</b>	Local non-governmental organisation
<b>HFA</b>	Hyogo Framework of Action
<b>MoNE</b>	Ministry of National Education
<b>MDG</b>	Millennium Developmental Goal
<b>MDMC</b>	Muhammadiyah Disaster Management Center
<b>NGO</b>	Non-governmental organisation
<b>PAR model</b>	Pressure and Release Model
<b>PLANAS PRB</b>	National Platform for Disaster Risk Reduction
<b>SC-DRR</b>	Safer Communities through Disaster Risk Reduction
<b>UGM</b>	University of Gadjah Mada
<b>UNDP</b>	United Nations Development Project
<b>UNESCO</b>	United Nations Economical and Social Council
<b>UNISDR</b>	United Nations International Strategy for Disaster Reduction

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## 1. Introduction

*Over the past two decades, disasters have killed more than 1.3 million people, affected more than 4.4 billion and cost the global economy at least US\$2 trillion. It is estimated that each year, earthquakes, hurricanes and cyclones cost more than US\$180 billion.*

*UNDP (2014)*

Reducing loss from environmental hazards has become a recognised challenge worldwide. In theory the ultimate goal would be to eliminate all disasters that cause death, destruction and injury or damage to property and the environment. Unfortunately, in practice this goal may be as seen euphoric since as Smith (2001) points out, although it may be possible to potentially avoid many risks, global environmental change and uncertainty surrounding future hazardous events, combined with central role of human failings, make the total elimination of hazard unrealistic. The important point to make is that natural disasters are not disasters for nature, they are disasters because man has created societies that lack the robustness to withstand the pressure that nature puts on them, thus leaving society in a vulnerable position. The aim is therefore to manage and mitigate the risk by being prepared for their onset. Particularly vulnerable are those who live in poorer countries, who are often the worst affected due to poorly planned infrastructure and a lack of capacities and resources. In fact 90% of disaster fatalities occur in developing countries (UNDP, 2014). Not only do these countries suffer from a substantial loss of lives, but also a great loss in gross national product (GNP), thus threatening their development.

The issue at hand is that statistics have shown that natural disasters are increasing in their occurrence and many scientists predict that the current progression in climate change will lead to an ever-increasing frequency of such disasters. Figure 1. shows the increase in natural disasters from 1900-2010.

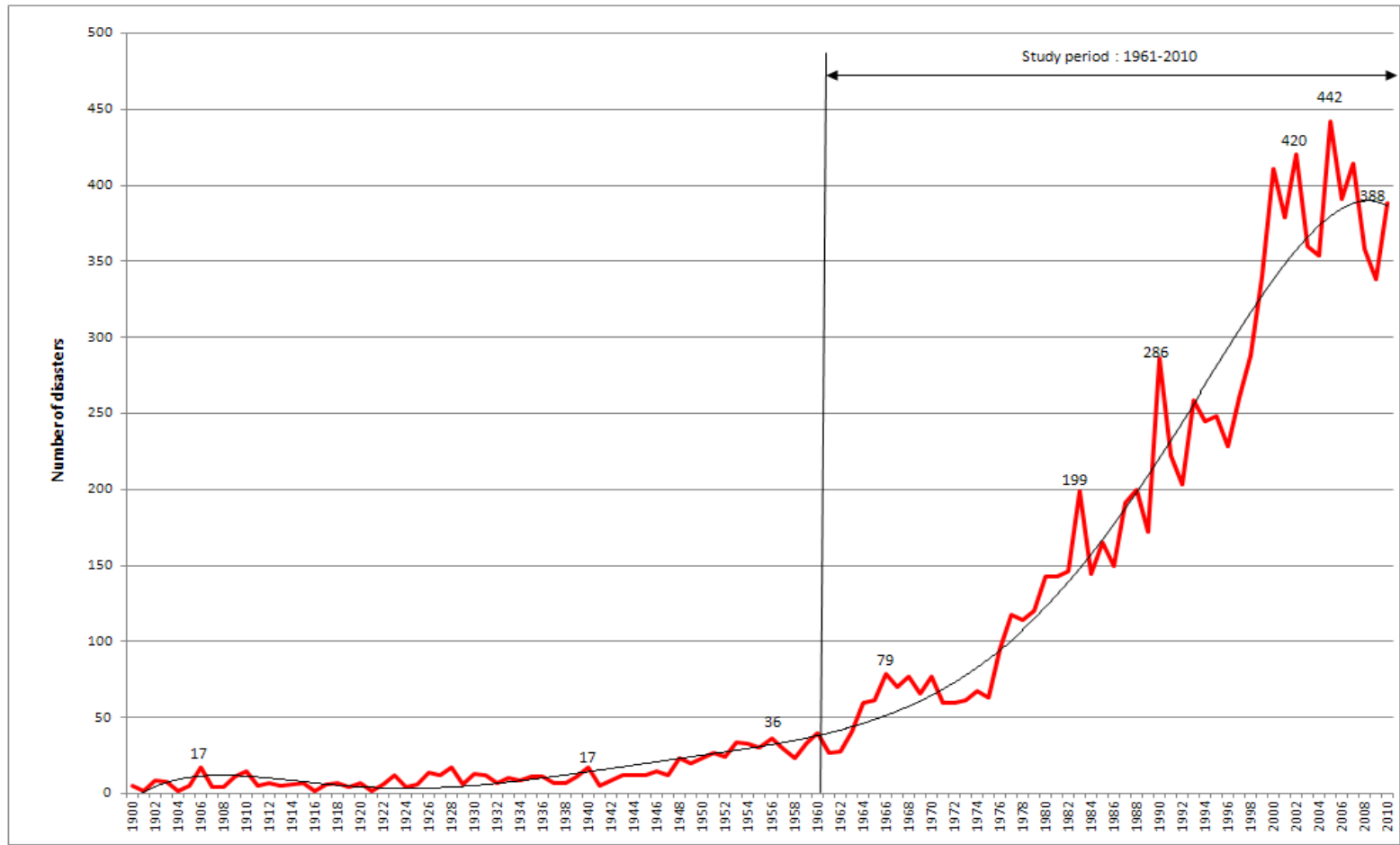


Figure 1. Occurrence of natural disasters as reported in EMDAT: 1900 - 2010

Source: CRED (2012)

Although the increase shown in the graph may be explained by a development in reporting systems and better access to information, there are other factors to also consider. Previously there has been too much focus on the natural hazards themselves, in effect separating them from the social environment in which they occur; social frameworks which influence how people are affected by natural hazards. It is now a common belief that natural disasters are the product of social, political and economic environments. They structure the lives of various groups within society. Some of these factors, such as unfortunate economic situations, which compel people to inhabit areas affected by natural hazards, are more easily recognised, whereas other political and economical factors can be less obvious. These factors can hinder access to information, knowledge and resources that are essential to the reduction of peoples' vulnerability. It is therefore necessary for strategies to be applied to reduce the negatives outcomes of natural hazards, strategies that address these factors. The United Nations Strategy for Disaster Reduction (UNISDR) have developed a concept called Disaster Risk Reduction (DRR), which focuses on proactive activities to reduce disaster risks, strengthen capacities in vulnerable societies with the intention of supporting sustainable development. The strategy that has been the main focus of UNISDR is the Hyogo Framework for Action (HFA).

## 1.1 Background for topic of choice

*"Natural disasters and other crises could push millions of people back into poverty."*

Quote from the Indonesian President's speech under the 5th Asian Ministerial Conference on DRR.  
UNISDR 2012

Indonesia is commonly referred to as the 'supermarket of natural disasters' due to the frequent occurrence of natural hazards, including volcanic eruptions, flooding, tsunamis and landslides. According to the 2009 UN Global Assessment on Disaster Risk Reduction, more than 600,000 people a year suffer from the consequences of natural hazards (UN, 2009). The government have recognised that the impact of these disasters has had a negative effect on the countries economic development. Decisions made about infrastructure, farming, the location and structure of buildings, the populations knowledge all affect the outcomes of natural disasters, making society

either more vulnerable, or more resilient. As the HFA specifies, the cooperation and collaboration of the state, regional, and international organisations is essential for achieving affective DRR. One of the challenges in Indonesia is the fact that the country has a wide geographical spread, comprising of over 17,000 islands with a population of over 253 million (CIA, 2014). Decentralisation in Indonesia may be in the factors that have lead to a great variation in the degree of disaster preparedness between the provinces, thus highlighting the need for local strategies for DRR and disaster preparedness. As UN note, ‘considerable investment and reform, with support from international partner, continues to be needed for Indonesia to consolidate its capacity for disaster management’ (UN, 2014).

Disaster prone countries such as Indonesia are often reliant upon international assistance due to lack of capacities, knowledge and resources. When international organisations intervene is it important for them to have knowledge about the context in which they are entering so that they provide appropriate support (Anderson, 1999). It is undoubtedly it those who are closest to the affected or risk prone area that have the most knowledge about local structures and mechanisms (Quinn, 2002; Sinha, 2007; Murshed, 2004). The development and strengthening of these local capacities are thus integral to building communities resilience to natural hazards, a concept that is central within the HFA.

An on going resonance within the HFA is that building community resilience is about empowering the Indonesian population to reduce their own vulnerability by building a culture of safety. Citizens are no longer seen as helpless victims of disasters, but are now seen as a useful resource in the reduction disaster risks (Helsloot and Ruitenbergh, 2004). Within society there are certain groups that are considered more vulnerable than others, such as the elderly, pregnant women, the impoverished and those of ethnic minorities (Hoffman, 2009). This thesis will focus on the vulnerability of children, which the HFA attempts to address through creating safer schools through both structurally and through DRR educations programmes that aim to build a culture of safety. Particular attention will be given to DRR education and the role of organisations and the state its implementation.

## 1.2 Relief and Underdevelopment to Disaster Mitigation

Disaster management is going through a paradigm shift. Despite the lack of concrete statistics there exists a general consensus and literature that support the notion that relief aid has negative affect on development. Smith (2001) notes that ‘under development is not a temporary state, but an on-going process of Third World impoverishment perpetuated by technological dependency and unequal trading arrangements between rich and poor nations’ (p.52). The Figure 2 shows how this process also leads to marginalisation, which reinforces the growing gap between rich and poor.

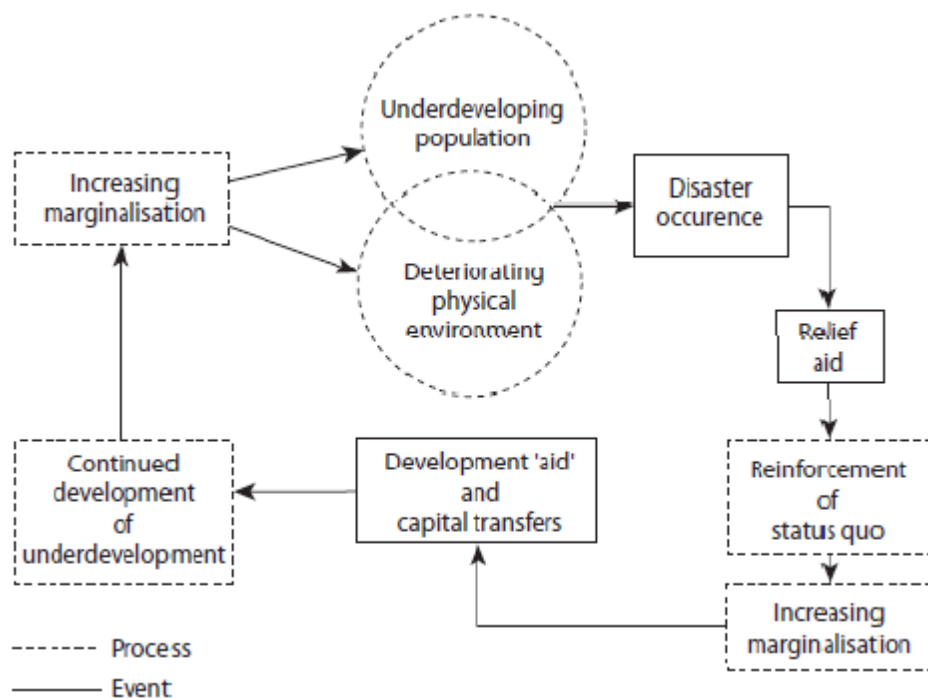


Figure 2. Process of marginalisation of disaster victims

Source: Susaman et al. (1983) from Kevin Smith

It is therefore important to address the role of institutional factors and global forces that are increasing vulnerability. The UN has addressed this issue through the establishment of the United Nations Development Programme (UNDP) in 1965. The aim of UNDP is to ‘help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone’ (UNDP, 2014). Their activities take place in 177 countries, with particular focus on the least

developed countries (LDC), using a global perspective and local insight with the intention of empowering people and building resilient nations.

As one can see from the Figure 1., relief and development aid merely reinforce the state of under-development, which is the source of potential disaster in the first place. Within the realm of humanitarian work one can see that there has been a focus on *reactive* measures rather than *proactive*. Eric Schwartz (2006), who had the position of UN Secretary General's Deputy Special Envoy for Tsunami Recovery in 2004 claimed that 'only 4% of the estimated \$10 billion in annual humanitarian assistance is devoted to prevention' despite the evidence that 'every dollar spent on risk reduction saves between \$5 and \$10 in economic losses from disasters'.

The issue of relief and underdevelopment emphasises the importance of focusing on a strategy that empowers and enables the population to handle the effects of natural hazards thus minimizing their dependency on external relief. Such strategies must therefore be focused on disaster mitigation activities (preparedness); that is activities that contribute to reducing vulnerability and increasing resilience so that societies are in a better position tackle onset of natural hazards. The formation of UNISDR in 1999 showed a further progress in the direction of reducing disaster losses. UNISDR is the UN office for DRR and its role is to 'act as a hub to connect and convince, and to lead and coordinate on measures which lead to the elimination or mitigation of risk through better preparedness at national and local level' (UNISDR, 2011). The development of the HFA out of the Yokohama Strategy for a Safer World and its formal approval at the World Conference on Disaster Reduction signify a movement that promotes the notion of increasing local capacities so as to avoid dependency on external actors thus aiding the sustainable development process.

### **1.3 The main research problem**

The occurrence of natural hazards has become more frequent and the repercussions due to vulnerability and a lack of resilience must be addressed. Developing countries are particularly vulnerable and the effects of natural hazards can have negative effects on their progress in achieving the Millennium Development Goals (MDGs).

The argument that relief leads to underdevelopment highlights the importance of a paradigm shift from response and relief to prevention and preparedness in the context of sustainable development and disaster management. This paradigm shift has been supported by UNISDR who believe that humanitarian work should focus on reducing disaster risk, building up local capacities and promoting a culture of safety to avoid dependency on external actors and to keep MDG achievement on track.

The implementation of DRR through HFA is primarily the responsibility of the state, however they cannot do this work alone. States often seek the help of humanitarian organisations to assist in such projects and this is evident within the implementation of DRR education where both governmental and non-governmental organisations (NGO) have produced resources and carried out a variety of programmes. Since these kinds of organisations carry out programme in a limited time frame they are reliant on the coordination and cooperation with the relevant ministries (in this case the ministry of education) to make sure that measure, such as strong policy, are in place to allow organisations to approach schools and to guarantee the sustainability<sup>1</sup> of their projects and therefore a contribution to the reduction of children's vulnerability.

The basis of this thesis has an underlying pre-assumption that there are several challenges with regard to implementing DRR activities in Indonesia. DRR itself is a relatively new concept, which currently lacks clear guidelines about how it should be implemented. Noting this, it should be added that attempting to attain universal guidelines (normative practice) of how this work should be carried out would be a near impossible task since the contexts within which these activities will take place present actors with opportunities and challenges that vary from context to context. Challenges in Indonesia will undoubtedly stem from the large and diverse population spread over a vast geographical area, many inhabiting hazardous regions.

This thesis will focus on UNISDR's definition of disaster risk reduction (DRR) and their related strategies for the implementation of DRR. DRR activities entail the cooperation and coordination of many actors and it has therefore been necessary to narrow down the focus to achieve a better understanding of some of the processes that

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<sup>1</sup> Sustainability in this context refers to schools continuing with DRR education activities after the organisations have completed their programmes and vacated the schools.

take place. The HFA stipulates that the establishment of a National Platform<sup>2</sup> is important because it has a key role in the implementation of DRR related activities. This thesis will therefore focus on the establishment of a National Platform for DRR in Indonesia and how this platform affects organisations that are working on a specific area of the HFA, namely the inclusion of DRR into school curricula (referred to hereon as DRR education<sup>3</sup>). This thesis will therefore be investigating the reduction of children's vulnerability through the coordination and cooperation of organisations and the state in the implementation of DRR education. Based upon the and the previously mentioned assumptions the following main research problem was devised:

*How does the organisation of DRR and DRR education in Indonesia affect the implementation of DRR education programmes? And does it contribute to a reduction of children's vulnerability?*

The following research questions have been devised to answer the main research question:

- What are the most significant natural hazards and what damaged have caused in Indonesia?
- How are DRR and DRR education organised in Indonesia?
- What are the most central challenges for the implementation of DRR education?
- Does the current organisation of DRR education contribute to the reduction of children's vulnerability?

The aim will be to see how organisations and institutions have attempted to implement DRR education, what methods they have used and to identify the challenges that they face in this implementation. Finally a model of vulnerability to natural hazards will be used to assess whether DRR education is contributing to the reduction of children's vulnerability.

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<sup>2</sup> A National Platform is a national mechanism for coordination and policy guidance that is multi-sectorial and interdisciplinary in nature (includes public, private and civil society participation within a country) (UNISR, 2007)

<sup>3</sup> *Disaster Education* is the generic term used to describe projects that aim to implement DRR education into primary school curriculum



It is hoped that addressing these questions will help to achieve a better understanding of some of the DRR education work that is being carried out in Indonesia. A better understanding of the situation may make it easier to identify successes and challenges, which could potentially lead to recommendations that also be applied in this context and in perhaps in other similar contexts.

#### 1.4 Aim and Limitations

Due to the explorative nature of this research and the time limitations, it was necessary to set some limitations to the scope of this thesis. The HFA stipulates that coordination and cooperation between stakeholders is important for the realisation of the 5 main priorities of the framework. From the background reading it became evident that organisations<sup>4</sup> (governmental and nongovernmental (NGO)) have been the main implementers of DRR education projects<sup>5</sup>. This focus on programmes carried out in primary schools. This thesis also operated with the assumption that coordination and cooperation is a complex task. Since these organisations have already been noted as a key actor, it was deemed logical to investigate the phenomenon from their perspective. At this level of investigation, this research is for the most part descriptive and explanations will therefore be limited to the actions of the organisations.

#### 1.5 Relevant literature

'DRR education' is a relatively new area of enquiry in the field of education. John Preston in his book 'DRR education: 'Race', Equity and Pedagogy' (2012) notes that DRR education has existed in various forms for many years, from safety posters and public campaigns to new media, such as blog, Facebook and Twitter. Terms such as *National defence* and *Civil defence* were used in the United Kingdom when preparing citizens for World War Two and in the United States and Canada is preparation for other hazards such as earthquakes or tornadoes. *Homeland Security* has also received more focus since events such as 9/11. The inclusion of DRR education in DRR is a more recent case, but the themes of *resilience* and *preparedness* have become highlighted in these various forms of DRR education. Preston notes that these terms

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<sup>4</sup> Throughout this thesis the term *organisation* refers to governmental, NGOS, INGOs and LGOs who carry out DRR education programmes

<sup>5</sup> It should be noted that some, but not all, of the organisations have included retrofitting of schools, but this thesis will only focus on the DRR education aspect

reflect a 'shifting emphasis of emergency planning from the nation to the family and the individual' (2012:2).

The Yokohama Strategy and Plan of action for a Safer World was the first DRR strategy promoted by UN, but it was not until the HFA was prepared in 2005 that the inclusion of DRR in education was explicitly stated. Since this time many organisations are implemented various form of DRR education using diverse methods (often catered to the local context) and an abundance of report and reviews of varying quality can be found, so obtaining an overview of these activities is therefore a difficult task. Shaw, Shiwaku and Takeuchi edited a book called *DRR Education* in 2011 that they described as a modest attempt to create a consolidated compilation of the current scattered and diverse literature, which they hope will be a 'good trigger to the future research in the subject' (p.xvi). This book as been helpful in creating an understanding DRR education

## **1.6 Thesis Structure**

The next section will describe the context and situation in Indonesia, which is the country in which this thesis is set and where the fieldwork was carried out. Chapter 3 will present a relevant frameworks and theoretical reflections. Chapter 4 will present the justification of the methodological choices that were made considering the context and type of understanding that the researcher aimed to achieve. Chapter 5 will present the empirical data and Chapter 6 will address the research questions. The last chapter will present an answer to the main research question with scope for further research.

## 2. Context

This chapter will present the context of this thesis starting with the basic information about Indonesia, including history, economy, the government and the current situation. This section is important for the understanding how Indonesia's complex structure and diverse identity has developed and which key factors have led to the situation the country is in today.

### 2.1 Indonesia

Indonesia is an archipelago of 17,508 islands (of which 6,000 are inhabited) in South East Asia lying between the Indian Ocean and the Pacific Ocean. It has a hot and humid tropical climate (more moderate conditions in the highlands) and the terrain is as described as 'mostly coastal lowlands' (CIA 2014).



Figure 3. Map of Indonesia

Source: Nation Master (2014)

Indonesia's social and geographic environments is described by Fredrick and Worden as 'one of the most complex and varied in the world' (2011: 97). Examples of which can be seen in the use of over 700 distinct languages and the existence of 1,100 different dialects as well as the landscape that ranges from rain forests to arid plains

and snow-capped mountains (Fredrick and Worden, 2011). Indonesia also has the largest Muslim majority in the world (87.2% of approximately 254 million people), but the country is not considered to be an Islamic state. The country is divided into 34 provinces, 5 of which have a special status (CIA, 2011). Jakarta, the capital, is the largest city in Indonesia and is classified as the national capital district. The fieldwork for the thesis was carried out in Jakarta and Yogyakarta, both of which are situated on the island of Java, home to 57% of the population.

Official Name	Republic of Indonesia (Republik Indonesia)
Capital	Jakarta
Head of Government	President Susilo Bambang Yudhoyono (since 20 October 2004)
Ruling Party	Democrat Party (PD)
Area	1,904,569 sq km (15 <sup>th</sup> largest country)
Population	253, 609, 643 (ranked 5 <sup>th</sup> in the world)
Population growth rate	0.95% (ranked 124 <sup>th</sup> in the world)
Ethnic Groups	Javanese 40.10%, Sundanese 15.5%, Malay 3.7%, Batak 3.6%, Maderese 3%, Betawi 2.9%, Minangkabau 2.7%, Bugunese 2.7%, Bantenese 2%, Banjarese 1.7%, Balinese 1.7%, Achenese 1.4% Dayak 1.4%, Sasak 1.3%, Chinese 1.2%, other 15%
Language	Bahasa Indonesia (official), English, Dutch, Javanese (most widely spoken dialect), more than 700 languages are used in Indonesia
Religion	Muslim 87.2%, Roman Catholic (2.9%), Hindu 1.7%, other 0.9% (includes Buddhism and Confucian)
Literacy rate	92.8%
GDP	\$1.285 trillion (ranked 16 <sup>th</sup> in the world)
GDP – real growth rate	5.3% (ranked 49 <sup>th</sup> in the world)
GDP – per capita	\$5200 (ranked 158 <sup>th</sup> in the world)
Labour force	120 million (ranked 5 <sup>th</sup> in the world)
Unemployment rate	6.6% (ranked 70 <sup>th</sup> in the world)
Population below poverty line	11.7%

Debt external	\$223.8 billion (ranked 33 <sup>rd</sup> in the world)
As of 2013 Indonesia's Human Development Index rank is 121 out of 186 and comes under the category of 'medium human development'	

*Table 1. Facts about Indonesia*

*Adapted from CIA (2014) and UNDP (2013)*

### 2.1.1 Early History

Indonesia has been inhabited by humans (and their ancestors) for hundreds of thousands of years and has is considered a crucial place in the understanding and study of human origins and evolution<sup>6</sup>. Early ancestors modes of existence are believed to have evolved in a pattern based on small hunting-fishing-foraging communities that adapted to their wide variety of environments and kept contact with neighbouring peoples via land and sea. It is believed that around 10,000 years ago, at the end of the last ice, the sea levels rose creating the archipelago. It is from this point that cultural and social characteristics that are still significant today were developed. Examples of which include languages belonging to the Austronesian family, rice agriculture, ceramic and metal technologies and long distance seaborne travel and trade; 'and the persistence of diverse but interacting societies with widely varying levels of technological and cultural complexity' (Fredrick and Worden, 2011:5). Although there does not exist an entirely clear understanding of how and why these changes took place the study of historical linguistics has lead scholars to believe that 'Austronesians' are believed to have migrated from southern China and Taiwan in a rapid process. More modern research challenges this model and suggests that the process took place over a long period of time and was in fact a more complicated where the combination of old and new populations interacted in various different ways.

The use of the terms 'states' and empires has been problematic in the history of their formation due to the limited data available and historians have therefore chosen to use the term 'hegemonies' when describing these early social and political models.

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<sup>6</sup> About 75% of the world's *homo erectus* examples have been discovered on sites in Java (Fredrick and Worden, 2011)

The Srivijaya and the Mataram are the two great hegemonies that dominated during a period from the mid-sixth to the eleventh centuries. Srivijaya was a Buddhist trading kingdom most likely arising from policies of war and alliance during a period when important direct sea trade with China was established, which led to them becoming a wealthy and important Asian power. Mataram arose in the early eighth century as Srivijaya began to flourish in south-central Java. It was in this period that temples (*candi*) such as Borobudur and Prambanan (the remains of which are still present today) were constructed, connecting local powers with Buddhist or Hindu worldviews. It is believed that these temples give a suggestion of the competing and intermingling ideas of power and spirituality that existed in the dynamic political and religious atmosphere at this time. In the early 13<sup>th</sup> century the Majapahit Empire arose. Majapahit with its widespread territories and regular relations with surrounding countries is considered to be the largest pre-modern state in the archipelago. It is believed that the external influence of China, Portugal and Islam led to the decline of the Majapahit's power (Fredrick and Worden, 2011).

### **2.1.2 Modern Era**

Indonesia has undergone several occupations. The growth of European exploration led to the Portuguese arriving in the early 1500s. Despite their takeover of several important ports, these events are not considered as the beginning of a 'Western Intrusion', but rather as a component of a dynamic stage (the Spanish, Dutch and English were also involved in trade), the end of which resulted in the collapse of the Majapahit empire. Over the next 250 years the Indonesians, through a complex process that cannot be narrowed down to factors such as 'East vs. West', 'Christianity vs. Islam' or 'modern vs. traditional', gradually lost a great deal of their political power and independence. The Dutch first began to colonise the country in the early 17<sup>th</sup> century and the Dutch United East Indies Company stood out as an aggressive power pushing for profit and dominance over the Indonesia spice market, conflicting with both the Indonesians and the British. After some years with power changing hand between these nations the Dutch started a formal colonisation process based on the production and extraction of natural resources.

World War II and the German takeover of the Netherlands led to its separation from the colony. A process that led to the weakening of the Dutch colonial rule as

Indonesians realised that the shock and confusion that war had created could bring with it favourable changes. This was then followed by Japanese occupation lasted from 1942-1945. The Japanese occupation was primarily fuelled by their need to raw materials, especially oil. The Indonesians initially cautiously welcomed their victory over the Dutch because they thought it might forward an Indonesian nationalist agenda. Unfortunately the Japanese' influence on imperial policy was minimal and they are often remembered for their cruel and repressive treatment of Indonesians, particularly those of the low social and economic status (Fredrick and Worden, 2011). In the beginning of August 1945, Japanese preparations for Indonesian independence were disrupted by the US bombings of Hiroshima and Nagasaki and subsequently led to Japan's surrender only days after (Brown, 2003). It was then that influential nationalist leader Sukarno was appointed President (with Mohammad Hatta as vice president), but it took four years of fighting, intermittent negotiations and UN mediation before sovereignty was finally transferred from the Netherlands and Indonesian independence was finally recognised in 1949 (CIA, 2014).

The challenges that Indonesia faced from this point on were mostly of an internal nature. Successes included the improvements in adult literacy (raised from 7.5% in 1930 to 47% in 1961) and the execution of a well-organised, honest and relatively peaceful election in 1955 where 91% of the eligible voting public (38 million) spread out through the archipelago cast a ballot (Fredrick and Worden, 2011). But economic improvement, which was perhaps the greatest expectation of independence, particularly by the middle and lower classes, was far from a simple task. The Japanese had left the economy weak and disorganised. In 1950 the gross domestic product (GNP) and rice production were well below the levels from 1939. The government were also burdened with debt to the Netherlands (\$1.125 billion). The high expectations the public and leaders had for the independence and the dissatisfaction and unease, notably in the lower classes, when goals were not reached combined with various other factors (such as increasing corruption and a high degree of centralisation) created a hostile environment. This resulted in Sukarno declaring marital law in 1957. The country then entered into a period of religious and politically based internal conflicts resulting in tens of thousands of deaths. Sukarno had gained support from China and the Soviet Union to increase pressure on the Dutch to abandon their territory and implicitly hoped that Indonesia would 'slide towards the

communist bloc' (Fredrick and Worden, 2011:67). Sukarno increasing isolation from Western powers and the instability of power struggles both internationally and domestically were far from the 'unified Indonesia' nationalists had hoped for. The ebbing situation and an attempted coup finally led to Sukarno turning over his executive authority to General Suharto.

In 1967 Suharto became president bringing with him his 'New Order'. This 'New Order' differed greatly from Sukarno's notion of 'Guided Democracy' and it often considered its antithesis, despite similarities in their shared belief in a highly centralised and religiously neutral state. Whilst ties with Beijing and confrontation with Malaysia were abandoned, the new government with its pro-western and pro-capitalistic stand re-joined the UN and sought economic assistance from the West. In the light of the failure of 'Guided Democracy' the 'New Order' saw the establishment of an 'apolitical, non-ideological, quasi- or pseudo-democratic system' (Fredrick and Worden, 2011:74) as a solution that would prevent internal conflict, encourage economic development and to some extent satisfy 'world opinion'. Successful socio-economic progress secured popularity for Suharto's regime and his position as president for 31 years.

It was the Asian Financial Crisis in 1997 that led to the end of his rule. Not only had the economy eroded, but civil society had become paralysed due to the fact that strong centralisation meant that almost no political or social institutions operated independently of the government and therefore become reliant upon government patronage. As the government collapsed 'these institutions foundered as well, tearing at the very fabric of Indonesian society' (Brown, 2003:229). These many negative factors and Suharto's suspected poor health generated a severe loss of confidence in the government and subsequent student led rallies and riots resulted in Suharto's formal resignation in 1998.

### **2.1.3. Government and Administrative Divisions**

Indonesia is a republic and the 1945 constitution established a presidential system that became more 'pure' following amendments which today mean that it can be classified as a checks and balances system containing legislative, executive and judicial branches (Fredrick and Worden, 2011, CIA, 2014). The president is the chief



executive of Indonesia and since the declaring independence in 1945 Indonesia has six presidents. The current president, who won re-election in 2009 is Yudhoyono.

A reaction the fall of the 'New Order's' highly centralised political was the demand that the reform to the 1945 Constitution would allow for decentralisation of power (King, 2001). In 1999 the government, indicating serious intentions, approved no.22 and Law no.25 on decentralisation. From this point Indonesia began with a decentralisation process moving rapidly away from its previously strong centralised government structure (Green, 2005). The number of administrative division has varied during this process, but today Indonesia consists of 34 provinces (five of which have special status). Each province has its own legislature and governor who is a central government representative and a representative of parliament. Yogyakarta, along with Aceh, Jakarta, Papua and West Papua, is one of the special regions that have the greatest legislative privileges and a higher degree of autonomy from the government. Yogyakarta's special Region status was granted as recognition of its central role in supporting the Indonesian Republicans during the Indonesia Revolution (that led to the countries independence in 1945).

In 2001, regional autonomy<sup>7</sup> measures were implemented which meant that regencies and cities became key administrative units responsible for providing most government services. These provinces were then further divided into regencies (*kabupaten*) cities (*kota*), which are then further divided into districts (*kecamatan*) and then again into the lowest level of government administration, village grouping (*desa or kelurahan*) (Holtzappel and Ramstedt, 2009). Indonesia is a land spread over a large geographical area with a population that varies greatly with regard to religion, ethic background, social and economic status and even language. Decentralisation was therefore designed to 'bring a measure of autonomy to Indonesia's many culturally diverse regions' and 'promote good governance by enabling citizens and democratic elections' (Green, 2005:1). It is also thought that this process will strengthen political and economic stability thus raising Indonesia's profile as major role in the future direction of the Asia-Pacific region.

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<sup>7</sup> The term used for the decentralisation of governance to outlying regions

This process has not been without issues and concerns about Indonesia current decentralisation policy are based on the lack of clarity to support its implementation at the provincial level. A repercussion of this is that the initiation of programs for development become problematic since the province is financially dependent upon transfers from central government. In addition decentralisation laws no.32/2004 and Law no.33/2004 do not clearly elaborate the importance of the provincial government's role and function thus threatening planning, budgeting and monitoring processes. Governmental functions have also become unclear. Whether policy-making, monitoring and implementation functions should be shared or divided between the government and provinces is ambiguous, nor is it understood to whom the local government should be accountable. In addition to this the provinces lack administrative power over the districts/villages meaning that they do not have to answer to the provinces, thus hindering monitoring and restricting provincial financial power (UNDP, 2009b).

#### **2.1.4. Economy**

In Asian Financial crisis of 1997 Indonesia was one of the worst affected countries. The depreciation of the rupiah and higher interest rates hit the middle and high-income groups first and as domestic inflation began to increase accompanied by a rise in unemployment, the lower income groups were affected resulting in a significant rise in the poverty rate in 1998 and an overall growth of minus 13.7% (GDP). After this crisis the improvements from debt restructuring combined with others factors such as strong public finances and cautious policies by the government banks and corporations meant that Indonesia was more resilient than others countries during the Global Economic crisis 2008/09 (Tambunan, 2010).

Indonesia is a country rich in natural resources, which evident from its pre-colonial and colonial history. From this period the country was known for its trade of spices and wood, but main exports today include oil and natural gas, rubber, palm oil, textiles and electrical appliances (CIA, 2014). The majority of the 120 million strong workforce (ranked 5<sup>th</sup> in the world) work in the service industry (47.9%), whilst 38.9% are employed in agriculture and 22.2% in industry (CIA, 2014).

Although the Indonesia economy has strengthened greatly, it is still classified by the World Bank as a developing country defined by its Gross National Income (GNI) per capita per year (developing countries have GNI of US\$ 11,905 or less) (ISI, 2013).

#### **2.1.5. Current Situation**

Despite Indonesia's substantial economic growth it is still struggling with poverty, unemployment, corruption, unequal resource distribution as well as inadequate infrastructure (CIA, 2014). Along with these issues, the country also has to deal with threats from the natural environment. Indonesia has been nicknamed by many as 'the supermarket of disasters' due to the frequent occurrence of natural hazards. The location of the Indonesian archipelago on the convergence of the earth's major tectonic plates leaves it particularly prone to tectonic hazards, such as earthquakes, tsunamis and landslides. It is also believed that global climate change has contributed to the increase of floods, draughts and forest fires (Sardjuanin and Hadi, 2010).

With a population of 253 million people with a wide-ranging income distribution, various tribes, ethnic backgrounds, religions and customs spread throughout the archipelago, Indonesia has a complex social context that is seen to have contributed to its vulnerability to hazards. This situation has also had an impact of the increase in poverty and dependency on external help (Sardjuanin and Hadi, 2010). According to UNISDR's Global Assessment Report 2013, this can be reflected in terms of economic loss in the period 1991-2011, where Indonesia is ranked in 3<sup>rd</sup> place in the world (UNISDR, 2013). Despite these factors, Indonesia has 'great potential to sustain geologic, biologic, hydrometeorologic, environmental, technologic and social disasters' (Sardjuanin and Hadi, 1:2010).

### 3. Frameworks and Theoretical Reflections

This section start with a presentation of the DRR, HFA, a justification for the focus on DRR in developing countries and a breakdown of the priorities and actions that are relevant and important for the implementation of DRR education. This is followed by the role of DRR education in DRR, which argues for its importance in building a culture of safety and reducing children’s vulnerability and a presentation of two integration methods. The following three sections discuss terms and concepts relevant to DRR and finally a model explaining the progression of vulnerability is presented.

#### 3.1 Frameworks

##### 3.1.1 Disaster Risk Reduction (DRR)

*“We must, above all, shift from a culture of reaction to a culture of prevention. Prevention is not only more humane than cure; it is also much cheaper.... Above all, let us not forget that disaster prevention is a moral imperative, no less than reducing the risks of war.”*

*Kofi Annan, Former Secretary General of the United Nations (UN, 1999)*

Disasters and crises<sup>8</sup> have in various ways been presented by many researchers has a series of phases (Ursano, McCaughey and Fullerton,1994; Kruke, 2010). Kruke summarised these phases and proposed that they should be seen as a circular, rather than linear, process (figure.4).

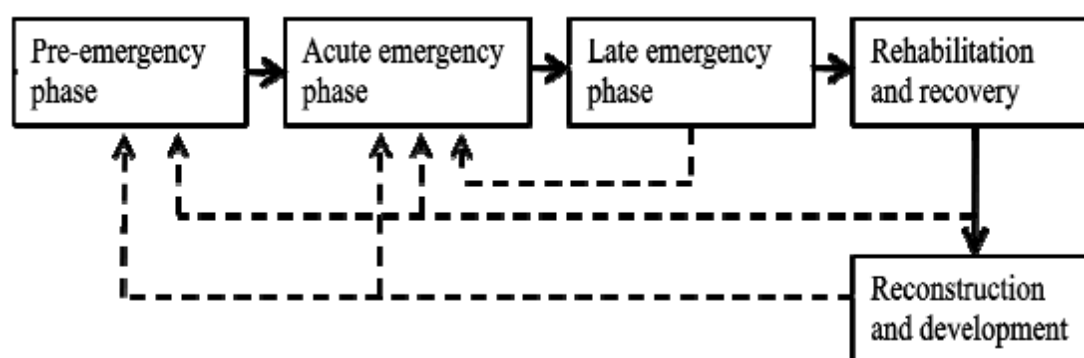


Figure 4. Crisis phases as a circular process

Source: Kruke (2010)

<sup>8</sup> The term crisis is further discussed in 3.4

The idea behind the circular process is that after a disaster has struck and rehabilitation, recovery and reconstruction has begun<sup>9</sup>, one will return to a ‘normal state’, but this ‘new’ pre-emergency state will not be the same the one that caused the disaster. This is hopefully due to the fact that lessons have been learned and reconstruction and development leave the system (or society) in a more robust state than previously (Kruke, 2012). Kruke notes that there is ‘a clear relationship between the prevention and emergency preparation carried out in the pre-emergency phase, and the potential for effective management of ever developing hazards’ (2012: 8).

Previous disaster management strategies have been criticised for putting too much focus on the emergency response and rehabilitation and recovery. DRR signifies a paradigm shift in disaster management, which is more in line with the circular process, emphasising focus on hazard mitigation. The aim of DRR is to reduce damage caused by natural hazards, such as earthquakes, floods, droughts and cyclones, through an ethic of prevention (UNISDR, 2013). Natural hazards often cause disasters, the scale of which depends on the choices that are made regarding our lives and our environment. Such choices may relate to how we grow our food, the placing and structure of our homes, the kind of government we have, the way our financial system works and even the school curriculum. Our decisions and actions within these arenas can make us more vulnerable or more resilient to disasters.

The idea of DRR has been presented in research about vulnerability since the mid-1970s (Wisner, 2004). This thesis will focus on United Nations International Strategy for Disaster Reduction’s (UNISDR) definition that considers DRR to be the concept and practice of ‘reducing disaster risks through systematic efforts to analyse and reduce the causal factors of disasters’ (UNISDR, 2013). More specifically, DRR is defined as

*‘The conceptual framework of elements considered with the purpose of minimizing vulnerabilities and disaster risks through a society in order to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, and facilitate sustainable development’ (UNISDR, 2007)*

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<sup>9</sup> There are not always clear lines between the phases, meaning a system may return to the pre-emergency phase whilst work from the previous phases is still on-going

UNISDR's vision has a focus on enabling communities to become resilient to the effects of various hazards (natural, technological and environmental), thereby reducing the risk these hazards pose to social and economic vulnerabilities (UNISDR, 2013a). The disaster risk reduction framework is composed of the following 5 fields of action:

1. *Risk awareness and assessment including hazard analysis and vulnerability/capacity analysis;*
2. *Knowledge development including education, training, research and information;*
3. *Public commitment and institutional frameworks, including organisational, policy, legislation and community action;*
4. *Application of measures including environmental management, land-use and urban planning, protection of critical facilities, application of science and technology, partnership and networking, and financial instruments;*
5. *Early warning systems including forecasting, dissemination of warnings, preparedness measures and reaction capacities.*

*UNISDR (2013b:3)*

The conceptual framework (figure.5) developed by UNISDR consists of the aforementioned elements, which are considered to have 'the possibility of minimising vulnerabilities and disaster risk throughout a society by avoiding (prevention) or limiting (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development' (UNISDR, 2004). The focus of this thesis 'National Platform' and 'DRR education' come under points 2 and 3.

## Conceptual framework for disaster reduction

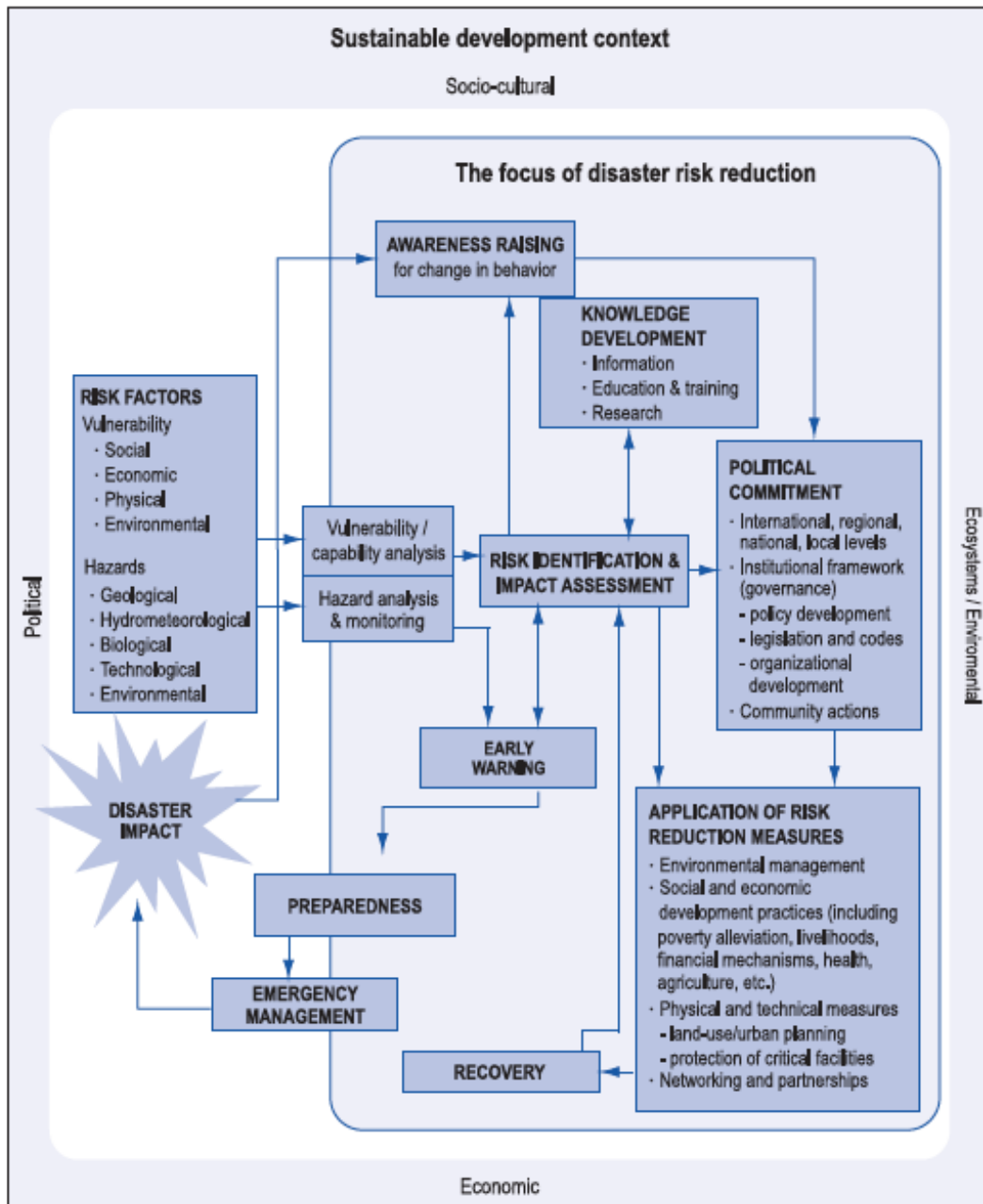


Figure 5. Conceptual Framework for disaster reduction

Source: UNISDR (2004:5).

### 3.3.1 DRR and development

UNISDR see DRR as a central issue for development policies, as well as being an interesting issue within the realms of the scientific, humanitarian and environmental fields. Their view is that disaster ‘undermine development achievements, impoverishing people and nations’ (UNISDR, 2007). A lack of effort to address the issue of disaster impact can have a detrimental affect on the achievement of the Millennium Development Goals (MDG)<sup>10</sup>.

The figure 6. illustrates how development is affected by disasters and how the implementation of DRR activities can reduce underdevelopment.

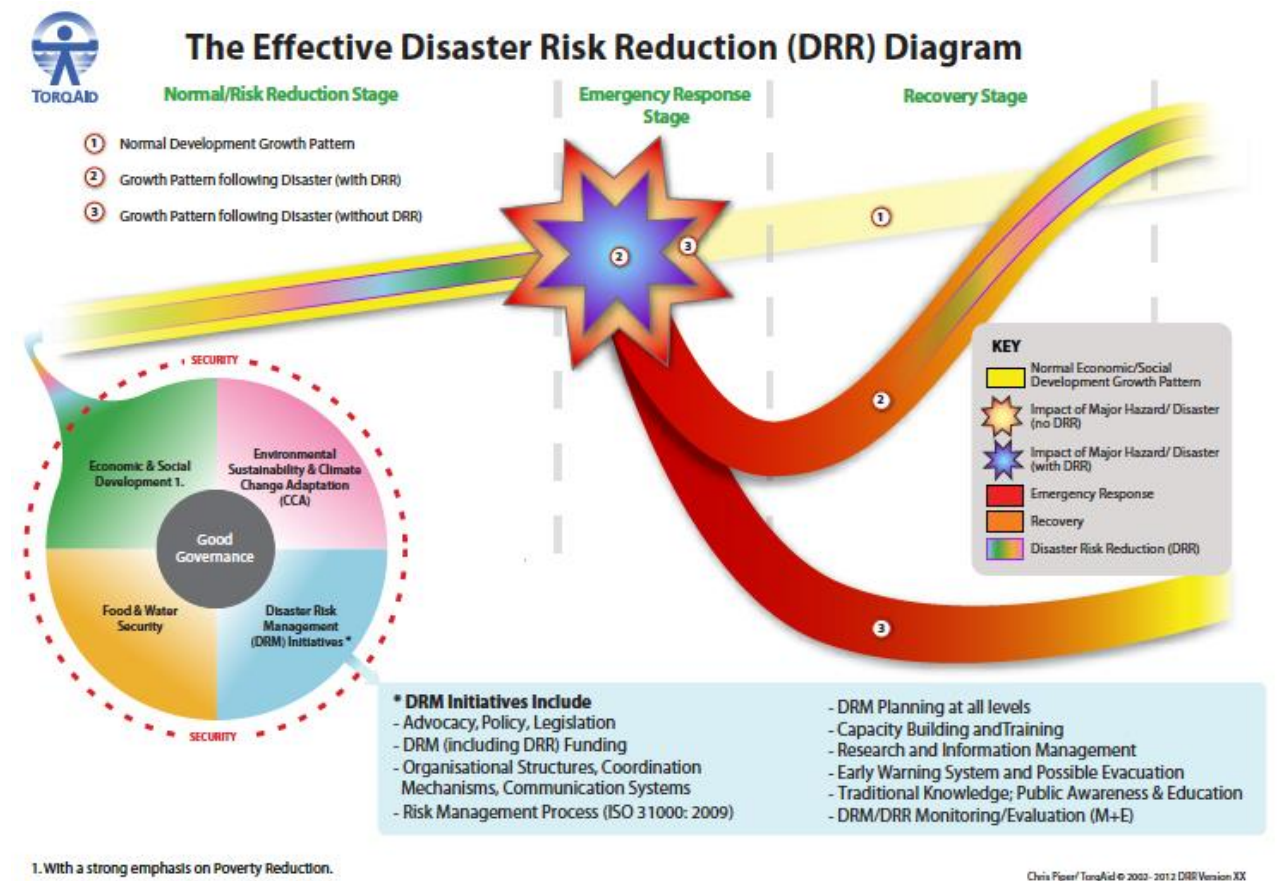


Figure 6. The Effective Disaster Risk Reduction Diagram

Source: TorqAid(2011)

<sup>10</sup> The MDGs are eight international development goals established by the UN in 2000. All UN member states have committed to aim at achieving these goals by 2015.



The diagram implies that effective implementation leaves developing countries in a better position to cope with the pressures major hazards, such as natural hazards, place on them allowing them to make a quicker recovery and return to their normal path of development. This thesis will focus on children's role in DRR through DRR education and how reducing children vulnerability. It is therefore argued that giving children knowledge about how to react when a natural hazard strikes not only has the potential to increase their resilience, knowledge about why hazards become disasters and how one can build a society upon a culture of safety can also have a positive affect on development and the realisation of the MDGs (Sorensen, Rumsey and Garcia, 2013).

### **3.3.3 Hyogo Framework for Action**

The Hyogo Framework for Action (HFA) was developed in 2005 and is the follow up to the Yokohama Strategy. The main aim of HFA is to substantially reduce disaster losses, in lives and in the social economic and environmental assets of communities and countries by integrating DRR into sustainable development policies and planning, strengthening institutions, mechanisms and capacities to build resilience hazards and systematically incorporating risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes (UNISDR, 2007).

The HFA was developed, agreed on and endorsed by the UN General assembly following the World Disaster Reduction Conference. The principles of the Yokohama Strategy are retained in the HFA, but unlike the original strategy the HFA is the first plan that explains, describes and gives detail of the work required from all the various sectors and actors to reduce disaster losses (UNISDR, 2007). The framework has 5 main priorities for action (a summary of the HFA can be found in Appendix 1):

- 1) Ensure that DRR is a national and 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

(UNISDR, 2007)

In 2007 a guide for the implementation of the priorities was released. The guide provides governments and stakeholders with further explanation of the priorities as well as recommended steps for how to implement, who should be involved and some examples of work that has already carried out since 2005. The focus of this thesis comes under priorities 1 and 3. The establishment of a National platform is crucial for the creation of strong policy key activities under priority 1 and is an important part of ensuring that DRR is seen as a national and local priority thus aiding its implementation (Sardidjuani and Hadi, 2010). ‘DRR education’ comes under priority 3. These specific activities are under priority 1 and 3 are detailed in the next section

### **3.3.4 Priorities 1.2, 1.4 and 3.2**

The focus of this research is on priority 3.2 ‘the inclusion of DRR into school curricula, formal and informal education’ and priorities 1.2 and 1.4 are deemed important in the realisation of the former (UNISDR, 2007:23).

According to the guidelines set out by UNISDR (2007), the primary responsibility of the state is the implementation of measures to reduce disaster risk. They are considered above all responsible for the protection of their citizens and their national assets. Although DRR is the overall responsibility of the state, the framework recognises that the effective DRR is dependent on the efforts of multiple stakeholders, this includes the actors mentioned in the following sections as well as civil society volunteers, the private sector, the scientific community and the media.

With regard to DRR education this implies that it is the states responsibility, not to actually carry out the activities (implementation), but to facilitate by making sure that structures are in place to secure effective implementation. This is clearly stated in Priority 1.2 ‘Create or strengthen mechanisms for systematic coordination for DRR’ (UNISDR, 2007:2). More specifically the guidelines recommend the formation of a ‘national platform’ that brings together relevant stakeholders and allow for coordinated and effective action on DRR, such as DRR education.

The HFA points out that DRR requires the attention of most ministries since it spans across all sectors and although the it does not state which ministries should take responsibility for overseeing its implementation is does note that ministries should take responsibility for the implementation of DRR activities in their normal area of

responsibility (UNISDR, 2007). Naturally, education in Indonesia is the responsibility of Kementerian Pendidikan Nasional (Ministry of National Education (MoNE)). Priority 1.4 therefore require MoNE to ‘prioritise DRR and allocate appropriate resources’ which entails improving ‘policy, legal and institutional frameworks by assigning roles and ensuring that responsibilities will be fulfilled’ (UNISDR, 2007: 28). United Nations Educational, Scientific and Cultural Organization (UNESCO) further this statement by emphasising the importance of MoNE school policymakers to ‘set policies and agendas to ensure the adoption and successful integration of DRR in the education sector’ (UNESCO, 2014:5). Further details are given by Petal’s publication for UNISDR where it is stated that:

‘highest level educational authorities are expected to take the lead in a policy agenda designed to:

- Develop school disaster management guidelines
- Promote mainstreaming of disaster prevention education through extra-curricular policies
- Initiate audit of national curriculum in order to embed disaster prevention education in the curriculum during the regular curriculum review process’

(Petal, 2014: 42-43)

Organisations (including UNISDR, UNDP and INGOs) are called upon ‘to encourage and support national and regional efforts through a range of activities’ (UNISDR, 2007:2).

UNISDR stipulates that strongly supported national ownership and leadership is necessary for effective DRR. A national platform should be based on a fellow understanding of DRR through its various sectors and disciplines, which actively promote DRR, capacity development, the raising of public awareness, policy development and the integration of DRR into its various development activities is essential. Although there is an emphasis on the ‘good practices’ of national platforms, the UNISDR accept that a ‘blueprint’ for setting up such platforms is not possible or desirable due their context specific nature (2007).

### 3.2. DRR education in DRR

*“Education, knowledge and awareness are critical to building the ability to reduce losses from natural hazards, as well as the capacity to respond to and recover effectively from extreme natural events when they do, inevitably, occur”*

*(Wisner, 2006:4)*

Kofi Annen, the former Secretary General of UN communicated the importance of a focus on disaster prevention by stating: ‘We must, above all, shift from a culture of reaction to a culture of prevention. Prevention is not only more humane than cure; it is also much cheaper...Above all, let us not forget that disaster prevention is a moral imperative, no less than reducing the risks of war’ (UN, 1999). It is openly accepted that we cannot prevent natural hazards, but through an informed and motivated move towards a culture of disaster prevention and resilience (of which DRR education plays a key role) we can prevent hazards from becoming disasters. As stated within Priority for Action 3 of the HFA, the aim should be to build a culture of safety and resilience through the use of knowledge, innovation and education. The inclusion of DRR education is therefore a key area within this priority and is specified as ‘the implementation of programmes and activities in schools for learning how to minimize the effects of hazards’ (UNISDR, 2007:10)

The human right to education is fundamental and universal. It enables people to reach their full potential and empowers them to exercise other rights. In ‘The Convention on Rights of the Child and Education’ knowledge about the natural environment is also specified (UNICEF, 2007). It could then be argued that DRR education comes within this category. Giving children the opportunity to gain the knowledge they need to empower themselves to reduce vulnerability to natural hazards can therefore be translated as a human right and should be part of what the MDG describe as ‘universal education

There are many factors that can enhance children’s resilience, such as positive self-concept, self-regulation, social competence, cognitive flexibility, problem-solving skills, communication skills and religious affiliation; skills that are also promoted and encouraged in the Indonesian school system (Shaw, Espinel and Schultz, 2012). Masten (2007) cited in Shaw et al. (2012), acknowledges the importance of educational institution’s to influence a child’s socialisation as a place that provides an

arena for mastery and learning. Schools are therefore the natural context in which DRR education should take place.

In important factor to take into account is that many countries have developed early warning systems for natural disaster. For these systems to be whole while peoples' knowledge needs to be in line with these kind of technological advancements so that they can be used to their risk reducing advantage. As Bernal points out 'even the most perfect early warning system is useless if people do not know what to do in an emergency', which forwards the argument for the importance of DRR education (DKKV, 2006:5).

Children are considered to be actors within DRR. Changing the adult generation's attitudes to natural hazards is in general a difficult task. Children are more susceptible to influence are therefore seen as hope for the future. Not only can they be educated to react in an effective manner when a natural hazard strikes, they can also be educated about why these hazards are increasingly occurring and the measures that can be taken to reduce vulnerability. Evidence shows that education about DRR and climate change can change children's perceptions and behaviours (Adams, 2012, PISA, 2006) Children will determine how the future will be: they are the next generation's politicians, architects, disaster manager and educating them about natural hazards could potentially have a notable impact on sustainable development, resilience and achievement of development goals such as MDGs (Sorensen, Rumsey and Garcia, 2013). It is also proposed that the school is a good place to start because it is in the centre of the community and it is hoped that messages children have internalised in school maybe taken home to their families, neighbours and friends (Izadkhah, 2005 cited in Petal and Izadkhah, 2008). By instilling DRR as a value in society, there is also the hope that these same values will be transmitted to future generations (UNISDR, 2007:64).

### **3.2.1 DRR education - Formal and Informal Education**

Educating children about natural hazards, why they occur, how we make our societies more robust to them and how to react when they strike are crucial to the reduction of children's vulnerability. DRR education should take into account the relationships between society, environment, economy, and their cultural and social impacts. Such

education should also aim to promote critical thinking and problem-solving skills in addition to social and emotional life skills that are seen as essential to the empowerment of groups threatened or affected by disasters. The HFA states that DRR education should occur through formal and informal education. The next two sections give a clarification of these what these methods entail at primary school level.

### *3.2.1.1 Informal Education*

Informal education happens outside the normal school lessons and can be described as co-curricular or extra curricular activities. Petal and Izadkhah claim that transference of this knowledge ‘can and should be the rapid entry point for DRR education’ (2008: 1). Informal education has many different forms. The forms are often fun and engaging ways to introduce important knowledge, skills and competencies to students of all ages. Such activities may include the following:

- **Dissemination of written skills:** such as posters and leaflets
- **Creative education materials:** such as toys and games, documentaries and short films, storybook, comics, games and puzzles
- **Cultural and performing arts:** such as music, song, poetry, dance, puppetry, theatre and improvisation
- **Competitions, awards and commendations:** such as DRR knowledge tournaments or sports day activities involving drills
- **Disaster drills:** such as simple drills where student are given the opportunity to practice how to respond to early warnings and what to do in the event of various natural hazards. These can also include fire suppression, first aid and transport of the injured.

### *3.2.1.2 Formal education*

Formal education takes place in the classroom in the form of integration into subjects in the existing curriculum. This integration is not as quick as the informal method, but can still happen fairly rapidly. Using this method DRR education ‘can be systematically and more slowly infused in the curriculum by elaborating its full scope and sequence, undertaking an audit of existing curriculum, and designing the entry points in the course of the curriculum adoption cycle for all subjects and age levels’ (Petal and Izadkhah, 2008:2). This method may include the following:

- **Curriculum integration:** such as specially designed DRR units or modules that fit into specific course curricula at certain grade levels and for a specific duration.
- **Extra-curricular integration:** such as extra content that is slipped into the school day. Petal and Izadkhah (2008) use give the example of ‘What’s the Plan, Stan?’ that is a marketing campaign and mascot used in New Zealand to implement extra curricular content. This project was also linked to a community wide public campaign that needed limited teacher training.
- **Curriculum Infusion:** this is a more comprehensive approach that entails merges DRR education content throughout the existing curriculum. This would means including DRR education in reading, writing and problem-solving activities, enriching rather than replacing the existing curriculum. In this method DRR education would start when a new curriculum cycle is adopted.

*Curriculum integration* is deemed advantageous because it reserves an individual place within the curriculum which can help sustain the subject and allow it to be adapted to the local context<sup>11</sup> over time. Development and introduction can take place rapidly, but requires teacher training to develop competence and efficacy.

Unfortunately, there is a concern that primary school curriculum is already full with and the inclusion of DRR education would mean that another subject would have to be squeezed out (Petal and Izadkhah, 2008). *Curriculum infusion*, on the other hand, is a process that would require a consultative, multi-stakeholder approach involving high-level policy guidance, the commitment of resources and intensive collaboration between DDR experts and curriculum specialists. This process would therefore be longer because planning would have to take place long before the adoption of a new curriculum cycle to ensure that DRR education is included (Petal and Izadkhah, 2008). *Curriculum infusion also relies* to heavily on the capacity and willingness of teachers to integrate DRR into their teacher plans that are frequently already overloaded. A combination of approaches may therefore lead to greater success.

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<sup>11</sup> Areas are exposed to different hazards to it is important to make the content relevant to the local context

No matter which types of methods are used it is important to note that a partnership between implementing organisations and the MoNE is essential for the creation of school policy and eventual curriculum changes, all of which require financial resources (RCC, 2008).

### 3.3. Risk, Hazard and Disasters

Beck (2009) notes that ‘threat and insecurity have always been among the conditions of human existence’ (p.4). The types of threat our societies have faced have changed over time according to the current *semantics of risk*<sup>12</sup>. According to Beck, during the course of industrialisation the two faces of risk – chance and danger, became an issue. Also with the changing view on disaster as an ‘act of society’ rather than an ‘act of God’ or an ‘act of nature’, all definitions contain a human element. No longer bound by religion, Beck sees risk as representing the ‘perceptual and cognitive schema in accordance with which a society mobilises itself when it is confronted with the openness, uncertainties and obstructions of a self-created future (2009:4). Renn (2008) notes that risk therefore contains three elements: ‘outcomes that have an impact upon what humans value; the possibility of occurrence (uncertainty); and a formula to combine both elements’ (p.2).

There are multiple definitions of the terms risk, hazard and disasters to which the term natural disasters has added confusion. In fact it has been said that ‘there is no such thing as a natural disaster; there exists only natural hazards’ (UNISDR, 2002:4). It is thus important to distinguish between the terms hazard and disaster. A disaster occurs when a society or community is affected by a hazard. According to Kelman (2010), natural disasters require human input; they are social constructions consisting of human decisions that put our societies at risk. Hazards therefore become disasters when commodities which humans consider valuable (lives, livelihoods, GNP) are damaged. The UNISDR define disaster as:

*A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts,*

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<sup>12</sup> ‘The present thematisation of future threats that are often a product of the successes of civilisation’ (Beck, 2009:4)



*which exceeds the ability of the affected community or society to cope using its own resources. (UNISDR, 2009a)*

Understanding disasters as social rather than natural allows for the notion that risk and the potential impact of disasters can be controlled; that knowledge can reduce uncertainty and therefore appropriate decisions regarding risk-reducing measures can be made. This reflects the optimistic attitude of high reliability theorist who believe that ‘extremely safe operations are possible, even with extremely hazardous technologies, if appropriate organisational design and management techniques are followed’ (Sagen, 1993:13). It can then be said that disasters are not caused by nature and are not necessarily even a disaster for nature itself; they are disasters for societies that are not prepared to withstand natural hazards. Natural disasters are therefore seen as the result of social systems and infrastructures that are organised and operate in a disaster-generating manner leaving citizens in a vulnerable position.

### **3.4. Crisis and crisis leadership**

No country in this world is free from hazards, risks and disasters, which means that crises have become characteristic feature our society. Has shown in the introduction, the occurrence of natural disasters have drastically risen in the last 50 years. The term crisis has many definitions, but in the context of this thesis Boin, Hart, Stern and Sundelius of crisis and ‘ a serious threat to the basic structures or the fundamental values and norms of a system, which under time, pressure and highly uncertain circumstances necessitates making vital decision’ (2005:2).

The understanding of crises as changed over time. According to Rosenthal, Boin and Comfort (2001) natural disasters are the achetype of crisis and have been typically understood as an Act of God that is ‘unwanted, unexpected, unprecedented, and almost unmanageable, causing widespread unbelief and uncertainty’ (p.5). This perception sees crises as distinct events that can be easily divided in time and space. Rosenthal et al. claimed that this perception was too narrow and no longer appropriate in our modern society. Today crises are have ‘become part of our world, part of the way we live and want to live’ increasingly characterised by complexity, interdependence and politicisation, and are therefore not ‘external entities’ (Rosenthal

et al., 2001:6). It is from this type of understanding that policymakers and managers have come to realise that crises are often not one off one-shot events; they unfold through time and the point of their termination is not obviously clear. Crises often manifest themselves in misinformed beliefs about personal safety and invulnerability and the gap between the experiences of those directly affected by a disaster and the 'prescriptive models of crisis management' often lead to tension and frustration in their aftermath ('t Hart and Boin in Rosenthal et al. 2001:28). In political and institutional terms the aftermath can be the crisis.

'T Hart and Boin propose that this stage of the crisis, crisis evaluation and crisis-induced reform may emerge (Rosenthal et al.2001). Rosenthal et al. support this by stating that in terms of social and political order, crises can be seen in functional terms as 'facilitators of long-awaited change' (2001:2). What may be a crisis for some; may be an opportunity for others. This means that this phase of a crisis brought about by for example, a natural disaster, can give stakeholders the opportunity to 'advocate measures and policy reforms that incumbent leaders reject' (Boin et al., 2005)

### **3.5 Vulnerability, Resilience and Children in the community**

Vulnerability and resilience in this context says something about how individuals and communities cope with natural hazards. Cannon (2008) claims that these terms are often used and abused in literature on natural hazards and disaster risk reduction. He goes further to say that vulnerability should be understood as 'a set of socioeconomic conditions that are identifiable in relation to particular hazard risk, and therefore perform a predictive role that can assist in risk reduction' (Cannon, 2008: I). A clarification about resilience is also important since it is a concept that is sometimes seen as the inverse of vulnerability and by others as an independent concept.

#### *Vulnerability*

There are many different views of what vulnerability is. This thesis rejects the idea of vulnerability that is associated with poverty, crowd conditions or 'unstable hillside agriculture' or has 'the ability of a system to cope with risk or loss' (Wisner et al. 2004:11). Wisner et al. reject these kinds of ideas because they may show an advance on environmental determinism, but they do not explain the connection between

*widespread conditions* such as ‘poverty’ and *particular vulnerabilities* that link political economy to the actual hazards that people face (Wisner et al. 2004:11). Cannon (2008) says that vulnerability is often discovered after a disaster and therefore notes that definitions that focus on poverty, deprivation and marginalisation are not useful. The focus on passivity and suffering lack a predictive quality. A concept that instead shows causes can guide us towards a way to reduce vulnerability.

Wisner et al., in line with Cannon’s argument, define vulnerability as ‘the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard’ (Wisner et al. 2004:11). This definition takes account for a number of elements that become deciding factors in the ‘degree to which someone’s life, livelihood, property and other assets are put at risk by a discrete and identifiable event (or series or ‘cascade’ of such events) in nature and in society’. Within their writing Wisner et al. use the term ‘vulnerable’ only with regard to people (2004:11). Components that may contribute to their vulnerability (such as building, location and infrastructure) are referred to as ‘unsafe, fragile or hazardous’ (2004:55). Wisner et al.’s diagram explains the variables that affect the impact of a natural hazard.

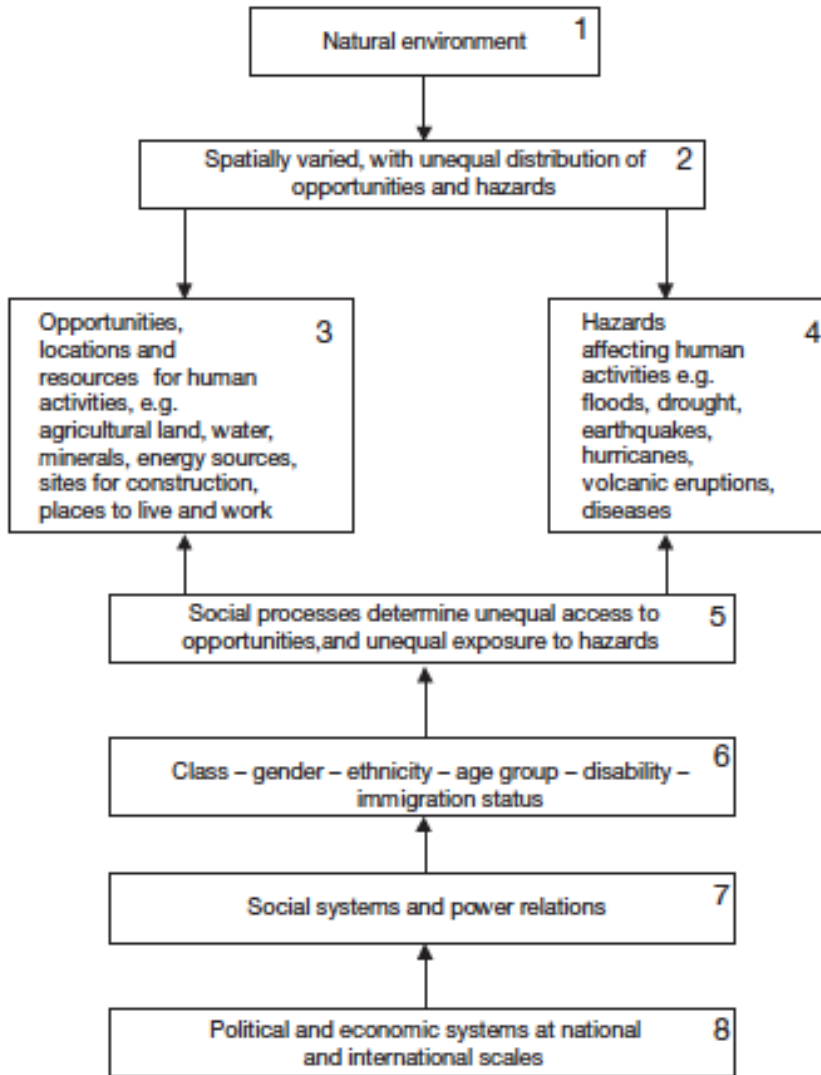


Figure 7. The Social Causation of Disasters  
Wisner, et al. (2004:8)

UNISDR's definition of vulnerability as 'the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard', takes into account a range of social, economical, cultural institutional, political and psychological factors that shape peoples lives and which can vary significantly in communities and over time (2009). Vulnerability therefore requires understanding societies past and present relations to natural hazards and their knowledge and perceptions of the risks.

### *Resilience*

There is often much talk about resilience in DRR. The term is often used to describe a physical structure, but can also be used in psychological terms. In this sense, resilience is referred to as the measurement of ‘an individual’s capacity to rapidly restore pre-disaster levels of function and psychological equilibrium (Shaw, Espinel and Shultz, 2012:115). UNISDR accept this viewpoint and also take into account systemic and societal factors in their definition of resilience as ‘the ability of a system, community or society exposed to hazards 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’ (2009). DRR is strongly based upon the notion that resilience can be built up within society, physically in terms of an intelligent infrastructure that can withstand the pressure of hazards and psychologically in terms of people within society being able to cope with hazards.

### *Children in the Community*

In historical terms, human beings had only themselves to rely upon thousands of years ago. In more recent times, technological developments have increased life expectancy and brought solutions to a multitude of problems. Despite this, technology has not been able to protect us from all problems. It is therefore up to citizens and the government to cope with the effects of natural hazards. Helsloot and Ruitenbergh diffuse the myth that citizens panic in disaster situations and prefer to see them as useful resource that will make rational decisions as to what they can do based on available information and time (2004). They accept that it unreasonable for the government alone to take responsibility for all aspects of disaster management. It is therefore important to involve communities in disaster management and provide with the information they need to make the right choices.

In the context of this thesis, educational institutions and children are considered to be an important part of the community and therefore integral in building resilience amongst its members.

### 3.6. Pressure and Release (PAR) model

As previously stated in the introduction, Wisner, Blaikie, Cannon and Davis take the view that risk faced by people should be seen as ‘a cross-cutting combination of vulnerability and hazard’ (49:2004). By this they claim that disasters are the result of an interaction of these two elements: there will be no disaster if there is no vulnerability or if there is a vulnerable population, but no hazardous event.

Wisner et al. argue that ‘the risk of a disaster is a compound function of the natural hazard and the number of people, characterised by their varying degrees of vulnerability to that specific hazard’ (49:2004). Here they identify three elements: risk (disaster), vulnerability, and hazard, which they choose to schematise in the following pseudo-equation:

$$R = H \times V$$

Wisner et al. (2004) developed two frameworks that can be used to explain ‘the relationship between natural events and the social processes that generate unsafe conditions’. The first is an organising framework outlining causal factors that create pre-conditions for a disaster (underlying factors and roots causes embedded in everyday life). Known as the pressure and release (PAR) model, it illustrates that this combination of problems that can lead to perpetuating vulnerability. The basis for the PAR model is the idea that ‘disaster is the intersection of two opposing forces: those processes generating vulnerability on one side, and the natural hazard event (or sometimes a slowly unfolding natural process) on the other’ (Wisner et al. 2004:50).

The second model, known as the Access Model supplements the first model by ‘focusing on patterns of access to livelihood resources’ (Wisner et al. 2004:36). This model is intended to expand upon a discussion around the underlying factors and root causes identified in the PAR model. Due to the restrictive timeframe of this thesis the decision was made to focus on collecting data that could be used in association with the PAR model, thus implying that further research and data collection would be needed to carry out a more in-depth study allowing one to benefit from an Access model analysis.



that these root causes ‘reflect the exercise and distribution of power in society’. Those who are economically marginal or who live in environmentally ‘marginal’ areas (for example, remote villages, flood or earthquake prone zones), also tend to be ‘of marginal importance to those who hold economic and political power’ (Wisner et al., 2004:82).

*Dynamic pressures* are the processes and activities that ‘translate’ the effect of root causes both temporally and spatially into unsafe conditions’ (Wisner et al. 2004:53). These dynamic pressures are immediate or contemporary, ‘conjunctural manifestations of general underlying economic, social and political patterns’ (p.53) Wisner et al. (2004) use the example of neo-liberal structural adjustment policies that were imposed on many less developed countries (LDCs) in the 1980s. Some south-east Asian countries managed to benefit from this by applying policies that suited their national circumstances (Stiglitz (2002) cited in Wisner et al., 2002:54), but in other countries these policy adjustments were regarded as responsible for the decline of health and education services. Other examples of dynamic pressure include: epidemic disease, violent conflict, rapid urbanisation and foreign debt. It is important to note that these dynamic pressures ‘play out’ into unsafe condition and affect different areas of the population (in a spatial and temporal sense) to varying degrees dependent upon individual characteristics. For example, people with a higher income have better access to materials and resources when considering housing construction compared to the poor. Age, sex, disability and ethnicity are also other factors that can affect resilience/vulnerability.

*Unsafe conditions* are the ‘specific forms in which the vulnerability of a population is expressed in time and space in conjunction with a hazard’ (Wisner et al., 2004:55). Examples of these include: living in hazardous areas, unsafe buildings, lack of protection from the state and engaging in dangerous livelihoods (e.g. prostitution, gold-mining). As noted in the previous paragraph, the degree to which dynamic pressures and unsafe conditions affect people is dependent upon the well-being of those persons. The identification of unsafe conditions serves as a bridge between the PAR model and the Access model; where in the latter, access to tangible resources (money, food, equipment) and intangible resources (support networks, knowledge, morale and the ability to operate in a crisis) can be examined closer.



The idea of 'release' is conceptualised in the notion of disaster risk reduction (DRR), where relieved pressure can lead to reduced vulnerability.

The PAR model will be a useful in setting the challenges in the context of this thesis into a theoretical framework<sup>13</sup>. Later in this thesis the vulnerability components that have been identified by the informants and literature search will be assessed using the PAR. This way one will be able to make a preliminary judgement as to whether children's vulnerability is being reduced or if there are remaining factors that are hindering the implementation of DRR education. The issues that appear to be most prominent within the empirical data will then be examined and discussed.

### **3.7. Summary of Frameworks and Theoretical Reflections**

As with all the HFA Priorities for Action, DRR education is also an area that requires cooperation and partnership among stakeholders. One can see that in Priority 1 the framework gives guidelines for how to establish multiple-stakeholder institutional networks (national platforms) and these are considered to be crucial for the realisation of the other priorities.

The frameworks section presents the goals outlined by the HFA and how cooperation and organisation is integral for the achievement of these goals and therefore the reduction of disaster outcomes and society's vulnerability. The guidelines provide states with information about how they should organise DRR activities in their countries of which the establishment of a National Platform for DRR is key. The focus of this thesis is the organisation of this kind of platform and how the actions of its actors affect the work of organisation aiming to support the implementation of DRR education.

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<sup>13</sup> It should also be noted that the PAR model is used by various humanitarian organisations (such as the Red Cross) in Vulnerability and Capacity assessments (VCA), but here it is referred to as the 'Crunch' pressure model and the 'release' model  
<http://www.ifrc.org/Global/Publications/disasters/vca/whats-vca-en.pdf>

## 4. Methodology

This chapter justifies the methodological choices that were made and describes how the data collection process was designed and carried out. This also means taking into account the role of the researcher in the field and what consequences this may have. This will be followed by reflections over the reliability and validity of the data, as well as ethical considerations. The chapter will conclude with strengths and weaknesses of the methods used.

Jacobsen (2005) notes that there are two forms of new knowledge. The first form is new knowledge that is completely new, that we knew nothing about before. The second form is knowledge that intends to build upon existing knowledge, to broaden and/or supplement. The researcher is not always aware of what kind of knowledge their research will produce, but Jacobsen clearly points out that one must be careful when imposing requirements such as ‘ground-breaking’ knowledge. When the researcher started working on this thesis they were unaware of the type of knowledge they would produce. The researcher has a personal interest in Indonesia<sup>14</sup> and it was therefore this country was chosen as the focus of this thesis. Despite having previously visited the country on various occasions over the last 20 years, this trip was under different circumstances with different intentions. The researcher has little knowledge about disaster management in Indonesia, DRR activities, let alone knowledge of the country's history and politics. In addition, this would be the first researcher's first experience with fieldwork. The data collection process was therefore of an explorative nature. At first there was no specific focus with regard to which aspects of DRR education would be studied, which is reflected in the wide scope of the interview guide. The interview guide was so broad because the researcher, despite carrying out background reading, was uncertain of the issues that were important. It was therefore important for the researcher to structure their work so that they could start with a wide scope, so as not to ‘miss anything’ and thereafter narrow down the focus as they began to see patterns in the data.

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<sup>14</sup> The researcher is British-Indonesian, has a large family in Indonesia many of whom have been affected by natural disasters.

The process in this case can be described as dynamic. As Blaikie (2010) notes, sometimes it is necessary to make certain decisions as the research proceeds since researchers often encounter unanticipated obstacles leading to an increased understanding of the phenomenon. This was very much so in this case; despite initial exploratory reading around the subject area and situation, many adjustments were made as the data collection progressed and the researcher formed a better understanding of the situation. Since the focus was not clear in the beginning the theoretical basis and the research problem and questions were developed during the data collection process. This chapter reveals the researchers process of the data collection and the unexpected challenges that were met in this process.

#### **4.1 Research Design and Strategy**

This thesis is of an explorative nature due to the researcher's wish to form a deeper understanding of an unfamiliar context. This type of research lends itself best to an abductive strategy and therefore an ethnomethodologic paradigm appeared to be an appropriate choice. The researcher aimed to uncover 'social facts', which according to Blaikie (2010) are created by members in and through their practical, everyday activities. The aim was therefore not necessarily to use these social facts to explain social activities, but to explore how they come into being. Danermark et al. (2002) notes that that which is 'common to objects of social science is that we can describe them as both individual phenomena, and as manifestations of – or parts of – general structures'. Abduction allows one to identify an overall context and general structure thus improving ones understanding of the nature of the phenomenon.

During the literature review phase the researcher discovered various reports from UN and humanitarian organisations about DDR education projects, but nothing of great detail. This thesis can then be seen as an in-depth exploration of a phenomenon. A qualitative research method was therefore seen as appropriate since there seemed to be limited research into this particular area. The collection of data in words instead of number is deemed appropriate for 'description at various levels of abstraction' (Blaikie, 2010:25) allowing the researcher to create categories from the data, to describe located patterns and generate theories that they can then be validated.

Fieldwork is deemed a quintessential part of the qualitative methods whereby the researcher has one or more periods of ‘sustained immersion in the life of the people being studied’ (Blaikie, 2010:206). This type of research involves a variety of methods ranging from total participation to predominantly observation. The researcher’s fieldwork involved a two month stay in Indonesia (approximately one month in Jakarta and one in Yogyakarta). The data collection process involved semi-structured interviews, visits and presentations from various actors as well as an observation and participation in DRR education conference, details of which will come later in this chapter.

To gain a deeper understanding of the phenomenon, it was important for the researcher to obtain good contact with various actors involved, including INGOs, LNGOs and governmental representatives. The combination of methods allowed the researcher to create an understanding of the phenomenon based upon the empirical findings.

Having carried out a literature review of relevant DRR related reports and studied various articles and theories about risk, the researcher had already established some pre-assumptions about the situation of DRR education. According to the researcher’s understanding, they would expect to find that there are variety of challenges the actors face in carrying out DRR education work, many of those based upon issues with resources, knowledge and capacity, but data collection was structured in way that could give light to other factors.

## **4. 2 Qualitative data collection methods**

Blaikie defines quantitative methods as being generally concerned with ‘counting and measuring aspects of social life’, while qualitative methods are concerned with ‘producing discursive descriptions and exploring social actors’ meanings and interpretations’. Due to the fact that this thesis is exploring phenomenon that has not been studied before, it is more beneficial to use qualitative methods because the explorative nature of the study requires flexibility and openness with regard to procedures (unlike quantitative methods that have a tendency to be ‘highly structured’ (Blaikie, 2010: 214)). Also, looking at Bryman’s ‘preoccupations of researchers’, the researcher is concerned with looking at the social actors’ points of view, creating

‘thick’ descriptions and developing concepts from these (typical qualitative preoccupations), rather than trying to establish causality and generalisations (typical quantitative preoccupations) (Blaikie, 2010: 215).

It was therefore beneficial for the research design to use a combination of the following data collection methods:

#### **4.2.1 Documents**

Detailed information about DRR education projects in Indonesia was very scarce when the literature search was carried out. Fortunately many of the informants provided documents, booklet and even examples of materials they have used. These documents were in no way quantified, but helped the research to understand the work that had been carried out and to identify themes or topics that I may want to take up in interviews or focus groups. Various documents from the Indonesian government, UN and various organisations about the development of disaster management in Indonesia and the National platform were obtained whilst doing the literature research and have been used in the preparation phase before carry out the interviews and in the data collection process as the focus of the thesis was narrowed down. These documents were useful for obtaining a better understanding of the research topics and assisted in the forming of research questions.

#### **4.2.2 Interviews – unstructured and semi-structured**

Interviews were predominantly carried out with organisations that have carried out DRR education projects. None of the organisations were currently working on projects, so the interviews had a retrospective nature where the informants reflected over their experiences. These interviews allowed the research to ‘get close to the social actors’ meanings and interpretations, to their accounts of the social interaction in which they have been involved’ (Blaikie, 2010: 207).

#### **4.2.3 Participant observation**

The researcher was invited to attend a Consortium of Disaster Education (CDE) conference in Jakarta. This one the two yearly meetings that take place where the members of the CDE gather together to share experiences and discuss what the next priorities of the CDE will be. The researcher took part in group discussions about challenges in the implementations, the mobilisation of resources and a movement

towards advocacy for DR education. The researcher attended the conference at the end of the field work stay and it confirmed many of the issues brought up by the interviewees. A list of attendees is available in Appendix. 2.

### **4.3 Field work and data collection**

The data was collected during a 2-month period in Indonesia, in Jakarta and Yogyakarta. The majority of the contacts were established before travelling, others were acquired in the duration of the stay in Indonesia

#### **4.3.1 Selection of Informants**

Qualitative studies require a strategic selection of informants to ensure that qualitative information is obtained. The aim of the research has been to examine the phenomenon from the organisations implementing DRR education programmes and it was therefore important to attempt to conduct interviews with a selection of participants that represented the population being studied. These organisations are governmental organisations, civil societies organisations, local non-governmental organisations (NGO) and international NGOs.

Contacting organisations did not prove to be a simple task (many did not reply to initial emails) and the researcher was therefore dependent on gaining informants via other informants, contacts and attending the CDE conference. This can be described as snow-balling. By the end of the field work period the research had managed to conduct interviews with all the types of organisations mentioned above.

Interview were carried out with the following:

- Arbeiter Samaniter Bund (INGO) – 4 informants
- Perkumpulan Lingkar (LNGO) – 6 informants
- Muhammadiyah Disaster Management Centre (MDMC) (civil society org/NGO) – 4 informants
- LIPI Compress (Indonesian Institute of Sciences, Community Preparedness Division) (governmental organisation) – 2 informants
- World Vision Jakarta (INGO) – 1 informant
- Humanitarian Forum Indonesia (coordinating body for NGOs) – 3 informants

### 4.3.2 Interview guide

An interview was produced before leaving for Indonesia (see Appendix 3.) The first interview guide has a wide focus because it was not possible to distinguish from the background literature search what the key issues were with regard to the organisations work. The interview guide was edited as the data collection process progress and certain patterns began to appear in the data. It should be noted that due to nature of the semi-structured interviews informants were allowed to talk freely and further questions were not necessarily restricted to the topics outlined in the guide.

### 4.3.3 Conducting the interviews

14 of the informants were interviewed individually or in pairs. Perkumpulan Lingkar was interviewed as a group<sup>15</sup>. The majority of the interviews were carried out in the organisations offices (except for one that took place in the informant's home), which often meant that we were interrupted, but this did not generally disturb the flow in the interview. All the informants allowed the researcher to record the interviews. Notes were taken and the interviews were later transcribed. The first few interviews were quite revealing and the research was lucky the informants were willing to give up some much of their time (the first interview lasted 3 hours). Initially a lot of data was gathered, certain patterns appeared and the interview guide was adjusted. The researcher discovered that it was difficult to simply focus on DRR education without attending the larger problem at hand, which appeared to be the structure of the system within which they are working. Interviews afterwards were more focused on the issues surrounding the organisations/authorities work in this area.

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<sup>15</sup> The plan was to hold an interview with one person, but on arrival the whole office wanted to take part. Though unexpected the interview provided more insights and sparked discussion.

#### 4.4 Research process

Table 9. gives a summary of the research process

When	Activities	Where
Oct - Dec	Started emailing potential contacts, contacted UGM. Background reading	Stavanger
Dec	Chance meeting with Dr. Ben Hillman. Came into contact with Dr. Saut Sagala	Tathra, Australia
Jan	Booked flights, arranged accommodation, visa, vaccine	Stavanger
13/2/13 – 1/3/13	Flew to Jakarta: Stayed with family, visited Museum Nasional Indonesia, Museum Seri Rupa dan Keramik, Balai Kota Batavia, Museum Wayang, visited flood areas. <i>Prolonged stay due to illness (hospital 20/2 and 25/2)</i>	Jakarta
1/3/13	Flew to Yogyakarta	Yogyakarta
2/3/13	First meeting at UGM campus Visited Candi Sambiswari (discovered in 1965, hidden by flood/earthquake)	-
3/3/13	Visited Sultan Palace, Fort Vredeburg (learnt about Japanese/Dutch occupation)	-
4/3/13	First day at UGM, met Prof Sudib, Dr. Djata and staff at PSBA, Dr. Danang (in charge of international students), International Office, KKN PPM office	-
5/3/13	Meeting with Dr. Danang (explain project, exchange possibilities with UiS, how he can help me) – received telephone numbers for BPPTK and BPBD	-
6/3/13	Meeting with Pak Cholik (BPPTK)	-
7/3/13	Meeting with MDMC	-



8/3/13	<i>Hospital</i> Meeting with ASB	-
10/3/13	Attended 2 weddings (Navy and traditional Javanese) and a birth ceremony	-
11/3/13	Interview with Country Director of ASB	-
13/3/13	Meeting with MDMC	-
15/3/13	<i>Hospital + telephone consultation with Danish doctor</i>	-
16/3/13	Visited Taman Sari, Museum Merapi	-
19/3/13	Interview with Lissa and Meli at ASB	-
20/3/13	Meeting with MDMC	-
21/3/13	Meeting with MDMC and then Dr. Ama (vice president of MDMC)	-
22/3/13	Meeting/group interview with Perkumpulan Lingkar Contacted Danang (BPBD) to arrange meeting and Riana (UNDP/OCHA/CDE) about CDE workshop in Jakarta	-
23/3/13	Visited Candi Pramabanan (Hindu temple from 900AD) UNESCO world heritage site	-
25/3/13	Meeting with Danang from BPBD (province level) and met Wayhu (BPBD Gunungkidul, district level)	-
28/3/13	Said my goodbyes and delivered many cakes	-
29/3/13	National holiday: visited Gunung Kidul, went rafting in some caves (3 people drowned the day before!) and the beach	-
30/3/13	Visited Candi Borobudur (buddhist temple 800AD), tour guide told me about construction Flew to Jakarta	Yogyakarta Jakarta

31/3/13	Birthday and Cheng Beng ceremony	-
2/4/13 - 3/4/13	CDE workshop	-
5/4/13	Meeting with LIPI Compress	
9/4/13	Meetings with World Vision Indonesia and Humanitarian Forum Indonesia	
10/4/13 – 11/4/13	Flew back to Norway	Stavanger
12/4/13- 16/6/13	Analysed and categorised the data	

*Table 1. The Research Process*

#### 4.5 Data reduction and analysis

The data collected required a form of reduction so that it could be analysed. The data collected came from various different sources in different forms and as Blaikie (2010) points out it may be impossible to separate data reduction and analysis. Logically, the first step was to organise the data from the interviews to identify patterns and potential categories (coding). Since the aim was to achieve deep descriptions, this process required close reading. As Hammersley and Atkinson point out ‘thin descriptions and unconvincing analyses derive from cursory reading and inadequate acquaintance with the data (2007: 162). It was important to find concepts that could aid making sense of the data. These concepts also assisted in making the data intelligible in an analytical way that provided a ‘novel perspective on the phenomenon’ (Hammersley et al, 2007: 162). There is no recipe for how to develop categories, so this process involved creative imagination and use of the researchers existing knowledge of the social world and relevant literature. At this stage it was important for the researcher to be wary that own knowledge did not lead to prejudgements, but instead it as a resource.

Although the phenomenon being studied has not been thoroughly researched before, potential was seen in identifying concepts from other similar social situations (from other areas of DRR and humanitarian research) and therefore it was not deemed

necessary to aim to invent new concepts. That is why the use of Grounded Theory, which is a process described as the researcher ‘inventing and imposing concepts on the data’ was not considered (Blaikie, 2010: 212).

#### **4.6 Validity**

Internal and external validity are factors that need to be considered with regard to studies that involve the use of artificial settings where the researcher has control over the environment. The research was carried out ‘in the field’ and the conclusions drawn are specific to the context (no intention to generalise the finding to other contexts), so it is not necessary to consider external validity. This in a sense removes some of the threats that may have needed to be considered had the settings been of a more controlled and experimental nature. Having said this respondent validation needed to be addressed. As Hammersely et al. notes the true test of the accounts of this thesis will be ‘whether the actors whose beliefs and behaviours (are being described) recognise the validity of those accounts! (2010:181). As noted in the ‘weakness’ section of this research design, the researchers own social beliefs and background will have undoubtedly influenced their perceptions. Since the aim of the research is to describe others’ actions from their standing, it would be beneficial for the validity of my research, and on ethical grounds, to allow participants to give feedback on what has been reported.

#### **4.7 Challenges in the field**

Although the researcher is half Indonesian, their knowledge of the Indonesian language is very limited. Indonesia also has many different languages and the language spoken in Yogyakarta is Javanese (it is very different from the official Indonesian language). Most informants spoke either fluently or relatively good English, so communicating was not an issue. On the other hand the majority of the conference was in Indonesian. The researcher took careful notes which they then went through with one of the informants from LIPI.

Another unexpected challenge was the onset of illness. The researcher fell ill only days after arriving. This delayed the research process in the beginning due to a prolonged stay in Jakarta waiting for blood test results. The researcher took various

antibiotics and painkillers for the entire trip and did not make a recovery until their return to Norway. Despite this the researcher carried out interviews.

## 4.11 Strengths and Weaknesses

To conclude this proposed research design, it is important to note its strengths and weaknesses.

### 4.11.1 Strengths

Fieldwork has given the opportunity to study and experience life from another social perspective and gain an insight that the researcher may not otherwise have had access. Real life experience, first hand, within the context is not the same as analysing other people articles or documents, and assists in the formation of deeper meanings. The informant sample consisted of people from different backgrounds, which added to the depth of understanding in this context.

### 4.11.2 Weaknesses

All data in the field was collected, translated and analysed by the researcher. The researcher's personal traits<sup>16</sup>, ways of collecting data, knowledge, experience and opinions have more than likely influenced the data. All observation is about interpretation, which in itself is a very subjective matter. These interpretations may have led to distortions of the social world, so much so that it becomes unrecognisable to those in the social world being studied, and their reports based on such interpretations become meaningless. A tactic to avoid this kind of situation was to confirm with the participants that the study represents their opinion by making careful clarifications to assure that they agreed with what would written (see *Validity*).

It should also be noted that interviews with actors in others areas of the National Platform for DRR (e.g. government officials, BNPB, MoNE) would have undoubtedly added to the validity of the research, but due to time constraints and difficulties accessing these kinds of informants, restrictions had to be made. It should

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<sup>16</sup> It is also important to be aware of researcher bias and assumptions. Although the research is half-Indonesian, they were born and have grown up in a predominantly in a 'western' culture. Despite having to some extent an understanding of Indonesian culture and way of life, one is still undoubtedly influenced by 'western' upbringing.

therefore be noted that the empirical presentation is based on the opinions the informants and the researcher's interpretation of documents.

## 5. Empirical data

In this chapter the empirical findings are presented. The findings are based on documents studies, interviews in Indonesia with the implementing organisations, as well as observation and participation in a CDE conference. First will be presented a disaster profile of Indonesia so give an idea of the types of natural hazards the country is exposed to and the damage they have caused, and some statistics about damages and losses in connection with schools. This is followed by a section that informs about the development of disaster management in Indonesia, from the establishment of disaster management law in 2004 to the adoption of the HFA, the establishment of the countries National Platform and CDE. It has been stated earlier that from the literature review it became evident that organisations (both governmental and non-governmental) have carried out the implementation of various disaster management projects. In the duration of the interviews it came to light that the MoNE and the policy that they have produced has a large impact on the work of the organisations and it is therefore why the roles and responsibilities and the link between these two actors will be focused after the presentation of the CDE. Details of the policy created by the MoNE and the work carried out by the organisations will be given and then repercussions of the policy in the organisations work will be explained.

### 5.1 Disaster Profile of Indonesia

There has not been carried out studies into the economic costs and benefits of DRR in Indonesia (UNISDR, 2011). Despite it is possible to form an understanding of how natural disaster have affected the country by looking at disaster statistics.

<b>No. of events</b>	321
<b>No. of people killed</b>	192,474
<b>Average killed per years</b>	6,209
<b>No. of people affected</b>	21,663,204
<b>Average affected per year</b>	698,813
<b>Economic Damage (US\$ x 1,000)</b>	23,601,677
<b>Economic Damage per year (US\$ x 1,000)</b>	761,344

*Table 2. Losses from natural disasters in Indonesia from 1980-2010*

<b>Disaster</b>	<b>Average per year</b>	<b>Average no. of people killed</b>	<b>Average no. of people affected</b>	<b>Average economic damages (US\$ x 1000)</b>
Drought	0.19	211.00	180,500.00	14,833.33
Earthquake (incl. tsunami)	2.45	2,360.09	111,101.76	149,259.55
Flood	3.81	44.51	61,611.64	20,118.78
Volcano	1.16	19.08	21,238.69	9,560.83
Storm	0.16	1.20	2,927.60	...
Wildfire	0.29	33.33	337,164.22	1,036,555.56

*Table 3. Average losses per year from natural disasters in Indonesia from 1980-2010*

By the author adapted from Prevention Web (2014)

Table 2. presents an overview of the human and economic losses from natural disaster over a period of 30 years, and Table 3. presents a breakdown of these statistics according to the type of natural disaster. Indonesia is a densely populated country with many people living in poor conditions situated in disaster prone areas. This, alongside the many other factors that the HFA aims to address, contributes to increasing their vulnerability and the statistics above give an idea of the overwhelming amount human and economic assets that have been lost and which are still at stake if preventative actions are not taken.

<b>Disaster</b>	<b>Date</b>	<b>No. of School/education facilities damaged</b>	<b>Damage and losses (billion Indonesian rupiah)</b>	<b>Loss of lives</b>
Earthquake and Tsunami in Aceh-Nias	26 <sup>th</sup> Decemember 2004	2,065	1,041.0	45,000 students died and/or missing 1,870 teachers died and missing
Earthquake in Yogya-Central Java	27 <sup>th</sup> May 2006	2,907	1,739	5,716 people died; 36 teachers died
Earthquake, West Sumatra	2 <sup>nd</sup> September 2009	2,358	399.8	81 people died
Earthquake, West Sumatra	30 <sup>th</sup> September 2009	1,290	618.8	1,117 people died
Earthquake, Bengkulu and West Sumatra	12 <sup>th</sup> September 2007	1,177	235.4	25 people died
Flood in Wasior, West Papua	October 2010		277.9	144 people died

*Table 4. Damages Caused by Natural Disasters in Indonesia 2004-2010*

Adapted from Sardjunani and Hadi (2010)



Table 4. gives an overview of damages to school buildings and loss of lives caused by natural disasters. One can see that not are lives lost, but access to education, which is a main concern of the MDG, is also affected.

## 5.2. DRR in Indonesia

Indonesia is one of the most disaster prone countries in the world. The frequent occurrence of natural disasters causes loss of life and the widespread destruction of property and the environment. After the Indian Ocean Tsunami of 26<sup>th</sup> December 2004, the Government of Indonesia (GoI) made the move to reform and strengthen its disaster management system. The GoI and Indonesian public recognised the need to address disasters in a different way, namely, by placing more emphasis on disaster risk reduction rather than just focusing on emergency relief and response. The result of this was the Indonesian Government's adoption of the HFA and the establishment of various disaster management laws.

With more than 32 million of its population of 253 million living under the poverty line (and around half living around the national poverty line (\$22)), a population rate that is rising more than the employment, and its poor results in the health and infrastructure indicators (which may lead to it failing to reach some Millennium Development Goal (MDG) targets), Indonesia is considered to be a developing country (World Bank, 2012)

Indonesia has created a long-term development plan, which spans over twenty years (2005 to 2025). This plan is divided into 5 'mid-term plans', each containing different development priorities. The country is currently in the phase 2 (2009 – 2014); a plan which focuses on:

- Promoting quality of human resources
- Development of science and technology
- Strengthening economic competitiveness

(World Bank, 2012)

Such natural hazards are inevitable and have increased dramatically in the last fifty years, but careful planning that uses traditional practices, experience and modern technology can reduce the negative outcomes and the extent of economic and social

disasters. There has been a marked shift in the focus on disaster response to disaster reduction. The United Nations International Strategy for Disaster Reduction (UNISDR) promotion of HFA is an example of one such plan that aims to promote a ‘culture of prevention’ focusing on risk reducing activities that can minimize the negative outcomes of natural hazards.

### **5.2.1 Disaster Management in Indonesia**

The Indonesian society for Disaster Management (MPBI), an NGO, had an integral role in the lobbying and drafting of efforts to pressure the government in passing a disaster management law. Activities included bringing members of the government to disaster affected areas and arranging meeting with local administrations. These persistent efforts of MPBI together with civil society organisations, UN agencies and parliamentarians resulted in the inauguration of the new Law (No.24/2007) on Disaster Management (UNISDR, 2009:8). It is stated within the law under Article 5 that the ‘government and regional governments shall bear responsibility for disaster management’ (BNPb, 2007:6). DRR is specifically stated within the law as an activity that shall be integrated into the national development plan and is also clearly stated as an activity that should take in ‘situations without a disaster’ (otherwise referred to by Kruke (2012) as the ‘pre-emergency phase’) (BNPb, 2009:16).

### **5.3. HFA priorities 1.2, 1.4 and 3.2**

This section gives an overview of activities carried out with regard to priorities 1.2, 1.4 and 3.2. The MoNE strategy and policy for DRR in schools comes under both priority 1.4. and 3.2.

#### **5.3.1 Priority 1.2: The Evolution of the National Platform for DRR in Indonesia**

The National Platform has been developed through a process of establishing broad stakeholder partnerships and then inducing partners into leadership positions within its platform. Partnerships in Disaster Management are seen as ‘the cornerstone of the new Disaster Management Law (DM Law) in Indonesia, founded on the solid collegial bonds built out of the tragedy of disaster response’ (UNDP, 2009a:3). These bonds have ‘since been engineered so as to evolve out of the legal reform process and head towards institutional and operational change (UNDP, 2009a:3). The partnerships

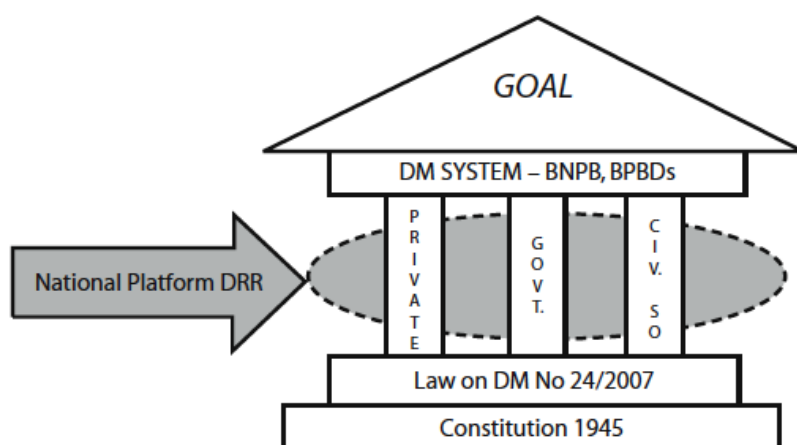
have included both personal and institutional networks. The networks emerged from collaborative work in disaster responses and have thus built a level of trust seen as necessary in the forming coalitions between their respective DRR intuitions. The National Platform for DRR (PLANAS PRB) was formed in 2009 as recommended by UNISDR. It is multi-stakeholder body that advocates DRR at different levels and which provides coordination, analysis and advice in areas requiring action through coordinated and participatory processes, is seen as the most important product of these partnerships.

The Forum PT is also an important partnership that consists of tertiary and research institutions. Safer Communities through Disaster Risk Reduction (SC-DRR) is a project that was developed GoI together with UNDP Indonesia in parallel to the collaborative Disaster Management reform effort that took place in 2005. In line with the United Nations International Strategy for Disaster Reduction (UNISDR), the SC-DRR works with the GoI to mainstreaming DRR into all levels of development planning. It was from this that the University Forum (FU) had been functioning as a loose network for many years, but its transformation into the Higher Education Forum for DRR (Forum PT) was instigated by Badan Nasional Penanggulangan Bencana (BNPB) with the support of UNDP via SC-DRR. In June 2008, the Forum PT was convened to establish its design, agreement and declaration. The placing of the Forum PT as the Chair of the PLANAS PRB was seen as a calculated strategic step in the strengthening the PLANAS PRB's providence due it providing intellectual capacity and experience in DRR. According to UNISDR (2009a:3) it is thought that 'the reputations, or intellectual capital, of the members can then be utilised to engage with government line ministries and bureaus'. Although leadership could have been identified in other organisations, such as the Indonesian Society for Disaster Management (MPBI) or the governments National Disaster Management Agency (BNPB), they lacked the intellectual capital necessary for the technical debate regarding research priorities for the implementation of HFA (UNDP, 2009a).

Several partnerships had already been established prior to the creation of the PLANAS PRB. It was the second 'Super' Convergence in 2006 that laid the foundation for the National Platform for DRR, which is when the three working groups were formed: Community Based Disaster Risk Management (CBDRM),

Capacity Building and the Consortium for DRR education (CDE). And in on 20<sup>th</sup> November 2008 formation of the PLANAS was finally announced. A representative committee, that was to later be known as the Formative Team (Tim Formatur) was assigned the task of establishing a Board of Executives (UNDP, 2009a).

Having received positive words from UNISDR about the excellent progress that Indonesia had made in implementing the PLANAS PRB, the Formative Team met again to agree on conducting focus discussion groups to develop a Vision, Mission and long-term goals for the PLANAS PRB. On 15<sup>th</sup> January 2009 it was announced that the goal would be ‘To contribute to the building of Indonesia’s resilience to disasters for the sake of sustainable development and the Millennium Develop Goal’s (MDG) within the structure’ (UNISDR, 2009a:10).



*Figure. 9 The Nature and Format of the National Platform for DRR (PLANAS PRB)*

Source: UNDP (2009a)

From the diagram one can see that PLANAS PRB is a multi-stakeholder national mechanism, which serves as an advocate for DRR at all levels of the government. The intention is that the PLANAS PRB would nationally owned, have strong leadership and provide coordination, analysis and advice on matter concerning areas of priority requiring concerted action. A common understanding of the role of PLANAS PRB is intended to provide the knowledge, skills, financial and technical resources required for DRR and its mainstreaming into development policies, planning and programmes (UNISDR, 2009a:11). Where there occurs policy discord, the PLANAS PRB is intended to be the venue to synchronise policy. It is also intended that Provincial

Platforms can shape and be informed by the PLANAS PRB. Thematic forums, such as the Merapi Volcano Forum, are at a sub-national level, focusing on particular regional hazards. The idea being that these sub-national forums ‘can draw from, and, contribute to the expertise of national platforms’ (UNISDR, 2009a:5).

UNISDR note that decentralising of DRR is evident here within the creation of an enabling environment for local authorities and by the fact that it has been made mandatory to form BPBD at provincial level (by the end of 2009) (9:14). An example of this is the DRR forum in Yogyakarta, which was formed to complement the planning NGO’s and government participant’s activities concerning the development of DRR plans and strategies, which were a response to the aftermath of the earthquake disaster in 2006.

#### *5.3.1.1 Formation of the Consortium for DRR education*

The Consortium for DRR education (CDE) was formed in October 2006 following the International Risk Reduction Day 2006, which had the theme ‘Disaster Risk Reduction Begins at School’ (CDE, 2012:4). The basis for its formation was the recognition that stronger coordination and synergy was required to support the sustainability of DRR education programmes in Indonesia (CDE, 2012). The main aim of the CDE is to support the development of sustainable policy and DRR education practices at national and local levels. These activities are taking place through formal and informal approaches and the CDE aims to improve ‘capacity, coordination and synergy among parties having the commitment for DRR education’ (CDE, 2012:4). The CDE’s activities include supporting the development of documentation activities, teaching-learning materials, conducting joint learning sessions and information exchange so as to enhance knowledge of human resources on DRR education and thus ‘ensure the achievement of a sustainable DRR education programme in Indonesia’ (CDE, 2012:5). There are currently 61 members and through their association with the CDE they not only benefit from developing and documenting DRR education practices, but also advocacy to central and local government via its stronger internal mechanism. The CDE hold a conference twice a year.

### **5.3.2 Priority 1.4 and 3.2: Ministry of National Education's Strategy and Policy for DRR education**

In a his speech launching the Tsunami Drill in the Banten province, President Yudhoyono implored the MoNE to mainstream DRR in the education curriculum and co-curricular activities so that the children of Indonesia can become the agents of change (SCDRR, 2011). This led first to a drafting and consultation phase involving various representatives from educational agencies and in 2010 MoNE (together with BAPPENAS and with support from SCDRR) created a Strategi Pengarusutamaan Pengurangan Risiko Bencana (Strategy for the Mainstreaming of Disaster Risk Reduction) which is a 'national validation, reference and guidance to mainstream DRR into school education system, which includes policy, strategic framework, planning, institutional structure, facilities and infrastructures, implementation of learning on participants' (SCDRR, 2011:i). This comes in a booklet form and the first section Surat Edaran No. 70a/MPN/SE/2010 that is a Ministerial Circular that covers the mainstreaming of DDR in schools.

The booklet explains why DRR is important (including statistics and diagrams illustrating the frequency of natural disaster and losses caused), a vision and mission statement and what activities the schools DRR goals should be, but there is information about how these goal can be attained.

It became evident from the interviews that the actions of the MoE have a significant effect on the organisations attempting to implement DRR education programmes. It became apparent from the interviews with implementing organisations that the school policy for DRR in school (which includes DRR education) devised by the MoE has a substantial impact on the implementation and sustainability of DRR education. The next sections will outline the methods and materials used by the various organisations, present the school policy that addresses the DRR education and the affect this policy has on the implementation and sustainability of DRR education.

### **5.3.3 Priority 3.2: Methods and materials used by organisations for the integration of DRR education**

The organisations involved in the implementation of DRR education have used a variety of methods and materials. In the following sections a brief outline of the methods and materials used by the organisations that were interviewed will be given.

All informants described their approach as being based upon the participatory approach implying that the children and teachers had an active role in the implementation. The methods can be divided into two categories; formal and informal integration. Some organisations use a combination of both methods. Table.5 summarises the organisations, the location of projects and methods used.

<b>Name of organisation</b>	<b>Type of organisation</b>	<b>Location of project/s</b>	<b>Method and materials used</b>
ASB	INGO	Gunung Kidul,	Informal
LIPI	Governmental organisation	Jakarta	Informal
MDMC	Civil Society NGO	Palembang, Bengkulu Kota, Curup, Jakarta, Garut, Bantul, Lamongan	Formal
Perkumpulan Lingkar	Local NGO	Bantul, Gunung Kidul, Cilacap	Formal/informal
World Vision	INGO	Flores, Sumba, Padang, Jakarta	Formal

*Table 5. Summary of organisations and DRR education methods*

### **5.3.3.1 Formal Integration**

Formal integration of DRR education involves integrating the DRR into the school curriculum, i.e. into reading, writing, mathematics and science. MDMC created a Primary school curriculum (level 1 to 6) and teaching manual series called *Siaga Bencana* (translation: disaster preparedness) in association with AUSaid. The books focus on seven types of hazards (earthquake, tsunami, flood, whirlwind, volcano, fire and landslide) and incorporate all the key subjects. The method includes: practical activities, role play and simulation, discussion, storytelling and lectures. There are also supporting materials which include: books on disaster management for Muhammadiyah activities, animations film, semi-documentary film, 7 set modelling equipment on DRR education, drawing books with stories, diary for disaster preparedness children, posters on vulnerability location and evacuation route of students' houses, and a variety of games. Many of the materials are available in pdf. format, so that schools can print them out themselves.



Figure. 10 Teacher's handbook and exercise books for student (Siaga Bencana series)



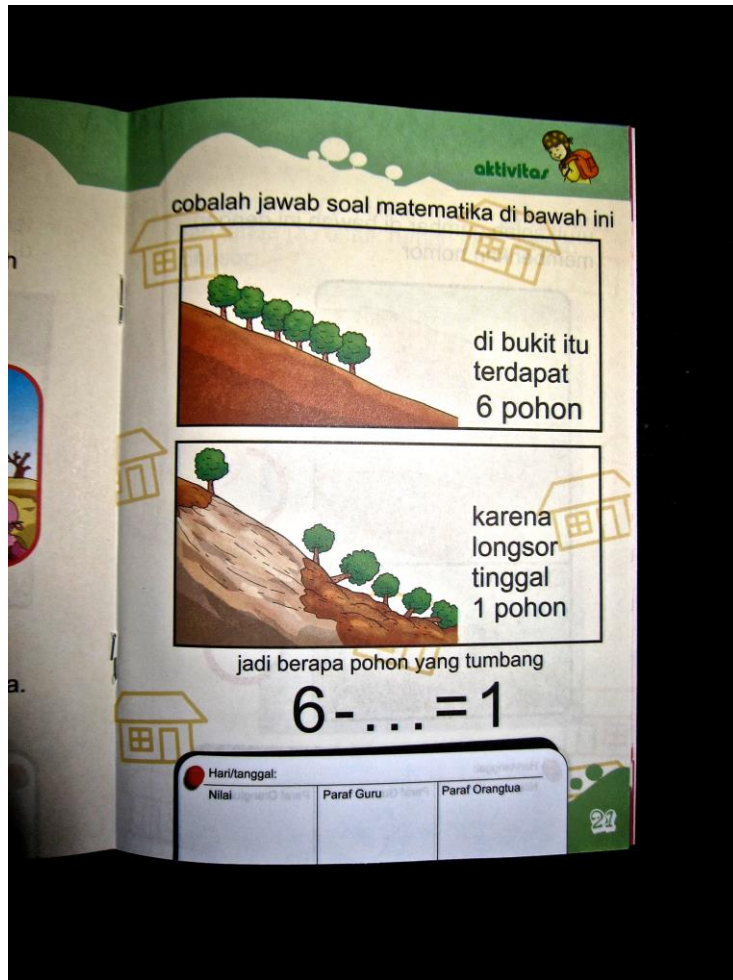


Figure 11. Landslides and mathematics

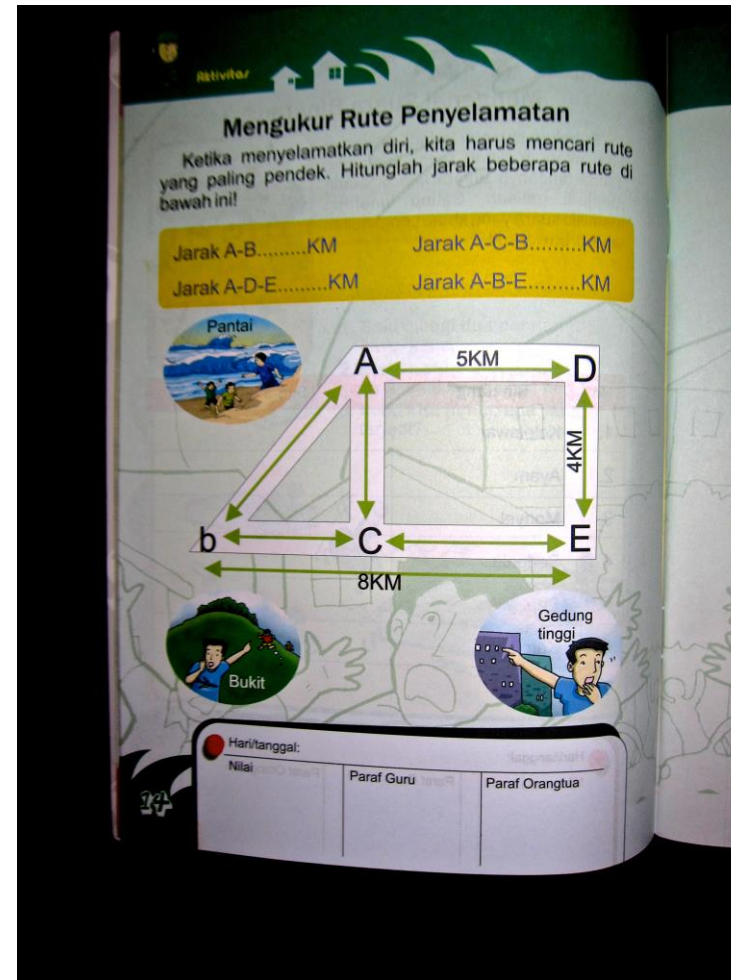


Figure 12. Escape routes and mathematics

Figure 11 and 12 show the teacher's handbook (which explains how to use the series and how to incorporate them into normal lessons), the children's exercise books and some examples of DRR education integrated into mathematics.

MDMC, Perkumpulan Lingkar and World Vision have all used the *Siaga Bencana* series in their DRR education projects.

#### **5.3.3.2 Informal Integration**

Informal integration involves activities that are done outside of normal school lessons. ASB and LIPI have been using materials that they have created themselves. Both describe their method as 'participative, involving the schools' and the materials they use are flashcards, storyboards, poster. Their main focus is not about teaching children about the geophysics behind natural hazards, but more about what to actually do in the onset of a natural hazard. Since the earthquakes are one of the largest hazards in this the province of Yogyakarta, ASB have had great emphasis on the 'drop, hold, cover' approach. They believe that their methods are simple and have 'easy content', which they believe allows them to get the information out to more schools because the approach is 'cheap and replicable' and therefore has the potential to be sustainable. They also believe that this simple and easy method will be easier to 'sell' to the MoNE as opposed the formal integration methods that they deem as 'expensive and more-time consuming' and therefore less likely to receive the MoNE support.

LIPI have also held various workshops on DRR education inviting school children, teachers and parents and created a CD with natural disaster themed songs.



Figure 13. Examples of flipbook, flashcards and guidance manuals created by ASB



Figure 14. Examples of a book, leaflets and natural hazard themed CD by LIPI

### *Additional approaches*

All of the informants encouraged the use of ‘alternative’ methods of communicating DRR. Perkumpulan Lingkar had for example used wayang kertas (traditional puppets made from paper). Many of the informants also noted that there are other forms of traditional entertainment that could be used, such as cart opera.

#### **5.3.3.3 Vulnerable groups – children with disability**

Guidelines for DRR education note that children are considered to be a *vulnerable group*. It is also noted that DRR education programmes should be gender sensitised, but one of the organisations (ASB) expressed that needs of disabled children are not accounted for in the plan. ASB noted that disabled children are often more vulnerable than other children, but their disabilities do not mean that they cannot be empowered to reduce their own vulnerability and they should therefore be given the same opportunities and access to DRR education.

ASB have been particularly concerned about that exclusion of person with disabilities from DRR activities. Disability is currently not one of the crosscutting issues listed in the MDG and is therefore not reflected in the HFA. The criticism of this comes when one talks about ‘inclusivity’. According to the MDG this means access for all, but ‘how can they claim this if persons with disabilities are not included?’ (ASB). In Indonesia, children with disabilities are excluded from ‘normal’ schools and as ASB reported, they are also often excluded from their communities’ because for many, disability is still seen as a ‘shame’ on the family or a ‘punishment from God’. By excluding them from schools means that they do not have access to information about DRR and are therefore particularly vulnerable. ASB have been working on changing communities’ attitudes towards people with disabilities and have attempted to show that they can also be useful in disaster situations. They have developed materials (flashcards, leaflets and videos) in cooperation with various disability organisations and have also formed the Disability Inclusive Disaster Risk Reduction Network.<sup>17</sup> They hope that by forming a network they will be able to effectively campaign for the mainstreaming of disability in DRR policy and practice post 2015.

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<sup>17</sup> The website has been recently established and can be found here: <http://www.didrrn.net/>

## 5.4 Organisations' comments about the CDE

Although the CDE has provided stakeholders a platform on which they can discuss DRR education the informants and the observation at the CDE conference highlighted several issues. ASB's first comment was that the CDE was 'quite active a few years ago' (from 2007-2010), 'but that in the last few years they have not been done so much'. The informant implied that the last meetings have included much discussion and the sharing of stories, but few concrete decisions have been made about how the CDE will move forward. The research also observed at the conference that the CDE currently does not have a complete record of DRR education programmes that have been carried out in Indonesia by their members. Another issue with this is that not all organisations carrying out these programmes are members of the CDE, making it effectively impossible to create an accurate overview. There were discussions at the conference about setting up a database, but no concrete decisions were made.

Several of the informants saw it as problematic that the CDE has so many members; different organisations with differing approaches, methodologies and opinions. This means that it can be difficult to come to agreement. Another issue that informants brought up was that CDE lacks strong leadership. The presidium and secretariat are rotated every year (members from the organisations are given these positions), which means that leadership is shared amongst the organisations making leadership unclear. LIPI also commented that perhaps the set-up of the CDE all seems 'too friendly' and organisations are therefore unwilling to make strong statements, such as criticising methods of implementing DDR education.

Advocacy by the CDE to the Ministry of Education can in some ways be considered successful because it resulted in the issuance of the Ministerial Circular on DRR in schools, but of the informants were in agreement in that this is too weak and the CDE should therefore be lobbying for stronger policy. ASB said that CDE need to 'think more about their strategy' because they could be potentially more influential. They furthered this comment by expressing that the CDE should have more of a lobbying role. They felt that organisations within the CDE seemed to be lobbying individually, but they should be working together. LIPI also emphasised the importance of focusing more on the MoNE and government, expressing that the CDE should have a better

link to them. They also pointed out that by creating a better link with the BNPB, the CDE could work on building BNPB's capacities to better address DRR and reduce the dependency of the MoNE on organisations carrying out the implementations.

Another apparently 'successful' advocacy towards the BNPB resulted in the UNDP/UNISDR One million safe schools campaign. LIPI that one should be cautious when stated numbers and not considering socialisation, implementation and sustainability of DRR. They noted the 'we are so eager to put up numbers and then tend to forget about the institutional set-up because we are targeting on deliverables'. They furthered this by saying that 'this will take forever (to achieve) if it is just organisations that are going to do this...they need more support from the government'.

It was also observed by the researcher that attendance at the CDE conference was not representative of the member list

### **5.5 Organisations' comments about the MoNE and Ministerial Circular and Strategy for DRR in Schools**

From the interviews and the observation at the CDE conference one could sense a general dissatisfaction with the MoNE attitude and Ministerial Circular. As mentioned previously the document outlines DRR activities that should take place, but gives no guidance of how to accomplish them. As MDMC commented 'the government just make a publication...no law, no monitoring...what kind of implementation is this?' . MDMC were also under the impression that government think 'we have made (the publication), we've already done it...without looking at the implementation, evaluation and monitoring, so there are no indicators...how will they know if it is successful or not?' They also commented that this publication is a 'shallow implementation' because 'things look good on paper', but little has actually been done.

The document was also supposed to be distributed to all schools, but there were several reports from various organisations that it had not been distributed nationwide

and many of those that had received it did not know what to do with it. ASB said that distribution of the document was a particular issue for remote regions saying that on several occasions that had to take that document with them.

ASB note that 'support at policy level is very important' because 'the population need to see the government supporting DRR mainstreaming in schools and because strong policy will lead to allocate budget to related activities'. But all of the informants, both in the interviews and at the CDE conference, were in agreement that the Ministerial Circular on DRR in school is not strong enough. ASB informed the researcher that the Ministerial Circular is not a binding document; this means that it is a recommendation to local education authorities and schools, but there is no consequence for not following it. LIPI commented that it does not really show that the MoNE are committed to DRR and the Ministerial Decree seems to be a 'gesture'. But as MDMC pointed out, 'at least they have started off good, but further work needs to be done to develop a strategy to implement and disperse information...it does not just about publishing a leaflet and booklet, need more than this'. MDMC 'strategic work could help to quicken/speed up progress'.

A comment from the CDE conference was that advocacy and strong policy are especially important in areas where people still do not understand their own vulnerability and do not know what to do in if a hazard strikes. One organisation at the CDE conference noted that some proposals from the local government have been helpful in getting schools to see that DRR is important, but they have fought long and hard to get this support. Emphasising the importance of strong policy.

The amount of time the MoNE have used to create the Ministerial Circular and Strategy was also criticised. 'Bureaucracy means that it takes too long for things to happen an example being the lack of strong regulation about DRR in schools' (MDMC). It took MoNE almost 3 years to create the current policy and the informants showed scepticism towards the processing time for a newer and stronger policy.

It should also be noted that the aim of the CDE is too promote coordination and cooperation between actors involved in DRR education (MoNE, various types of

implementing organisations and donors) and the CDE conference was one such occasions. The conference was held over 2 days, but it was observed that only one representative from the MoNE was present and only for one hour. This representative communicated to the CDE that the MoNE lack the knowledge, capacity and resources of the organisations to carry out planning and implementation, but also ‘you must organise yourselves, make a strategic plan and then you can approach us about forming a partnership’.

The issue that is most concerning for the implementing organisations, and which affects their work, appears to be the Ministerial Circular’s lack of weighting. ASB summarised the a main concern by saying that ‘strong policy is also important to ensure that drills and other DRR activities are continued otherwise they think ‘oh this is not obligatory’’. ASB compared this kind of attitude to that of smoking and the use of seatbelts and helmets. ‘Despite the fact that people are aware of the risks, evidence has shown that the population is generally not willing to reduce its own vulnerability without being forced to do so (by the law)’ (ASB). This emphasises the importance of a combination of socialisation, policy and regulation.

A further description of the organisations concerns of how the MoNE actions affect DRR education and how they have attempted to overcome issues are presented below.

#### **5.5.1. The school’s response to the programme**

Although many of the organisations have managed to approach schools and form partnerships, many of them felt that the Ministerial Decree was not necessarily the swaying factor in persuading schools to cooperate and allow for the implementation. It was commented by the organisations working in areas such as Yogyakarta and Bengkulu, that the schools were very much aware of the risks in their environment because the types of hazards they are exposed to (such as tsunami and earthquakes) have major consequence of which many staff and students have themselves experienced. This made the implementation easier. Despite this ASB said that time does play a role noting after the earthquake disaster in Yogyakarta (2006) it was easy to introduce DRR, memories from the earthquake are fresh, but after 7 years ‘people get sleepy’. Problems also arose in areas where natural hazards were less frequent or where the consequence were seemingly minor: ‘in certain schools it can be difficult to



communicate the realness of natural hazards, especially in areas where they do not occur frequently' (ASB).

All of the informants noted that the schools were receptive to programmes in many ways, but challenges in integrating DRR activities were mainly associated with the practical side where time is a particular issue. MDMC said that Indonesia schools have 'a lot of subjects, the problem is where to fit in DRR education'. Perkumpulan Lingkar also noted that there were 'some difficulties in integrating their activities with the schools because they have their own exams, assessments and teaching plans'. These factors and the fact that 'they (the schools) also have other crosscutting issues to deal with such as gender and corruption' (World Vision) meaning that there is no space for DRR education. Many of the organisations said that DRR can then appear 'overburdening' for the teachers who already have a tight schedule and are underpaid and many of the organisation sensed a 'why should we do this?' attitude from the teachers. ASB said that these factors together with the Ministerial Circular's lack of weighting leave the overall impression that 'schools see DRR as their responsibility, but it is not a priority....'; a comment that was reiterated by many organisations at the CDE conference.

### **5.5.2 Monitoring**

Monitoring of DRR activities is important to ensure that schools are fulfilling their responsibilities and to verify that schools continue with DRR education after the organisations have finished their programmes. According to Law No.20 About the National Education System, Article 66 stipulates that 'the Government, local governments, Board of Education, and the School/Madrasah Committee shall supervise the education implementation at all levels and types of education within their respective jurisdiction (MoNE, 2003)'. This implies that monitoring of DRR education should be carried out by the authorities, but the informants reported that no monitoring is currently in place. ASB noted that is currently 'weak monitoring and evaluation policy from the national level', which they presumed was due to a lack of resources.

With regard to organisations monitoring or following-up their own projects, some of the organisations had mentioned that had visited some of the schools after their

programmes were completed, but it appears that there are not funds for this type of work. ASB pointed out that ‘it is difficult to get funding on a time frame we to ensure quality (for the actual implementation programme)... and funding for a follow-up/monitoring project would be very difficult’. MDMC due to this they ‘can only hope that the school will continue with the activities’.

All of the participants believed that monitoring of schools is not be their responsibility, but that of the government/education authorities as outlined by the law. Unfortunately, despite the possibility that the education authorities may in the future integrate the monitoring of DRR activities into the role of the school supervisor there other factors to consider. The informant pointed out the following:

- The fact that not all schools have a supervisor
- Some supervisors only visit schools every 2 years (not frequent enough)
- Not all schools are official schools (although they do function) and are therefore not covered by the education authorities

### 5.5.3. Sustainability

The informants implied that monitoring was important for the sustainability for DDR education activities. ASB stressed that ‘the government’s involvement is important for sustainability’. Organisations run projects, but they need someone to maintain and monitor their work because their own funding will not allow for this and as pointed out before, it is not really their responsibility either. ‘The government needs to be better engaged and allocate funding to continue our work’. And World Vision said, ‘we can get our stuff out there, but we cannot guarantee that the schools will carry on with the activities’.

Some of the organisations said that the lack of monitoring led them to attempt at alternative methods of ensuring project sustainability to counteract the lack of monitoring and support from the local government/education authorities. These methods of maintaining sustainability have often involved using social structures that already exist within the communities and have been based on the notion of *ownership*, meaning that the organisation were attempting to promote *local ownership* of DRR education, which involves prompting local engagement in DRR education activities, so that they are not just limited to the school. Several organisations, including ASB,

Lingkar and KOGAMI mentioned using the village cadre. Cadre in this context is a womens' group that has existed since the 1970s and is recognised by the government (ASB). Several organisations have trained members of the village cadre in DRR, but as of yet the formal involvement of cadre in DRR activities is not legalised. ASB, who have used cadres, said they would like to work with this because the cadre are willing to be involved in DRR activities, but cannot do so by the law. They believe that the use of cadres is an interesting opportunity because they are a confident group who can easily 'gain trust from the community'.

#### **5.5.4 Advocacy**

There was general consensus at the CDE conference that the next phase in their working plan would be advocacy for stronger DDR education policy because current policy is not as effective as it should be. ASB said the CDE is so slow in acting that they were now making plans to 'go up a level' (approach the MoNE) and advocate independently from the CDE despite this going against their memorandum of agreement (MoA) with the GoI<sup>18</sup>.

### **5.6 Organisations comments about informal and formal methods for DRR education implementation**

ASB, who use informal methods, criticised the curriculum integrated approaches (formal integrations) used by the other organisations, saying that 'schools start complaining because organisations come almost every day, cutting into their teaching hours...it take times...bothering the school's activities'. ASB used this argument as a justification for using their informal approach because it is not time consuming and it does not involve integration into the national curriculum which they deem to be an unlikely to happen in the near future. ASB's opinion is that integration into the national curriculum is unlikely because current curriculum discussions have been about morals and religion in education. ASB be noted that their informal approach was appreciated because 'it is not so theoretical' as other organisation's (formal integration). They felt that their method was 'fun and energetic', which is very different from the typical 'blackboard style' where teacher's typically stand at the

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<sup>18</sup> As an INGO ASB have a MoA with the GoI which states that their role is to guide the government and inistutions and support the implementation of HFA priorities, but that they should carry out this role without criticising the government or involving themselves in politics (ASB)

front of the classroom and teach from the blackboard' (ASB) and also more interactive compared to textbook work which is typical in the Indonesian school system.

## **6. Discussion**

### **6.1 DRR education in Indonesia**

The extent to which Indonesia is exposed to natural disaster and losses that prevail clearly justify the promotion of DRR activities, such as DRR education. But the main findings from the empirical data show although organisations have created methods and materials for DRR education the current policy created by the MoNE is not strong enough to secure the engagement of schools and the sustainability of the programmes that the organisations implement. This chapter addresses the research questions, discusses challenges related to fulfilment of the HFA priorities with regard DRR education and the extent to which children's vulnerability is affected.

### **6.2 Natural Hazards in Indonesia**

The disaster profile shows that Indonesia is exposed to a wide variety of natural hazards that have caused severe losses in terms of economic damage and deaths and injuries. In a thirty-year period (1980-2010) the country was subjected to 321 hazards, which is an average of 10.7 events per year. The hazards that caused the greatest losses (about \$1 billion a year) in this period were earthquakes, tsunamis and wildfires. With regard to schools the, earthquakes have been clearly highlighted as the greatest threat causing both extensive damage to school buildings and a considerable loss of lives and injuries. From the amount of school buildings that have been damaged it can be inferred that they are not robust or resilient enough to withstand the forces of natural hazards, thus posing an additional threat to children. These statistics justify the integration of DRR and for children in immediate terms the knowledge about how to react in the onset of an earthquake could potentially save lives.

### **6.3 The organisation of DRR and DRR education in Indonesia**

The GoI appear to have made serious progress with HFA Priority 1.2 which calls upon governments to 'create or strengthen mechanisms for the systematic coordination for DRR' (UNISDR, 2007:2). Not only has a National Platform for DRR (PLANAS PRB) been established, but a working group for DRR education called the CDE, has been formed. This should lay a pathway for cooperation and coordination between key actors, but informants, particularly from ASB, appeared to be sceptical to the effectiveness of the CDE.

With regard to Priority 1.4 ‘prioritise DRR and allocate appropriate resources’ and ‘improve policy, legal and institutional frameworks’ (UNISDR, 2007:28) the organisations seem to be disappointed with the outcome of MoNE’s Ministerial Circular and Strategy for DRR in Schools. Not only is the strategy vague in providing schools with information about how they can achieve the vision goals, such as the integration of DRR education, the Ministerial Circular is a weak policy that in many cases has not strengthened the promotion of DRR education and has therefore leads various challenges for its implementation. In addition to this the organisation discovered that the strategy was home delivered to all schools as intended. These actions give the organisations the general impression that the MoNE have a ‘shallow attitude’ (MDMC).

It appears that the organisations have made substantial progress in creating numerous material and methods that integrate DRR education both formally and informally, which is an essential contribution to Priority 3.2. They have also completed a number of programmes in primary schools. It does not appear that one method is necessarily better than another in terms of engaging students and building a culture of safety. It is also important a variety of resources are available so that organisations can choose appropriately according to the context. However, ASB did argue that their methods is cheap, easy and require few resources and would therefore be more appealing to the MoNE. Creating a cheap and effective method may ease the process of gaining stronger policy for DRR education. The challenges to the implementation of Priority 3.2 are further discussed in 6.4.

### **6.3.1 Cooperation**

The ‘too friendly’ atmosphere of the CDE as described by LIPI may make the experience of attending conferences pleasant, but does not necessarily result in effective cooperation. By not wishing to cause conflict discussions between the organisations about experiences with their programmes (such as relationships with the schools and the methods they use) have more of a ‘storytelling’ nature meaning that issues such which materials and methods are the best are not effectively discussed.

Another point that was of a deeper concern was the researcher's observation of who attended the conference and how long they were present. Cooperation between the MoNE and the organisations is crucial for the implementations of DRR education, it was observed that the one representative from the MoNE was only present at the conference for an hour. The MoNE statement the 'you must organise yourselves, make a strategic plan and then you can approach us about forming a partnership' does not give the impression of cooperation and 'working' together that the HFA encourages. The fact that the CDE and various organisations (such as ASB) intend to start advocating for stronger DRR education policy does also not reflect a good cooperation between actors. The MoNE actions also could also be translated as a failure to live up to the roles and responsibility outlined by the HFA.

### **6.3.2 Coordination**

The lack of strong leadership, due to the rotation of the presidium and the secretariat, and the amount of members (61 actors) appears to make coordination difficult. The general impression from the informants was that a leader should be established. Strong leadership could then have the possibility of speeding up the CDE's activities such as the establishment of a strategic plan and a joint advocacy effort for stronger policy. The lack of a DRR education database for the organisations is also a concerning is because the existence of this kind of database would allow the CDE to have an overview of what has been done and where so that they can clearly plan their next activities, thus avoiding overlapping.

What does appear to be good in terms of coordination is that the CDE has produced an overview of materials and methods created by the various organisations. Many of these materials have then been shared with the other organisations so that they do not have to produce their own.

### **6.4 Challenges with DRR education**

The empirical data shows that there are many challenges in the implementation mainly as a result of MoNE not fulfilling their role and responsibilities with regard to Priority 1.4 (allocating resources and strong policy)

#### **6.4.1 Interaction with the schools**

The MoNE's Ministerial Circular on DRR in Schools is a suggestion to schools, but holds no weighting and with regard to DRR education this means that schools are not legally bound to follow this suggestion. This becomes problematic for organisations when they seek to make initial contact because the schools do not necessarily feel that they have to integrate DRR education. The organisations note that this is even more difficult when the school is in areas that have not recently been exposed to a natural hazard and vulnerability is therefore not so apparent. Also since the document had not been issued to all schools they were unfamiliar with DRR and had no reference point to the intentions of the organisations.

#### **6.4.2 School Curriculum and mainstreaming initiatives**

DRR is not currently in the National Curriculum and many of the organisation were under the impression that is unlikely that the MoNE. As noted in the Petal and Izadkhah (2008) note, curriculum infusion requires a great deal of effort from policy guidance to the commit of resources and the collaboration with experts.

As noted by the organisations, the current school curriculum is already full and there is little space for DDR education in the school day. There were also reports that teachers are already overloaded with work hours and other issues such the mainstreaming of gender and corruption in their lesson plans. DRR education is yet another burden and becomes therefore deprioritised.

#### **6.4.3 Monitoring**

There appears to be little evidence to suggest that there has been effective monitoring of DRR education activities after organisations have completed their projects. The organisations are reliant upon donors for their projects and ASB point out 'funding for a follow-up/monitoring project would be very difficult'. Some of the organisations have attempted to address this problem by working on 'local ownership' of DRR. With regard to the Law about the national education system, the local education authorities are required to take responsibility for monitoring. Unfortunately the fact that DRR education is not in the national curriculum means that a 'gap' is created.



#### 6.4.4 Sustainability

When organisations struggle to gain engagement for DRR education in school, the lack of strong policy and monitoring threatens the sustainability of the programmes they have because they have no way of knowing if schools are continue with DRR education activities

#### 6.5 Children's Vulnerability

With regard the PAR model. One can see from the empirical data that current organisation of DRR Education and the actions of its actors are not fully guaranteeing the reduction of children's vulnerability. Wisner et al. proposed that root causes, dynamic pressures and unsafe conditions are 'a series of social factors and processes that generate vulnerability' (2004:53).

The actions of the MoNE can be interpreted as a *root cause*. The MoNA is part of a political system and they possess to the political power to enforce certain activities within their area of responsibility, i.e. education. This thesis is operates on the idea that DRR education has the potential to reduce children's vulnerability. The empirical shows that strong policy for DRR education plays an important role in its implementation and sustainability. The lack of strong policy and the challenges this poses to the implementation and sustainability DRR education programmes can be recognised as *dynamic pressures* that 'play out' into an *unsafe condition*; that children lack the knowledge they need to reduce their own vulnerabilities. These factors combined with the natural hazards that Indonesian children are exposed means that they are still potentially at risk.

##### 6.5.1 Vulnerability of children with disabilities

It can also be inferred from the empirical data that children with disability are more vulnerable because their access to education is limited and the current guidelines for DRR education do not take them into account.

## 7. Conclusion

The focus of this thesis has been to describe the how DRR in Indonesia is organised in accordance to the HFA guidelines, with particular focus on DRR education. This thesis worked on the assumption that the research process would uncover various challenges that are hampering progress in this area. By assessing the children's exposure to natural hazards in Indonesia and considering the challenges in increasing DRR knowledge, the reduction of children's vulnerability was considered.

The disaster statistics showed that the Indonesian population and children are exposed to a variety of natural hazards costing the nation in lives and causing substantial financial losses.

The GoI have made considerable progress in establishing a National Platform for DRR and a specific working group for DRR education known as the CDE. Great effort have been made by organisations to produce materials and methods for the integration of DRR in schools, but the general consensus from the informants appears to be that the MoNE are not fulfilling their role and responsibilities.

The main concern of the organisations is that the MoNE Ministerial Circular is not a strong enough policy. This weak policy has repercussions for DRR education making it challenging to engage schools that do not feel that they must follow the policy, thus threatening the sustainability of the organisation's projects because they cannot guarantee that the school will continue teaching DRR. The organisations therefore feel that their next move must be to advocate for stronger policy through the CDE (or individually in the case of ASB).

It would appear that the NGO have great ideas about how to mainstream DRR education, but there are lapses in the system (a lack of strong policy, resource and monitoring) particularly from the MoNE that are hindering their progress with this aspect of the HFA. In the current situation considering the affects of the MoNE actions on the implementation of DRR education implies that DRR education is not fully reaching its potential regarding to the reduction of children's vulnerability.

## 8.1 Thoughts for further research

This thesis has only described a small part of implementing DRR education. Further research in DRR education could include:

- Investigating the reason why roles and responsibilities as outlined by the HFA are not being fulfilled
- Examining the budgeting for DRR, to see if various external interventions have had an affect on DRR budgeting

## References

- Adams, A.M. (2012). *The Education Link: Why Learning is Central to the Post-2013 Global Development Agenda*. Center for Universal Education Working Papers. Washington, DC: The Brookings Institution.
- Anderson, M. B. (1999). *Do No Harm: How Aid Can Support Peace – or War*. London: Lynne Rienner Publishers.
- Beck, U. (2009). *World at Risk*. First Edition. Cambridge: Polity Press.
- Blaikie, N. (2010) *Designing Social Research*, Cambridge: Polity Press.
- Blaikie, P., Cannon, T., Davis, I. and Wisner, B. (1994). *At risk: natural hazards, people's vulnerability, and disasters*. First ed. London: Routledge.
- BNPB (2009). *Law of the Republic of Indonesia, No.24/2007*. Available at: [http://www.ifrc.org/PageFiles/100077/Indonesia\\_2007\\_Law%20concerning%20disaster%20management.pdf](http://www.ifrc.org/PageFiles/100077/Indonesia_2007_Law%20concerning%20disaster%20management.pdf) (Accessed 5/6/2014)
- Boin, A., 't Hart, P., Stern, E. and Sundelius, B (2005). *The Politics of Crisis Management: Public Leadership under Pressure*. Cambridge: Cambridge University Press.
- Brown, C. (2003). *A Short History of Indonesia: The Unlikely Nation?* Crows Nest: Allen & Unwin.
- Cannon, T. (2008), "Vulnerability, 'innocent' disasters and the imperative of cultural understanding", *Disaster Prevention and Management*, Vol. 32 No.3, pp.350-7.
- CIA (2014). *The World Factbook: Indonesia*. Available: <https://www.cia.gov/library/publications/the-world-factbook/geos/id.html> (Accessed 2/5/2014)
- CDE (2012). *A framework of School based disaster awareness*. Available at: [http://www.preventionweb.net/files/26013\\_26008aframeworkofschooldisaster.pdf](http://www.preventionweb.net/files/26013_26008aframeworkofschooldisaster.pdf) (Accessed: 4/1/2013)
- CRED (2012). *Measuring the Human and Economic Impact of Disasters*. London: Foresight.
- Danermark, B., Ekström, M., Jakobsen, L. and Karlsson, J.C. (2002). *Explaining Society: Critical realism in the Social Sciences*, London: Routledge
- DKKV (2006). *Disaster Reduction: Knowledge, Transfer, Practices Proceedings for the 7<sup>th</sup> Forum and Disaster Risk Reduction Day*, German Committee for Disaster Risk Reduction (DKKV) within the UNISDR, Eschborn.

- Fredrick, W. H. and Worden, R. L. (2011) *Indonesia: A Country Study. Library of Congress. Federal Reserach Division. Washington.* Available at [http://lcweb2.loc.gov/frd/cs/pdf/CS\\_Indonesia.pdf](http://lcweb2.loc.gov/frd/cs/pdf/CS_Indonesia.pdf) (Accessed 24/5/2014)
- Green, K. (2005) *Decentralization and good governance: The case of Indonesia.* Available at: [http://mpira.ub.uni-muenchen.de/18097/1/Decentralization\\_and\\_Good\\_Governance-The\\_Case\\_of\\_Indonesia.pdf](http://mpira.ub.uni-muenchen.de/18097/1/Decentralization_and_Good_Governance-The_Case_of_Indonesia.pdf) (Accessed 26/5/2014)
- Hammersley, M. and Atkinson, P. (2007) *Ethnography*, Oxon: Routledge.
- Helsloot, I. and Ruitenber, A. (2004) Citizens Response to Disasters: A Survey of Literature and Some Practical Implications. *Journal of Contingencies and Crisis Management*, Vol.12, No.3, pp.98-111
- Holtzappel, Coen J.G. and Ramstedt, Martin (2009) *Decentralization and Regional Autonomy in Indonesia: Implementation and Challenge.* Leiden: International Institute for Asian Studies.
- Hoffman, S. (2009). *Preparing for Disaster: Protecting the Most Vulnerable in Emergencies.* Case Legal Studies Reserach Paper No.08-27, UC Davis Law Review, Vol. 42, p.1491.
- Izadkhah, Y.O. (2005). *Disaster Education: A Right to Generations Safety*, World Conference on Disaster Reduction, Kobe Conference, Kobe, Japan
- Jacobsen, D. I. (2005). *Hvordan gjennomføre undersøkelser. Innføring i samfunnsvitenskapelig metode.* 2.utgave. Høyskoleforlaget AS. Norwegian Academic Press.
- Kelman, I. 2010. *Natural Disasters Do Not Exist (Natural Hazards Do Not Exist Either)* Version 3, 9 July 2010 (Version 1 was 26 July 2007). Available at: <http://www.ilankelman.org/miscellany/NaturalDisasters.rtf> (Accessed: 2/2/2014)
- King, Blair A (2001) Constitutional tinkering: The search for consensus is taking time. *Inside Indonesia* 65: Jan – Mar 2001. Available at: <http://www.insideindonesia.org/weekly-articles/constitutional-tinkering> (Accessed 27/5/2014)
- Kruke, B. I. (2012). *Samfunnssikkerhet og krisehåndtering: A paper for the 22nd July commission.* 13th March 2012; Oslo: 22. juli kommisjonen.
- Kruke, B. I. (2010). *Complicated coordination in a complex emergency.* Stavanger, Faculty of Social Science, University of Stavanger.
- MoNE (2003). *Act of the Republic of Indonesia, Number 20, Year 2003 on National Education System.* Jakarta: Ministry of National Education Republic of Indonesia Available at [http://planipolis.iiep.unesco.org/upload/Indonesia/Indonesia\\_Education\\_Act.pdf](http://planipolis.iiep.unesco.org/upload/Indonesia/Indonesia_Education_Act.pdf) (Accessed: 12/1/2013)

Murshed, Z. (2004). Community Capacity Building for Risk Reduction in South Asia, in P.Sahni and M.M. Ariyabandu (eds). *Disaster Risk Reduction in South Asia* (pp.145-162). New Delhi: Prentice-Hall of India

Nation Master (2014). *Map of Indonesia*. Available at: [http://images.nationmaster.com/images/motw/middle\\_east\\_and\\_asia/indonesia\\_pol\\_2002.jpg](http://images.nationmaster.com/images/motw/middle_east_and_asia/indonesia_pol_2002.jpg) (Accessed 4/5/2014)

PISA (2006) *Science Competencies for Tomorrow's World*. Volume 1 – Analysis. Paris: OECD.

Petal, M.A. (2008). *Disaster Prevention for Schools: Guidance for Education Sector Decision-makers*. Geneva:UNISDR. Available at: [http://www.preventionweb.net/files/7344\\_DPforSchoolssm.pdf](http://www.preventionweb.net/files/7344_DPforSchoolssm.pdf) (Accessed: 12/6/2014)

Petal, M.A. and Izadkhah, Y.O. (2008). *Concept Note: Formal and Informal Education for Disaster Risk Reduction*. Risk RED. Available at: <http://www.riskred.org/activities/ddredislamabad.pdf> (Accessed: 19/5/2014)

Preston, J. (2012). *Disaster Education: 'Race', Equity and Pedagogy*. Rotterdam: Sense Publishers.

Prevention Web (2014). *Indonesia – Disaster Statistics*. Available at: <http://www.preventionweb.net/english/countries/statistics/?cid=80> (Accessed: 26/5/2014)

Quinn, M. (2002). *More than Implementers: Civil Society in Complex Emergencies*. (International Alert). London: International Alert

RCC (2008). Integrating Disaster Risk Education into School Curriculum: Mainstreaming Disaster Risk Reduction into Education. Available at: [http://www.preventionweb.net/files/4006\\_ADPCeducGuidelineConsultationVersion3.1.pdf](http://www.preventionweb.net/files/4006_ADPCeducGuidelineConsultationVersion3.1.pdf) (Accessed 15/5/2014)

Renn, O. (2009). *Risk Governance: Coping with Uncertainty in a Complex World*. London: Earthscan.

Rosenthal, U., Boin, R. A. and Comfort, L.K. (2001). *Managing Crisis: Threat, Dilemma, Opportunities*. Illinois: Thomas

Sagen (1993). *The Limits of Safety: Organisations, Accidents, and Nuclear Weapons*. New Jersey: Princeton University Press.

Sardidjunani, N. and Hadi, S. (2010). *Country Experience: Advancing Child Rights in Disaster Risk Reduction Initiatives in Indonesia*. Presented at UNICEF High Level Meeting on Child Right Protection in Asia and Pacific, Beijing, China,

SCDDR (2011). *Lessons Learned: Supporting the Mainstreaming of DRR in the Education System in Indonesia & Pilot Projects for Safer Schools (SSB)*. Jakarta: SCDDR

Schwartz, E. (2006). 'A needless toll of natural disasters' Boston Globe March 23 2006. Available at [http://www.boston.com/news/globe/editorial\\_opinion/oped/articles/2006/03/23/a\\_needless\\_toll\\_of\\_natural\\_disasters/](http://www.boston.com/news/globe/editorial_opinion/oped/articles/2006/03/23/a_needless_toll_of_natural_disasters/) (Accessed: 10/12/12)

Shaw, J.A., Espinel, Z. and Shultz, J. M. (2012). *Care of Children Exposed to the Traumatic Effects of Disaster*, Arlington: American Psychiatric Publishing.

Sinha, Dilip Kumar (2007). *Natural Disaster Reduction: South East Asia realities, risk perception and global strategies*. London: Anthem Press.

Shaw, R., Shiwaku, K. and Takeuchi, Y. (2011). *Disaster Education*. London: Emerald Publishing Group.

Smith, K. (2001) *Environmental Hazards*. 3<sup>rd</sup> Edition, London: Routledge.

Sorensen, L.Z, Rumsey, R. and Garcia, F. (2013). DRR in an educational goal: Realising the interplay of education and disaster risk reduction in development goals in review of integrated indicators and options for post-2015 in Mitchell, T. Jones, L. Lovell, E. and Comba, E.(eds) *Disaster Risk Management post-2015 Development Goals* (p.76-85). Overseas Development Institute

Tambunan, Tulus T.H. (2010). The Indonesian Experience with Two Big Economic Crises. *Modern Economy*, 2010, 1, 156-167. Available at: <http://www.scirp.org/journal/PaperInformation.aspx?paperID=3095#.U43L515R8Wc> (Accessed 30/5/2014)

TorqAid (2011). *A Diagrammatic Framework for Disaster Risk Management*. Available at: [http://www.preventionweb.net/files/21008\\_21008torqaiddiagrammaticframeworkfordf](http://www.preventionweb.net/files/21008_21008torqaiddiagrammaticframeworkfordf) (Accessed: 10/12/2012)

UN (1999) *Secretary-General to decade for Natural Disaster Reduction: Despite dedicated effort, number and cost of Natural disasters continue to rise*, Kofi Annan (Press Release: SG/SM/7060) Available at: <http://www.un.org/News/Press/docs/1999/19990706.SGSM7060.html> (Accessed: 15/1/2013)

UN (2009). *Global Disaster Risk Reduction Assessment*. Available at: <http://www.preventionweb.net/english/hyogo/gar/report/index.php?id=9413> (Accessed 5/1/2013)

UNDP (2009a). *Lessons Learned: Indonesia's partnership for Disaster Risk Reduction*. The National Platform for Disaster Risk Reduction and the University Forum. UNDP Indonesia. <http://www.undp.or.id/pubs/docs/Lessons%20Learned%20Indonesias%20partnership%20for%20Disaster%20Risk%20Reduction.pdf>

UNDP (2009b) *Ten Years of the Implementation of Indonesia's Decentralisation: Reformulating the Role of the Province*, Available at: <http://www.undp.or.id/press/view.asp?FileID=20090625-1&lang=en> (Accessed 2/6/2014)

UNDP (2014). *Fast Facts: Disaster Risk Reduction and Recovery*. Available at: [http://www.undp.org/content/dam/undp/library/corporate/fast-facts/english/FF\\_DRR\\_11042014.pdf](http://www.undp.org/content/dam/undp/library/corporate/fast-facts/english/FF_DRR_11042014.pdf) (Accessed 29/4/2101)

UNDP (2013) *Human Development Report 2013: The Rise of the South: Human Progress in a diverse world*  
[http://hdr.undp.org/sites/default/files/reports/14/hdr2013\\_en\\_complete.pdf](http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf) Accessed 23/4/2014)

UNESCO (2014) *Disaster Risk Reduction: Comprehensive School Safety – An Imperative for Education Policy-makers*. Bangkok:UNESCO. Available at: <http://unesdoc.unesco.org/images/0022/002279/227954E.pdf> (Accessed: 9/6/2014)

UNICEF (2007) *A Human Rights-Based Approach to Education for All: a framework for the realization of children's right to education and rights within education*. New York: UNICEF. Available at: [http://www.unicef.org/publications/files/A\\_Human\\_Rights\\_Based\\_Approach\\_to\\_Education\\_for\\_All.pdf](http://www.unicef.org/publications/files/A_Human_Rights_Based_Approach_to_Education_for_All.pdf) (Accessed: 12/6/2014)

UNISDR (2002). *Disaster Reduction for Sustainable Mountain Development: 2002 United Nations World Disaster Reduction Campaign*. Geneva: UNISDR

UNISDR (2004). *Living with Risk: A Global Review of Disaster Reduction Initiatives*. New York and Geneva: UNISDR

UNISDR (2007). *Guidelines: National Platforms for Disaster Risk Reduction*. Available at <http://www.unisdr.org/we/inform/publications/601> (Accessed 7/5/2014)

UNISDR (2009). *Global Meeting of National Platforms for Disaster Risk Reduction: National Platform of the Republic of Indonesia*. Available at: [http://www.preventionweb.net/files/globalplatform/entry\\_presentation~IndonesiaNP150609%5B2%5D.pdf](http://www.preventionweb.net/files/globalplatform/entry_presentation~IndonesiaNP150609%5B2%5D.pdf) (Accessed 2/6/2014)

UNISDR (2011). *Strategy Framework 2025: Work Program 2012-2015*. Available at: [http://www.unisdr.org/files/23291\\_1101657inteng.pdf](http://www.unisdr.org/files/23291_1101657inteng.pdf) (Accessed: 12/12/2012)

UNISDR (2012) 'Indonesian president fears that disasters could push millions into poverty', Available at <http://www.unisdr.org/archive/29293> (Accessed on 21/11/2012)

UNISDR (2013a). *Global Assessment Report on Disaster Risk Reduction: Annex 2*. Available at: [http://www.preventionweb.net/english/hyogo/gar/2013/en/gar-pdf/Annex\\_2.pdf](http://www.preventionweb.net/english/hyogo/gar/2013/en/gar-pdf/Annex_2.pdf) (Accessed 2/2/2014)



UNISDR (2013b). What is Disaster Risk Reduction? Available at:  
<http://www.unisdr.org/who-we-are/what-is-drr> (Accessed 10/2/2013)

Ursano, R.J., McCaughey, B.G. and Fullerton, C.S. (1994). Individual and community response to Trauma and Disaster. Cambridge: Cambridge University Press.

Wisner, B., Blaikie, P., Cannon, T. and Davis, I. (2004). At Risk, Second Edition, London: Routledge.

Wisner, B. (2006). Let Our Children Teach Us: A review of the Role of Education and Knowledge in Disaster Risk Reduction, ISDR and Action Aid, Geneva and London. Available at: <http://www.unisdr.org/2005/task-force/working%20groups/knowledge-education/docs/Let-our-Children-Teach-Us.pdf> (Accessed: 15/4/2014)

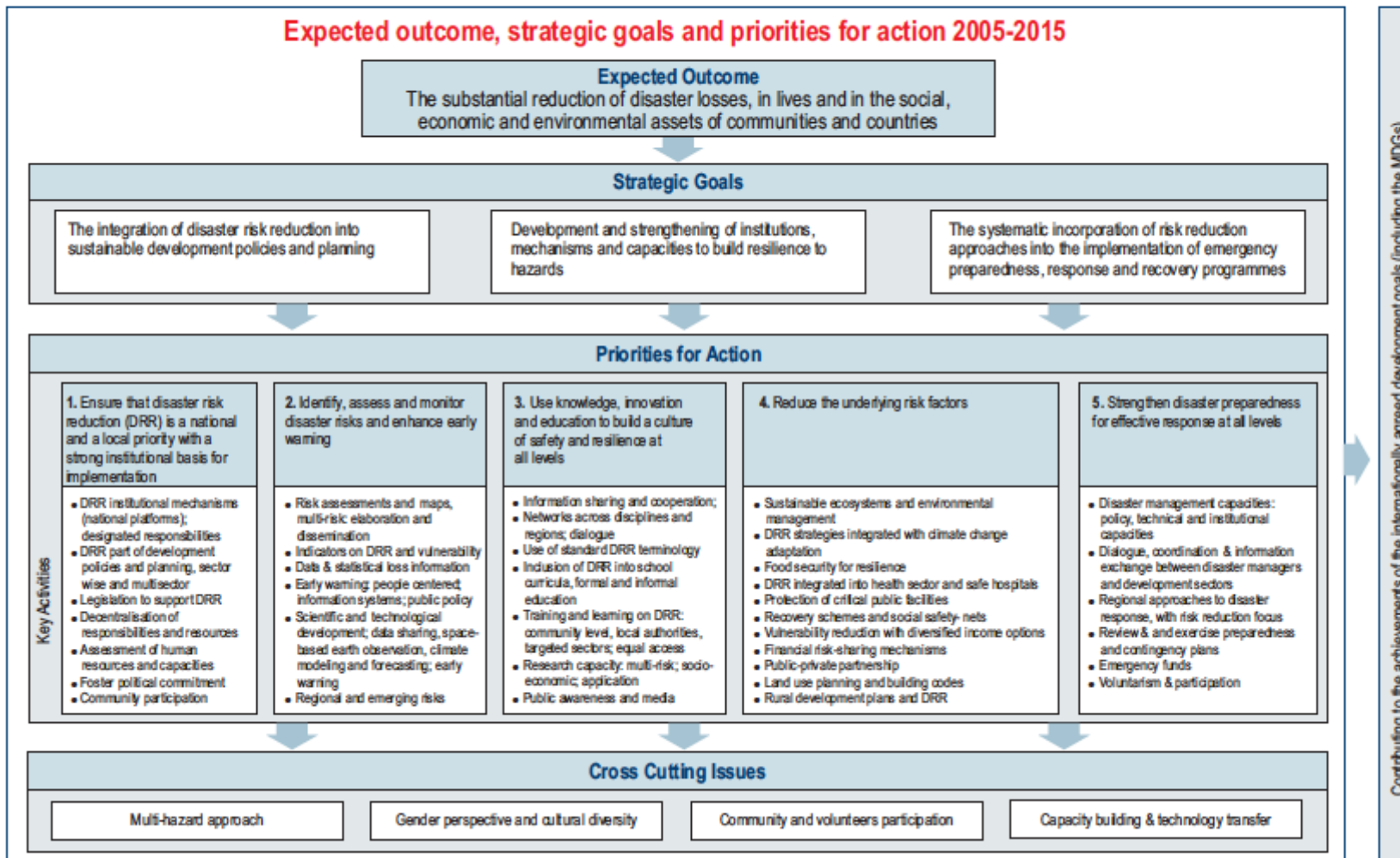
World Bank (2012) Data: Indonesia. Available at:  
<http://data.worldbank.org/country/indonesia> (Accessed: 14/12/2012)

Yin, R. (2009). Case Study Research: Design and Methods. California: Sage.

# Appendix 1



## SUMMARY of the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (Hyogo Framework)



## Implementation and Follow-Up

In order to achieve the goals and act upon the priorities identified in this Framework, the following tasks have been identified to ensure implementation and follow-up by States, regional and international organizations in collaboration with civil society and other stakeholders. The ISDR partners, in particular the Inter-agency Task Force on Disaster Reduction and secretariat, are requested to assist in implementing this Framework for Action.

### General Considerations

Implementation by different stakeholders, multi-sectoral approach; participation of civil society (NGOs, CBOs, volunteers), scientific community & private sector is vital

States primarily responsible; an enabling international environment is vital, incl. strengthened regional capacities

Build multi-stakeholder partnerships

Particular attention to:  
- Small island developing States: Mauritius Strategy;  
- Least developed countries;  
- Africa

States, regional and international organizations to foster coordination among themselves and a strengthened International Strategy for Disaster Reduction (ISDR)

Follow-up integrated with other major conferences in fields relevant to DRR reviews as appropriate

### Actors

	States	Regional Organizations and Institutions	International Organizations (including UN System and IFIs)
Critical tasks	<ul style="list-style-type: none"> <li>Designate national coordination mechanisms for the implementation and follow-up, communicate to the ISDR secretariat;</li> <li>National baseline assessments of the status of DRR;</li> <li>Publish and update a summary of national programme for DRR including international cooperation;</li> <li>Develop procedure for reviewing national progress including systems for cost benefit analysis and ongoing monitoring on risk;</li> <li>Consider according to, approving or ratifying relevant international legal instruments and to make sure they are implemented;</li> <li>Promote the integration of DRR with climate variability and climate change into DRR strategies and adaptation to climate change; ensure management of risks to geological hazards.</li> </ul>	<ul style="list-style-type: none"> <li>Promote regional programmes including for technical cooperation, capacity development, the development of methodologies and standards for hazard and vulnerability monitoring and assessment, the sharing of information and effective mobilization of resources;</li> <li>Undertake and publish regional and sub-regional baseline assessments;</li> <li>Coordinate and publish reviews on progress and support needs, and assists countries in preparation of national summaries;</li> <li>Establish specialized regional collaborative centers;</li> <li>Support the development of regional mechanisms and capacities for early warning, including for tsunami</li> </ul>	<ul style="list-style-type: none"> <li>Engage in the implementation of the ISDR by encouraging integration of DRR into humanitarian and sustainable development fields;</li> <li>Strengthen the capacity of the UN system to assist disaster-prone developing countries in DRR and implement measures for assessment of progress;</li> <li>Identify actions to assist disaster-prone developing countries in the implementation of the Hyogo Framework, ensure their integration and that adequate funding is allocated; assist in setting up national strategies and programmes for DRR;</li> <li>Integrate DRR into relevant coordination mechanisms (UNDG, IASC, RCs and UN Country Teams);</li> <li>Integrate DRR into development assistance frameworks such as CCA/UNDAF, PRSP;</li> <li>In collaboration with networks and platform support: data collection and forecasting on natural hazards and risks; early warning systems; full &amp; open exchange of data;</li> <li>Support States with coordinated international relief assistance, to reduce vulnerability &amp; increase capacities;</li> <li>Strengthen international mechanisms to support disaster stricken States in post-disaster recovery with DRR approach</li> <li>Adapt &amp; strengthen inter-agency disaster management training for DRR and capacity building.</li> </ul>

### ISDR (Inter-Agency Task Force on Disaster Reduction & secretariat)

- Develop a matrix of roles and initiatives in support of follow-up to the Hyogo Framework;
- Facilitate the coordination of effective actions within the UN system and other international and regional entities to support the implementation of the Hyogo Framework, identify gaps, facilitate processes to develop guidelines and policy tools for each priority area;
- In broad consultation, develop generic, realistic and measurable indicators. These indicators could assist States in measuring progress in the implementation of the Hyogo Framework;
- Support national platforms & regional coordination;
- Register relevant partnerships with Commission on Sustainable Development;
- Stimulate the exchange, compilation, analysis and dissemination of best practices, lessons learnt;
- Prepare periodic review on progress towards achieving the objectives of the Hyogo Framework and provide reports to the UNGA & other UN bodies

### Resource Mobilization: States, Regional and International Organizations

- Mobilize resources and capabilities of relevant national, regional and international bodies, including the UN system;
- Provide and support the implementation of the HFA in disaster prone developing countries, including through financial and technical assistance, addressing debt sustainability, technology transfer, public-private partnership and North-South and South-South cooperation;
- Mainstream DRR measures into multilateral and bilateral development assistance programmes;
- Provide adequate voluntary financial contribution to the UN Trust Fund for DR to support follow-up activities to Hyogo Framework; review usage and feasibility for the expansion of this fund;
- Develop partnership to implement schemes that spread out risks, reduce insurance premiums, expand insurance coverage and increase financing for post-disaster reconstruction, including through public and private partnerships. Promote an environment that encourages a culture of insurance in developing countries.

## Appendix 2

### List of attendees at the CDE conference

#### INGO:

Oxfam  
Surf Aid  
World Vision  
PMI (Palan Merah Indonesia/Red Cross)  
ACF International (Action Against Hunger)  
Church World Service Indonesia  
IRI (Islamic Relief Indonesia)  
Hope World Wide  
Plan International  
Mercy Corps  
Child Fund  
ASB (Arbeiter Samariter Bund)  
New Zealand Aid Programme

#### LNGO:

Perkumpulan Kerlip  
Perkumpulan Lingkar  
Kogami (Komunitas Siaga Tsunami)  
Suara Remaja (Youth Voice)  
PKPU  
YTBI (Yayasan Tanggul Bencana Indonesia)  
Puskris UI (Pusat Krisis, Fakultas Psikologi Universitas Indonesia)

#### Civil Society Organisation:

MDMC (Muhammediyah Disaster Management Centre)  
LPBI-NU (Institute of Disaster Management and Climate Change, Nahdlatul Ulama)

#### Donors/Insurance Companies:

Allianz (insurance company)  
ACA (Asuransi Central Asia)  
World Bank

#### Coordination Organisation:

Humanitarian Forum

#### Government:

Kemenag (Meneterian Agama Republik Indonesia/Ministry of Religious Affairs of the Republic of Indonesia)  
Kemdikbud (Kementerian Pendidikan dan Kebudayaan/Ministry of Education and Culture)

LIPI Compress

Multistakeholder body:

PLANAS/SKALA (National Platform for DRR)

PLANAS/MPBI (Masyarakat Penanggulangan Bencana Indonesian/Indonesian Society for Disaster)

UN:

WHO (World Health Organisation)

UNOCHA

EU:

ECHO (European Commission for Humanitarian Aid and Civil Protection)

## Appendix 3

### Interview guide

#### Organisations projects

Description of methods and materials

#### Structures/funding

How projects are funded  
Who they collaborate with

#### National/Local government/MoNE

How has cooperation been with the government and MoNE?  
*(Guidance, funds, workshops) Who and what...*

#### Cooperation with other organisations

Have you worked in collaboration with any other organisations/institutions?

Have you been involved in any form of 'inter-actor' support system? *CDE, if not involved, why not? Is the CDE fulfilling its aim?*

Do you share your experiences?  
What kind of information do you share?

Do you find it beneficial to share/cooperate with other organisations?

#### The Schools

How did you choose the schools where your project/s were carried out? *(assigned?)*

How did they approach the schools? *Engage interest in DRR*

Did you do a context analysis of the schools and their communities before starting work? If so, *how was this done?*

Has your project(s) been welcomed by the school and the local community? *(Or did they have to work with this process, e.g. resistance from teachers, get approval from the elders?)*

#### Attitudes/Risk perception

How were the schools attitudes towards natural disasters at the beginning of your project?

Do you think the attitudes towards have changed since you carried out your project? *If so, have you had a role in this? And possibly, which of your activities have been most effective in doing so? (teaching staff, students, local community? How were they before and after? What was their perception of natural hazards? Acts of God?)*

Do you think that recent disasters have an affect on perceptions of disaster? *(possibly making them more receptive? school staff, students, community)*

Natural hazards to not occur 'often', have you attempted to keep up awareness? *If so, how?*

### **Organisation's approach to introducing DRR**

How did you introduce the topic of DRR to these schools?

*Were school staff and students introduced to the subject together or separately?*

*How have you defined DRR for them? (Does it include development/sustainability/robust or vulnerable structure/empowerment/climate change adaptation?)*

*Did you use a guest lecturer or professional presentation?*

Do you present the integration of DRR and disaster education as the responsibility of the school?

In your opinion do schools (headmaster, teaching staff) feel that it is their responsibility to integrate DRR education?

### **School staffs' Knowledge**

How was the knowledge of level of the schools employees with regard to natural hazards and DRR before your project began?

*How have you addressed the problem of low knowledge levels? Or do you think this has been addressed in your project?*

Do you feel that the competency of the teaching staff has risen? Or how do you feel the competency levels of the teaching staff is after carrying out your project?

### **Cooperation with schools**

Do you think you have managed to build a partnership with the schools?

Do the schools continue to work with DRR Education?

### **Performance Evaluation**

Have you or the school developed any form of student performance evaluation? *(If yes, what kind of assessment is there? If no, do they intend to do so?)*

### **Monitoring/sustainability of DRR education**

Does your organisation carry out monitoring?

Sustainability of DRR education

### **The Local Community**

Has your project expanded into the wider community?

If so:

How has the community engaged itself in DRR

Are there still activities still taking place today?

### **Local Knowledge**

What is your opinion about the use of LK in DRR activities?

Have there been any attempts at documenting this IK?

Have there been any attempts at classifying this IK?

Has IK been used in the development of the curriculum or contingency plans?

### **Awareness/public awareness**

What do you believe to be the most effective way of attracting attention to the idea of DRR? (Not just within schools, but the community as well – art, music, theatre)

Do you have any opinions about public campaigns? Has your organisation worked with public campaigns/ considered working with?

Do you think public campaigns would be effective? (In what way?)

### **Political system/DRR politics/Centralisation/Decentralisation of DRR**

What do you think about the GoI's attitude towards DRR?

The organisation of DRR in Indonesia is in many ways decentralised, do you think this system works?

If dissatisfied...how could this system be improved?



### **Power to implement**

Do you feel that your organisation has the power it needs to mainstream DRR education?

*Yes: in what way? No: how could this be improved?*

### **Challenges**

What would say are the main challenges of introducing the concept of DRR and disaster education? (*knowledge, time, funds, resources*)

### **Further work**

Has your organisation planned a strategy for further work with DRR/Disaster Education?

Has your organisation work spurred interest from other organisations, businesses or schools?

Do you have any further comments? Or is there anything would like to mention that I have not asked about?