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# Children's Experiences of Flooding in Surakarta, Indonesia

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## Abstract

This thesis presents a rich contextual discussion of the social effects of flooding on children who live near the Bengawan Solo River in Central Java, Indonesia. Research was conducted with thirty-two children between the ages of nine and thirteen who were exposed a moderate flood event in December 2007 in the municipality of Surakarta. This event and the Indo-Javanese culture provide the context in which the children's perspectives and personal experiences are understood.

Research revealed that in disaster situations where children are involved the cultural and social context and the geographic and circumstantial context matter. It was found that the cultural practice of *gotong royong*, the local government structure, and religious beliefs and practices increased their resilience, the interruption of education was a great concern, and the social condition of poverty increased children's vulnerability and exacerbated the impacts of the flood. The physical geography of the flood event interacted with the geography of daily life, altering the physical landscape of the community and forcing the children to either adapt or suspend regular activities. The impacts of the flood during and after the event were affected by the circumstantial context of the event: the short duration and moderate intensity of the flood, the lack of serious injuries or deaths, the significant loss of possessions and income and the post-disaster environment which was characterised by adequate living conditions and extensive social support that contributed to children's resilience.

While these aspects are relevant for both children and adults in disasters, children are social actors who have distinct and important capabilities that the disaster research field need to take into account. Children were identified as social actors in this study by their active participation in their peer culture and adult society, and the demonstration of their capabilities through the application of their knowledge of flooding. The recovery process was sped up by child participants' contributions, and findings point towards research on the long-term resilience of the community being enhanced by involving children in disaster risk reduction activities.

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## Glossary

BNPB	Badan Nasional Penanggulangan Bencana (Indonesian National Disaster Management Agency)
CCC	Children in a Changing Climate
DRR	disaster risk reduction
RT	<i>Rukun Tannga</i> , small neighbourhood unit of 60-70 household
RW	<i>Rukun Warga</i> , local neighbour unit of ~700 households, composed of several RTs.
UNESCO	United Nations Educational, Scientific and Cultural Organization
UN-HABITAT	United Nations Human Settlements Programme
UNISDR	United Nations International Strategy for Disaster Reduction
USGS	United States Geological Survey

### Quote Formatting

(pseudonym, gender, age)	e.g. (Bella, female, 9)
[ ... ]	portion of individual quote removed
.....	portion of conversation removed
Number one.. <b>pray</b> and	bold used for emphasis of relevant portion

# 1 Introduction

Over the last four years, the period during which this research was conducted, a range of natural disasters have occurred including but not limited to: 2008 Myanmar Cyclone, 2008 Sichuan earthquake, 2010 Haiti earthquake, 2010 Pakistan floods, 2010 Yushu earthquake and 2011 Japan tsunami, 2010-2011 Queensland floods and the 2010 & 2011 Christchurch earthquakes. Each event, which caused fatalities and affected thousands, emphasised the importance of understanding how such events affect society, and in particular, children who became the media face of many of these disasters.

Natural disasters are the result of the interaction of human society and the natural environment. Quarantelli and Dynes (1977, p. 9) explain that the term ‘disaster’ has undergone several “reformulation[s]”, taking it from the “physical agent” to the “physical consequences of the agent” finally to “the social disruption and social changes brought about by the physical agent and its impact” (p. 24). This final reference acknowledges the societal orientation that has become the generally accepted view of disasters (Wisner, Blaikie, Cannon, & Davis, 2004); for it is not the ‘natural’ or physical event that is a disaster, but rather its impacts on society. This point becomes clear when comparing the relatively constant number of natural events (i.e. floods, earthquakes) with a 150% increase in the number of disasters reported annually in the last twenty-five years (“Disaster Occurrence,” 2006). Therefore, if it is not the natural event, referred to as a ‘hazard event’ in this research (e.g. the physical geo-tectonic or climate event), that is causing this increase, then there must be other factors at play (Wisner et al., 2004).

Wisner et al. (2004), operating from a social vulnerability framework, explain that disasters “are also the product of social, political and economic environments (as distinct from the natural environment), because of the way these structure the lives of different groups of people” (p. 4). They suggest that it is the underlying social systems that make people vulnerable to natural hazard events, and that disasters are the result of a group of vulnerable people and a natural hazard event intersecting temporally and spatially. This intersection of vulnerable people and natural hazards suggests that if the increase in the number disasters does not correlate to an increase in the number of natural hazards, it may be linked to either an increase in the vulnerability of people or an increase in the number of vulnerable people.

Vulnerability is defined 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, p. 11). A number of global factors such as “climate change, environmental degradation, population growth, increased urbanization, unsustainable development in hazard-prone areas, risky technologies, and growing social and economic inequalities” have been identified as contributing to vulnerability (Peek, 2008, p. 2). These factors contribute to a decline in society’s capacity to deal with natural hazards. A further implication of vulnerability is that different groups may be more or less susceptible to the impacts of a hazard event, depending on their characteristics. For instance, the geographic distribution of disasters indicates that a disproportionate number are affecting developing countries; ninety-eight percent of those affected by natural disasters live in poorer, less industrialised, heavily populated areas (UN-HABITAT, 2007). Hence, those living in developing countries appear to be more vulnerable to disasters and research supports this claim (Jabry, 2002; Wisner et al., 2004).

The idea that vulnerability can increase, however, means that it can also be decreased and people’s capacities augmented. This is the goal of disaster risk reduction (DRR), and much of the disaster research field. This present research study aims to add to this growing body of research by focusing on children, who have been identified as a particularly vulnerable group (Jabry, 2002; Wisner et al., 2004).

## ***1.1 Children in Disasters***

There are some groups in society that are deemed to be vulnerable to the impacts of natural disasters because they lack, or have limited, access to both economic and social resources and they are often situated in hazardous areas or in low quality housing for economic or socio-historical reasons (Cutter, Boruff, & Shirley, 2003; Peek, 2008). Children may belong to these categories, and therefore be vulnerable but they may also be vulnerable because of their stage of development and position in society.

Children comprise 35% of the world’s population (U.S. Census Bureau, 2008). To ignore this group would be to disregard a large portion of individuals affected by disasters. Between 1991 and 2005, 840 million people were killed and 3.47 billion were affected by

natural disasters ("Disaster Occurrence," 2006). Given the proportion of children (broadly defined as persons under the age of eighteen), it could be said that each year approximately 20 million children were killed in natural disaster situations and 80 million affected over the fifteen year period. Penrose and Takaki (2006) report a similar figure saying that at the end of the twentieth century, 66.5 million children were affected by disasters each year. This number is expected to triple to 175 million as a result of climate change related events (Children in a Changing Climate (CCC), 2011).

Children are considered more vulnerable to disasters due to their "physical size, levels of psychological and behavioral development, and complete or partial dependence on adults for various forms of support and protection" (Zahran, Peek, & Brody, 2008, p. 372). Furthermore, since children are undergoing rapid development in their mental, social and physical capacities their risk is even greater because of the long-term implications of their vulnerability (Bartlett, 2008b; Weissbecker, Sephton, Martin, & Simpson, 2008). Children's social position within the family and community, which is controlled by cultural factors, also has a bearing as they may have limited power to influence decisions that affect their lives and therefore their vulnerability (Bartlett, 2008b; Jabry, 2002; Wachtendorf, Brown, & Nickle, 2008).

While children do have special needs and can represent a vulnerable group (Peek, 2008; Ronan & Johnston, 2005; W. Silverman & La Greca, 2002), they are in fact, depending on their social and psychological characteristics, a highly resilient group (Bartlett, 2008b; Ensor, 2008). Although this appears contradictory, this thesis draws on both of these ideas to explore and identify factors that influence resilience. Weissbecker et al. (2008) define resiliency as "the capacity to survive and adapt within the context of significant adversity or crisis" (p. 43). Hestyanti (2006) defines it as "the ability to fight back and recover from disruptive life changes ... [which] ... involves processes that promote the ability to 'struggle well' and overcome difficulties within significant adversities after trauma" (p. 304). Both of these definitions draw attention to the active nature of the 'resilient' individual and his or her capability to influence circumstances.

The active nature, or agency, and capacity of children is well recognised in recent disaster literature (Babugura, 2008; Mitchell, Haynes, Choong, & Hall, 2008; J. Morris, Van Ommeren, Belfer, Saxena, & Saraceno, 2007; Tanner, 2010). The notion that children are active is rooted in sociological theory which states that children are social actors (J.

Qvortrup, 1994). They have their own interests and needs and are exposed to societal forces just like any other social group (Lieten, 2008; J. Qvortrup, 1994). Children are active in contributing to society, but their agency and contributions are constrained by the social and economic structures of the environment in which they live (Lieten, 2008). The social and cultural context of children's lives influences how a disaster affects them because it determines how children are perceived, their role in society and how they are able to participate and contribute in a disaster setting (Manyena, Fordham, & Collins, 2008; Weissbecker et al., 2008). The contributions of children in disasters documented in recent studies reveal that children have large amounts of energy, creativity and different perspectives that can assist families and communities prepare for and recover from disaster (Ensor, 2008; Klein & Huang, 2007; Manyena et al., 2008; K. Morris & Edwards, 2008; Plan, 2008; Tanner, 2010). Yet there remains a need to increase knowledge about children's abilities to contribute, particularly what motivates them to help, and what factors promote or discourage their inclusion in disaster-related activities (Peek, 2008). Such information could inform the development of interventions and support practices that could assist in strengthening and developing children's capabilities with the aim of reducing their vulnerability and increasing their resilience to disaster impacts.

The best way to learn how disasters affect the lives of children and how impacts can be minimised is to ask them directly because children are the "best authorities on their own lives" and are capable of expressing their views (CCC, 2009, p. 6). While children are presented in disaster research literature, there is one gap consistently found, not just in disaster literature but in most literature pertaining to children, which is the scarcity of opinions and perspectives from children themselves. Hart (1997) highlights this issue well in saying that "[c]hildren are undoubtedly the most photographed and the least listened to members of society" (p. 9). Greig, Taylor, and Mackay (2007) acknowledge that only recently have children's perspectives begun to be attended to. Jabry (2002) calls for studies which take into account the needs, views and capacities of children explicitly and consistently. Peek (2008) furthers this call by underscoring the need to learn about children's experience *from* children. Even practitioners desire to know what it is that children want following a disaster so they are better able to assist (D. Bainbridge, personal communication, September 8, 2008). The need to understand how children experience a disaster from their perspective is undeniable. A related area that requires attention is finding suitable research approaches by which to obtain children's views (CCC, 2009; Greig et al., 2007; Peek, 2008). When taking children's views into account it is also necessary to

consider “the ways in which children are viewed in order to gain a proper understanding of their opinions” (Manyena et al., 2008, p. 321).

Any information that is gathered needs to be culturally and contextually grounded because children’s experiences, resiliency, and “vulnerability varies across groups, cultures, and contexts” (Peek, 2008, p. 11). Much of the existing research on children in disasters has been conducted in developed countries on wealthy populations. La Greca, Silverman, Vernberg, and Roberts (2002a) express concerns that there is little empirical data about affected children in multicultural contexts. Moreover the differences between affected children living in developing or developed countries, or in differing cultures, is not known (Balaban, 2006; Peek, 2008). There is, within the field of international development, a large body of experiential knowledge concerning children in developing nations. Child-centered non-governmental organizations have placed emphasis on child-led DRR and climate change adaptation and have carried out action-research alongside some of these programs (CCC, 2011). Published literature pertaining to these efforts is being collated under the coalition of Children in a Changing Climate (CCC), a group of child-focused research, development and humanitarian organisations that recognises children as ‘agents of change’. While this literature argues for more localised and culturally sensitive approaches, there are very few studies that include an analysis of the cultural and contextual influences (apart from poverty). In general, success in systematically incorporating cultural issues into disaster interventions has been limited, in spite of advancements in research and practice (La Greca et al., 2002a; Rabalais, Ruggiero, & Scotti, 2002). The issue of how culture affects children’s vulnerability and capacities has not been well addressed in current research literature (Bartlett, 2008b; Peek, 2008).

The research field concerning children in disasters has developed and expanded rapidly over the last decade (Wisner et al., 2004). But at the same time, children’s vulnerability to natural disaster has continued to rise; a trend projected to continue (Save the Children, 2007). Consequently, more culturally and contextually grounded exploratory studies and empirical knowledge are needed to better understand how disasters affect children so these impacts can be minimised. Children who have limited economic resources and live in developing countries are most at risk, but there is little empirical data available which addresses how their (cultural) setting influences their experiences. Furthermore, a better understanding of children’s abilities to contribute may help to reduce their vulnerability and increase their resilience. Finally, the understanding of children’s needs, views and

capacities may be best gained by learning from their own personal experiences and suitable approaches are needed to obtain these perspectives.

## ***1.2 Research Objectives and Background Information***

This research project therefore seeks to better understand the perspectives and experiences of children who have been affected by a natural disaster, and ground this knowledge in the social and cultural context in which they live. It attempts to learn about the needs, views and capacities of children by listening to them describe their personal experiences of the natural disaster, and then inquiring into what contributions they believe they can and have made in this situation. Given the importance of gaining more empirical knowledge in non-Western developing countries, this study focuses on the archipelago of Indonesia, which is considered a populous developing nation that has a high frequency of natural hazard events. The study also focuses on methodological issues to identify where research limitations need to be resolved in order for this kind of research to be effective.

Indonesia is subject to multiple natural hazards due its location on an active tectonic plate boundary and its tropical climate. Volcanic eruptions, earthquakes, drought, flooding and landslide events occur frequently; but of these hazards, flooding poses the largest risk to the society (Skorik & Isanuk, 2005). Wisner et al. (2004) note that “[f]loods and their associated impacts are not only one of the most widespread of natural hazards [globally]; they also lead to the greatest loss of life, immediately through drowning and fatal injury and later through illness and sometimes famine.” (p. 218). Some of the short-term effects of flooding are: “a scarcity of safe drinking-water”; increased food prices; poor “sanitation facilities”; illnesses such as “[d]iarrhoea, fever and colds”; unemployment; and “increased tension and incidents of domestic violence” in households (Rashid, 2000, p. 240). The enduring impacts of flooding, particularly from the disruption and destruction of livelihoods, can worsen households’ long-term status.

[F]lood impact ... must also be understood in terms of the disruption and destruction it can cause to livelihoods, and the changes in the access profiles of affected people ... . Losing or being forced to sell land and other assets as a result of floods may shift people into poverty or worsen their existing poverty. The loss of assets or ability to work, of land and animals, or suffering due to

injury and illness, may still be affecting people when another flood arrives a year later, and possibly even for years afterwards. (Wisner et al., 2004, p. 222)

Flooding events in Indonesia have increased in frequency over the last two decades, as has the amount of damage caused (Dartmouth Flood Observatory, 2011). Between 2001 and 2011, there were 2, 958 flooding disasters, which resulted in 2, 711 deaths, 232, 905 injuries and losses of approximately 2 billion USD (BNPB, 2011b). For these reasons, a flood event which occurred in December 2007 along the Bengawan Solo River in Central Java is used as the case study hazard event.

The large population of Indonesia is vulnerable to hazard events because many of its islands are experiencing rapid urbanization and environmental degradation due to intensified agriculture activities. Sustained economic growth has reduced the number of households living below the national poverty line (\$24 USD/month) from 17% in 2004 to 13% in 2011, and enabled an increase in employment and government expenditures for schools, health and infrastructure ("Indonesia," 2011b; World Bank, 2011). Half of the population, however, still hovers near the poverty line, leaving them vulnerable to shocks from a natural disaster event. In addition to these contextual factors, children's vulnerability and resilience is also likely to be shaped by Indonesian and Javanese cultural elements.

In order to explore, describe and understand the social effects of the 2007 Bengawan Solo River flood event, the perspectives of children who had experienced the event were sought. Research was conducted with 32 children between the ages of nine and thirteen whose homes were affected by minor to moderate flooding. This particular age group was chosen primarily for methodological reasons (see Section 3.4.5), but the obvious implication is that the research findings pertain to children of this age. These children live in an urban setting in the municipality of Surakarta and are from households of low socio-economic standing.

### ***1.3 Research Questions***

By looking at how and in what ways children (between the ages of nine to thirteen) experience flood hazard events in Surakarta, Indonesia it is possible to see that children's disaster experiences are likely to be shaped by the characteristics of each child, their level of exposure to the event and the post-disaster environment. Strauss and Corbin's (2008)

reminder that “experience must be located within and cannot be divorced from the larger events in a social, political, cultural ... framework” means that children’s experiences are also shaped by their cultural and social context (p. 8).

In order to explore this thesis, the research questions were related to three broad perspectives. First, the questions that focused the research on the perspective of the cultural and social context were: how and in what ways were the Indonesian children’s experiences affected by broad social, cultural and locational factors, such as the socially and culturally specific practices, attitudes and conditions of the communities of which they were a part? The second perspectival framing for the research questions related to the geographic and circumstantial contexts. Here the questions were: in which particular sites did children experience and interact with the flood event and what were the impacts of the flood event during and after it? Third, from the perspective of children as social actors, the key questions for the research were: how and in what ways could the children be identified as social actors in the natural disaster situation? In particular, how did they manifest active participation and their capabilities?

While these are big questions, they can be addressed through a relatively small scale qualitative study. The aim of this study is not to seek statistical confirmation of generalisations but to add depth and breadth from a qualitative case study approach.

## ***1.4 Benefits of Research***

The key benefit of the research is its contribution to the field of disaster mitigation and its growing body of literature. The knowledge generated furthers the understanding of how the experiences and responses of children are shaped and the factors which make children more resilient and less vulnerable. It also addresses the need for culturally grounded studies in non-Western settings. At the time of this thesis, literature which explores in depth the influence of the Javanese and Indonesian culture on children’s responses to the natural disasters was not readily available. Such information would be valuable to Indonesian government bodies and non-governmental organisations operating in Java (and likely Indonesia as a whole) because of its potential to identify culturally specific factors that

increase children's vulnerability or assist them before, during and after natural disaster events, which could be capitalised on by any relevant policies or programmes.

Furthermore, the study reveals that mixed methods, and qualitative approaches in particular, are viable choices when conducting this type of research. The reflexive methodology used here was found to be fitting for cross-cultural research because it allowed for rigour, yet provided the necessary flexibility to conduct research in the field. Finally, the inclusion of children as researchers was a valuable asset of the research and promoted children's agency and personal development.

## ***1.5 Thesis Structure***

Chapter 1 provides an introduction to the field of disaster research and some of its foundational concepts. The research problem, the questions that focused the study and its benefits are also presented here. Chapter 2 offers a synopsis of the contextual setting of the research: the Indonesian culture, the current state of natural disasters and flooding in Indonesia, and the particular flood event used for this study. Chapter 3 outlines the methodology and methods employed to conduct the research. Finally, Chapter 4 examines the literature of the various fields that support this study.

These first four chapters set in place the groundwork for Chapter 5, the substantive chapter. They frame and describe the preparatory work that is needed to understand the complexity of the field in which the research was set. Because of the interdisciplinary nature of disaster research, those involved in the field are often confronted with whole spheres of diverse knowledge that intersect at the spatial and temporal point of the disaster event being considered. Therefore care must be taken when dealing with unknown areas such as the influence of the Indonesia culture and the notion that children are social beings. An understanding of both of these areas is essential in order to comprehend the research results presented and discussed in Chapter 5. The thesis is brought to a close by Chapter 6, which presents the conclusions of the study and recommends avenues for future research.

## **2 Context**

This research is situated in the context of an urban village in the Municipality of Surakarta, Indonesia. It focuses on a flood event that occurred in the Bengawan Solo River basin in late December 2007 and early January 2008, and discusses the effects of that flood event on children aged nine to thirteen years old. This context is very specific and, in the framework of this thesis, serves as a source of case study material to support the emerging argument about children's capabilities in disaster contexts.

Thus, this chapter offers a brief description of the Indonesian study area, the culture of Indonesia, particularly Java, and background information about flooding hazards in Indonesia and more specifically, in Surakarta. The 2007 flood event and its impacts on the local village researched are also described using accounts from research participants and secondary sources such as governmental reports. This descriptive material creates a picture of the setting in which the research took place and also offers a sense of the reality of the flood events. This contextual information is drawn from general and academic historical and cultural literature, and from news media and informant accounts of recent cultural trends and events.

### ***2.1 Overview of Indonesia***

This section provides a brief introduction to Indonesia. The factual information outlines its geography, demographics, population distribution, political and government structure and economy. Reference is made in each subsection to how this information relates to this research.

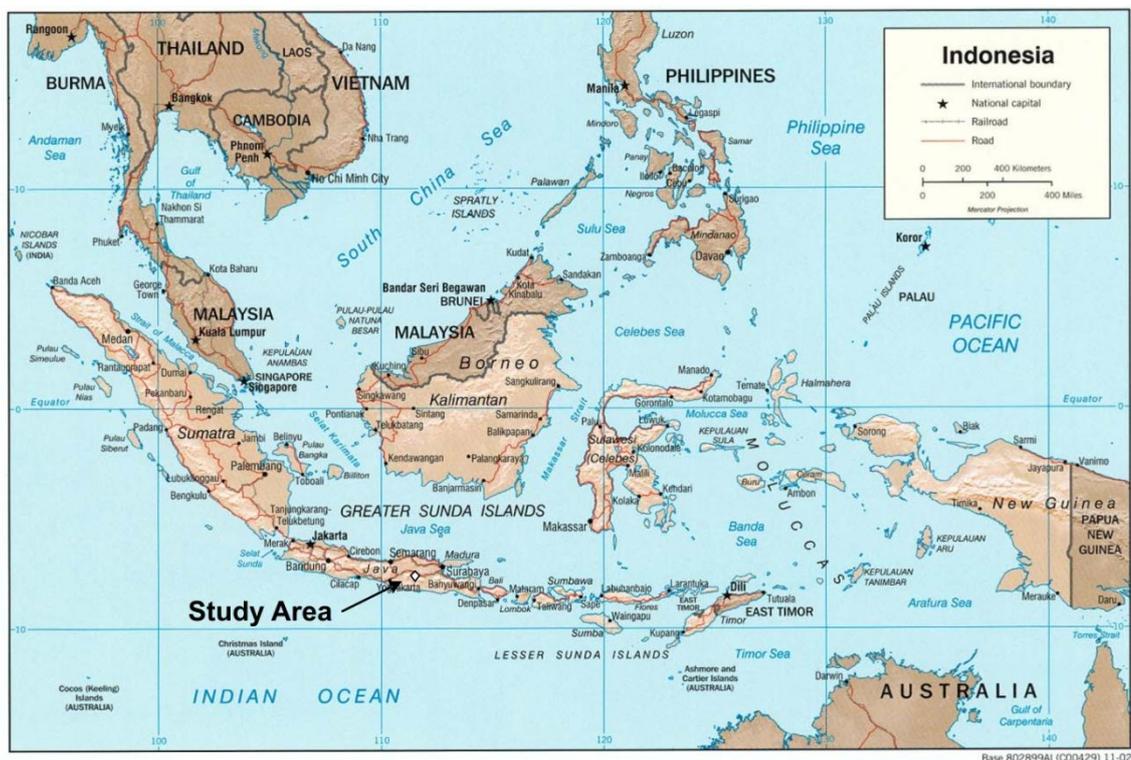
#### ***2.1.1 Geography***

Indonesia is an archipelago located in Southeast Asia between the Indian Ocean and the Pacific Ocean (Hellwig & Tagliacozzo, 2009). Figure 2-1 shows its location relative to its neighbouring countries, Malaysia, Papua New Guinea, East Timor and Australia. The

country comprises over 17,500 islands, 6,000 of which are inhabited ("Indonesia," 2010). The geomorphology of most islands is coastal lowlands, with mountainous features and hills on the larger islands that are the result of volcanic activity (Hellwig & Tagliacozzo, 2009). Flooding and landslides are common in such terrain due to rapid run-off from the steep mountainous slopes into the low lying plains during the monsoon season.

### 2.1.2 Demographics

The total population is estimated to be 245,613,000 as of mid-2011 ("Indonesia," 2011b). The population is very diverse ethnically, linguistically and religiously. The Javanese are the largest of the thirty-six major ethnic groups (Megawangi, Zeitlin, & Colletta, 1995), comprising 41% of the population and dominating the country politically ("Indonesia," 2010). The official language of Bahasa Indonesia is a form of Malay, which was used as the lingua franca for trading in the region over the last millennium (Hellwig & Tagliacozzo, 2009). It was declared to be the national language of the archipelago in 1928 by youth



**Figure 2-1: Map of the Republic of Indonesia.**

*study area indicated. (Source: Adapted from "Indonesia Map", 2011)*

nationalists who aimed to provide a unified identity amongst the more than 700 other languages and dialects spoken (Vickers, 2005); it was adopted officially in 1945 at the time of independence. According to the 2000 national census, 86% of the population adheres to Islam; the other officially recognised religions are Christianity, Hinduism, Buddhism and Confucianism ("Indonesia," 2011b). While the ethnic and religious diversity can complicate disaster response as individual's and communities' reactions to disasters may be influenced by these factors, the unified national language does allow for communication between different islands and regions which is essential for effective and coordinated disaster response.

### *2.1.3 Population Distribution*

Over half of the population (56%) still lives in rural areas, most as low-income farmers ("Indonesia," 2011b). The urban population increased from 36% in 1995 to 45% in 2004 (Mastan, 2006) and has remained relatively constant since, 44% in 2010 ("Indonesia," 2011b). Sixty percent of the country's population lives on the island of Java, making it the world's most populous island, with a population density of 1000/km<sup>2</sup>, as well as the most economically progressive island in the nation. This heavy population burden, however, has over the last century led to significant changes in land use, rapid urbanisation and environmental degradation, which is increasing the vulnerability of the society to natural hazards. This is true of the Surakarta area which has seen much of the forest cover on the surrounding hills cleared for agriculture or housing purposes. In addition, concrete or paved road surfaces areas have increased, according to research participants, replacing ground cover that previously was able to absorb run-off from heavy rains.

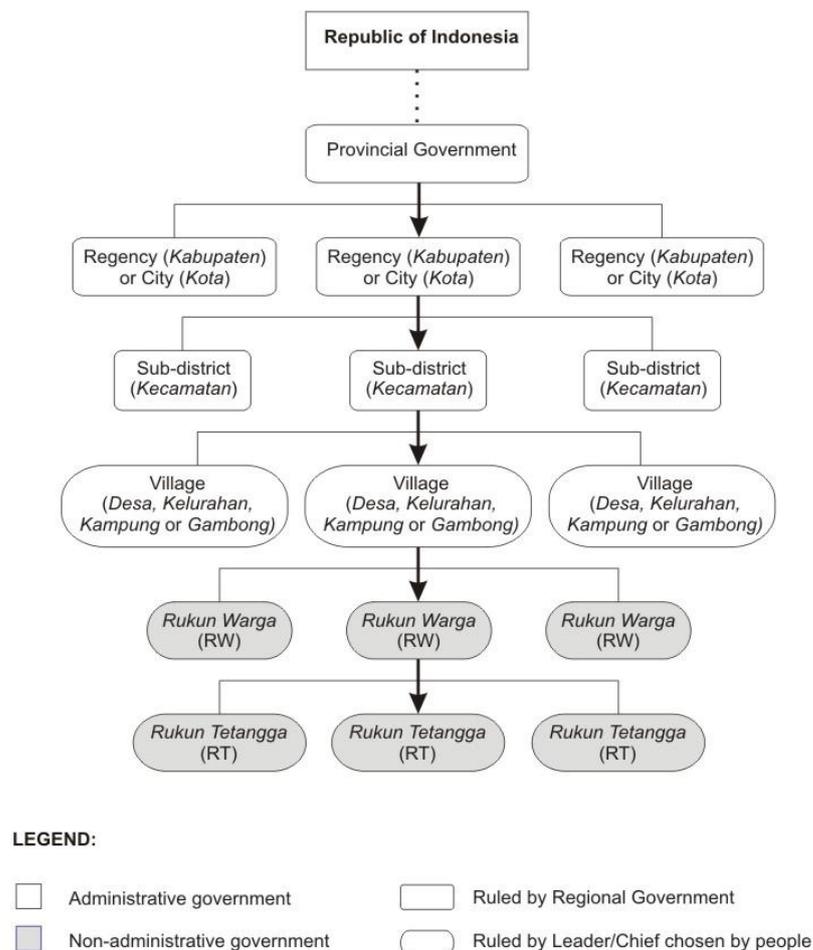
### *2.1.4 Political and Government Structure*

Indonesia is a democratic republic with a presidential system ("Indonesia," 2011b). While it is a unitary state with the central government retaining power, some measures were introduced in 1999 to encourage regional autonomy (Lloyd, 2000). Presidential and Legislative elections for the maximum five-year term were last held in 2009.

The country is divided into 30 provinces, two special regions (Yogyakarta and Aceh) and a special capital district (*DKI* Jarkarta) ("Indonesia," 2011b). Provinces are divided into

regencies (*kabupaten*) or cities, which are further subdivided to subdistrict (*Kecamatan*), village (i.e. *Kelurahan*), community (*Rukun Warga*, RW) and finally to the neighbourhood level (*Rukun Tetangga*, RT) (Zein, 2010). The administration structure is outlined in Figure 2-2. The average *Rukun Warga* has ~700 households in it and a *Rukun Tetangga* is composed of 60-70 households. A small community can be identified by its *Kelurahan*, RW and RT; for example, Ngangplak, RT6, RW2.

The provincial, regency/city and sub-district levels are governed by regional government while the lower three levels are ruled by a leader/chief (*ketua*) chosen by the people ("Administrative ...," 2009). These leaders are generally referred to as *Bapaks* (meaning Father) and are elected for a five year term. It should be noted that although reference is



**Figure 2-2: Administrative structure in Indonesia**

(Source: Adapted from "Administrative ...," 2009; Zein 2010)

made to the Bapak and there is a strong patriarchal aspect in the culture, the wife of the Bapak, called the *Ibu* (Mother), is also highly respected and has a significant role in community.

A local government structure such as this delegates leadership to respected members of the community, which may enable decision-making in disaster situation that better reflects immediate local needs. Many of the residents interviewed found this to be the case of the 2007 flood event in Surakarta.

### *2.1.5 Economy*

Indonesia is the largest economy in Southeast Asia. It has a gross domestic product (GDP) of \$1.033 trillion USD (2010 estimate of purchasing power parity) ranking it 16<sup>th</sup> in the global economy ("Indonesia," 2011b). The large population, however, results in a per capita GDP of \$4300 USD ranking it 155<sup>th</sup> in the world ("Indonesia," 2011b). The economy is currently in a state of growth and is anticipated to grow by at least 6% in 2011 ("RI economy ...," 2011; World Bank, 2011). This growth has led to an increase in employment and government expenditures for schools, health and infrastructure as well as a decrease in the number of poor households, 17% in 2004 (World Bank, 2011) to 13% in 2011 ("Indonesia," 2011b). The national poverty line, however, remains at \$24 USD/month (World Bank, 2011) and half of population hovers near it. The gap between the rich and poor is also continuing to widen and regional disparity between islands and rural and urban settings persist. Seventy percent of the poor live in rural areas (World Bank, 2011).

The researched community is a low income neighbourhood with the majority of the research participants in one of lower, if not the lowest, income brackets. Household income was not measured as part of the research but many residents work as day labourers and identify themselves (and are identified by others) as being poor.

## **2.2 Indonesian Culture**

Indonesian culture played a large role in the child participants' experiences of the flooding event. Therefore it is necessary to have a degree of cultural knowledge in order to

understand the research findings, as well as how these findings may be transferable to another setting or culture. The following sections are highly descriptive and discuss pertinent parts of the culture such as the nation's history, cultural values and social relationships, Javanese culture, religion, family structure, the place of children in society and the view of nature held by the Javanese. An analysis of culture and its role in this research is discussed in Chapter 4; while Chapter 5 draws on this material to explore the research data.

Indonesia ties together thousands of islands and over two hundred ethnic groups with their languages under a national banner. Hence, its culture is diverse and complex. As this research was conducted in Surakarta, located on the island of Java, much of the culture described here is Javanese. This is the dominant culture in Indonesia, as Java is the centre of government and the most populous island (Vickers, 2005). All of the child participants are ethnically Javanese and speak both Javanese and Bahasa Indonesia, the main national language.

Beatty (1999) offers a description of Javanese social life in the introduction of his book *Varieties of Javanese Religion*: “the picture in Java ... is a studiously crafted order, harmonization, and overdeterminedness – an intricate and elegant structure built upon a history of violence and disorder”. This statement is indicative of both the social harmony that is central to Indonesian-Javanese culture but also of the nation's tumultuous past. In order to understand the enduring cultural values and recent trends of the society it is necessary to look at its history.

### *2.2.1 A Brief History of Indonesia*

Historical records prior to 500 AD pertaining to Indonesia are scarce. A myriad of small Indonesian societies with their own culture and indigenous beliefs existed in the islands but it is believed that little more than trade linked them (Hellwig & Tagliacozzo, 2009). Throughout the second half-millennium BC, a series of Hindu and Buddhist kingdoms rose and fell on Java while (the spice) trade with Indians, Chinese, Arabs and Persians persisted (Taylor, 2003). Massive monuments such as Buddhist Borobudur and Hindu Prambanan were built in Central Java in the 8<sup>th</sup> century (Hellwig & Tagliacozzo, 2009). During the 14<sup>th</sup>

and 15<sup>th</sup> century, the Majapahit kingdom in East Java was the strongest kingdom in eastern Indonesia and was ruled by Hindu/Buddhist kings (Prapañca, 2009).

Islam arrived in Indonesia in the 14<sup>th</sup> century, brought to Sumatra by Muslim traders from India and Persia (Battuta, 2009). Evidence of Chinese Muslims settling on the northern coast of Java in the 15<sup>th</sup> century indicates that Islam likely came to Indonesia from a variety of places (de Graaf & Pigeaud, 2009); which may help explain why its Indonesian form differs from that of the Middle East. By the 16<sup>th</sup> century, Islam had become the dominant religion in Java; though significant minorities of Buddhist and Hindu believers nevertheless still remain.

Portuguese traders were the first Europeans to make contact with the Indonesian archipelago at the beginning of the 16<sup>th</sup> century (Nicholl, 2009). They were followed by Dutch traders who established the Dutch East India Company (VOC, Vereenigde Oost-Indische Compagnie) in 1602 (Taylor, 2003). The VOC began as a small confederation designed to oversee all Dutch trading interests in Asia, but later morphed into “one of the most powerful quasi-state forces of political, economic, and military might anywhere in the world” and located its headquarters in Batavia (Jakarta), Indonesia (Hellwig & Tagliacozzo, 2009, p. 96). The VOC was dissolved in 1801 and colonial administration of Indonesia passed to the Netherlands (Taylor, 2003). Apart from a brief period of British rule (1811-1816), Indonesia continued under Dutch colonial rule until World War II (Vickers, 2005).

The Japanese invaded Indonesia in March 1942 in search of resources for the war effort. Initially met with enthusiasm by the Indonesians as fellow Asians, the oppressive nature of their short rule (1942-1945) quickly became clear (Hellwig & Tagliacozzo, 2009). Upon Japanese surrender in 1945, Indonesia declared Independence under the leadership of Sukarno (Vickers, 2005). The Netherlands attempted to regain control of its colony, precipitating the Indonesian National Revolution, which was centered in Java and lasted for over four years. A period marked by intermittent armed conflict, internal political upheaval and international interventions (“Indonesia,” 2011a). Indonesian independence was officially recognised in 1949 by the Netherlands and the United Nations.

Sukarno, leader of the independence struggle, became Indonesia’s first president. Regional dissidence, however, led him to declare martial law in 1957 and the parliamentary

democracy degenerated to “guided democracy” (Hellwig & Tagliacozzo, 2009, p. 330). Much of Sukarno’s power “depended in great measure on the preservation of a balance between the army and [the Communist Party of Indonesia,] the PKI” (“Indonesia: Sukarno's Policies,” 2011, para. 3). Power also became centred in Jakarta during this time leading to a “Java-centric” Indonesia (Hellwig & Tagliacozzo, 2009, p. 330).

An attempted coup on September 30<sup>th</sup>, 1965 by a group of army conspirators who kidnapped and killed six army generals marked the beginning of the end of Sukarno’s rule (Vickers, 2005). General Suharto took charge and his troops defeated the rebels within a day (“Indonesia,” 2011a). The PKI was blamed for the coup attempt and as a consequence, “[m]embers of the party, left-wing supporters, and those suspected of leftist sympathies became victims of unrestrained violence and of killing squads” (Cribb, 2009, p. 347). An estimated 500,000 people were killed over a six month period (Vickers, 2005). With Sukarno’s support weakened, he was forced to succeed power to Suharto whose succession to power began what is known as the ‘New Order’.

The New Order was marked by two characteristics – terror and development - which Vickers (2005) aptly uses for the title of his chapter addressing this period, *‘terror and development in happyland’*. “Through an authoritarian, militaristic regime Suharto pushed for socioeconomic changes, foreign investment and industrial growth and productivity” (Hellwig & Tagliacozzo, 2009, p. 331). While living conditions for the average Indonesian improved (e.g. running water, electricity, road networks, basic education for all), a culture of nepotism and corruption simultaneously flourished among the ruling class and in the burgeoning government bureaucracy (Vickers, 2005). A positive facade was maintained by the government through propaganda and censorship of the media, the school curriculum and all publications; at the same time, the promise of development and wealth, combined with fear and military omnipresence, kept the peace (Vickers, 2005).

The end of the Cold War in the early 1990s coincided with a new period of liberalisation in Indonesia, of both the economy and an official policy of social liberalisation called ‘Openness’ (Vickers, 2005). Indonesians were allowed to participate in the international consumer market and attempt to attain the lifestyle and acquire the consumer goods showcased by the ruling class of Jakarta and the upper middle class which had grown in the previous decades from ‘connections’ with the ruling class (Vickers, 2005). At the same time, the children of the middle class who had taken up a new style of politics, that of

NGOs which were permitted to operate rather freely, led protests against environmental destruction and for worker's movements (Vickers, 2005). The end of Cold War also meant that foreign powers were no longer willing to ignore the New Order's human rights abuses and international pressure grew (United Nations, 1993). Meanwhile pressure from within increased as other legal political parties began to demand real democracy and to lead public demonstrations (Vickers, 2005). On the heels of these protests, the Indonesia Rupiah depreciated by almost 80% against the US dollar during the 1997 Asian financial Crisis (Broening, 1998); the cause of Indonesia's crisis being "collusion, corruption and nepotism" (Indonesian acronym, *KNN*) (Robertson-Snape, 1999, p. 589). The economic collapse led to demonstrations and then rioting in 1997 and 1998, some of which turned into pogroms against the Chinese ethnic minority (Hellwig & Tagliacozzo, 2009). These riots combined with a split in the military leadership led to Suharto's resignation on 21 May 1998 ("President Suharto Resigns," 1998).

The end of the New Order began a period of *Reformasi* (Reform) (Hellwig & Tagliacozzo, 2009). With the iron fist removed, there has been a liberalisation of various political and social movements as well as "increased ethnic and religious strife" (Newberry, 2010, p. 411). Significant debates have arisen concerning the future direction of Indonesia: the maintenance of a secular state versus the creation of an Islamic state (McIntyre-Mills, Manurung, Sumarto, & Komariya, 2009); decentralization and regional autonomy versus the preservation of the centralised state (McIntyre-Mills et al., 2009); increased democracy and civil action versus "retrenchment of military power" (Newberry, 2010, p. 411); and local versus international economic interests (Reuter, 2009). Tensions between opposing sides, especially between different ethnic and religious groups, have unfortunately escalated to violence in such cases as East Timor, Ambon, Kalimantan and the Bali bombings of 2002 and 2005 (Vickers, 2005). Despite these differences, Reuters (2009) points to common shared interests of these groups:

Indications are that new social movements across the full spectrum of Indonesian politics share a common agenda for revitalising traditional institutions and allowing local political self-determination, especially in relation to economic development. Shared aspirations also reflect widespread disappointment at corruption, lawlessness, unemployment and growing economic disparities. (p. 869)

The widespread corruption that developed under the guise of patronage during the New Order still persists within the civil service (McIntyre-Mills et al., 2009). Additionally, the

NGO movement that began in the waning years of the New Order has flourished and has played a crucial role in social welfare during in the *Reformsi*. Finally into this milieu were thrust significant natural disaster events, such as the one discussed in this research: 2004 Aceh tsunami; 2006 Yogyakarta earthquake; 2006 and 2010 eruptions of Mt. Merapi; 2007 Jakarta and Bengawan Solo floods; 2005, 2007 and 2009 Sumatra earthquakes. The social and political impacts of these events are therefore one of the many influences on the Indonesian culture; but they clearly cannot be viewed in isolation from other forces. As Laungani (2007) has identified (see Section 4.1.1), these elements of a shared “past history” and “regulated political, legal and social systems” are important facets of a culture, the understanding of which has relevance to this research (p. 35).

### 2.2.2 Indonesian Ideology

Out of this diverse and colourful history, a national ideology emerged. The nation’s motto *Bhinneka Tunggal Ika* (Unity in Diversity) is based on the concept of “harmony and balance” (Megawangi et al., 1995). Shortly before Independence, on 1 June 1945, Sukarno delivered a speech proposing a national ideology of unity and diversity encapsulated within *Pancasila*, the “five principles” (Sijabat, 2010):

1. The belief in one God
2. A just and civilized humanity
3. Unity of Indonesia
4. Democracy guided by consensus
5. Social justice for all

*Pancasila* was adopted as national ideology upon the declaration of Independence and written into the preamble of the 1945 Constitution (Adam, 2010). It was developed by the ‘founding fathers’ of Indonesia as “a middle way to accommodate the interests of numerous ethnic, cultural and religious groups in Indonesia” (Sijabat, 2010, para. 2).

The generalised nature of *Pancasila*, however, allowed both Sukarno and Suharto to use it to support their different policies and exercise control: “[t]o oppose the government was to oppose the *Pancasila*. To oppose the *Pancasila* was to oppose the foundation of the state ” (“Pancasila,” 1993, para. 4). During Suharto’s New Order, it forcibly became the “single ideology for political parties and mass organizations” (Adam, 2010, para. 8). In 1978, the New Order developed a two week “upgrading course” solely focused on *Pancasila* for all

civil servants (Morfit, 1981, p. 838). In addition, it became part of the standard school and university curricula (Weatherbee, 1985) and was the subject of public campaigns (Adam, 2010). When Suharto's regime fell, *Pancasila* lost popularity (Sijabat, 2010).

Nevertheless, on *Pancasila*'s 65<sup>th</sup> anniversary (1 June 2010) several articles appeared in the *Jakarta Post* discussing renewed support. Journalist Adam reported:

Despite the fact that some people still find it difficult to let go of the lingering idea of the New Order's *Pancasila* upgrading training, there is now an increased yearning for the ideology. Poor economic conditions coupled with a threatening schism and separatism have led people to look back and search for something that can bind all elements of the nation. History has proved that *Pancasila* is the perfect choice. (Adam, 2010, para. 15)

An editorial written on the day suggested deeper reasons for its return and enduring nature; that is, that *Pancasila* is not just an ideology but rather a way of life.

*Pancasila* has stood the test of time — for 65 years, to be exact— precisely because it is a way of life. *Pancasila* could not have survived onslaughts from competing value systems if it was only an ideology ... Twelve years after Soeharto's demise, *Pancasila* has regained its position as the glue that binds our people. Indonesia is a collection of people of diverse races, ethnicities, religions, cultures and languages. There is no such thing as a “national culture”. Instead, we have a rich collection of thousands of cultures. *Pancasila* is the set of shared values found in these cultures that bring people together under one roof. ("An Ideology or a Way of Life? [Editorial]," 2010, para. 10)

Therefore *Pancasila* represents the cultural values that bind Indonesians together and merits a look. The first principle (*sila*) of *Pancasila* speaks to the shared value of belief in God and the need for religious tolerance. Indonesia is not a secular state, but the belief in one God is a general statement that allows for “a wide variety of religions including Islam, Christianity, Hinduism, and Buddhism” (Morfit, 1981, p. 840). In his speech, Sukarno explained that individual Indonesian's beliefs in their own God should not prevent them from respecting other citizens' beliefs.

[t]he ... principle should be: to establish an Independent Indonesia based on the belief in one God. The belief in God! Not only do Indonesian people believe in God but each of them also believes in their own God ... .But we all should believe in God. Indonesia should become a state where people can freely practice their religions ... .Let us practice our beliefs, whether we are Muslims or Christians, in a civilized way. What do I mean by a civilized way? It means mutual respect for one another. (Sukarno, 2009, p. 307)

Therefore religious diversity and a tolerance for it is one of the principal values of Indonesian culture. The second *sila*, a ‘just and civilized humanity’, calls for “a willingness to treat others, even foreigners, in a fair manner, free from suspicion, exploitation, and oppression.” (Morfit, 1981, p. 840). The third principle of unity is a commitment to national unity. The fourth principle, democracy guided by consensus, is not Western liberal democracy as Morfit (1981) points out but rather decision-making through consultation and consensus based on traditional village approaches.

It would be a great mistake simply to translate this as a commitment to Western liberal democracy, especially since the rejection of Western liberalism (or at least some parts of it) has been a continuing theme in Indonesian political discourse since before the birth of the nation. The word *mnusyawah* is one connoting discussion and deliberation amongst members of a society, but it does not suggest such ideas as majority rule and minority rights. (Morfit, 1981, p. 841)

The fifth principle of social justice entails a commitment to equity and to justice and protection for the weak. The second and fifth tenets indicate that the strong tendency towards a humane orientation - “being fair, altruistic, generous, caring, and kind to others” (Kabasakal & Bodur, 2004, p. 569) - is an accurate description of Indonesian culture. Therefore *Pancasila* lays emphasis on “mutual help, mutual understanding, and tolerance” within Indonesian society and human relations; values which are prevalent in Javanese culture (Megawangi et al., 1995, p. 130).

### 2.2.3 *Javanese Culture*

The Javanese are the largest of the thirty-six major ethnic groups in Indonesia; approximately 40% of the population speak Javanese at home (Megawangi et al., 1995). Javanese society is hierarchical (B. Anderson, 1965; Cochrane, 2009). Nevertheless, Megawangi et al. (1995) points out that it is “relatively open and socially mobile” (p. 101); *wong cilik* (common people) are able to move up by means of education to white collar jobs to join the *priyayi* (high-class society – i.e. civil servants, intellectuals, aristocracy). The *priyayi*, who are the traditional social elites, also occupy the role of patrons providing work and benefits to their subordinates (Stein, 2009). The origins of the hierarchical social order are found in the Javanese worldview and mysticism, which is said to be the essence of Javanese culture (M. Mulder, 1978).

According to the Javanese worldview, the “individual, society, nature and the cosmos are inseparably connected and are ideally in a state of harmonious balance”(Schlehe, 2008, p. 277). The cosmos is “elaborately ordered and ranked” and balance is maintained by each person performing their role in life (B. Anderson, 1965, p. 7). Anderson (1965) explores Javanese mythology, calling it the ‘*wayang* tradition’ after the well-known shadow-play. This religious mythology has a “commanding allegiance” in the whole of society, regionally and in every social class (p. 5). It attempts “to explore poetically the existential position of Javanese man, his relationships to the natural and supernatural order, to his fellow-men – and to himself” (p. 5). Within the tradition, the ‘power’ or status of a being in the supernatural order is in direct proportion to his or her proximity to the throne of the God-King. Accordingly, each person has a role in the natural social order which must be maintained, or else all suffer. As Megawangi et al. (1995) put it, “[t]o be Javanese means to be a person who is civilised and who knows his manners and his place” (p. 101). A person therefore is seen as being a part of a harmonious whole and life should maintain harmonious unity (or *rukun*) (Megawangi et al., 1995).

The notion of *rukun* as described by Mulder in 1978 remains an accurate description of the social interactions that occur amongst Javanese.

*Rukun* is soothing over of differences, cooperation, mutual acceptance, quietness of heart, and harmonious existence. The whole of society should be characterized by the spirit of *rukun*, but whereas its behavioural expression in relation to the supernatural and to superiors is respectful, polite, obedient, and distant, its expression in the community and among one’s peers should be *akrab* (intimate) as in a family, cozy, and *kangen* (full of the feeling of belonging). (M. Mulder, 1978, p. 39)

In order to achieve *rukun*, an individual operates as a group member and “their individuality should be expressed through the group” (Megawangi et al., 1995, p. 102). Individuals conform to the community, and for this reason, ideal Javanese virtues are obedience, conflict avoidance, generosity, empathy and understanding others (Koentjaraningrat, 1985; Megawangi et al., 1995).

Alongside social harmony and a hierarchical social order, ‘tolerance’ is another prominent feature of the culture (B. Anderson, 1965). George Kahin speaks of the remarkable tolerance that exists in Javanese culture in the preface to Anderson’s (1965) paper *Mythology and the Tolerance of the Javanese*.

An ability to accommodate to and tolerate conflicting norms and ideas, the capacity to entertain in coexistence ideas and values that would seem incompatible in many Western settings, an unusual capacity for sympathetic toleration in social behaviour – these are all attributes of contemporary Javanese society deriving from old Javanese culture. (p. iii)

The “Javanese sense of relativism” that Anderson goes on to discuss is most explicit in regards to religion. He gives the example of “a typical Javanese formulation ... : ‘Of course I am a Moslem, but not a fanatical Moslem like the Atjehnese. We Javanese can get along with Christians and Buddhists. We see truth in all religions and are not exclusive in our beliefs’” (B. Anderson, 1965, p. 2). Even so, Anderson is careful to explain that Javanese ‘tolerance’ is not merely the “acceptance of conflicting ethical or religious systems” but it is derived from the “Javanese people’s sense of their own personality and traditions” (p. 5). He asserts that

One should not argue that the Javanese are tolerant of Christianity and “Buddhism” as such, but insofar as these religious systems have been assimilated to “Javanism” and to the extent that their adherents are respectable Javanese. (p. 4)

He refers to a “proud self-confidence” in Javanese culture which forms the basis of authentic Javanese tolerance (p. 5). “So deeply ingrained is this pride that almost anything is tolerated, provided that it can be adapted to or explained in terms of the Javanese way of life” (p. 5). This characteristic explains how all external influences are “woven” into the Javanese culture with seeming ease and little contradiction (p. iii). Most importantly, it makes the Javanese approach to religion understandable.

#### *2.2.4 Religion*

Religion is a central feature of life in Indonesia and Java. A belief in God (monotheistic) is pronounced in the *Pancasila* as one of the essential feature of Indonesian society (Morfit, 1981). According to the 2000 national census, the population is 86.1% Muslim, 8.7% Christian, 1.8% Hindu, and 3.4% other or unspecified religion (“Indonesia,” 2011b).

Islam is therefore the dominant and pervasive religion in Java. Beatty (1999) points out that “Islam is not simply one option among many: it is a constant factor, albeit differently felt and appreciated according to personal history and predilection” (p. 8). Stonebanks (2008)

clarifies this in saying that there is a distinction between Islam as a religion, Muslims as “followers of Islam” and “the cultural association of being born into a family or community of a Muslim culture” (p. 298). Hence, whether or not an individual is a follower of Islam, its influence is inescapable if one is a part of Muslim culture such as Indonesia.

Islam in Indonesia has always been moderate (Hellwig & Tagliacozzo, 2009). Most Javanese adhere to Islam nominally (*abangan*) rather than being committed to its purist form (*santri*) (B. Anderson, 1965; Megawangi et al., 1995). Javanese mysticism is often mixed with Islamic beliefs. The form of Islam that was initially introduced to Java is Sufism. Cochrane (2009) explains that “[Sufism’s] own mysticism and acceptance of saints meant that it accorded closely with pre-existing customs” which were “adjusted and Islamised” (p. 109). Schlehe (2008) reveals that the Muslim villagers involved in her research of the cultural politics surrounding Mt. Merapi’s eruptions combine Javanese spiritual beliefs with Islam and see no contradiction in doing so, as the spirit realms are subject to rule of God (*Tuhan, Allah*). The belief systems are not mixed or syncretised, but rather held as parallels (Schlehe, 2008). The tolerant view of religion mentioned in the previous section allows an assortment of religions to function alongside each other in relative peace (Beatty, 1999).

Issues of religion have become more sensitive following the September 11<sup>th</sup> attacks after which Indonesia suddenly became known to the world as the largest Muslim population, and fundamentalist groups began to find a louder voice (Hellwig & Tagliacozzo, 2009). Again, as Laungani (2007) has pointed out, the existence of a “dominant, organized religion(s) ... [that gives] meaning, legitimacy and a sense of continuity” is important in Indonesia and is significant in this study (p. 35).

### 2.2.5 *Family*

The family is the foundational institution of Islamic culture (Laungani, 2007). In Javanese and Indonesian culture, the “set of core values and traditions, including regulatory norms of personal, familial and social conduct, patterns of socialization, kinship patterns, gender roles ...” are important (Laungani, 2007, p. 35) (see Section 4.1.1 for further discussion). The family is the place where social models for relationships are first learned (Hofstede,

2001; Megawangi et al., 1995). For the Javanese, it also represents a place where individuals are free from social behaviour constraints (Megawangi et al., 1995).

Megawangi et al. (1995) conducted a study of the Javanese family as part of their research focusing on family health in an international development context. They explain that Javanese family relationships are meant to be based on unconditional love, and emotions can be expressed freely at home. For this reason, the majority of families are nuclear (75%) because in-law relationships require “constant politeness and reserve” (p. 121). Conflict is more likely to occur with a daughter-in-law so any cohabiting extended family is often maternal. That said, contact with close relatives is often frequent and there are moral obligations to extended family including taking in a “destitute aunt”, nieces or nephews (p. 122). Familial relationships in the home are dominated by women who are independent and hold a high status in the Javanese family and culture, but are still constrained by traditional gender roles (Beard & Cartmill, 2007). Mothers offer their children strong nurturance, unconditional love and emotional support. Fathers have a similar role, until children reach the age of five or six at which time the relationship transforms to a formal one. Relationships between Javanese siblings are also not based on simple equality. The older sibling is expected to care for the younger sibling and the younger sibling is to learn to follow the elder’s suggestions and obey them to an extent. The older sibling is “to fulfill the wishes of the younger” sibling and is blamed if they quarrel (Megawangi et al., 1995, p. 120). This is because sibling relationships are “the first step in learning the Javanese value of repressing one’s own desire and avoiding conflict, an essential step in adopting socially acceptable behaviour outside the family” (p120).

The family is also the principal vehicle for teaching of other key social behaviours. Parents teach their children three concepts that encourage social harmony in their ‘outside’ relationships: *isin* (shame), *wedi* (fear) and *sungkan* (respectful politeness) (Peacock, 1978). Children are taught obedience through a sense of fear (*wedi*) of consequences; respectful behaviour and self-control through shaming (*isin*); and upon adolescence, “respectful politeness” (*sungkan*) to guide interactions with superiors (Megawangi et al., 1995). This respect that children develop for parents and elders lasts throughout adulthood (Hofstede, 2001).

### 2.2.6 Children

Children are the centre of social attention in Javanese culture, even before birth (Koentjaraningrat, 1985). They are “a source of family warmth, joy and happiness” (Megawangi et al., 1995, p. 111). Attitudes toward children and related cultural values do not differ among social classes, nor is there preferential treatment according to gender (Megawangi et al., 1995).

The concept of a child in Javanese culture is different from in Western culture. A child is considered to be an individual under five or six years of age (Peacock, 1978; K. W. Yuniarti, personal communication, March 4, 2010). Peacock (1978) explains that “[p]rior to age 5 or 6, the child is considered immature; he is *during Djawa* or ‘not yet Javanese,’ and he is *during ngerti* or ‘not yet capable of understanding’” (p. 57). A child is doted on and heavily protected during this time. “After that he is suddenly a cultured Javanese” (Peacock, 1978, p. 57). There is no word for adolescent in Javanese; instead, a child becomes a young adult and is treated as an adult (K. W. Yuniarti, personal communication, March 4, 2010). The “once spontaneous and laughing child adopts the docile, restrained, formal controlled demeanor of his elders ” (H. Geertz, 1961, p. 107). As children grow, they learn the concepts of self-control and obedience (Megawangi et al., 1995). Consequently, Javanese children are typically very “well behaved, obedient, quiet and shy” in social settings (Megawangi et al., 1995).

### 2.2.7 Social/Community Relationships

Social relationships outside of the family follow many of the socially gracious behaviours already mentioned. Maintaining good relationships with close relatives, neighbours and community members is important in Javanese society because they are relied on in times of need (Megawangi et al., 1995). In addition to *rukun*, there are two expressions that symbolise ideal community behaviour: *gotong royong*, and *rukun tangga*. *Gotong royong* can be translated into English in various way, but essentially means “mutual help” (Megawangi et al., 1995, p. 136) or the “joint bearing of burdens” (C. Geertz, 1983, p. 211). From the traditional concept of community members’ obligation to seek the general welfare of the village, a volunteer culture has developed and continues to play a very strong role in Indo-Javanese life. Mutual assistance, moral, physical or financial, is require in times of

crisis such as sickness or death (Megawangi et al., 1995). *Rukun tangga* means “the bonds of households” (Koentjaraningrat, 1957, p. 74). The concept of *rukun tangga* is made visible by neighbour organizations (the lowest level of local government, RT) which have a “traditional role of providing security and holding community activities” (Singh, 2010, p. para. 1). For example, events such as weddings and funerals are also community events attended by neighbours.

Another feature of Javanese community relationship is respect for elders and community leaders (Megawangi et al., 1995). To submit to elders or superiors is the path to achieving noble character for the Javanese (Toer, 1982). Disagreement with superiors is never expressed directly, but always subtly through no response or agreement in a particular fashion (Koentjaraningrat, 1985).

### 2.2.8 *View of Nature and Natural Disasters*

Nature is connected to society, individuals and the spiritual realm in a “harmonious balance” according to the Javanese worldview (Schlehe, 2008). Traditionally, natural events and landforms were interpreted and explained through legends, and rituals performed to “appease dangerous spirits and encourage benevolent ones” (Cochrane, 2009, p. 108). These beliefs merged with world religions (i.e. Islam) over time but both religion and mysticism still influence the Javanese perspective of nature (Makin, 2010). The Javanese spiritual and natural (or scientific) world are not separated as they are in the Western worldview; there is no distinction between what can be “observed or proven scientifically” and what cannot be (i.e. spirit world) (Cochrane, 2009, p. 108). Instead, the scientific understanding that is accepted is “grafted on to pre-existing beliefs” in the same way previous ideology has been, and as Cochrane (2009) explains, “is why (for instance) using modern pesticides sits comfortably alongside the use of holy water as a pest deterrent” (p.116).

Natural hazards and disasters are most often viewed from this same holistic perspective. Much of Western research literature that is available concerning Javanese or Indonesia cultural notions of natural disasters has focused on volcanic hazards, particularly eruptions at Mt. Merapi (Dove, 2008; Lavigne et al., 2008; Schlehe, 2008). Volcanoes are said to be sacred (*keramat*) by those adhering to mystic beliefs who consider their eruptions to have

spiritual meaning (Schlehe, 2008). In Java, the meaning and interpretation of an eruption event also extends to political and social spheres. For instance, local interpretation of the eruption of Krakatau in 1883 and the associated destruction of the cities of Lampung and Banten perceived the event: i) religiously, as punishment from Allah for violating Islamic law; ii) politically, as support for resistance against the Dutch; and iii) socially, as punishment for a local leader breaking ceremonial taboos (Schlehe, 2008). Natural disasters can act as warnings (Lavigne et al., 2008) or indications of coming political failure, and yet such interpretations are “forever negotiated and contested” (Schlehe, 2008, p. 292).

The changing culture in Indonesia and shift to the ‘modern’, however, is challenging mythical perceptions of natural events. Schlehe (2008) noted when comparing her Mt Merapi fieldwork in 2006 with that of 1990 that the explanations of disasters are now “more related to negotiations between what people perceive as tradition and modernity” (p. 294). That is, “Javanese victims associate the disasters with tensions caused by contradictions between traditional values, local identity and syncretic worldviews on the one hand and modernisation, globalisation and orthodox Islam on the other hand” (Schlehe, 2008, p. 294). This tension between traditional and modern views is apparent in an article that appeared in the *Jakarta Post* in November 2010 following several natural disasters (flood, tsunami and volcanic eruption). It argues for a movement away from mythical and religious views towards a scientific outlook on nature.

We Indonesians, surrounded by oceans and active volcanoes on the Ring of Fire should learn more lessons from nature. We should be able to differentiate between scientific explanations and mythical belief, so that preventive action can be taken ... Mythical and religious perspectives, which can easily be distorted by preachers and politicians to make people afraid, still dominate our perception of nature. For the sake of our survival, warnings based on scientific observations and research should be heeded. Or else, Indonesians, like dinosaurs, will vanish. (Makin, 2010)

While this statement may give the impression that many people who have mystical beliefs do not pay attention to scientific explanations, this is in fact not the case. For instance, most residents on the slopes of Merapi do listen to local authorities and scientists during eruptions (Schlehe, 2008). Cochrane’s (2009) account of scientific explanations being “grafted” into beliefs, or held in parallel, is likely a more accurate description.

Another issue that often arises when discussing beliefs and nature is the concept of fatalism. Lavigne et al. (2008) discuss peoples’ behaviour in the face of volcanic hazards

and note that a characteristic of Indonesian societies is that “deities are invoked as the causal agents of death and destruction, frequently engendering responses of passive acceptance.”(p. 284). They make the point, however, that “death and destruction” are seen in a “regenerative” way and that the “passive acceptance should not be interpreted as fatalism conveying the powerlessness of Humans in the face of the Nature” but rather as “a sign of Humans [*sic*] humility and their search of peace and harmony” (p. 284). Schlehe (2008) similarly observes in her research that “[p]eople feel they are not just at the mercy of something incomprehensible, but that they can do a lot to influence or at least explain their fate and to counteract threats from the volcano” (p. 285). Her concluding comments in her paper reveal in this case that human agency is in fact linked to nature and associated philosophies:

A remarkable outcome of this research is that the residents living in the vicinity of Merapi are neither the helpless victims of the volcano nor the government. Individuals confronted with natural threats can draw cognitive coping strategies as well as subjective security from their belief in spirits. Human agency is interrelated with agency attributed to entities in nature. (Schlehe, 2008, p. 293)

In general, there is a greater and growing awareness in Indonesia of the impact of human behaviour on the environment and correlated natural disasters (Makin, 2010; Schlehe, 2008). The recent national disaster management legislation (2007) proves the government is taking active steps to reduce the impact of natural disasters (Willitts-King, 2009). State perceptions of natural hazards, however, can differ from the local residents. In the case of volcanic activity, the state focuses on the active periods of volcanic hazard because of dangers posed to citizens while the residents focus on the periods of non-activity because of the high fertility of the volcanic soil (Dove, 2008). Similar views are held by some of the interview participants regarding flooding. The benefit of remaining in the same location in between floods is seen as worth (the risk of) occasional flooding. These different points of view can lead to tensions between parties and demonstrate the influence that culture plays on hazard and disaster mitigation in Indonesia. This interplay of religious beliefs and common physical and geographical boundaries or features also conforms to Laungani’s (2007) primary and secondary features of culture and the kinds of impacts a culture can have on the perception of natural hazards.

## 2.3 Natural disasters in Indonesia

Due to its location on an active tectonic plate boundary and its tropical climate, Indonesia is exposed to many natural hazards that result in disasters when the natural forces interact with human activities and settlements.

The islands lie on the boundary of the Pacific, Eurasian, and Australian tectonic plates making Indonesia home to at least 150 active volcanoes and subject to frequent earthquakes and tsunamis. Between 2000 and 2010, the country experienced 50 earthquakes of greater than M 6.3 (USGS, 2010). The Indian Ocean tsunami of 2004 caused by a 9.1 magnitude earthquake off the coast of Sumatra is perhaps the most well-known natural disaster event, resulting in the deaths of an estimated 200,000 people in Indonesia alone.

Climate-related hazards in this tropical environment are mostly driven by the two distinct seasons, a dry season (April – September) and a wet season (October – March). Droughts have been the cause of crop failure and of severe forest fires in previous years. In contrast, the heavy rains that often occur in the wet season can, and have, resulted in flooding in the lowlands and landslide activity in the steeper terrain.

The most common natural disasters in Indonesia are, in order: landslide, flooding, earthquakes and related tsunamis, volcanic eruptions, drought and cyclones. Table 2-1 shows the types of disasters that occurred between 1907 and 2004 and their impacts.

**Table 2-1: Types of natural disasters\* in Indonesia between 1907 and 2004**

Disaster	No. of Events	Total killed	Average no. killed per event	Total Affected	Average no. affected
Flood	93	4,296	46	5,069,306	49,643
Earthquake	78	21,856	280	1,723,756	18,180
Volcanic Eruptions	43	17,945	417	981,853	22,351
Drought	11	9,329	848	4,894,220	444,929
Cyclones	10	1,992	199	19,698	1,872

\* tsunami data not available . (Source: Skorik & Isanuk, 2005, p. 2)

Legono (2005) notes that the most common disaster, landslides, occurs on a small scale, and consequently, they are rarely reported internationally and therefore do not appear in Table 2-1. In the Central Java province alone, there were 57 landslide events between 2000 and 2007 that killed 249 people (Marfai et al., 2008, p. 344). The occurrence of natural

disasters has been increasing in most provinces, particularly Java and Sumatra with their dense populations (Legono, 2005). This trend is expected to continue with the advent of global climate change, continued population growth, increased urbanization and further environmental degradation.

The Center for Hazards and Risk Research at Columbia University has analysed the risk of these natural hazards and concluded that floods pose the largest risk when weighted by the proportion of GDP and mortality (Skorik & Isanuk, 2005). Furthermore, the frequency and magnitude of flooding is increasing (Marfai et al., 2008), making this research on Solo flooding very relevant.

### *2.3.1 Flooding in Indonesia*

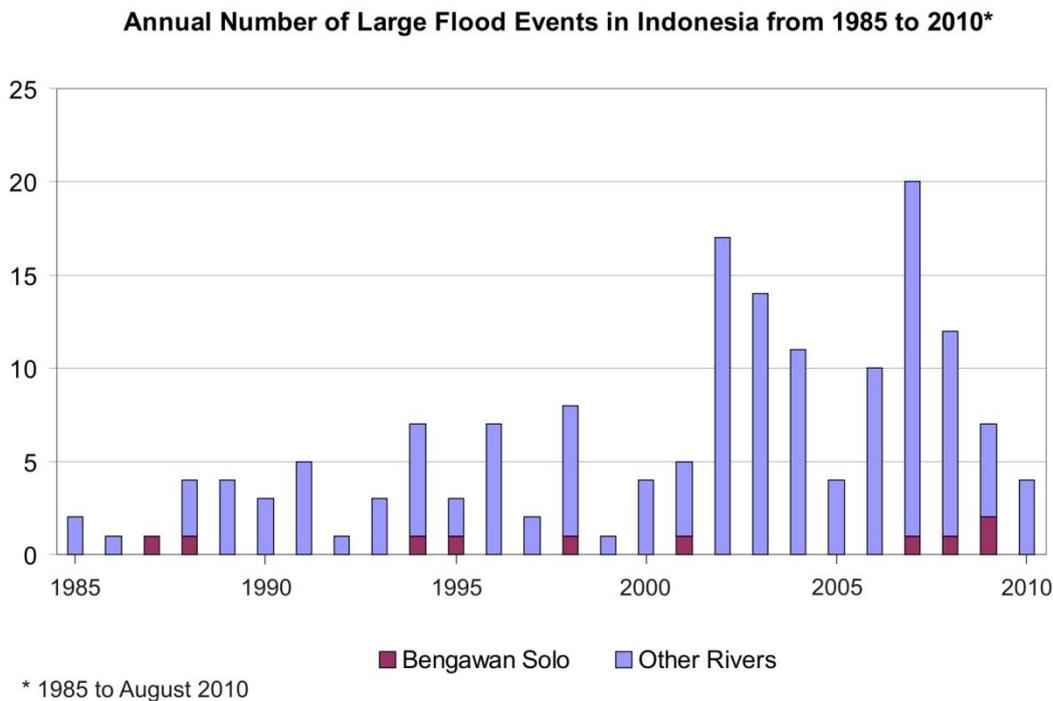
Most floods that occur in Indonesia are riverine, where the rivers on low-land areas exceed their channel's normal capacity (Wohl, 2000). Such floods are typically caused by high intensity rainfall, but are also dependent on volume, timing and the antecedent conditions of rivers and their drainage basins (F. Hidayat, Sungguh, & Harianto, 2008). Likewise, the absorption capacity of the watershed, through its vegetation cover and soil, has a great influence.

Changes in land use, principally logging forest cover, land cultivation and settlement, has significantly decreased the ability of many watersheds to cope with the high intensity rainfall that can occur (Legono, 2005). Resultant soil erosion has also increased the sediment load of rivers and the deposition in riverbeds and dams, decreasing their storage capacity. Other factors that affect the flood risk and vulnerability, in Java in particular, are: "El Niño (mesoscale) climate oscillations; global climate change; volcanic eruptions and earthquakes; changed land use; land subsidence related to groundwater abstraction; sand mining; river regulation; and general development of the physical infrastructure" (F Hidayat, 2009, p. i).

Hidayat et al. (2008) describe how frequent flooding will cause damage to crops, soil erosion, water logging of soils preventing farming, disruption of settlements, transportation and commerce, loss or damage of property and infrastructure, and increases the risk of death and disease to humans (p. 2). Efforts to manage flood risk and minimise flood

damage, in the form of watershed management, began in Indonesia in the early 1970s following a major flood in Surakarta in 1966 (Anwar, 2003). Despite efforts to control flooding, floods still occur. The underlying causes appear to include the increasing anthropological pressures on the natural environment, through deforestation and land clearing, more settlements on floodplains due to population pressures, and a lack of adequate flood control and protection measures (F Hidayat, 2009).

There have been 161 significant floods in Indonesia and 54 of them occurred in Java since 1985 (Dartmouth Flood Observatory, 2011). Figure 2-3 shows the graphical representation of these floods annually from 1985 to the present. Evidence points to an increase in the frequency of flooding events, and in the amount of damage the floods cause.



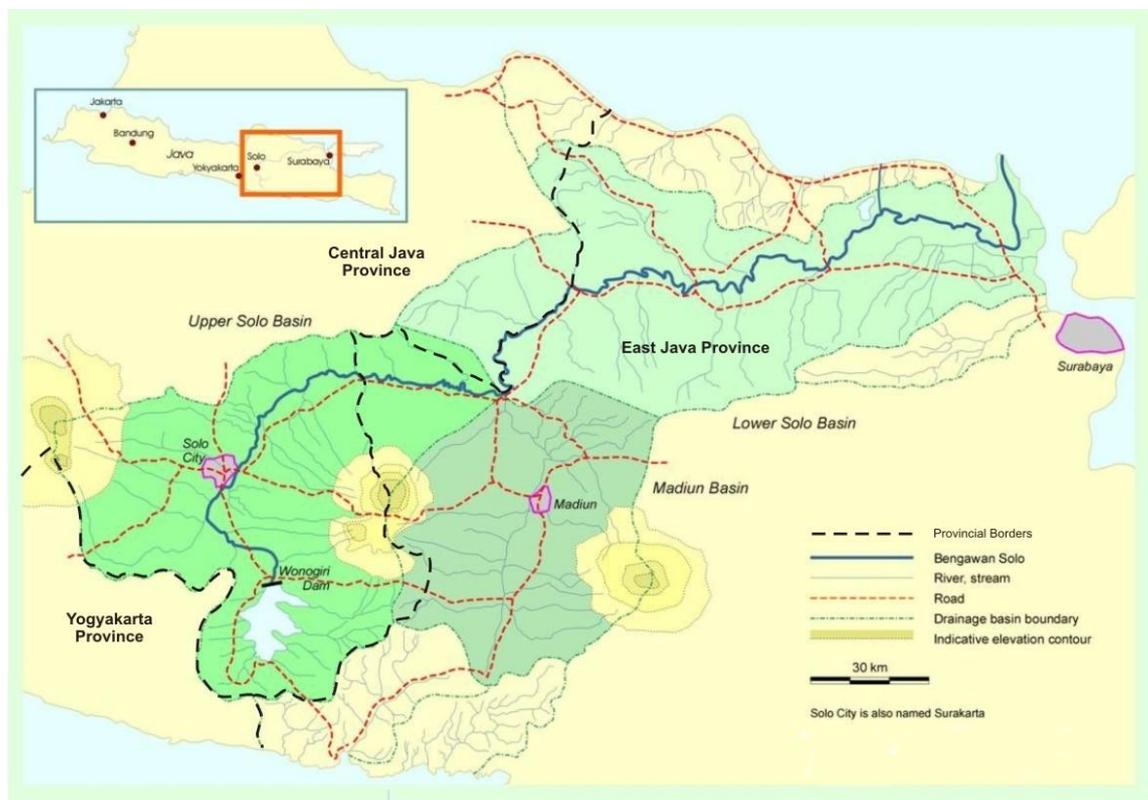
**Figure 2-3: Annual number of flood events in Indonesia from 1985 to present**  
(Data: Dartmouth Flood Observatory, 2011)

In the last few years alone, a number of significant events have occurred (F. Hidayat et al., 2008). In June 2006, heavy rains resulted in the deaths of at least 216 people in southern Sulawesi. In January 2006, rains and associated landslides killed at least 206 people on the north coast of Java. Extreme rainfall in early 2007 left parts of the capital city of Jakarta under water. At the end of the year (2007), Jakarta flooded again, along with the Brantas River and Bengawan Solo River, resulting in the flood event that this research addresses.

The Bengawan Solo flooded again in 2008 and twice in early 2009. Figure 2-3 also indicates that there have been ten floods along the Bengawan Solo River basin within the last twenty-five years. Six of these floods, including the four already mentioned, are ranked within the nation's twenty worst floods.

## 2.4 Bengawan Solo River Basin

The Bengawan Solo River (shown in Figure 2-4) flows north from the Sewu Mountains then turns east passing through Central Java and East Java Provinces and outfalls at Ujung Pangkah, Gresik, north of Surabaya into the Java Sea (F. Hidayat et al., 2008). It is the largest river basin in Java, draining approximately 16,100 square kilometres of the island (Takeuchi, Jayawardena, & Takahasi, 1995). The 600 km river is “divided into an upstream basin (9,827 km<sup>2</sup>) and downstream basin (6,273 km<sup>2</sup>) with a boundary at the confluence of the Solo and Madiun Rivers near Ngawi” (F. Hidayat et al., 2008, p. 3). The Upper Basin is



**Figure 2-4: Bengawan Solo River Basin**

(Source: Sudarsono, 2009, p. 7)

further subdivided by Mt. Lawu (3265m) into two sub-basins: Upper Solo River Basin (6,072km<sup>2</sup>) and the Madiun River Basin (3755km<sup>2</sup>) (F. Hidayat et al., 2008).

The total basin covers 17 regencies in the two provinces: Boyolali, Klaten, Sukoharjo, Wonogiri, Karanganyar, Sragen, Blora, Rembang, Ponorogo, Madiun, Magetan, Ngawi, Bojonegoro, Tuban, Lamongan, Gresik, Pacitan; and two municipalities: Surakarta and Madiun. In 2005, the population of the basin was approximately 16.03 million people; 26% of Central Java’s population and 27% of East Java’s population (F. Hidayat et al., 2008).

The land in the basin is primarily used for agriculture. The different land uses, as of 1992, are shown in Table 2-2.

**Table 2-2: Land use in Bengawan Solo River Basin (in 1992)**

Land Use	Percentage (%)
Forest	19.5
Lakes, rivers, marshes	0.9
Agriculture	25.3
Paddy fields (rice)	21.9
Settlement areas	32.4

(Source: Takeuchi, Jayawardena, & Takahasi, 1995)

In the last century, land use has moved from forest to agricultural uses. More recently, rapid industrial development and population pressures have joined the intensive agricultural activities in altering the natural environment. The altered basin landscape has left it more vulnerable to flooding events like the 2007 floods.

#### 2.4.1 Flooding of the Bengawan Solo River

Flooding in the Bengawan Solo River basin is usually caused by extreme rainfall events. The resulting impacts, however, are compounded by several factors: “watershed degradation, lack of flood control structures, incomplete river improvement projects, lack of drainage and storage capacity, and lack of an operational flood forecasting and warning system” (F Hidayat, 2009, p. 3).

The need for a reservoir to control floodwater was recognised following the 1966 flood in Surakarta. The Wonogiri Multipurpose Dam, which lies 55km upstream from Surakarta, was completed in 1982 with the primary function of controlling flooding in the basin (F. Hidayat et al., 2008). Unfortunately, as Hidayat et al. (2008) note, its effective capacity has decreased by 40% in the last 25 years due to high sedimentation from the steep uplands that are “highly erosive” and heavily cultivated (p. 12); only 10% of the area is still forest cover.

While there is flooding almost annually at some point along the river, larger events in the basin which have occurred in the past are: 1863 - Bengawan Solo River; 1863 - in Ngawi; 1966 - in Surakarta; and 1968 - in Lamongan (Zein, 2010). The most recent flooding events took place in late 2007 and in 2009. The December 2007 flooding was largest event since 1966, and it is discussed in further detail in Section 2.4. The flooding between January and March 2009 was a series of four floods (F Hidayat, 2009). While the aerial extent of these floods was smaller than the 2007 floods, the duration was longer. The 2007 and 2009 floods caused estimated damages of 200 million USD and 100 million USD respectively, and the loss of human life (F Hidayat, 2009).

Flooding occurred in adjacent Brantas river basin (East Java) simultaneously with the 2007 flood. While the rainfall was comparable, the damage caused in the Brantas basin was much less due to effective structural flood protection (F Hidayat, 2009). Some measures to minimise flooding, such as reforestation and erosion and sediment control, have been done; while others like, the construction of “flood control structures (dam, reservoir, floodway)” and river improvement projects to increase flood capacity of rivers, are still in progress (F. Hidayat et al., 2008, p. 13). Some of these measures have been used at the research site following the 2007 flood event as part of the government’s Bengawan Solo River basin project. The dyke wall running along the river has been widened and raised by one metre. Housing on the flood plain has been relocated and the land reforested.

Public awareness and education initiatives concerning flooding, and other environmental issues (i.e. re-greening) have also been on-going (F Hidayat, 2009). Evidence that such initiatives may be effective was revealed over the course of the research. Most, if not all, the community members were aware of the structural flood protection measures being completed and of other methods to minimise flood impacts such as reforestation.

## 2.5 Surakarta

Surakarta, colloquially known as Solo, is bordered to the east by the Bengawan Solo River. The city lies on lowlands in an intermountain basin between Merapi and Mebabu volcanoes to the west and Mt. Lawu to the east. It is 65km northeast of Yogyakarta, and 100km south of Semarang (see Figure 2-5). It is one of six municipalities in the Central Java province; there are 29 regencies in this province (Dinas Perhubungan Komunikasi dan Informatika Provinsi Jawa Tengah, 2009; Kim, 2009).



**Figure 2-5: Regional Map of Surakarta City**

*(Source: Adapted from Google Maps, 2010)*

The city's population is 564,000 with an population density of approximately 12,860 persons per square kilometre, making it the most crowded city in the Central Java province and the sixth largest city in Indonesia (Zein, 2010, p. 9). It is governed as a municipality and is bordered by the Boyolali, Karanganyar, Sukoharjo regencies (see Figure 2-6). The city itself is divided into five sub-districts (*Kecamatan*): Banjarsari, Jebres, Laweyan, Pasar Kliwon, and Serengan, as shown in Figure 2-6. These sub-districts are further divided into 51 villages, 595 RWs and 2 669 RTs (Zein, 2010, p. 8).



Figure 2-6: Municipality of Surakarta and administrative precincts

(Source: Agustan, 2008)

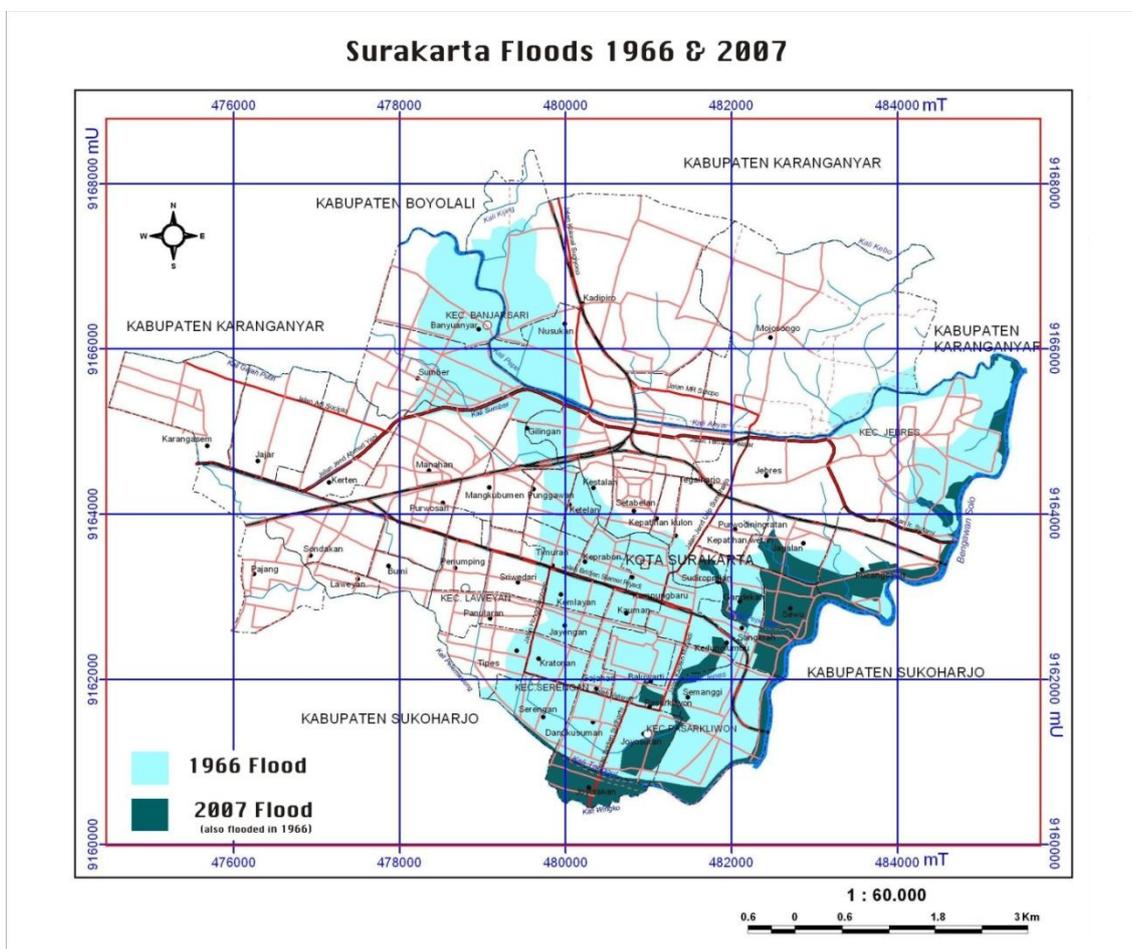
Surrounded by rural farming areas whose primary focus is rice production, Solo is the centre of commerce, politics and culture in the eastern part of Central Java. Seventy percent of the city’s residents are employed, mostly in construction, industry, civil service and retail, or working as farmers, farm workers, entrepreneurs or transport operators (BPS, 2008). Many of the parents of the research participants work as day labourers in construction or as food sellers. Most of the areas affected by flooding in the city are the low-income neighbourhoods. These areas often lack government supervision of building permits, and some of the vacant land along riverbanks is occupied by residents who come to the city to find work and live as squatters (Zein, 2010). Half of the researched community was one of these “squatter” communities built on government land along the river banks.

### 2.5.1 Flooding in Surakarta

The Bengawan Solo River has been the source of most large scale flooding in Surakarta; though several tributaries have also flooded during heavy rains. Some of the floodwaters in

low lying areas also come from the city itself due to poor drainage, especially when the Bengawan is at, or has exceeded, its capacity.

The largest flood on record in Surakarta occurred in 1966 (see Figure 2-7). Constant rain over several days left 13,000 homeless (Zein, 2010). Other large floods in the historical records occurred in: “March 1966; March 1968; March 1973; February 1974; March 1975; January 1982; February 1993; December 2007; March 2008; February 2009” (Zein, 2010, p. 11). The December 2007 flood is the largest since 1966. Figure 2-7 shows the extent of both the 1966 and 2007 flooding.



**Figure 2-7: Extent of flooding in Surakarta in 1966 and 2007**

(Source: Setiyarso, 2008)

Since the 2007 flood is the backdrop event for this research study, its impacts on Surakarta and surrounding communities is discussed in detail in the next section.

## ***2.6 December 2007 Flood***

The flooding of the Bengawan Solo River and tributaries began in the evening of December 25, 2007. Its direct cause was extreme rainfall (~136mm/day) in the Upper Bengawan Solo basin (F. Hidayat et al., 2008). The Lower Solo Basin experienced rainfall as well but in smaller amounts. The rains produced river flow rates between the 30-50 year return period; the existing flood protection measures, on the other hand, were designed for a 5-10 return period flow rate (F Hidayat, 2009). The result was severe flooding along the river and lowlands, and landslides in the steeper areas.

A map of the flooded area in the Bengawan Solo River Basin is shown in Figure 2-8. More than 100 people were killed, most by landslides. In the Karanganyar regency, 71 perished from landslides and six others from flooding (F. Hidayat et al., 2008). The main road connecting this regency to Solo City was closed as a result of landslides. In Solo City, no fatalities were reported but at least 6,600 houses were inundated (F Hidayat, 2009; F. Hidayat et al., 2008; Zein, 2010). Twelve villages in the city's five sub-districts were affected (Figure 2-6). The flood lasted about a week, and most of the waters had receded by December 31.

Multiple government departments, aid agencies and citizens responded with assistance to the flood-affected residents. The extent of the flooding was large enough to involve the national branches of many international organizations. The Indonesia Red Cross (Palang Merah Indonesia), for instance, carried out evacuation activities, distributed relief items, field kitchens and clean water, and provided health services (IFRC, 2008). Figure 2-8 shows where several other aid agencies worked within the Bengawan Solo Basin and what type of aid was provided. Military personnel from nearby bases, health department officials, and the municipal government of Solo City assisted citizens, as did many volunteers from mosques, churches, and neighbouring communities and municipalities, according to research participants.



The majority of the houses affected experienced only “moderate visible structural damage”, but possessions were destroyed or swept away (F. Hidayat et al., 2008, p. 9). The worst damage occurred in poorer areas where low grade housing materials were used. In the village where this study took place, 635 houses outside the riverbank area (behind flood walls) experienced minor damage, 6 houses had major damage and 318 houses within the riverbank were damaged. The total damage for the city has been estimated at 1.2 million USD, while the damage to the whole Bengawan Solo basin totalled to 200 million USD, including crop and infrastructure damage (F. Hidayat et al., 2008).

### *2.6.1 Flood Event at Research Site*

The flood event as described by the research participants was, in fact, a series of three floods, on the mornings of December 26<sup>th</sup>, 27<sup>th</sup> and 28<sup>th</sup>, 2007. The river was high on the evening of 25<sup>th</sup> and it had been raining heavily and continuously that day and throughout the night. The first flood occurred in the early morning of the 26<sup>th</sup>. Some reported it arriving at 2 a.m. or 3 a.m., while others said they heard shouting that the flood had come around 4:30-5 a.m. The second flood occurred at 3am on the 27<sup>th</sup>, and no time was mentioned for the peak of third flood. The water rose rapidly during the first two floods. The first flood was the largest, reaching the roofs of houses on the riverbank side. The second reached half the door height and the third was “small”, a quarter of the way up the door, according to one child participant who lived on the riverbank side. Each flood rose and peaked in the night and subsided during the day. This rise and subsidence of the water caused much loss and frustration as most residents cleaned up after the first flood, only to have their houses fill with water again and drying possessions carried away in the smaller second flood. The flood waters receded permanently within four to five days.

## **2.7 Conclusion**

Indonesia is a populous developing nation with a high frequency of natural disasters. Flooding poses the largest risk to the society. The increase in frequency and extent of flooding within the last two decades has spurred the government to take active steps to reduce the impacts. There is also a growing awareness in the society as a whole of the influence of human behaviour on the environment and correlated natural disasters. While

natural disasters are seen in a more holistic light, which acknowledges spiritual elements, people do believe they are capable of countering threats. This setting is therefore well suited for a study of the social impacts of flooding, as flooding does pose a real threat and there is a willingness to act to minimise the resulting negative impacts.

The flood event in 2007 in Surakarta is a good case study as it is an urban area, reflecting the growing trend of urbanization in Indonesia, and it is situated at the hub of Javanese culture, the dominant cultural force in the nation. This hierarchical culture, which is marked by a desire for social harmony, encourages mutual understanding, mutual assistance and tolerance. These qualities, and the centrality of religion and family, create an interesting cultural context in which to study the actions of a society and its children when they are faced with a natural disaster.

In order to study these issues, an appropriate methodology was required. The next chapter will discuss the methodology and methods that were used.

### 3 Methodology

The nature of this research endeavour is to explore, describe and understand the social effects of flooding on the children living near the Bengawan Solo river in Central Java. The research aimed to achieve this goal by taking the perspective of the children and grounding this knowledge in the social and cultural context in which they live, that is, how the broad social, cultural and locational factors of their community affected their experiences of flooding and in which sites the children experience and interacted with the flood events. It attempted to learn of the impacts of these flood events by listening to the children's personal experiences of the flooding and inquiring into how and what ways they can be identified as social actors in this situation. This aspect of learning from children themselves is seen as crucial from both a researcher's and a practitioner's point of view.

The annual increase in the global number of natural disasters, like flooding events, combined with their disproportionate occurrence in developing countries such as Indonesia gives urgency to the task of minimizing the impacts of disasters for those affected by them. This study focuses on children because they have been identified as both a highly vulnerable and highly resilient group. Children merit special attention in disaster situations because, in their early stages of development the effects of a traumatic event can disproportionately affect their physical, mental, emotional and social development. Therefore the findings of this research aim to contribute to the current understanding of children's vulnerability and resilience in the disaster field.

The study focused on Indonesia because, not is it only a populous developing nation with a high frequency of disasters, but it is a close neighbour to New Zealand and there are ties of scholarship and engagement between the two countries in relation to disaster research. The New Zealand Aid Programme was also active in responding to the 2004 Indian Ocean tsunami, 2009 Padang earthquake, and eruptions of Mt. Merapi in 2006 and 2010, and is currently developing a partnership with Universitas Gadjah Mada (UGM) that "will include building the capacity of local governments to prepare for and respond to natural disasters" (NZ Aid, 2011).

Most studies concerning children in disaster have been conducted in generally rich, Western countries, so there is still something of a gap in knowledge in relation to empirical

knowledge in non-Western and poorer countries. The issue of how culture affects a child's vulnerability and resilience has also not been explored in depth, and this fact has been considered specifically in this study. The influence of the Javanese and Indonesian culture on the attitudes of the children, their families and community was explored in an effort to understand how great a role cultural influences play in children's reactions and actions during and following disaster events.

In order to achieve these research goals, a number of conditions needed to be met: an appropriate conceptual framework, methodology and methods were required. In the first instance, it was important to allow the perspectives of children to be seen and understood. Following Christensen and James (2008), the research deemed children to be experts in their own lives and sought, primarily, to present the children's wisdom rather than that of adults. In addition, however, the research also sought others' views, such as parents, teachers and community leaders, because these people are significant in children's lives and children's responses are strongly influenced by the context in which they live and interact. As Fler and Quiñones (2009) put it, "a child's voice cannot be disembedded from the living world, it must be framed as part of the world" (p. 104). In other words, the research needed to make allowance for multiple perspectives and give a voice to the participants. Furthermore, a relationship of confidence and trust needed to be developed between the researcher and participants in order to create an environment where participants felt safe to share their personal experience.

These requirements informed not only the methodological choice - how the research is conducted - but also the larger philosophical paradigm in which the research is embedded. Sarantakos (2005) describes the philosophical paradigm as the set of propositions that explain how the world is perceived. This perception, or worldview, influences and guides how the research is designed and conducted. A paradigm consists of the basic concepts and ideas by which one views the world (Hesse-Biber & Leavy, 2008). In the social sciences, a paradigm is often described by two key characteristics: the nature of reality, ontology, and the nature of knowledge, epistemology (Denzin & Lincoln, 2005; Sarantakos, 2005; Winchester, 2005).

### 3.1 Research Paradigm

The ontology and epistemology that frame this research point to the combination of a realist ontology and social constructionist epistemology (Schwandt, 2007). This research position, which sits between a realist and a constructionist paradigm, has the appearance of a dichotomy, which I disclose by describing both its realist and constructionist elements in the next section.

On the one hand, this project holds to the idea that reality and truth exist independent of people's perception. This position is taken first because it affirms the existence of researchable, universalised ideas. The research draws on discourses surrounding the ideas of universal children's rights and the newly forming idea of a universal childhood. On the other hand, this research also relies on realist accounts of natural disaster events which occur across culture, and which suggest that disaster events are somehow independent of culture and of human consciousness. The research aims, however, to understand more about what these events *mean* in different cultural settings. Social constructionist epistemology is suited to this endeavour as it allows for multiple meanings, that are inextricable from culture, to be drawn out through research. Since each child is different, it follows also that the meanings they derive from an event are also different. To research these differentiated realities requires an approach that allows for multiple perspectives and a voice for each participant. Furthermore, children are active social agents and are subject to the social constraints of the society in which they live. Not only are their worldviews and reactions individually differentiated but their construction of meaning is affected by the culture in which they live.

In seeking to accommodate and consider these complex interactions between the child and the natural disaster in a culturally embedded way, this research depends on both realist and constructionist views. Watson (1987) describes these two philosophical domains, in their extremes, as being positioned at opposite ends of a continuum of reality and its accounts. Realism lies at one end, where accounts of reality mirror reality (correspondence theory); while constructionism is at the other end, stating that accounts of reality make up what reality is (constitutive theory). While this thesis does not take an extreme position in relation to either domain, the relevant framing is discussed in the next section.

### *3.1.1 Realist Ontology*

Realism, sometimes termed as objectivism, states that reality exists independently from human consciousness or experience (Sarantakos, 2005); it can be perceived by humans, but does not depend on them, and is therefore, objective. As Schwandt (2007) describes it, “there is a world of things, events, objects ‘out there’ whether I can conceive of them or not” (p. 257). From this stance, the ‘truth’ is out there to be found, and the criteria that are used to determine if something is ‘truth’ is based on how much it reflects or corresponds to the ‘objective reality out there’ (Denzin & Lincoln, 1994).

A realist viewpoint, therefore, acknowledges the natural event of the Bengawan Solo river flooding and the houses along its bank filling with water. The children living in these communities are forced to seek shelter elsewhere until the waters subside and houses are habitable again. The loss of possessions and the disruption of daily routines occur irrespective of culture. Children living in this setting are more vulnerable because of their physical size, and development needs, and their cognitive development, irrespective of what these events may mean to the children or their community.

Universal concepts, those not bound by culture, are tenable within a realism framework. While the concept of ‘the child’ is culture-bound (Shamgar-Handelman, 1994), the child can also be deemed, through gender, age, susceptibility to disease, and developmental potential to have attributes common to all children. The rise of globalization, the adoption of modern societal values, such as gender equality in school and access to health care, and the acknowledgement by the majority of the world’s cultures that children are an integral part of the family and society, and have responsibilities as well as rights, has led to the realist proposition that a universal childhood does exist to a degree (Boyden, 1997; Lieten, 2008).

### *3.1.2 A Social Constructionist Epistemology*

Epistemological realism is similar to its ontological counterpart in that it holds that meanings exist in objects (including human actions, events) independent of human consciousness (Schwandt, 2007). In other words, the essence of an object, what can be known about it, exists independently of the human mind; and knowledge is something that

can be 'discovered'. Conversely, epistemological constructionism maintains that meaning is not independent or objective from human consciousness; that "human beings do not find or discover knowledge so much as construct or make it" (Schwandt, 2007, p. 38). Therefore it can be said that knowledge or meaning does not exist before the mind engages with an object; and what is taken to be knowledge is then based on a person's interpretation or construction, and is subjective (Guba & Lincoln, 1989; Sarantakos, 2005).

Since interpretations of actions, behaviours, and events differ from one person to the next, multiple meanings emerge. Charmaz (2010) explains that interpretation "arises from the interactive [social] process and its temporal, cultural, and structural contexts" (p. 197). The construction of meaning is, therefore, not only based on personal experience but also on "culturally defined and historically situated interpretations" (Sarantakos, 2005, p. 39). This idea leads to the notion of the collective generation of meaning, which forms the foundation of social constructionism. This strand of constructionism emphasises the influence culture has on a person and how it shapes the way he or she views the world (Crotty, 1998). In a given culture, meanings already exist and they are shared, sustained and (re)constructed through interaction (Sarantakos, 2005).

Things from the 'real world', therefore, such as a flood of water through a community, are made sense of through social construction. The process of its construction, its description, analysis and sense-making is social (Alvesson & Sköldbberg, 2009). For instance, flooding in contemporary Indonesia often means destruction and the loss of possessions. Media reports of flooding consistently hold a negative connotation and are met with feelings of despair by viewers. Perhaps in previous generations, flooding may have been considered to have had benefits, such as rich soil being brought in an area, but with increased urbanization along river valleys and flood plains, flooding is viewed as a hazardous event, something to be controlled.

This example indicates one of many implications for research: if meaning is socially constructed, then knowledge cannot be time- and context-free, and it is value bound (Johnson & Onwuegbuzie, 2004). Knowledge must, therefore, be understood in the context from which it was derived in (Guba & Lincoln, 1989); in this case, in a community living beside a major river in Solo that has previously flooded and has the potential to flood again. Because knowledge is tied to context, findings from one context cannot be generalised and applied to another. The meanings produced from a flood in Solo will be different from those

of a flood in Bahir Dar (Ethiopia) or Auckland (New Zealand). Instead, knowledge building is dependent on transferability, “providing sufficient description of the particular context studied so that others may adequately judge the applicability or fit of the inquiry findings to their own context” (J. C. Greene, 2010, p. 69). The onus to make sense of the research and apply it in different contexts thus rests with the reader. Possible readers of this research, for example, could be staff from development agencies. Such readers would need to recognise that this knowledge and its applications can only be sensibly transferred with an awareness of how the culture dictates, for instance, the role of children in Indonesian culture and what the role of children is in the culture they hope to apply ‘lessons’ to. While a kind of universal childhood may exist, it is clear that childhood environments do vary across human societies and that cultural dimensions provide meaning to the social and material dimensions that children experience (LeVine & New, 2008).

The mechanism through which these two philosophical domains are linked and operationalised in the context of this research is through reliance on an explicitly reflexive methodology.

### **3.2 Reflexive Methodology**

This methodology acts as the bridge between the ontological and epistemological principles and the research methods. Described as the “nature of research design and methods”, it describes *how* the research is carried out (Sarantakos, 2005). The term ‘reflexivity’ has many definitions and uses. For some it means a simple reflective awareness of subjective bias in research, while for others it may comprise the methodological basis of an investigation (Etherington, 2004). In this research on children’s experiences of flooding in Solo, it provides the methodology. The many ethical dilemmas of the research, emanating from both the cross-cultural and child-focused nature of the inquiry, require great care and reflection as power dimensions and cultural influences are embedded in all facets of the research enquiry.

Etherington (2004) defines reflexivity as “the capacity for the researcher to acknowledge how their own experiences and contexts (which might be fluid and changing) inform the

process and outcomes of inquiry” (p. 31). Smyth and Shacklock (1998) explain it as a process:

the process of reflexivity is an attempt to identify, do something about, and acknowledge the limitations of the research: its location, its subjects, its process, its theoretical context, its data, its analysis, and how accounts recognise that the construction of knowledge takes place in the world and not apart from it. (p. 7)

In these descriptions, reflection and reflexivity are seen as important in terms of what the researcher pays attention to as the research unfolds. However, Alvesson and Sköldbberg, in their book *Reflexive Methodology* (2009), explain the concept of reflexivity to mean that:

serious attention is paid to the way different kinds of linguistic, social, political and theoretical elements are woven together in the process of knowledge development, during which empirical material is constructed, interpreted and written. (p. 9)

Thus they shift from a description of what reflection may entail, to an analysis of how reflexivity is constitutive of knowledge (or research) production. They outline that reflexive research has two basic characteristics: careful interpretation and reflection. The first involves the notion that all empirical data are the result of interpretation. This interpretation requires an awareness of theoretical assumptions, the importance of language and of previous knowledge. Reflection “turns attention ‘inwards’ towards the person of the research, relevant research community, society as a whole, intellectual and cultural traditions ... in the research context”, and it can be seen as “the interpretation of interpretation and the launching of a critical self-exploration of one’s own interpretations of empirical material (including its construction)” (p. 9).

These descriptions emphasise that attention must be paid to both the researcher and the research context. If knowledge is socially constructed, the researcher plays a pivotal role in this construction process as he or she is socially positioned and the interaction with participants is affected by this positionality. In a study of how social class differences between the researcher and participants affect data analysis, Reay (1996), discloses how simply being a member of society influences interpretations of her collected data: “From where I am socially positioned certain aspects of the data are much more prominent than others. I have wrestled with the conundrum of whether this constitutes an undesirable bias or whether it can lead to a real reflexivity” (p. 70).

It is not possible to eliminate the influence or ‘bias’ the researcher has on the inquiry. Everything from the research question, method and data analysis choice, to how the researcher is received by the research participants, is affected by the worldview, social identity and experience of the researcher (C. Lynch, 2008). However, a self-consciousness and transparency about these influences (values, assumptions, background, identities) offers a rigour and trustworthiness to the findings by indicating potential biases to the reader (Etherington, 2004; Gewirtz & Cribb, 2006; C. Lynch, 2008).

Criticism of methodological reflexivity is often encountered in relation to the degree of reflexivity called for when disclosing these possible biases. The “recursive nature” of reflexivity is the primary focus of this criticism (Easterby-Smith & Malina, 1999). The question arises of how far to go in reflecting and defending judgments made in the research process; “taken to extremes, ... all research would collapse into a process of value analysis at the expense of the substantive issues that are the focus of the research” (Gewirtz & Cribb, 2006, p. 149). Moreover, reflexivity has been accused of self-promotion, and reflexive accounts of becoming a confessional where the researcher establishes his or her identity (Ritchie, 2002; Skeggs, 2002). Another issue raised by Watson (1987) is the problem of a continual display of reflexivity on the part of the writer which can lead the reader to question the authority and ability of the writer, to generate reliable knowledge. Fortunately, these same critics do offer some hope. Skeggs (2002) calls “for accountability and responsibility in research, not for self-formation and self-promotion” (p. 369), and Ritchie (2002) contends that “the promise of reflexive methodologies resides ... in our ability to be reflexive not about personal selves but about the situated and interested character of our knowledge production” (p. 445).

Finally, according to Alvesson and Sköldbberg (2009), the “decisive criterion” that makes for successful reflexivity is “whether it makes a productive difference in the delivery of the research result” (p. 314). In other words, is the account any better than it would be if it was non-reflexive? A benefit of reflexivity is that it “exposes and makes explicit many of the moral dilemmas that are there but go unnoticed in non-reflexive research” (Etherington, 2004).

In this research, reflexivity, in the way envisioned by Alvesson and Sköldbberg, is the cornerstone of my methodology. It underpins the extent to which I developed approaches as I continued, changed direction where appropriate, and identified emergent questions. The

aim of allowing children to speak of their experiences and concerns without imposing direction on the themes discussed, meant that subsequent data collection could not be planned until the completion of the first phase of data collection and the identification of emergent themes. From the preliminary analyses of data collected in Phase 1, and my own field observations, it seemed that any more time spent discussing the flood event itself in Phase 2 would be wasted, and in terms of engaging with the children, it would be like drawing blood from a stone. So, a decision was made to focus on future action in the second phase, to answer the question of how children believed they would manifest their agency and contribute in the event of another flood based on their experiences from the previous one.

One other example of how reflexivity functioned in the research was in determining the scope of the research. During the first phase of data collection, the existence of a government relocation plan, which allowed a portion of affected community to move out of the high-risk flooding area, came to light. The evidence of a government initiative had not been foreseen: how would this theme fit into the research design? Would pursuing the idea of government engagement widen the scope? Would a widened scope result in the principal research goals being lost? Several of the children were to relocate in the months between the two phases of data collection, so I intended to pursue this avenue in Phase 2, by way of a walking tour, with the relocated children. The relocation, however, was delayed by several months, so the decision was made to not follow up with this issue. I felt that while such relocation would affect these children in the future, its current role was minimal. Consequently, while knowledge generated through the research acknowledged the existence of the relocation plan, the overall research design was not re-iterated to accommodate its effects.

The reflexive approach also facilitated reference to both realist and social constructionist approaches through the processes entailed in interrogating and analysing the data, and supported the mixed methods approach that was adopted for this research. It also facilitated engagement with children as both participants and researchers.

### **3.3 Research with Children**

Research with children presents many challenges (Darbyshire, MacDougall, & Schiller, 2005). The most obvious is that the researcher is not a child. Thorne (2010) points out that in order to learn from children, adults must confront their own “deep assumptions that they already know what children are ‘like,’ both because, as former children, adults have been there, and because, as adults, they regard children as less complete versions of themselves” (p. 407). To overcome the adult-child barrier, Thorne suggests “open-ended curiosity” and an acknowledgment that children are equal social actors who shape their own experiences (p. 408).

In some respects, being from another culture helped me partially break through the adult-child power divide. My experience of childhood was quite different from the child participants, making me a novice, curious to see how their childhood differed from my own. In addition, I was perceived by the children as an ‘odd’ adult. Corsaro and Molinari (2008) comment on this in their discussion of how Corsaro’s foreign identity was essential in his ethnographic study of child-peer culture in an Italian pre-school:

in this case Bill’s ‘foreignness’ was central to his participant status. His limited competencies in the Italian language and his lack of knowledge of the workings of the school led the children to see him as an ‘incompetent adult’ who they could take under their wings to show the ropes. (p. 180)

I found, in my own experiences in Solo, that my language and cultural incompetence helped to level the playing field. The children realised I could not understand some of even the simplest sentences. My role as the English teacher, which is discussed in a following section, did affect this perception; but it was, in fact, in these classes that I felt that some of the power of my English-speaking abilities and ‘teacher status’ was eroded by not being able to understand the children’s questions.

Some research methods can also minimise the adult researcher–child participant power divide by using communication pathways and settings familiar to children (Clark, 1999). The importance of the researcher engaging with children’s cultural practices of communication and using methods that resonate with them is what Christensen and James (2008) believe make procedures “participant friendly, rather than child friendly” (p. 8). Clark-Ibáñez (2007) used photographs taken by the child-interviewees to lessen the

awkwardness of interviews. The photographs provided a focus and acted as a medium of communication between researcher and child participants. In the same way, the method of drawing used in this study not only generated rich visual data, but it also created a relaxed environment during the group interviews, which encouraged the children to share openly.

Another key aspect of research that involves children is contending with what Darbyshire, MacDougall, and Schiller (2005) term “the paradox of the ‘missing child’”. That is, the approaches used are “grounded in ‘research on’ rather than ‘research with’ or ‘research for’ children” (p. 419). The perspective of conducting ‘research on’ children is believed to ignore their active nature and expertise about their own lives (Christensen & James, 2008). The acknowledgement of children’s agency has, in the words of Kellett (2005), “provided the momentum to propel agendas towards research ‘with’ children and to the gradual acceptance that children could be more than participants in research, they could be co-researchers” (p. 5). This study has involved the children as co-researchers because “[t]heir work adds to the body of knowledge about children’s experiences from a genuine child perspective” (Kellett, 2005, p. 10) .

Research *with* children, however, according to Darbyshire et al. (2005), “immediately confronts cultural, social, psychological and political perspectives that militate against taking children seriously” (p. 419). They explained this statement using the example of children who are often “seen as ‘part of’ a larger unit, subsumed under families, schools and households” (p. 419). While this perspective can prevent children from being taken seriously, it does not have to. In fact, by acknowledging that children are embedded in their social and cultural context and are “‘part of’ a larger unit”, allows for their contributions to be grounded in reality (p. 419). Research with children therefore must be aware of potential pitfalls that can undermine the value of children’s views when attempting to involve them in the research process. Therefore, engaging the children in this research as both participants and researchers required a suitable research design which used methods that not only resonated with the children, but also allowed them to easily participate and not go against adult or wider cultural views which could negatively impact the children or the researcher.

### 3.4 Research Design

The research design was primarily directed by the critical need to answer the research questions, which sought to understand the social and cultural context of the participants, the sites where they experienced and interacted with the flood event, the impacts of the flood event and the ways in which the children could be identified as social actors. The design, therefore, needed to provide a way to learn about the culture and to gather knowledge directly from the child participants and those significant in their lives.

The research is centred around two phases of data collection and, as previously described, involves multiple methods. Figure 3-1 outlines the research process that was undertaken. On the left side, the two different phases are indicated; the right side shows in which country the time was spent. Since the fieldwork was conducted in Indonesia, data collection was conducted in set blocks of time, several weeks rather than spread out over months. Finally, the flowchart splits into two columns: on the right, focused group interviews and on the left, key informant interviews.

The decision to have two phases of data collection was made for several reasons. First, Phase 1 facilitated the discovery of themes, which could then be explored in more depth during Phase 2. Secondly, the time lapse between the phases not only permitted the necessary preliminary analysis of themes, it also allowed an assessment of what worked well in the field to improve the methods and procedures for Phase 2. The timing of the phases, one in the dry season (September) and the other in the wet season (February), was done intentionally. I was interested to see if any differences existed in the children's perceptions or responses to flooding depending on the current season, wet versus dry. The dry season is also the period in which larger scale flood mitigation and preparedness work takes place, so it allowed for insight into how children viewed these activities. Moreover, it gave me the opportunity, as a researcher, to see what changes occur in daily life due to the presence or absence of rain.

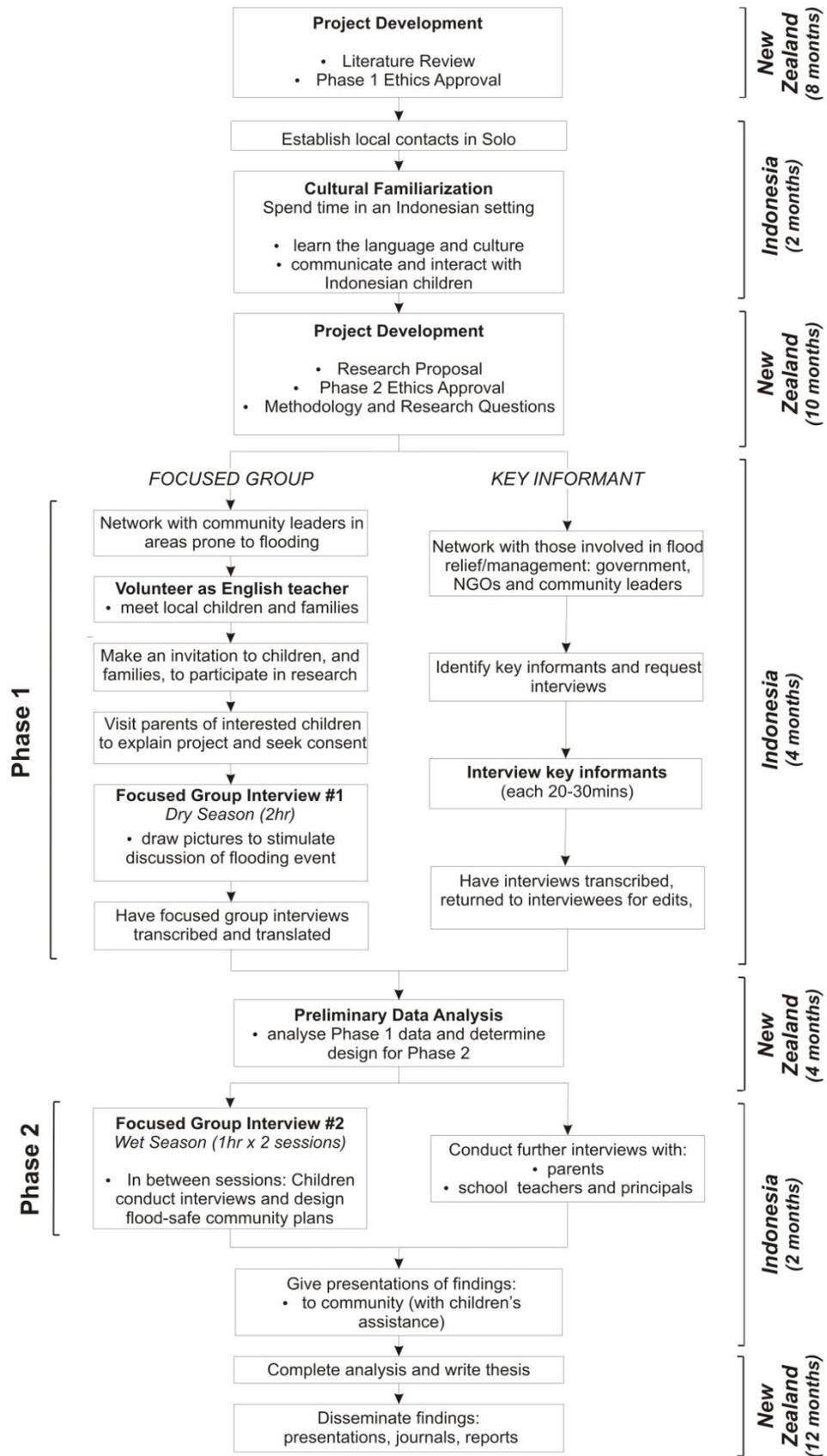


Figure 3-1: Flow chart of research process

### 3.4.1 *Research Team*

The research team comprised three field assistants, five transcribers, one translator, twelve (primary) cultural advisors, twenty-three of the thirty-two child researchers, and me. While I did not undertake the data collection and preparation for this project on my own, I was in charge of the research design, procedures and analysis and was the only member of the team with a research background, motivation and interest in gathering the data. Nevertheless, the data collection would not have been possible without the team.

In true Indonesian style, most of these contacts were built up from informal networks. When scouting out locations for the research site I travelled with a friend, Matius<sup>1</sup>, from New Zealand who had lived in Solo for eight years as a teenager; for that reason, we spent a week and half of the trip in Solo. Though I visited three other locations on that trip, and in my research proposal suggested two other locations in addition to Solo (Mt. Merapi and Yogyakarta), when the choice of one location had to be made, I chose Solo because I had established personal contacts there. I had learnt from previous experience travelling in similar cultures, that informal contacts were more important than academic or professional ones if I was to attempt to integrate into a very different culture.

I lived with a family who are friends of Matius for the first four months of my time in Indonesia. They acted as cultural advisors throughout my time in Indonesia, and their daughter taught me Indonesian. A married couple, Jo and Indah, who are also friends of Matius, were my first field assistants. They had learnt English when they lived in United States for several months some years earlier. They acted as a lifeline explaining life in Indonesia and were invaluable in learning and operating in the local environment of Solo and in developing local contacts. They have two young boys, age four and eight. Even though every family is different, theirs did provide me with insight into Indonesian familial interactions, such as the parent-child relationship, and what a child's home life may be like.

Jo and Indah were unable to assist with Phase 2 of the data collection as they had many other commitments that restricted their availability. So I found another assistant, Dimas, through one of the teachers at the language school I attended in Yogyakarta. Dimas had

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<sup>1</sup> All of the names of the research team have been changed to protect the privacy of these individuals.

prior experience working as a translator and transcriber, and had taught children DRR concepts with a local NGO. His skills, availability and knowledge of Solo (his hometown) made him a very appropriate choice.

The transcription of the audio data collected in Phase 1 was done by a team of graduate students in the Psychology Department of Universitas Gadjah Mada, Yogyakarta. Transcription of Phase 2 data was completed by Dimas. The translation was carried out primarily by one translator in Bali, who was found through TranslatorsCafe.com; some of the Phase 2 transcripts were translated by his colleague.

The remaining members of the team are the child researchers. Twenty-three of the child research participants became researchers in Phase 2, carrying out interviews of their parents and another person in their community.

### *3.4.2 A Priori Knowledge*

A literature review was completed in the initial stages of the research. It played a large role in determining the research topic and research design. A review of disaster literature informed me of the current status of field and possible avenues for the research. The initial idea of researching the role of non-governmental organizations (NGOs) in disaster situations evolved over time, and following discussions with several NGOs working in post-disaster settings in Indonesia, it narrowed to look at a specific area within the disaster setting. The idea of looking at children was sparked by personal interest and a special edition of *Children, Youth and Environments* which discusses children in disasters. This journal and other similar journal articles and books gave an indication of what areas were in need of further investigation, particularly learning from children themselves about their experiences of disaster within their cultural context. I was quite unfamiliar with Indonesia and its culture before beginning this study, so this was the first area that received significant attention due to its importance to both the study and the need to effectively complete the fieldwork component.

### 3.4.3 Cultural Familiarization

Prior to and during the data collection phases, cultural familiarization became an integral part of the research. Cultural sensitivity and communication skills are needed to carry out the cross-cultural fieldwork effectively (Patton, 2002). In one of her classic works about Samoan children, Mead explains how a quick trip and simply walking into a house and asking questions would result in answers that make no sense; instead, time is required:

Only after I had learned to speak the language well, and had spent long mornings sitting gossiping over a coconut or a plate of bananas, after I had learned to plait mats and blinds and helped the harassed homeless people rebuild the village after a devastating hurricane, and had spent more hours with the little girls themselves, searching for shells, weaving flower necklaces, coaxing land crabs with a low, sweet chant, or swimming in a hole in the reef, did I come to know enough about the Samoan way of life so that I could understand those answers. (Mead, 2008, p. 23)

In a less comprehensive way, I also attempted to integrate into the local culture. I lived with an Indonesian family for the first four months of my time in Indonesia. Even when I later lived in a kost (a kind boarding house or hostel), I operated as most young Indonesians would – eating at stalls on the street, shopping at markets and the mall, riding a motorbike rain or shine and participating in cultural activities such as weddings, wakes, church services and youth outdoor activities. I learned how to greet others with a handshake and touch of the heart, to cross a room of full people crouching with thumb pointed, and to differentiate between the many types of mangos, bananas and noodles. Several books and articles (B. Anderson, 1965; Hellwig & Tagliacozzo, 2009; N. Mulder, 2005; "Pancasila," 1993; Taylor, 2003; Vickers, 2005; Weatherbee, 1985) were also helpful in providing background information and insight into the religion, culture and history of Indonesia, and informing the data interpretation process.

I found that one of the most important factors (if not *the* most important) of my fieldwork was being able to communicate with people in Bahasa Indonesia. The majority of residents in Solo do not speak English, so translation would have been needed; however, using a translator all the time takes away from building relationships, especially with children. A measure of respect is also given to a person willing and attempting to learn the language. Prior to starting this project, I had no previous knowledge of Bahasa Indonesia. I had a few informal lessons with Matius in Christchurch a few months prior to my visit in April 2008. A month was spent in July/August 2008 having one-on-one lessons while living with an

Indonesian family. This provided me with the tools to being to learn the language and better opportunities to interact with people and the culture.

Throughout the first phase of data collection (June – Sept 2009), I attended a language school in Yogyakarta (1 hour by train from Solo). Here, I took an average of three lessons a week (2 hrs each) at Wisma Bahasa, a language school. The lessons are taught one-on-one and follow the school's own curriculum. The school provided me with the opportunity to ask questions about the language and culture I would not have otherwise had. In addition to the research activities and language classes, I assisted in teaching English at a kindergarten run by my field assistants, Jo and Indah. I taught three classes of children once a week, and held lessons for the teachers twice a week.

#### *3.4.4 Entry into the Community*

The need for cultural understanding is also essential in building relationships. Personal contacts become crucial in gaining access to a community (Easterby-Smith & Malina, 1999). Introduction by a community member is what Fetterman (1998) describes at the “best ticket” into a community (p. 33). ‘Gatekeeper’ is the name given to those that have the power to grant access, and research bargains or compromises with the gatekeepers can be required to gain access to the potential participants (Brewer, 2000). Having a role within a community, such as a volunteer for a program, is also very useful when building relationships with participants. The first step, however, is to know where the target population (dictated by the research design) can be found.

The criteria used to choose the site for the research was an area that experienced significant (at least 1m) flooding in the Solo area. As it was the Bengawan Solo River that flooded, along with some of its tributaries, an area near the river was a likely option. The choice of the neighbourhood was influenced by having a local contact there. My two field assistants, Jo and Indah, operated a public kitchen during the flooding. The kitchen was located in the garage of a friend living in a community that was flooded, though his house was not in the floodwaters.

In order to explain who the gatekeepers are in this community, it is necessary to remember how Indonesian communities, in Java at least, are well defined by their local government

structure (see Sections 2.1.4). As described in Section 2.5, Solo is divided into five sub-districts and fifty-one *Kelurahan*, which are divided into 595 *Rukun Warga* (RW) and 2,669 *Rukun Tetangga* (RT). Each RW has approximately 700 households and *Rukun Tetangga* (RT) is composed of 60-70 households. This research centred on one particular RW, and the majority of the child participants reside in two of its RTs. In this case, one of the Bapak of these two RTs acted as the primary gatekeeper and facilitated my entry into the community. These leaders are treated with a good deal of respect and issues within a community are brought to them.

Upon my first meeting with Bapak RT2, I explained, with the help of my field assistant, that I was doing research with children who had experienced flooding and was interested to speak with children from his community if they were willing; and that I was able to offer free English lessons three days a week as a way of getting to know and give back to the children. The offer of English classes and the research itself was well received by the Bapak RT2, and later by the *Kelurahan ketua* (all RW and the RT leaders).

The aim of the English classes was to allow me to interact with the children, build a relationship with them and offer them something in return for their participation in the research. It also gave me a role within the community that was welcome and appreciated. The classes, which I taught on my own, provided time for me to get to know the children and community, and for them to know me. The trust built allowed the children to be more relaxed, and likely more open, during the focused group interviews, when compared to their behaviour in the first English class. Children who joined the classes later or only participated in the group interviews appeared to pick up the other children's trust and approval of the research team. When meeting with parents to seek their permission for the focused group interviews, being the English teacher provided me with a natural introduction and a pre-established degree of trust with the parents.

As a consequence of being the English teacher, my relationship with the children was friendly but did resemble an informal student-teacher or youth worker relationship. I found the language barrier to be a problem as I was not fluent in Indonesian and found it difficult at times to understand what they said and make a reply in turn. My lack of understanding was known and at times used to the advantage of some of the students. In addition, my Indonesian was more formal and I could not speak Indonesian 'kid-speak' well, making it hard to have more relaxed conversations.

### *3.4.5 Selection and Recruitment of Child Participants*

According to Berg (2009), once entry and access is possible, different sampling strategies can be used to find participants. Snowball sampling is recommended for finding subjects with particular traits (i.e. age, exposure to flooding) and occurs by word-of-mouth through informal contact networks (i.e. children's peer groups). In addition to word of mouth recruitment, however, some specific criteria for participation were established. The first criterion was that children had to have been affected by the flood.

The age range of 10-12 years was identified as a second criterion for the participants for the group interviews, but was only loosely adhered to with several participants being 9, 13 or 14 years old. This age range was selected as it was seen as an age when the cognitive development of children is such that they are able to see the links between events, and think reflectively (Manning, 1994). They have also developed good communication skills to share their opinions and ideas well (Manning, 1994), and are typically enthusiastic and willing to actively participate in activities.

Although an even gender split could have been desirable, no active attempts were made to ensure it. Much of the literature argues that the cultural contexts of girls and boys – along with perceived rights and responsibilities – vary on the basis of gender (Flekkøy & Kaufman, 1997; S. N. Hart, 2001). While gender differences were not an explicit focus, an unsolicited 50-50 split in the final sample allowed some observational comparisons to be made.

Recruitment of child participants for the research was intertwined with English lessons where the target age range for the focused group interviews was aligned with the English lessons being open to children that age. This minimised the risk of being overwhelmed by too many children wanting to participate. It is possible that some of children felt 'obliged' to attend the English classes if they wanted to participate in the research, but it seems that was unlikely. Not all of the children chose both activities and I was active in trying to clarify they could participate in whatever they chose.

The children for these classes were initially recruited by Bapak RTs within the RW. They announced the classes within their communities and were in charge of "signing up" children. Once the classes had begun, word of mouth spread, by the children or other

community members extending the invitation more widely. Several children were made aware of the lessons and group interviews as a result of us walking around the streets when we were seeking permission from parents for the group interviews.

The idea of the focused group interviews was proposed during the third active week in the community; the first lesson for one RT and the ninth lesson for the other RT. At the beginning of the lesson, one child asked when we were going to talk about the flood, not knowing my assistant was coming later to explain about the group interviews. Apart from teaching the English classes, all communication between the children and me was done in Indonesian. So in order to be sure the children understood what the interviews would involve my assistant explained it to the children to avoid miscommunication.

Every child who wished to participate in the research project had to give written permission. Parental permission was also required. Information concerning the consent process can be found in Appendix A.

### **3.5 Methods**

The mixed method design, with the emphasis on multiple qualitative data collection tools, was used for this project. Method selection for the research was guided by the reflexive methodology, nature of the participants, and practical constraints. The merits of using more than one method is argued to result in superior research (Johnson & Onwuegbuzie, 2004), increase the depth of understanding (Berg, 2009), and allow cross-checking of findings (Patton, 2002). Furthermore, according to Darbyshire et al. (2005), the use of “a variety of research strategies to interest and engage children in the study [is] both philosophically appropriate and pragmatically valuable” (p. 430).

This research is a mixed design as Teddlie and Tashakkori (2003) defined it, involving both qualitative and quantitative methods. More specifically, it uses a triangulation design which according to Creswell and Plano Clark (2007) “involves the concurrent, but separate collection and analysis of quantitative and qualitative data so that the researcher may best understand the research problem” (p. 64). This study, however, differs from traditional mixed method designs which give equal weight to the two methods, because of its emphasis

on multiple qualitative methods and the complementary nature of the minor quantitative method used. The results of the multiple self-contained qualitative methods were “triangulated to form a comprehensive whole” during the analysis and interpretation (Morse, 2003, p. 190) and the quantitative results complemented these in the interpretation. The intent of this design was to complement methods so the strengths of one method would compensate for potential weaknesses of another (Johnson & Onwuegbuzie, 2004). Patton (2002) pointed out that while it may not generate “a single, totally consistent picture”, the aim is to learn and understand why and when differences appear (p. 560). The integration of several research techniques also allows for the engagement of a diverse group of child participants, as one child may be able to express their experience better visually than verbally, and the group’s diversity is reflected in the data (Baker & Willis, 2003).

### *3.5.1 Methods Appropriate to a Reflexive Methodology*

The type of approach (and data) that is most suited to achieve the goals of reflexive research is qualitative. Qualitative research allows the researcher to see how meaning is made from events and how it is formed in and through culture (Greig et al., 2007; Strauss & Corbin, 2008). It is concerned with describing and understanding unique events, ones that cannot be separated from their context. The importance of context is one of its key characteristics. In the case of this research, the Indonesian cultural context greatly influenced the flooding event. For instance, many of the flood response efforts were guided by Indonesian cultural practices, such as *gotong royong*, - mutual assistance, or “joint bearing of burdens” (C. Geertz, 1983, p. 211). The overwhelming response to the flooding cannot be understood outside of this context, nor can it be expected to be replicated in other cultures.

Another appealing quality of a qualitative approach is that it “enables the voice of the participant to be heard” (Greig et al., 2007, p. 56). Giving a voice to the participants is one of the main aims of the project – to let the voices of children be heard. Luttrell (2010) echoes this by saying that qualitative research is “committed to participants using their own words to make sense of their lives” (p. 1). The descriptive and narrative quality of the data produced from qualitative methods, such as interviews, confirms this assertion. The participants chosen in this research, a group of children in Solo, embodied the question of children’s place in disaster planning that was central to my thesis. Hearing *from* children, rather than *about* them from their parents or other adults, is one of the lacking facets of

disaster research (D. Bainbridge, personal communication, September 8, 2008; Jabry, 2002; Peek, 2008). Finding methods for engaging effectively with children in disaster contexts is an area that requires more attention (Greig et al., 2007; Peek, 2008).

### *3.5.2 Nature of Participants*

Children's involvement in this research process extends further than simply being participants, as some children also became researchers. The phenomena of 'children as researchers' has been increasing world-wide, initially through NGO-sponsored research (Priscilla Alderson, 2008), and with the hope of "hearing children's voices" (Fleer & Quiñones, 2009, p. 88). From its original European roots, the concept has become a global construct, but as Fleer & Quiñones (2009) point out, "how it is realised locally must be re-theorised and reconstructed each time it enters a new cultural community" (p. 105). The child researchers are bound by their own cultural context and those they engage with will interact through established cultural practices. One of the reasons behind the decision to include child researchers in this methodology was to understand how the cultural practices influence children's interactions with those around them. A child's interview of their own parent would likely reveal a different perspective than if I, as an outside adult researcher, interviewed the same parent.

Most controversy concerning child researchers focuses on the level of involvement of the children with respect to the stages of the research process and the research design (Priscilla Alderson, 2008). Freeman and Mathison (2009) discuss this issue using a youth-adult partnership continuum: at one end is adult-centred leadership, where youth participate in adult-designed research tasks; at the other end, youth-centered leadership where adults have limited to no involvement; and, in the middle, an equal partnership between adults and youth. This research is aligned with adult-led collaboration, which involves youth making limited decisions about certain aspects of the research design or activities. The children here were tasked with interviewing a parent and one other person about the flooding risk in their community, but they designed the interview, choose the additional participant, and conducted the interview on their own. Literature concerning children as researchers tends to dismiss adult-designed studies with children as oppressive or exploitative (Freeman & Mathison, 2009), thus the additional of children to the research team attempts to counteract this potential pitfall. Alderson (2000) cautions, however, that simply adding children to the

research team does not mean that distortion of their views, exploitation, or oppression will not occur. Critical reflexivity is needed to avoid ethical pitfalls in both cases, and situating the data generated in social context of the child “so that *the voice of the child is not just heard, but understood*” (Fleer & Quiñones, 2009, p. 90).

### *3.5.3 Practical Constraints*

The two main limitations placed on the project were time and my language abilities. Visas to Indonesia are available for two month periods so the research process had to be adjusted to accommodate this. My limited language abilities meant that any verbal data needed to be recorded, and later transcribed; settings, and consequently methods, had to be suitable for voice recording. A translator was required for any comprehensive (verbal) interaction with participants, so the methods needed to be flexible and easy to explain. Data collection in both written and visual forms was also valuable as this strategy helped minimise or eliminate language divides.

## **3.6 Data Collection Methods**

In this section, I provide an overview of the five broad methods that were designed for data collection across the two research phases. In addition, I comment in more detail on each method in turn and include a critique of the difficulties encountered and workarounds utilised with each form.

Interviewing and a variant of it – focused group-interviewing – were the two principal methods employed. Questionnaires, child-centred data production techniques, such as drawing, priority listing, and designing flood-safe community plans, and film and audio recording are other techniques that were used in conjunction with the group interviews. All audio recordings were subsequently transcribed and translated into English. The form of data produced by each method is shown in detail in Table 3-1. These methods, the rationale for why they were chosen and how they were used in this research are described in the

**Table 3-1: List of data collected**

<b>Code</b>	<b>Method</b>	<b>Form</b>	<b>Analysis Method</b>	<b>Source</b>	<b>Number of Documents</b>	<b>Phase</b>
MA-i	Interview (Researcher)	Interview transcripts	Content analysis <sup>1</sup>	Community Leaders (5)	5	1
MA-ii	Interview (Researcher)	Interview transcripts	Content analysis	Teachers/ Principals (4)	4	2
MA-iii	Interview (Researcher)	Interview transcripts	Content analysis	Parents (6)	5	2
MA-iv	Interview (Child Researchers)	Interview transcripts	Content analysis	Parents & other person (42)	23	2
MB-i	Focused Group Interview	Focused group interview transcripts	Content analysis	Child participants (31)	8	1
MB-ii	Focused Group Interview	Focused group interview transcripts	Content analysis	Child participants (25)	13	2
MC-i	Filmed Observation	Digital video	N/A <sup>2</sup>	Child participants (31)	8	1
MC-ii	Filmed Observation	Digital video	N/A	Child participants (25)	12	2
MD-i	Questionnaire	Information Sheet #1	Content analysis	Child participants (32)	32	1
MD-ii	Questionnaire	Information Sheet #2	Content analysis	Child participants (19)	19	2
ME-i	Child-Centred Data Production (C-CPD)	Priorities List	Statistical analysis	Child participants (24)	26	2
ME-ii	C-CPD	Drawings	Content analysis	Child participants (31)	31	1
ME-iii	C-CPD	Flood-safe community plans/poster	Content analysis	Child participants (20)	6	2

<sup>1</sup>content analysis as per Wilkinson (2004) see section 3.7.1

<sup>2</sup>filmed observations supplemented the focused group interviews, but were not analysed as a separate data

following sections. The method descriptions follow a pattern of explaining who the participants were, the nature of the data and the analytic strategies used. Before outlining these methods, a brief account is given of the setting for the methods involving child participants.

#### *Group Setting for Methods involving Child Participants*

The setting for four methods involving child participants was the group gatherings of children that took place in both Phase 1 and Phase 2. The four methods were focused group interviews, filmed observation, questionnaires and child-centred data production activities. Group settings have been promoted as excellent for researching with children (Berg, 2009; Greig et al., 2007; Krueger & Casey, 2009). The environment is non-threatening as children are with others their own age, often close friends, and the power dynamic of adult interviewing a child is lessened. Conventional interviews can be problematic with children as the intense question-and-answer setting can induce insecurity (Clark, 1999). Wright (1994) suggests that other activities such as drawing and pencil-and-paper exercises be included, with the added benefit of helping to validate verbal responses. The questionnaires, along with the use of visual methods, were chosen with this purpose in mind. Group interviews were also chosen as they constitute a collectivistic rather than individualistic research method (Cameron, 2005; Madriz, 2000). This feature is highly appropriate for the collectivist culture of Indonesia (Megawangi et al., 1995). Therefore the method was not only suited to children in general, but it was also culturally appropriate for the particular participants involved.

The group gatherings were held in the same two houses where the English classes were taught in Phase 1; so the environments were familiar ones. When speaking with parents about the group gathering, several parents questioned where they were being held and were reassured and pleased the place was known and local. For general convenience, the gatherings in Phase 2 were held solely in the house of the Bapak RT2.

#### *3.6.1 Interviews*

The interviews (coded MA-i, ii, iii, iv in Table 3-1) were conducted to gain factual data about the flood event, as well as adult's perspectives of children's experiences and the impact of flooding on their lives. They are "conversations with a purpose", being "to gather

information” (Berg, 2009, p. 101). There are three main types of interviews: structured, semi-structured and unstructured. In semi-structured interviews, as was used in this research, the same questions are asked often in consistent order but there is room to digress and follow on interesting comments.

There are a few reasons this method was chosen: to fill in gaps of knowledge other methods cannot access, to ascertain what is relevant to the interviewee and to gain a sense of the range of opinions and experiences of the participants (Dunn, 2005). Winchester (2005) suggests two other possible reasons, to gain access to information from gatekeepers about structures and to give a voice to silenced minorities, that emphasise how and why interviews were used in this research. Interviews were conducted with community leaders (gatekeepers) and some were conducted by children, who are often not given a voice.

The first three interview methods (*MA-i, ii, iii*) were carried out by my field assistants, Jo and Dimas, and me. The fourth group of interviews (*MA-iv*), however, were done by child researchers.

### ***3.6.1.1 Researcher Interviews (MA- i, ii, iii)***

The researcher interviews (*MA-i, ii, iii*) comprised a subset of the interviews and were undertaken to elicit information from adult community leaders, school principals and teachers, and parents. They took place in Phase 1 and 2 and were designed to complement the data collected from and by the child participants.

#### *Participants*

Four local community leaders (Bapak RTs) and one flood relief volunteer were interviewed in Phase 1 (*MA-i*). In Phase 2, two teachers and two school principals (*MA-ii*) as well as six parents (*MA – iii*) were interviewed. Two other interviews were conducted with community leaders to gather information about the relocation program, but were not included in this research as data.

The teachers and principals interviewed work at two of the local primary schools (years 1-6). These two schools flooded during the event and half of the child participants attend these schools (one quarter in each). In addition to the two principal, one teacher from each

school was interviewed; one teaches Religion (*Agama*) to all classes (year 1-6), and the other, Year 5.

The six parents that were interviewed were chosen primarily on their availability, and with an aim to provide a good cross-section of the participant sample (see Table 3-2).

**Table 3-2: Parent interviews**

<b>Parent</b>	<b>Flood Water in House</b>	<b>Parent</b>	<b>Child</b>
Parent 1	At Door	Mother	Daughter
Parent 2	None	Mother	Son
Parent 3	Up to Roof	Mother*	Daughter
Parent 4	Up to Roof	Father*	Daughter
Parent 5	Up to Roof	Mother	Son
Parent 6	None	Father	Son

\* interviewed together

#### *Nature of the Data*

A digital voice recorder was used to record each interview in Indonesian; the audio data was then transcribed and translated into written English. Jo conducted the interviews, with the exception of his own interview as a flood relief volunteer, in Phase 1, and Dimas conducted the Phase 2 interviews. I was present for all interviews and asked the occasional question or sought clarification. The purpose of the interviews in both phases was to ascertain information about the flood event and how it affected the community and children specifically.

The interviews were semi-formal open-ended. A list of questions (see Appendix B) was used to direct the conversation and keep it flowing. No time restrictions were given, but it was stated that the interview would be approximately half an hour. All interviews were shorter than this. The interviews were conducted at a time suitable for the interviewee and in their own home; with the exception of the teachers and principals whose interviews were held in a school office at the end of the school day.

#### *Critique*

While the interviews were very straightforward, only involving one participant at a time and set at a convenient time and place for the interviewee, there were some issues. The need for translation of all interchanges with participants left me, the researcher, fully reliant on the capabilities of the research assistants. It was difficult to spontaneously extend lines of

questioning or follow leads as they emerged. However, the participants were comfortable speaking their own language with a fluent native speaker and this compensated to some extent for the assistants' lack of research experience.

### ***3.6.1.2 Child Researcher Interviews (MA – iv)***

The interviews conducted by child researchers (MA-iv) were done in conjunction with the flood-safe community plan (ME–iii) during Phase 2. To assist in the creation their mitigation plan, the children were asked to interview a parent and one other person of their choosing to gain information they believed would be helpful in developing their plan.

#### *Participants*

The interviewees were one or both parents of the child researcher. Since the other interview subject was unspecified, these interviewees were diverse: friend, neighbour, younger or older sibling, uncle, or teacher. There were 23 child interviewers who were participants in the Phase 2 group interviews.

#### *Nature of the Data*

Once again, the dialogue collected on digital recorders was subsequently transcribed and translated into written English. The material refers to the flood event, actions taken by the interviewee during and/or after the event, and flood prevention ideas. It also contains personal comments of the interviewees concerning flooding. The purpose of obtaining this data was two-fold. First, it was to help the child researchers gather information in order to develop their flood-safe community plan. Second, it was hoped that it might offer insight into pathways children use to communicate and gather information. By understanding these pathways, effective communication of DRR information may be possible.

Each participant was given a small digital voice recorder to record the interviews, as well as a small notebook to record who was interviewed, where and when the interview was conducted and their relationship to the interviewees. The recorders were lent out for a two day period.

#### *Critique*

There were some issue with that arose with these interviews. First, finite resources (five recorders) meant that the children had to be timely with their interviews. The two-day time

limitation may have impinged on their decision of whom to interview and the development of interview questions. With a few exceptions, the recorders were returned on time. Subsequently, a few children had more time than the allotted two days to conduct the interview.

Second, there was an underestimation of the children's anxieties over carrying out the interview 'properly' and not being able to self-correct. A few children reported being nervous while conducting the interview and there seemed to be concern over whether they had done the interview 'right', asking the right questions. In addition, the erase button on the recorder was taped over in order to ensure that the interviews were not accidentally erased. However, two children mentioned in response to the questions asked about the interviewing process in the questionnaire (MD-ii) that they did not like that fact the tracks with "mistakes" could not be erased. The inability to erase tracks also caused further anxiety, as a couple of children were worried that they or a sibling had accidentally recorded themselves singing or that laughter and other noise interrupted the interview.

The desire to carry out the interviews 'properly' leads to the third issue, that of the children's engagement being influenced by the research design and the principal adult researcher (me). The child researchers had scope to decide which questions to ask and choose one of the informants but were restricted to a certain topic and time frame. This issue of adults designed research for children has been criticised as making children participation in research 'tokenism' (Mayo, 2001). That said, without a definite topic or direction, the children were uncertain of what they were to be doing. Furthermore, the restricted timeframe in the research had to be carried out limited the development of child-designed methods.

One thing that may have lessened the children's anxiety in conducting the interview 'properly' and assisting them with the shorten time frame would have been to assist them in developing the questions they wanted to ask in the first session when the recorders were given out. This way the children would have had the opportunity to clarify if they were doing the 'right' thing and they would have had their questions prepared.

### 3.6.2 Focused Group Interviews

Focused group interviews (MB-i & ii) were held during both phases of the data collection, in September 2009 and February 2010. A focused group interview is an interview with a small group of people on a specific topic (Patton, 2002). It differs from the more widely-known focus group (discussion) in that it is an interview, not a discussion. The focus group discussion is, likewise, a small group of people focused on a particular subject, but it is differentiated by its emphasis on interaction between members and its goal to obtain perceptions or opinions on a defined area of interest (Cameron, 2005; Krueger & Casey, 2009). In a focused group interview, like these, interaction amongst the group member occurs and is useful, as one member's comment may cause another to add to his or her previous response, but the group interaction, in this case, is not essential to the data collection. The benefit of a group interview is that it can collect data from several people at once, speeding up the collection process, and the informal setting may help participants speak more freely (Berg, 2009). At the start of each interview, the children and field assistants engaged in a short game as an icebreaker to make the children feel comfortable in the interview setting.

#### Participants

The group interviews involved the participation of 32 children from the research area during Phase 1, and 24 of these same children, plus one new child during Phase 2. The children were divided in eight groups in Phase 1 and seven groups in Phase 2. The division of participants into groups is shown in Table 3-3. The children ranged in ages between 9 and 13 and most were placed in the group of their choice along with their friends.

**Table 3-3: Focused group interviews: group divisions**

Phase 1	<b>Group</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Total</b>
	Number of Participants	5	4	4	4	3	4	4	3	31
Phase 2	<b>Group</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Total</b>	
	Number of Participants	4	4	3	3	2	5	4	25	

### *Nature of the Data*

The dialogue in Indonesian was recorded using a digital voice recorder. A total of 645 minutes was produced in Phase 1 and 586 minutes in the Phase 2. The audio recordings were then transcribed and translated to produce 21 English transcripts, one for each group interview. The topic and length of discussion as well as the scheduling of the interviews differed between the two phases.

#### Phase 1 (MB-i)

The aim of the first group interview was to determine what the children's experience of the flood event was and to explore possible themes. A series of questions, found in Appendix B, was used by my assistants in every group to simulate discussion. The open-ended questions addressed the flood event itself, housing, food, family, friends, school, possessions, feelings, activities, assistance, health and safety and thoughts about the future.

During this interview, the children also drew a picture (ME-ii) and completed the first of the two questionnaires (MD-i). The children were drawing as they talked, so some of the dialogue refers to the drawing process and the drawing itself. Ice-breaker games were also used at the beginning of each interview to help the participants relax.

My field assistant, Indah, assisted with the first two interviews and Jo with the remaining six interviews. During the interviews, I was present and asked the occasional question and explained the purpose of the discussion at the beginning, but most of the sessions were run by my field assistant, almost entirely due to the language barrier.

The interviews took place over the period of a week. Each group was given a two hour time slot. Of the eight groups, only two groups used the full two hours. The shortest lasted 1 hour; while the others were between 1.25 hr and 1.75hrs. A treat bag of sweets was given as a present following the session.

#### Phase 2 (MB-ii)

The purpose of the second group interviews was to learn what the children knew about flooding prevention and mitigation, what their capabilities are in a flooding situation, and

what barriers inhibit them in both instances. Another goal was to gain insight into the communication pathways children use to gather and disperse information.

In this interview series, a priority list (ME-i) of the ten most important items/activities during a flood event was made and the second questionnaire (MD-ii) was completed. In addition, the explanation of the flood-safe community plan (ME-iii) occurred during the first session of the interview and the presentation of this plan (and poster) occurred in the second session. Consequently, most of the dialogue in these interviews refers to and is guided by these activities. Dimas ran all of the Phase 2 sessions with my assistance.

This second set of group interviews were carried out over the course of four weeks and the interviews were divided into two one-hour sessions; many sessions were closer to 30-40 minutes in length. The first session was held on a Monday and the second session on a Tuesday in the next week. In between the two sessions, the children carried out the child-run interviews (MA-iv).

### *Critique*

There were difficulties encountered in both phases. In Phase 1, as facilitators of the group interviews, finding the delicate balance between stimulating the conversation and directing was not easy. The children were quite shy in the beginning, so it resulted in the field assistant asking lots of questions and the children confirming or denying the field assistant's statement with one word answers. Consequently, data contains what appear to be, and perhaps are, leading questions. Directing the conversation in such a manner also presented the problem of inhibiting the children to talk about what they thought was significant during the flood. Changing the interview protocol partway through to address these issues was problematic for a few reasons. Because I could not follow the conversation fully in Bahasa and the children joked and talked about other topics during the interview, it was difficult for me to determine what they had actually said. I also had a desire to maintain a similar protocol for all of the groups to test the method as it was a pilot test for the research method. It was also my first time conducting group interviews in Indonesia with children, and my field assistants were learning alongside me.

In the second phase, attendance to both of the sessions was a problem as it limited the quality and amount of child-centred data generated. The problems were a result of conflicting schedules with other activities and familial responsibilities, and may have been

linked to a lack of engagement with the methods used, the flood-safe community plan in particular (See Section 3.6.5.3). Changes were made to the schedules and group compositions over the course of the interviews to accommodate for the absences. The lack of engagement with the methods may be as a result of the children being asked to create these plans in between the two sessions, creating an unintentional burden, and the medium used to present their plans. The ‘burden’ could have been eased if the plans were created during the second session or if the children had the freedom to choose how to present their ideas. If these issues were solved, the attendance for the second session might have increased.

### *3.6.3 Filming Observation*

Filming and voice recording (MC-i & ii) were undertaken in during the group interviews. These activities are typically done in order to capture information the researcher may not be able to write down at the time or have missed, being able to only observe at one thing at a time. Film can also record information, body language, facial expressions and mannerisms that cannot be communicated well in written notes.

#### *Participants*

The children involved in the focused group interviews were the filming subjects, but the translators and researchers were also present and appear on the video to differing degrees.

#### *Nature of the Data*

The data are a record of actions undertaken during the focused group interviews. The intent was to record non-verbal communication such as body language, interaction between participants, and to act as a back-up for audio recording in case the voice recorder malfunctioned. The data format is digital video. The first phase produced 12h 9m of film and the second phase, 7h 52m.

#### *Critique*

The use of video may have caused the children some discomfort, which is a common reaction to being filmed. The children were aware of the camera, and on a few occasions when they hesitated to speak, they looked at the camera nervously. In general, however, after the first ten minutes of the interview, most participants appeared to have forgotten

about or not been bothered by the camera. This appeared to be more easily done when the group was larger as the other individuals provided distraction. In future, perhaps using the video for an activity rather than just for observation may decrease the discomfort and ensuring an optimal number of participants in each group.

The video was also used to confirm the identities of the children during the transcription of the audio data if there was difficulty distinguishing between voices. The angle that the video was taken at made this difficult for some interviews. The video also restricted movement in the room, in that children need to stay in view.

A loss of data was also experienced when a researcher pushed of the wrong button, deleting two of the videos from the second session of Phase 2 (Group 1 and 2). A simple piece of tape over the button could have avoided this issue.

### *3.6.4 Questionnaires*

The questionnaires (MD- i & ii) were developed over the course of the fieldwork. They were used to collect biographical data, and to validate verbal opinions and thoughts of participants during the group interviews (Wright, 1994). Responding to the questionnaires provided a physical activity for each child to engage in and a way in which each child, regardless of how quiet and shy they were, could give a response to the verbal questions.

#### *Participants*

All of the child participants (32) completed the biographical information in the first questionnaire. The second questionnaire was completed during the second session of the group interviews in Phase 2. The previously mentioned absences during these second sessions meant that only 19 of the 25 Phase 2 participants completed the second questionnaire.

#### *Nature of the Data*

The questionnaires produced single word answers, phrases, simple sentences or annotations to drawings, and were all in Indonesian. The annotation was to a picture of a house to indicate how high the flood waters were in the participant's house. The subject matter and format of the forms was dependent on the phase of data collection. Both copies of

questionnaires can be found in Appendix B. These questionnaires were written in English and then translated into Indonesian by Jo in Phase 1 and Dimas in Phase 2.

### Phase 1 (MD-i)

This questionnaire was a simple single page, 15-question sheet. It gathered basic data, such as age, family size, and the degree of flooding in the house. The data were used to understand the demographics of the participants and establish the degree of exposure or severity of flooding for each child.

### Phase 2 (MD-ii)

The Phase 2 questionnaire was split into three different sections and consisted of single sentence questions. It was completed in the second session of the interviews. Most of the information collected referred to the child-run interviews (MA-iv) and flood-safe community group plan (ME-iii). The first section, a full page, asked questions about the child-run interviews: who the second interviewee was and why they were chosen, what was liked and not liked about the interview, what questions were asked and why, and what was learned. The second section was completed following the presentation of the flood-safe community group plan. It inquired whether parts of the plans could be implemented now, what barriers stood in the way and what were possible ways to remove the barriers. The last section sought information concerning children's perceptions of their role in life, from their perspective and from their parents. This information offered insight into the social role of the children in their culture.

### *Critique*

Overall, the questionnaires seemed straight forward. They were designed to create a complementary profile of the participants rather than provide a basis for quantitative data.

There were, however, problems with the implementation and completion of the second questionnaire (MD-ii) that were the result of poor engagement by the children, inadequate facilitation by the field assistant and unclear instructions on the questionnaire itself. The poor engagement by the children during the completion of the questionnaire did not provide the verbal discussion that had been anticipated. The facilitation of this method by the field assistant, Dimas, may have significantly influenced the children as he often seemed to be impatient or disinterested during these sessions. Unclear instructions in the last section of

the questionnaire confused children as to the type of responses sought, even though Dimas attempted to provide some clarification. The format of this sheet may have also been a contributing factor because of the number of lines (an average of three) given. Better facilitation by the research assistant would certainly aid in children's engagement and different wording may have made the questions clearer. Another solution could be the use of a more interactive method to gather the same information. The information that was gathered was useful, but another method may have stimulating more discussion and resulted in greater depth of thought.

### *3.6.5 Child-Centred Data Production*

This method involved the child participants producing the data, visual and written. The drawings produced visual data, the priorities lists created written data, and the flood-safe community plans combined both forms of data. All three techniques (ME-i, ii, iii) used to generate data are simple and would not be uncommon in the children's everyday life or school activities.

A by-product of the data production methods was a presentation session that was held in a local community facility on March 4, 2010. A presentation had been planned to disseminate results to the community, but the data production methods enabled the children's participation. With the help of my field assistant, I gave a short presentation about the research project and its aim. Then one child explained her drawing from Phase 1, and four groups from Phase 2 presented their flood-safe community plans and posters. One group, who had not made a poster for the second session, quickly created one just before the presentation so they could present something.

#### *3.6.5.1 Priorities List (ME-i)*

The priorities list (ME-i) was used to determine what children want or think is important during or following a disaster event. The strategy of prioritizing or ranking items has been used before in child-centred DRR research in Indonesia (Plan, 2008). This activity was done in the first session of Phase 2 group interviews. It created a benchmark list of the ten most important items for the children in a flooding disaster, which can be expanded on in future research.

### *Participants*

The 24 children who participated in the first session of the group interviews during Phase 2 produced lists.

### *Nature of the Data*

The data are a collection of 26 lists of ten items/activities; two children did the activities twice with different list items. Each of the seven groups in Phase 2 collectively generated a list of ten items or activities that the participants thought were important during a flood event (i.e. what they would need, would do or want to have). Each person was given ten small cards to write the items on, and then they arranged the cards in order of greatest to least importance according to their personal opinion. These lists were then recorded on paper by me.

The intention behind creating the lists was to give government bodies and non-governmental organizations a simple concrete list of what children perceive to be necessary assistance in disaster event; which is one of the goals of the research.

### *Critique*

The method on the whole was quite effective in its implementation, but there were some problems with the analysis of the data that resulted from poor foresight of how the data would be analysed.

The children were actively engaged by the method. A few of the children, however, had problems understanding that they need to place the cards in order of what they thought was important, and not in the same order as had been written on the white board when the list was being generated. This was noticed at the time and remedied by clarifying the directions; except in one case, where the activity was repeated by one group in session 2. This repetition did, however, end up having the added benefit of a previously absent child participate in the activity.

The issues arising in the analysis of the data were caused by each group generating its own list of important items. While this decision was made to truly investigate what children perceived as important, the statistical analysis of the children's priority lists would have been stronger if every group had ranked the same ten items. The resulting analysis was

forced to be simplified because of the complication of some items appearing on all lists and others not. One solution to this problem would have been to collect the ten important items from each group in the first session and then the top ten items overall could have been ranked by all of the participants in the second session.

### **3.6.5.2 Drawings (ME–ii)**

The decision to use drawing in this research was not initially made with the idea to analyse the drawings themselves, but to use the drawing as a medium of communication; similar to Clark-Ibáñez' (2007) goal with photo elicitation. It was noticed, however, following Phase 1 group interviews that the drawings held a richness of expression that is not was apparent in the verbal discussions, thus the decision was made to include them as data.

In the introduction of *Creative Methods in Organization Research*, Broussine (2008) cites American artist Edward Hopper as having said, “If I could say it in words there would be no reason to paint” (p. 13). This statement supports the idea that visual research methods can access parts of human feeling and experiences that other methods cannot. Drawing is also said to be a natural method of communication that children generally enjoy (Malchiodi, 2001). Patton (2002) mentions that creative qualitative modes of inquiry give people something to react to other than a question and that the inclusion of writing (or drawing) in an interview can be useful. Since children’s linguistic communication skills are still developing, and in this instance language differences are a barrier between the researcher and informants, visual methods such as drawing are practical options. In similar research involving children’s vulnerability to disasters, Babugura (2008) used drawings as a research method with her participants to understand how they perceive drought in Botswana.

### *Participants*

The drawings were created in Phase 1 by the original 31 child participants.

### *Nature of the Data*

The data produced are visual representations of the flood. The drawings were made on A4 paper using a combination of pencil, crayons, pencil crayons, and in some cases, pastels and rulers. Each child was given a piece of paper and told to “draw a picture about the flood. It could be of anything, it just has to pertain to the flood.” Consequently, the content of the drawings varied between each participant, though the two primary elements in each were a

house and (blue or brown) floodwaters. People, boats, animals, trees, rain, clouds and household objects also appeared in several of the drawings.

Upon completion of their drawing each child was asked to explain or say something about their drawing. There was an opportunity for the other children and the researchers to ask questions of the artists after their explanation. They were allowed to take their drawing home if they chose or to leave it behind. A little over half of the children left their drawings; mostly following suit with other group member's decisions. A photo of the child with their drawing and a photo of the drawing were taken. Some of the drawings were analysed using photographs rather than the original drawing.

### *Critique*

This method was highly effective as a medium of communication and as a data collection method, and there were no significant problems encountered. The drawing process was relaxing for the children and sparked conversation between the children and with the researchers. The only challenge seemed to be getting the first child to overcome shyness and explain their drawing. Once the first person went, however, the others were happy to have a turn.

This method did however reveal a cultural bias on the part of the researcher and research design. Drawing is often associated with children and seen as way they can express themselves (S. Greene & Hogan, 2005). In the Javanese culture, however, drawing is not necessarily a natural means of expression for children or relaxing, and can be 'work'. This issue initially came up as an interesting phenomenon during the group interviews. Some of the children were quite concerned about the drawing's perfection; for example, they wanted to use a ruler to draw the house and its roof. It was a very minor occurrence, but one that I noticed. In speaking later on with an Indonesian researcher who had also conducted research with children using drawings, I learnt of the cultural inclination towards dance or poetry over drawing as more natural expression of self or thought for Javanese children. Therefore, while drawing was an effective method in this case, it may not have been the most effective choice.

### ***3.6.5.3 Flood-safe Community Plans (ME–iii)***

The child participants were given the task of coming up with a plan, as a group, to minimise the impacts of a flood in their community, using their own experience and knowledge and enlisting the help of their parents and another community member by way of interviews. This activity occurred in Phase 2, and the groups had one week to complete the activity.

Some key DRR ideas and terms such as hazards, vulnerability, and risk, and the difference between preparing and responding to an event and mitigating its potential impacts before it occurs were first explained by Dimas. Emphasis was placed on the merit of mitigation rather than response. Given this information and an A1-size poster paper which could be used in any way they choose, the groups were given a week to create their plan and present it to us (researchers) in the second session.

#### *Participants*

From the seven groups and 25 participants involved in Phase 2, seven plans were produced and 20 children participated. Three participants from Group 6 and two from Group 7 did not attend for the second session or assist with designing the plans.

#### *Nature of the Data*

The data are in the form of written words and visual images. One group produced only a written plan; another, only a poster; and the remaining groups a combination of the two formats. Several groups created numbered lists, one poem was written and others wrote sentences explaining pictures. The written plans related to flood prevention, mitigation and response activities. The pictures on the A-4 poster paper pertain to flood prevention ideas and one depicts flooded houses of what is likely the original flood event. Some groups drew one large picture, while one divided it into four individual pictures. One of the groups did not have posters during the session, but created one for the community presentation.

#### *Critique*

This method presented the most difficulties of all the methods, in its implementation primarily as it did not still generate useful data. The task of creating a plan as a group and using the poster paper seemed to be for many a burden rather than something fun to do. In addition, the openness of the task, was a cause of concern for a few children.

First, the attendance problems discussed in Section 3.6.2 in relation to the group interview resulted in some group plans becoming individual rather than collective plans. For two groups who lost members in the second session, one group's plan consisted of the ideas of a single participant, while the other group's plan was composed of three separate 'mini' plans. The constraint of completing the plan outside of the group interview turned it into homework. Second, I had thought that the use of poster paper would make it enjoyable, as most enjoyed drawing in Phase 1 and had requested that drawing be a part of Phase 2. Two groups, however, did not have a poster completed for the second session, while another participant wrote in his questionnaire that "decorating" was a difficulty. Third, the openness of the task, or lack of clear direction depending on the point of view, was an issue for some. While the children wanted more detailed instructions, as they struggled at first in thinking of ideas for the plan, as a researcher, I wanted to leave the task open to allow for creativity.

While the conceptual idea of the method appeared to be sound, its practical application was not as effective as I had hoped. Initially, the first session was to also be used as a space for the children to begin developing their plan. This did occur with the first group, but subsequent groups were keen to leave after they had received their recorders. The use of part of the second session rather than in between sessions may have aided in the completion of the plan. Another alternative which might be solved the first and second problems would be to give the children the freedom to choose how to present their plan and ideas. This solution, however, could have backfired with the children who were seeking more direction. Then again, the children were able to come up with (good) ideas, so their anxiety may have been more to do with starting the process and coming up with ideas rather than concerns of how present them. In light of the Indonesian researcher's comments in regards to the drawings, the use of dance or poetry may be appropriate suggestion for those struggling for stylistic ideas. One participant did in fact include a poem as part of his group's plan.

### **3.7 Analysis Methods**

These multiple methods produced data in a variety of forms. The diverse forms required appropriate analysis processes and methods that allowed for a comprehensive picture to develop from all of the data. The analysis method(s) needed to be able to cope with the large amount of data and be sensitive to the context in which it was gathered. Furthermore,

since the data could not be studied in its original language, the focus needed to be on the overall themes and ideas, not the semantics or syntax, which would have been lost in the translation process. ‘Qualitative’ content or thematic analysis was determined to be the most suitable approach for the research’s primary analysis as it meets all of these needs (Krippendorff, 2004). In addition, the aim of this type of analysis was “to describe how thematic contents are elaborated by groups of participants, and to identify meanings that are valid across many participants”; an essential attribute for this analysis (Joffe & Yardley, 2004, p. 66). A basic descriptive statistical analysis was also used to process the priority lists (ME-i).

The interpretation process, which was continuous through the analysis and writing of research results, was guided by abduction, which is considered central to both content analysis (Krippendorff, 2004) and reflexive methodologies (Alvesson & Sköldbberg, 2009). In broad terms, in the words of Krippendorff (2004), abduction or abductive inferences “bridge ... the gap between descriptive accounts of texts and what they mean, refer to, entail, provoke, or cause” (p. 85). According to Alvesson & Sköldbberg (2009), this method begins from an “empirical basis ... like induction”, but it does not reject theoretical perceptions; instead, the empirical facts are “combined with, or preceded by, studies of previous theory in literature ... as a source of inspiration for the discovery of patterns that bring understanding” (p. 4). Abduction is therefore becomes a “process that alternates between (previous) theory and empirical facts whereby both are reinterpreted in light of each other” (Alvesson & Sköldbberg, 2009, p. 4). The interpretation process in this study began with the empirical data and used previous literature for inspiration to discover patterns and develop conceptual categories. These categories were then compared back to the empirical data, which set into motion the alternating reinterpretation process between the data and theory that continued right up to writing of the research results.

### *3.7.1 Content and Thematic Analysis*

Content analysis is defined by Berg (2009) as “a careful, detailed, systematic examination and interpretation of a particular body of material in an effort to identify patterns, themes, biases and meanings” (p. 338). Typically carried out on forms of human communication, or “texts (printed matter, recorded speech, visual communication, works of art, artefacts)”, it seeks to analyse the data by following an established set of rules (Krippendorff, 2004, p.

21). Berg (2009) describes these rules to be the “criteria of selection” which are identified prior to the analysis and must be “sufficiently exhaustive” to allow for variation in the message content and yet “rigidly and consistently applied” so different researchers looking at the same data would achieve comparable results (p. 342).

Silverman (2006) describes two ways in which content analysis can be operationalised. In one approach, the *number* of instances categorical features are found in the data is recorded; whilst the other approach “report[s] (untabulated) extracts which illustrate particular categories” (D. Silverman, 2006, p. 161). Even though both approaches begin with qualitative texts, the former approach offers quantitative results, while the latter gives qualitative ones. Traditional content analysis approaches viewed quantitative descriptions as necessary (Berelson, 1952), but Krippendorff (2004) maintains that content analysis need not have “quantification” as a “defining criterion” (p. 87). Conversely, Joffe and Yardley (2004) describe content analysis as a quantitative exercise and offer thematic analysis as the more ‘qualitative’ approach. Their definition of thematic analysis however indicates the two analyses are highly analogous: “thematic analysis is similar to content analysis, but pays greater attention to the qualitative aspects of the material analysed” (p. 56). Nonetheless, they assert that thematic analysis extends the “systematic element characteristic of content analysis” by permitting “the researcher to combine analysis of the frequency of codes with analysis of their meaning *in context*, thus adding the advantage of the subtlety and complexity of a truly qualitative analysis” (p. 57). Yet “analyzing texts in the contexts of their uses distinguishes content analysis from other methods of inquiry” according to Krippendorff (2004, p. xiii). Wilkinson (2004) offers a reconciliation of the two sides by saying that “the second type [of content analysis], reporting qualitative data, is often described as a ‘thematic’ analysis” (p. 186). Therefore it appears the differences between (qualitative) content analysis and thematic analyses are nominal, and the terms are interchangeable for the purpose of this research.

The analysis that was carried out established thematic categories, coded and analysed the texts accordingly, and used extracts of the texts to illustrate these themes. The frequency of instances was used to gauge the importance of thematic categories, but it did not play a large role in the analysis process.

### 3.7.2 Statistical Analysis

A simple statistical analysis was used to determine the rankings of the priority lists, which items received the highest ranking overall. Since each group generated their own ten items, there were 43 different items listed in total. There were several similar items that could be combined without altering the number of instances (N count of 26), so the list was refined to 32 items. Table 3-4 shows how the items were re-grouped.

**Table 3-4: Priority list categories for analysis**

<b>Items Analysed (32)</b>	<b>Original items (43)</b>
blanket	blanket
clean house	clean house
clean water	clean water
clothes	clothes
	clothing
cooking utensils	cooking utensils
cupboard	cupboard
drink	drink
electricity	electricity
	electricity/lights
	lights
evacuate car/motorbike	evacuate car/motorbike
	food
food	food (instant noodles)
food and drink	food and drink
grocery	grocery
help parents	help parents
helping flood victims	helping flood victims
	mattress
mattress	new bed
medicine	medicine
money	money
paramedics	paramedics
place to stay	place to stay
tent	tent
	play in/with water
playing	playing
	playing in water games
praying	praying
	raft
raft/tire	tire (or floating device?)
save the belongings	save the belongings
	school
school	learn
school bag	school bag
	(school) books
(school) books	books
	school supplies
school supplies	writing utensils
school uniform	school uniform
shoes	shoes
table	table
tent	tent

The analysis was carried out by entering the data into Microsoft Excel, the 26 lists made by participants in rows and the 32 items in columns. The ranking that each participant gave to the item, a value between 1 and 10, was entered into the matrix. For items that they did not have on their list the value of 11 was assigned (see Figure 3-2). The full lists can be found in Appendix C.

Part #	blanket	clean house	clean water	clothes	cooking utensils	cupboard
1	11	11	4	7	8	11
2	11	11	3	4	8	11
3	11	11	4	10	9	11
4	11	11	5	4	9	11
5	11	11	7	6	9	11
6	7	11	11	11	11	11
8	5	11	11	11	11	11
11	11	11	5	3	9	11
13	11	11	2	5	8	11
14	11	11	9	3	8	11
15	11	9	11	3	6	11
16	11	11	11	4	11	11
17	11	11	11	3	11	8
18	11	11	11	6	11	11

**Figure 3-2: Example of statistical analysis data entry**

Central tendency measures - mean, median and mode - were calculated for each item. The median ranking of each item was taken to represent the overall ranking of the items because the data are ordinals, making the median the appropriate measure (Heiman, 2010). Moreover, the median accommodates for the skewed distribution and irregular interval scale created by the inclusion of the value 11 (Heiman, 2010). That is, the step between 2 and 3 is one ranking interval, but the step between 10 and 11 is unknown because every item was not ranked by each individual and could potentially hold the rank of the 14<sup>th</sup> or 28<sup>th</sup> item. Where the median value is identical, the order of items was calculated using the mean (see Figure 3-3).

There were no statistically significant differences between the items. This is, in part due to the low number of instances (N=26), but also because each participant ranked only 10 of the 32 items. The lack of foresight in the data collection limited this analysis in this case, but the method holds promise for future research.

Ranking	Item	Mean	Median	Mode	Standard Deviation	Range	Minimum	Maximum
1	food	4.81	3.5	3	3.24	10	1	11
2	clothes	5.00	4.0	3	3.07	10	1	11
3	place to stay	6.23	6.0	11	4.40	10	1	11
4	school supplies	6.73	7.0	11	3.27	9	2	11
5	electricity	7.73	9.0	11	3.50	9	2	11
6	clean water	7.88	9.5	11	3.39	9	2	11
7	tent	8.69	9.5	11	2.99	10	1	11
8	mattress	8.73	10.0	11	2.81	10	1	11
9	money	8.69	11.0	11	3.40	10	1	11
10	medicine	9.08	11.0	11	3.44	10	1	11
11	praying	9.42	11.0	11	2.98	10	1	11
12	save the belongings	9.46	11.0	11	3.68	10	1	11
13	school	9.50	11.0	11	3.31	9	2	11
14	(school) books	9.54	11.0	11	2.42	7	4	11
15	grocery	9.58	11.0	11	3.06	9	2	11
16	cooking utensils	9.65	11.0	11	1.79	5	6	11
17	shoes	9.73	11.0	11	1.93	8	3	11
18	help parents	10.00	11.0	11	2.86	10	1	11
19	raft/tire	10.04	11.0	11	1.87	7	4	11
20	food and drink	10.12	11.0	11	2.52	9	2	11
21	drink	10.23	11.0	11	2.25	9	2	11
22	evacuate car/motorbike	10.35	11.0	11	1.85	6	5	11
23	lights	10.35	11.0	11	1.60	5	6	11
24	paramedics	10.35	11.0	11	2.31	9	2	11
25	playing	10.42	11.0	11	0.86	4	7	11
26	school uniform	10.46	11.0	11	2.08	10	1	11
27	cupboard	10.58	11.0	11	1.65	8	3	11
28	blanket	10.62	11.0	11	1.39	6	5	11
29	table	10.69	11.0	11	1.38	7	4	11
30	clean house	10.77	11.0	11	0.65	2	9	11
31	school bag	10.77	11.0	11	0.86	4	7	11
32	helping flood victims	10.81	11.0	11	0.98	5	6	11

**Figure 3-3: Descriptive statistical analysis results of priority lists**  
*indicating the median being used to rank the items*

### 3.7.3 Validation

For the validation of mixed method approaches, Teddlie and Tashakkori (2003) have offered the terms “inference quality” and “inference transferability” in place of the quantitative and qualitative oriented terms of “internal validity and credibility” and “external validity and transferability” (p. 38). They proposed these new terms in order to transcend these two orientations and because they believed “existing quantitative or qualitative terms have been overly used or misused” (p. 36). The term ‘inference’ refers “to an outcome of the study” (p. 38), that were reached abductively in this case, while ‘quality’ connotes the “degree of excellence” (p. 36). The process, by which the study’s inference quality and inference transferability are assessed, however, still follows conventional practices. The assessment outlined here addresses the qualitative portion of the study, as the previous section concerning the statistical analysis addressed the quantitative portion.

Denzin and Lincoln (2005) have offered the four criteria of “[t]rustworthiness, credibility, transferability and confirmability” to assess the results of qualitative studies (p. 24). This criteria is used to evaluate the validity of the research process, data and the soundness of the results and interpretation.

### ***3.7.3.1 Trustworthiness***

The first criterion of trustworthiness is argued, by Sandelowski (1993), to be established by making the research “practices visible and, therefore, auditable” to the reader (p. 2). The reflexive methodology employed in this research has allowed for the auditability of the research process. The methods have been described here in detail and a critique of their implementation revealed areas where the research team or participants may have influenced the data production and analysis process.

### ***3.7.3.2 Credibility***

According to Lincoln and Guba (1985), the second criterion, credibility, refers to the evaluation of the research findings being a “credible” interpretation of the original data (p. 296). The techniques offered to establish the credibility are prolonged engagement, persistent observation and triangulation. Cohen and Crabtree (2006) described prolonged engagement as “spending sufficient time in the field to learn or understand the culture, social setting, or phenomenon of interest” (para. 1). The seven months spent in Indonesia was done for the very purpose of enabling the context to be “appreciated and understood”, “preconceptions” of the researcher overcome, and “trust” built (Cohen & Crabtree, 2006). The notion of persistent observation is explained as giving depth to the scope of prolonged engagement:

If the purpose of prolonged engagement is to render the inquirer open to the multiple influences - the mutual shapers and contextual factors - that impinge upon the phenomenon being studied, the purpose of persistent observation is to identify those characteristics and elements in the situation that are most relevant to the problem or issue being pursued and focusing on them in detail. If prolonged engagement provides scope, persistent observation provides depth. (Lincoln & Guba, 1985, p. 304)

Observational field notes were taken over the course of the research in Indonesia. The notes were in the format of audio logs which were taken at the end of each field day and typically recorded the day's activities, interesting happenings, noteworthy research findings, and a personal commentary. The intention of the field notes was to provide cultural context grounding for the research, to identify and focus on key elements and themes, and to aid the reflexivity of the research process by recording my personal thoughts and any other external influences surrounding the data collection process so biases could be taken into account during the data analysis.

The concept of triangulation is described by Berg (2009) to involve the use of several different data collection techniques to check and confirm findings. Schwandt's (2007) description adds to this the use of multiple sources, investigators, theories and methods to confirm findings. Greene (2010) also has noted that attention must be paid to the internal consistency and coherence of accounts and the potential bias of the informants and the researcher. The use of different data collection techniques was effective in confirming the credibility of the findings, as the main themes that emerged appeared in all of the data formats collected. The different methods also allowed for internal consistency and coherency checks of participants' accounts since many of the participants related their experiences in various formats over an extended period of time (i.e. the two phases of data collection). The use of multiple sources was strengthened by number of participants, 32 child participants and 15 adult participants, and was useful in determining the 'factual' information about the flood. For instance, the accounts of the flood's duration, which varied between three to seven days long, were compared. It was discovered that the source of the variation rested participants' perceptions of whether the flood 'ended' once all the water had subsided or when life returned to normal. Multiple investigators were not feasible for this project due to the field site location and availability of personnel and funding. The potential for bias of the informants or the researcher deserves further discussion as biases "are thought to be particularly acute in forms of qualitative inquiry that rely on fieldwork because ... [it] is admittedly an intensely personal experience" (Schwandt, 2007, p. 21).

### *Bias*

Schwandt (2007) describes bias as having two meanings in critiques of qualitative inquiry. The first being "bias denotes a tendency in inquirers that prevents unprejudiced consideration or judgement", such that researchers may rely heavily on particular informants or that they are unaware of how their own actions in the field which may create

“a prejudicial account of the social behaviour in the site” (p. 21). The second meaning of bias is “individual preferences, predispositions, and predilections that prevent neutrality and objectivity” (p. 21). He explains that this sense of bias

is evident when inquirer is criticized for taking the side of or advocating for a particular group of informants (and the inquirer is thus thought to be incapable of rendering a neutral account of the social action); for imposing a priori a theoretical framework or interpretation on the data; or when it appears as though the researcher uses data to confirm a hypothesis or belief held before the study was undertaken. (p. 21)

The potential pitfalls described in the first definition have been avoided by using multiple informants, as evidenced in Chapter 5 by the inclusion of quotes from every participant and drawings from 17 of the 31 child participants. The reflexive account found in this chapter, particularly when critiquing the methods, (I trust) has revealed a self-awareness of my own behaviour in the field, as well as that of my research team, and how it may have influenced the data. The second definition, however, could be used against the research. Accounts from the children were prioritised in the research as it sought to bring out the voices of children. Likewise, theoretical frameworks which emphasis ‘children as social actors’ and models of children’s disaster experiences (see Chapter 4) were used in the interpretation of the data. Yet Fetterman (1998) points out that “[b]iases serve both positive and negative functions. When controlled, biases can focus and limit the research effort”, which these two examples illustrate (p. 1). “When [biases are] uncontrolled, they can undermine the quality of ... research (p. 1).” It is this negative outcome of biases that needs to be circumvented.

Fetterman (1998) explains in order “[t]o mitigate the negative effects of bias, the [researcher] must first make specific biases explicit. A series of additional quality controls, such as triangulation, contextualization, and a nonjudgemental orientation, place a check on the negative influence of bias” (p. 1-2). Contextualization was made possible in this research through the extensive background research and prolonged engagement in the field. In his discussion of ethnographic fieldwork, Fetterman speaks of “a nonjudgemental orientation”, and the difficulty of truly achieving it.

A nonjudgemental orientation requires the ethnographer to suspend personal valuation of any given cultural practice ... [E]thnographers must attempt to view another culture without making value judgements about unfamiliar practices, but ethnographers cannot be completely neutral. We are all products of our culture. We have personal beliefs, biases, and individual tastes. Socialization runs deep. The ethnographer can guard against the more obvious

biases, however, by making them explicit and by trying to view another culture's practices impartially. (p. 23)

Again, the notion of explicit accounts of potential biases arises. One bias that has been touched on briefly is the bias of the researcher during the analysis process. Because I was the sole coder of the data, my bias to answer the research question, and the consequent use of existing theories during the analysis process, may have led to interpretational categories that another researcher may not have used. The debate, however, is not whether this interpretation is the only correct interpretation, but rather is it credible? Given the efforts put into prolonged engagement, persistent observation, triangulation, and the mitigation of potential negative biases, the credibility of this interpretation of the data is apparent.

### ***3.7.3.3 Transferability***

Transferability, the third criterion, was mentioned in reference to the social constructionist epistemology used in this study (Section 3.1.2) where it was discussed that knowledge is tied to the context from which it was derived (Guba & Lincoln, 1989). Therefore, Greene's (2010) explanation of transferability, "providing sufficient description of the particular context studied so that others may adequately judge the applicability or fit of the inquiry findings to their own context" (p. 69), required a rich contextual description of the research setting. This contextual description is primarily presented in Chapter 2 and Chapter 5.

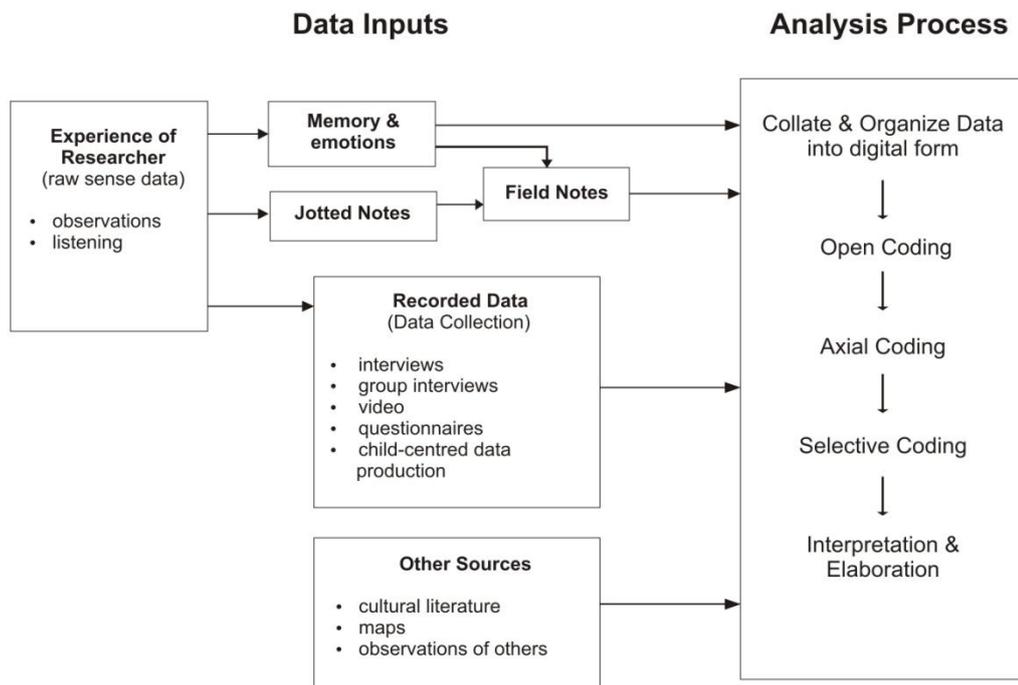
### ***3.7.3.4 Confirmability***

The final criterion of confirmability is defined as the "degree of neutrality or the extent to which the findings of a study are shaped by the respondents and not researcher bias, motivation, or interest" (Cohen & Crabtree, 2006, para. 5). The most obvious technique to establish confirmability would be to have the respondents directly evaluate and confirm the accuracy of the research findings. Unfortunately due to the research site location, poor communication links and financial constraints, this was not possible. Lincoln and Guba (1985) propose two techniques in its stead, triangulation and reflexivity, both of which have been described in previous sections. The research's primary aim of making the participant's voices to be heard, however, is perhaps the most unequivocal evidence that confirmability was sought. The transparency of the research process and the presentation of the research findings enable the reader to evaluate this claim.

This assessment has demonstrated the reflexive research approach used facilitated the validation of the research study and its inference quality and inference transferability. The next section outlines the procedures that were used in the analysis of the research data.

### 3.8 Analysis Procedure

The analysis process used in this research employed common qualitative data techniques of coding and concept formation that align with thematic content analysis. Figure 3-4 illustrates this procedure and the data inputs. The recorded data produced by the five methods listed underwent a coding process that was informed by field notes and other sources. The field notes were not analysed for content but were used to aid in the identification of important themes, and as mentioned, the reflexivity of research process.



**Figure 3-4: Data analysis process**

*(Source: Adapted from Neuman, 2006, p. 468)*

Neuman's (2006) explanation of coding is a useful description that covers the method used. He describes open coding as the first step, followed by axial coding and then selective coding. After this coding process, the results were interpreted and conclusions drawn.

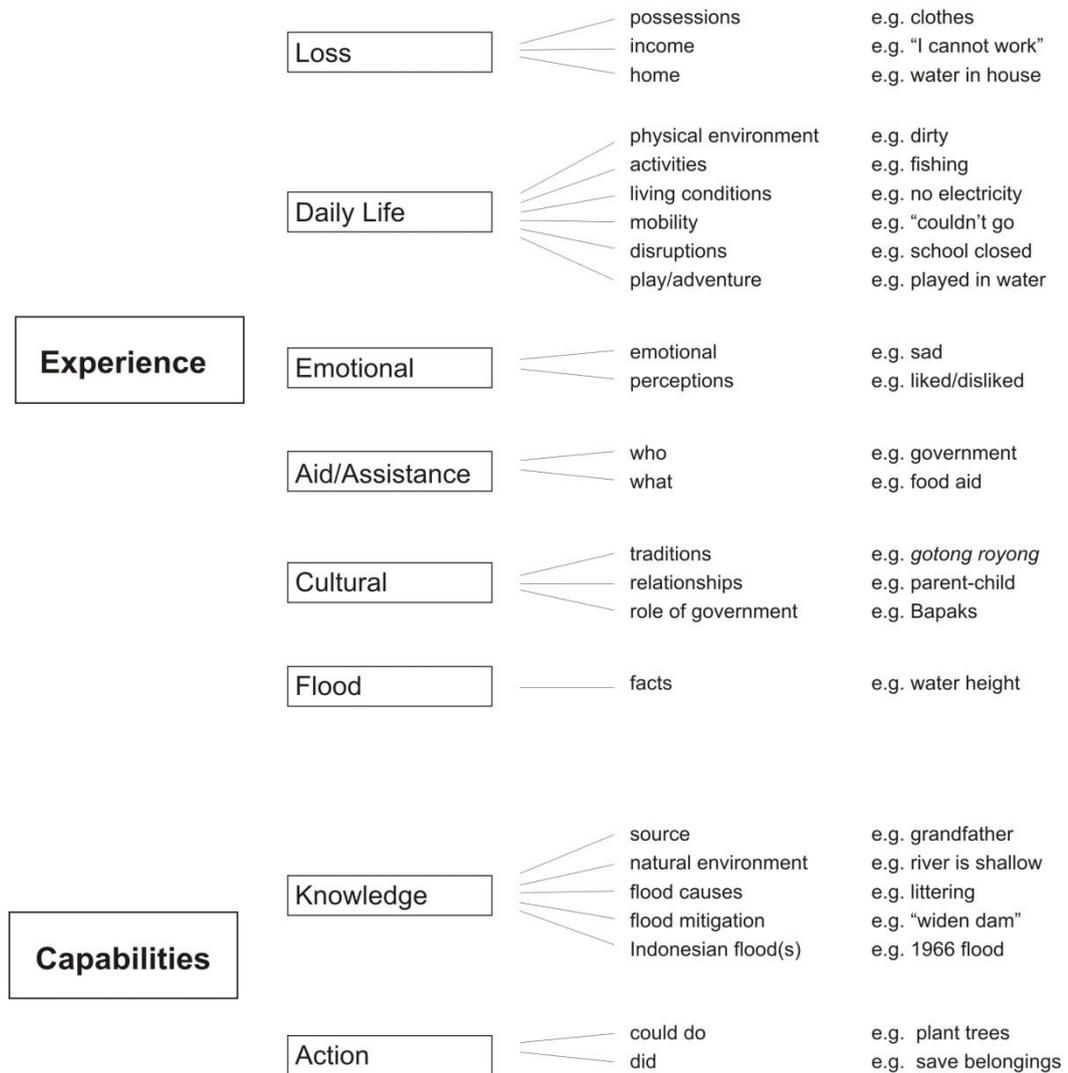
### *3.8.1 Open Coding*

The open coding stage involves the examination of data "to condense them into preliminary analytic categories or codes" (Neuman, 2006, p. 461). These preliminary categories were established using the two sources that are frequently used to organise such analyses (Patton, 2002): questions created during the design stage of the research, prior to fieldwork, and analytic insights and interpretation that surfaced during data collection. The research question sought to focus the research on the experience, concerns and capabilities of children in a disaster event context. Theme categories were created accordingly, under the main headings of experience and capabilities. The eight sub-categories were chosen based on primary interpretation and insights obtained during the data collection phase. Examples of elements that were placed into these categories are shown in Figure 3-5 along with the categories.

The coding process was carried out manually using a paper matrix and coloured pencils. The matrix was laid out such that the eight categories formed the columns and each individual participant had a row. Each participant, both child and adult, was assigned a unique numerical identity, 47 participants in total. The data produced by each participant were analysed and relevant information was placed in the appropriate categories.

Each piece of written data (see Table 3-1) was read through and relevant portions of texts (i.e. noteworthy quotes, phrases, words) were highlighted and written on the matrix. The individual interview data and group interview data were analysed in the same manner, identifying key phrases and words, but the quotes from the group interviews typically contain comments from more than one participant in order to capture the group dynamic of the conversation and how the children often expanded on what their peers mentioned. The visual data was examined primarily by recording its content, type of objects represented (size, prominence), and in some cases the mood or feeling the picture evokes. Once the matrix was filled, the results were typed up, common themes summarised and quotes that illustrated some aspect of the category particularly well were noted. The process reduced

the data to a manageable size and established preliminary analytic categories (Neuman, 2006).

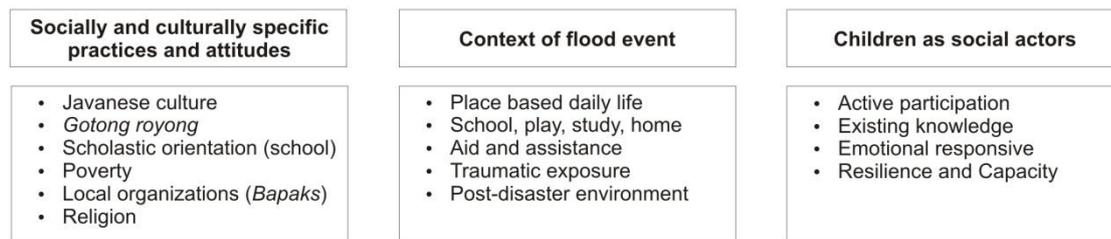


**Figure 3-5: Preliminary categories for coding data**

### 3.8.2 Axial Coding

The next phase of the coding process, axial coding, involved “organiz[ing] the codes, link[ing] them and discover[ing] key analytic categories” (Neuman, 2006, p. 462). The links between preliminary categories, the research question and relevant theoretical literature

were examined. The analysis of the open coding suggested that the experience of children appeared to be governed by the socially and culturally specific practices and attitudes of the community as well as the context in which the flooding event took place. Furthermore, the capabilities of children aligned with their agency as social actors. The coded data from the preliminary categories were reconfigured to reflect three conceptual categories are shown in Figure 3-6.



**Figure 3-6: Secondary categories and emergent themes**

While some of sub-sections were revised during the writing process, these three groupings form the major themes of the research project. The new conceptual categories and themes were “strengthened by multiple instances of empirical evidence” found in the data (Neuman, 2006, p. 464).

### 3.8.3 *Selective Coding*

The final stage of the coding process involved the identification and selection of data extracts (i.e. quotes, images) that would best illustrate the established conceptual categories (Neuman, 2006, p. 464). These instances, taken from both the previously coded data and the raw data, were used to produce the research results as presented in Chapter 5.

## 3.9 Ethics

Ethical issues were encountered in this project at a number of levels: the project involves children who were affected in a natural disaster and who lived in a developing country. The age of the participants, the sensitivity of the subject matter, cultural differences and socio-

economic imbalances between researcher and participants all required attention and careful consideration was needed for additional issues. As Greig et al. (2007) pointed out, the project will have an impact on people regardless of whether it is a positive or negative result which is likely to be determined by the approach taken to the project. In general, this research appeared to be well-received by the researched community and had a positive impact on their children and community, according to comments made by community leaders, parents and children.

All research procedures and conduct have been in accordance with Massey University Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants (Application No. 09/24). The basic ethical standards outlined by Sarantakos (2005), such as the right to privacy, anonymity, confidentiality, free and informed consent and a concern for respondents physical, mental and emotional welfare, were met by adhering to this Code.

As Dowling (2005) puts it, however, “[t]he conduct of good, sensitive, and ethical research depends, in large part, on the ways you deal with your unique relationships with research participants at particular times in particular places” (p. 20). In this instance, these relationships are greatly affected by cultural differences, and sensitivity is required. In order to work in more culturally sensitive manner, Howitt and Stevens (2005) suggest learning the local language, interacting with others on their social, political and cultural terms, seeking local consent support for research and honouring negotiated research agreements. The efforts undertaken to learn the language and culture in order to interact with participants are outlined in Section 3.4.3.

#### *Cultural differences*

Notwithstanding efforts to learn the culture, differences in cultures, mine a predominantly Western (Canadian) one, led to some ethical dilemmas over the course of the fieldwork. For instance, during the group interviews other children gathered at the door to listen and watch which put into question the confidentiality of the interviews. The child participants had signed a form which stated they agreed to not share anything discussed in the group interviews. This statement was included on the consent forms primarily to protect any child who shared personal information from having it disclosed to a wider group by another individual. Therefore the presence of other children who were not participants, and therefore not bound by this agreement, could potentially breach the confidentiality of the

group interviews. This ‘activity’, however, appeared to be common and accepted by the culture. While I was quite conscious and concerned about it, the child participants did not appear to be affected by it; and in some cases, even the child participants listened in on other group interviews. After considering the overall purpose of the confidentiality agreement, being to protect the welfare of the participants, and their relaxed attitude towards others being present, I decided that this issue was not seen as an issue from their perspective. This instance put in contrast the strong Western focus to ensure that procedures are followed properly with the relax attitude of the Indonesian culture which did not perceive there to be any ethical dilemma.

### *Local Consent*

Seeking local consent to conduct the research via the Bapak RTs had not been considered in my ethical application; I had not been aware of the local government structure prior to beginning my fieldwork. I had planned to gain access through appropriate gatekeepers, likely through an after school program, though I had not anticipated setting up and running the after-school program myself. Going through the Bapaks, I was constrained in that I had to follow what they thought would be good and my introduction to the rest of the community was done via them. Fetterman (1998) points out that the trust placed in the intermediary will approximate the trust extended to the researcher; in this, I benefited greatly from the good relationship that the Bapak RT has within his community. I was accepted with open-arms and would not have been able carry out the research as easily (or at all) as the community defers to the Bapaks for any community activities.

### *Research Agreements*

The idea of honouring negotiated research agreements played out with my English classes. I offered to teach these free classes as a way to meet the children and in return for having the opportunity to conduct my research in the community. Children could attend the English classes without participating in the research and vice versa. Compensation in forms other than cash is said to instil a “deeper sense of reciprocity” (Patton, 2002, p. 414); I did find this to be the case. Upon my return in February 2010, in addition to mentioning that several parents had inquired about the English classes, the Bapak RT mentioned that they said there had been improvements in their children’s English results at school. Following the community presentation, one father who could speak the most English, came and spoke to me saying that he represented the parents who were very grateful for the lessons, and that their children had enjoyed and benefited from them. The children who attended the English

classes were enthusiastic and would often become my shadow or say hello when I was visiting different households in the streets.

### *3.9.1 Power*

The question of power presents itself in every research study, whether it is acknowledged or not. Research generates knowledge, which is considered to engender power, so controlling research, in effect, means controlling power (Sarantakos, 2005). Even within a research team, power dynamics arise from control over funding or who has academic seniority (Easterby-Smith & Malina, 1999). This research presents additional cross-cultural issues concerning power. According to Hofstede (2009, para 1), Indonesia is a “high Power Distance” society, meaning the power inequality is accepted by the society and supported by its cultural structures. Thus the culture operates as a hierarchical society (B. Anderson, 1965; Cochrane, 2009) and as a ‘wealthy’ foreigner I was given power because of this status.

#### *Control of Research*

This research was participatory rather than collaborative. Howitt & Stevens (2005) explain that, on the one hand, participatory research makes space for involvement of others as an integral part of the research, but this involvement can be nothing more than “enlisting help or cooperation for a project driven by outside researchers in terms of its purpose, methods and use” (p. 43). Collaborative research, on the other hand, involves working as equals on a mutual project, designing it together. While the children did act as researchers for part of the project, it was limited to data collection.

When I was designing the research, a collaborative research approach, or ‘participatory action research’ - which offers shared ownership of a community-based research project (Kemmis & McTaggart, 2005) - was considered. Time constraints, however, ruled it out, as shared ownership and its necessary discussions and negotiations would have taken too much time. I was also hesitant to relinquish too much control as I needed to generate a doctoral thesis from the research and was bound to maintain its disaster focus as that is what I had been funded for. The limited involvement in the research’s direction, however, did not appear to be an issue for any participants. Any suggestions or offers of help were taken on board and utilised.

### *Foreignness*

Power dynamics between adult researchers and children were discussed in Section 3.3, but another power issue is that of being a foreigner. As a foreigner, I was given a certain freedom in some social situations that other young females may not be afforded. As a young female conducting research in China, Heard (1992) describes her experience as a foreigner:

The very fact that I was a foreigner granted me an exaggerated importance. In China, foreignness seems to override age and experience in the ranks of status and brings with it a different kind of treatment ... . I really began to feel like royalty. (as cited in Easterby-Smith & Malina, 1999, p. 80)

While I did find I occasionally had similar experiences, in terms of age and experience being overridden by my foreignness, every guest is treated with such courtesy in Indonesia that it is hard to tell if I received 'royal treatment'. Nevertheless, my importance or status in a situation was based on being foreign rather than any experience or skill I had. A day did not go by when I was not reminded that I was foreign, even when I did not speak. The only time I was able to avoid detection was when I rode my motorcycle, with my helmet obscuring my face and hair, and my copper-skin arms blending in with the rest.

Even though my foreignness did grant me a special status, relationships were often still based on personal integrity and character rather than status. As Howitt and Stevens (2005) have observed, in situation where power imbalances could have arisen, even simply from ignorance, the perception of character was of great value. It was often the small, simple gestures of listening and treating people other with kindness that removed any sense of pretentiousness.

### *Wealth*

Wealth in Indonesia is a sign of status (Koentjaraningrat, 1985). I was given status on the basis on being from wealthy country and therefore was perceived to be wealthy. In daily life, I was very aware of the wealth divide between myself and the participants in terms of possessions and disposable income. There is no evidence that this fact impacted the research, as any compensation was not monetary. Relationally, I found myself quick to say to friends that my university owned the video camera and voice recorders and that my travel had been paid by a research grant because I felt uncomfortable with the idea of being seen

as wealthy when I am not in my own culture. But it was the reality of the situation, and required an acceptance on my part.

### *3.9.2 Solo Researcher*

I was a solo researcher, with limited communication with my supervisors in New Zealand, which presented a few challenges. First and foremost, I had to make every decision on my own in terms of changes to research design. Since it took a few days or more to communicate via email, I had to make decisions about adapting methods or procedures to suit the local situation, without input from my supervisors. Being new to the field of social science research, I found this somewhat intimidating as I did not always know what qualified as ‘good’ data, and with some decisions I was taking the risk that it may or may not produce sufficient and reliable data. The data generated from the field research, however, were more than adequate for this project and proved to be trustworthy.

I also found it a struggle being the only one who was ‘doing the research’. While I had a few field assistants over the two data collection phases, they did not have a background in research. I was much more aware that the data needed to be used later, and tried to maintain a consistency in procedures and was conscious of the research team’s influence the participants. Since I could not speak Bahasa fluently, I could not control how the interviews ran, or the manner in which my assistants interacted with the children. As a consequence, I became frustrated at times when they would pressure the children to respond, ask leading questions or when they would start speaking in English to me conversationally when the children were drawing. These interactions did not seem to affect the participants and the interviews were still quite effective in gathering useful information. But as a researcher, I had to learn to let go of controlling the data collection process and accept that though the process may not go as I expected it did not mean the results were of lower quality or less useful.

### *3.9.3 Professional Relationships*

Professional relationships with field assistants were an issue that I had not anticipated and found to be the most difficult. The difficulties arose in clarifying the project expectations, upholding professionalism, and navigating through complications of working relationships

and friendships. A large part of the problem may have been my lack of confidence in leading a project in an unfamiliar cultural setting, where I was the novice and wanted to defer to the 'experts'. These difficulties were, nevertheless, overcome with careful discussion and patience, and did not inhibit the overall research process.

The clarification of project expectations was made difficult by cultural ignorance on my part. I had explained what the project hoped to accomplish in each group interview session prior and offered some guidelines of how to conduct the interviews, but when the small problems such as asking leading questions or prodding the children I was hesitant to make an issue of it as I was not entirely certain of what behaviours were cultural norms or required adjustments on the part of the field assistants. I was also aware that confrontation is typically done in Indonesia in a more round-about manner, so I struggled to express my concerns in a manner that would be received well. I subtly mentioned advice in between interview sessions and encouraged techniques that allowed the children to talk without direct prompting. After a few interviews, many of the kinks had been worked out.

My first two field assistants were friends prior to the research, so the complication of working relationships/friendships dominated the Phase 1. I found it much harder to navigate the murky waters than with Western co-worker friends. Assisting with the research, though paid, at times appeared to be taken more as doing a favour than a job; so when it clashed with other commitments, it was a struggle to point out that the project was something that needed to take precedence as the schedule had been made with mutual agreement. When a major schedule conflict did arise, however, a schedule that suited all parties was found and the interview sessions were not hindered.

Phase 2 seemed to be marked by the challenge of differing views of the degree of professionalism required, and dealing with this issue. Arriving late or missing appointments frequently, texting during group interviews, and in one instance, dozing off in an interview, from my experience, are not typical in Indonesian culture. I found addressing this problem with tact in order to maintain a good working relationship to be difficult. I was not in the position to trial the working arrangement prior, nor did I have time to make changes during the data collection. A large amount of flexibility and patience on my part allowed the relationship to be adequately managed and the data collection to continue unimpeded.

Some issues with the transcription team also arose over severe delays the completion of the transcripts. The delays appeared to be a result of a lack of prioritization and a possible underestimation of amount of time required on the part of the transcription team. In my initial meeting with the transcribers, I was assured that the transcripts would be completed in a set period of times. The first set transcribers had come at the recommendation of a professor at UGM who said they prompt, and I had no reason to doubt this. When problems did emerge, I had little influence over the process in Phase 1 as I had had to pay the team before I left the country. In the second case, the threat of losing money did prompt some action, but I had waited a while before I reached that point. The transcripts were received in due course, and the projects flexible time schedule and multi-facets allowed for other tasks to be completed in the meantime.

#### *3.9.4 Ethics Approval*

Ethical approval was sought from Massey University's Human Ethics Committee. The project was split into two phases. Phase 1 covered the initial site visit, the preliminary background research, and the building up of a contact network. A low-risk notification was submitted to the ethics committee January 10<sup>th</sup>, 2008 and it was acknowledged. Phase 2 covered the remainder of the research, the primary data collection phase, and required the full application. The full application was submitted to the Ethics Committee on April 24<sup>th</sup>, 2009. Provisional approval was given in May with some amendments to application required; full approval was granted July 3<sup>rd</sup>, 2009.

Concerns that were raised in the review process addressed "risk of harm" to the researcher, potential harm to participants as well as possibly exposing the persons/group to discrimination. Solutions to these problems were suggested and carried out. To my knowledge, there was no harm or discomfort caused by any interactions to date or reason to believe that it could result in harm in the future. Details of the ethics approval process can be found in Appendix A.

The ethical issues that arose over the course the project were dealt with in same reflexive manner that characterised the overall approach of this research. A critique of the methodology and methods employed in this research is the final element of this chapter

### ***3.10 Critique***

In general, the reflexive methodology and mixed method approach used by this study was effective. It allowed the exploration of themes and enabled the research questions to be answered. The use of qualitative data provided the rich descriptions that were sought, permitted participants to use their own words to describe their experiences, and ‘gave them a voice’. The use of multiple methods and the participation of both children and adults made it possible for multiple perspectives to be captured. Yet the primary focus on the children allowed for the prominence of children’s ideas and thoughts over those of adults.

The conceptual framework of a realist ontology and social constructionist epistemology allowed for the acknowledgement of the natural flood event and its impacts on the children, as well as the existence of universal concepts such as the quasi-universal childhood resulting from globalization and the adoption of modern societal values. The notion that knowledge is context-bound was highly relevant for findings that were consistently related back to the overall social and cultural context of the community as well as the geographical and circumstantial context of the flood event. Furthermore, the framework allowed for multiple interpretations of the same events and for each to hold equal value.

The reflexive methodology that linked and operationalised these two philosophical domains was fitting. It caused the researcher to continually reflect on the research process and better direct the study so it met the research objectives. It identified and acknowledged the limits of the location, the subjects, the process, the data and the analysis and allowed for the implementation of workabouts when and where they were needed. It also recognised that knowledge is constructed by the participants in their environment and could not be separated from it. It allowed for care to be taken when dealing with cultural influences and power dimensions. The analysis of the data was also enriched by reflections of the specific context in which the data was constructed. Moreover, it allowed for reflection on the different avenues, which emerged during the data collection, and the flexibility to pursue them if desired. The methodology also emphasised the role of the researcher and forced reflection on the influence of the researcher, and research team. Although biases were unavoidable in some cases, the acknowledgement of them gave the research findings rigour, transparency and trustworthiness in a way that another methodology would not have.

The research design, with its two phases of data collection and emphasis on immersion in the Indonesian culture, proved to be advantageous for this study. The two-phase design of the data collection proved to be highly valuable as it allowed for the discovery of themes which could be explored in the second phase and the development of methods that suited these emergent ideas. It also permitted the space to improve the methods used, but in this instance, there was some doubt as to whether the methods used in Phase 2 were necessarily more effective in their implementation than those used in Phase 1. The scheduling of these phases in different seasons, however, was quite valuable. Being able to personally see the contrasts of the two seasons and their impacts on the urban landscape and daily lives provided greater understanding of participants' comments about the inconvenience of rain and insight into how flooding would impact daily life.

The timeframe of the study, particularly the length of time spent in Indonesia, on the one hand, was sufficient to develop a relationship of confidence and trust with the community and participants and allowed me to interact with them in culturally appropriate ways. On the other hand, more time in Indonesia would have allowed me to learn the language better. I felt my language skill limited my abilities to engage with participants and follow up on leads that emerged during interviews, and also required me to relinquish control of interviews to the field assistants who were not necessarily as invested in the success of the research.

The research team, while adequate, was the source of many of the difficulties encountered in the study. The choice of field assistants who were friends led to the issue of balancing friendships and a working relationship which required tact and occasionally confrontation over some matters. However, this was perhaps something that I personally struggled with and it might not have been an issue for another researcher. Nonetheless, familiarity with the field assistants generated a relaxed atmosphere during the interviews and their understanding of my linguistic and cultural limitations allowed them to step in gracefully when I struggled and for more subtle communication during the group interviews. In the case of team members, a lack of professionalism on the part of the third field assistant affected the facilitation of the second set of group interviews and might have influenced the data collected. Likewise, the transcription team's delayed completion of the transcripts impeded the analysis process. In both instances, the round-about style of confrontation that is culturally appropriate seemed to be ineffective in resolving the issues. A greater cultural understanding of working relationships in Indonesia may have helped. Alternatively, more

referrals or a careful screening of candidates might have resulted in finding more reliable personnel. Conversely, the translator was much easier to communicate with and problems were easily sorted. All communication was carried out online, which may have removed some cultural barriers. In addition, he is Balinese which could have been a factor as the Balinese and Javanese cultures differ.

The approaches used to enter the researched community and select participants were effective and culturally appropriate. The introduction by the Bapak granted me a level of access and trust that would have been near impossible to obtain by any other means. His and his family's kindness and generosity also made the research process easy as they offered the use of their home for group activities and were able to assist in organizing the logistics of the community presentation. The use of English classes to build trust between the children and the researcher was highly effective and beneficial to the children. Furthermore, comments made by parents and community leaders indicated that these classes added to the positive perception of the research project and were perceived to have benefited their community and their children. The selection of participants using snowball sampling and word of mouth proved useful and highly appropriate for the cultural setting. It also was able to gather an optimal number of participants and there did not appear to be problems with discrimination.

The 'challenge' of conducting research with children was not as difficult as was initially thought. The adult-child power barrier was partially overcome by my foreignness and limited language abilities. Occupying the role of an English teacher did, however, create a teacher-student power differential. But this was removed to a degree during the interview by explicitly stating that it was not like the English classes and by me not being able to speak the language well. At the same time, I was still perceived as an adult and it was difficult to become a "peer" with the children because of how the adults interacted with me. Their treatment of me and how they expected children to interact with me was based on the cultural norm, which results in a power difference. Nevertheless, the research process did not seem to be greatly influenced by the power imbalance. The use of the children as part of the research team was quite valuable and added to the research study overall. It also developed confidence and sense of achievement in some children who said that it forced them to be brave.

The critiques of the individual research methods have offered some insight into the effectiveness of these methods, their drawbacks and the workarounds that were used to overcome shortcomings. Collectively, the methods were able to gather more than enough data to reach data saturation. Some methods worked better than others. The researcher interviews of parents, teachers and community leaders provide different perspectives of the flood event and were useful in placing the children's views in the social and cultural context. The group interviews and drawings carried out in the first session generated a large amount of data. The second set of group interviews did not generate much data, but that generated by the children in relation to them was quite valuable. The priority lists method was short, simple and effective in collecting highly relevant data. As mentioned earlier, consideration of how the data was to be analysed would have led to better statistical results. The group plans did produce some data, but it is my opinion that the process could have been done better. Clearer instructions would have aided the children who struggled with open questions or tasks to know what was expected of them in terms of how to respond, though not necessarily the content of their response. More consideration of the techniques used to develop the plan and the children's input would have aided in engaging them more in the process and countered apathy. Even so, the level of engagement would still have been constrained by the time available for the process. The children responded positively to the idea of acting as interviewers and the child-run interviews, on the whole, were quite successful, especially considering they are a new method to the disaster research field. The interviews permitted access to information sources that I, as foreign researcher, would not have otherwise been able to gain. While the children's performance as interviewers and the quality of the data produced varied across the group, a few of the children exceeded my expectations and produced lengthy, in-depth interviews. The use of an interview script may have helped some children who struggled to come up with their own questions to dig deeper than short one minute interviews, but the fact that other children were able ask probing questions offers promise for future studies which use this method.

The transcription and translation of the data by others created the limitation of having to accept their interpretation of how phrases were structured and relying on the English meaning of words. I did, however, have the advantage of being present for the interviews and could detect tone, expressions and general posture in order to understand sentences that could be interpreted two ways and jokes or sarcasm. The translation of the data from Indonesian to English, however, did not appear to cause a loss of knowledge and 'meaning', largely because of the chosen analysis methods.

The analysis methods used were appropriate for the data and the type of information that was sought. The content and thematic analysis did enable the main ideas of the data to come through and it also allowed the large amounts and diverse formats of data to be processed systematically. The analysis process used was at times tedious, but was effective and provided the opportunity to see all the data at once rather than scroll through various computer screens, which would have been the case if digital coding and analysis had been used. The statistical method used to analyse the children's priority lists was fairly straight forward, but the analysis would have been stronger if every group had ranked the same ten items. The reflexive methodology, multiple methods, sources and forms of data allowed for excellent validation of research data, and by extension the research process itself.

The ethical issues encountered were also dealt with well using the reflexive methodology. Careful reflection was used to determine and address any potential issues, and care was taken to hold to the principle of 'do no harm' when cultural differences led to an internal debate over what might be considered as an ethical issue. The majority of problems that arose over the course of the research were related to limited confidence of my own cultural knowledge, which caused apprehension about how best to deal with problems that did arise. This apprehension could have been alleviated with more consultation with cultural advisors as well as more exposure to working relationships in Indonesia.

In spite of the shortcomings mentioned, the research methodology enabled the goals of the research to be reached. In addition, the multiple methods also permitted reflection over which methods and techniques were most effective when working with children. The methods that were straight forward, with clear instruction and expectations worked the best. Methods that allowed for creativity, such as the drawings, also enabled greater insight into the children's experience than would have been gathered by verbal interview techniques alone. The research also discovered that drawing, which is commonly perceived as child-friendly and fun, may not always be the most natural way for children to express themselves. Poetry was suggested as a more culturally appropriate method and this was validated by one of the participants writing a poem as part of his group's flood-safe community plan. Therefore, research conducted with children also requires attention to any cultural bias in the research design and the actual research process.

Although this chapter is extensive, some of the substantial insights for the research were derived from the thorough and reflexive approach and the lessons learned in this study are relevant for future research in this kind of field. The following chapter, Chapter 4, explores the theoretical context of this research and lays the final piece of groundwork needed to understand the complex nature of the research's findings presented in Chapter 5.

## **4 Culture, Children and Disasters**

These three components – culture, children and disasters – form the core of this research. In this chapter, a range of literature, which taken together, provides some understanding of the social and cultural context in which children live and how they will experience a natural disaster event. In this instance, children's experiences of a flood event are determined by the Indo-Javanese culture and the social constraints of their environment, poverty, for example. While Chapter 2 provided the contextual setting for this research, this chapter offers the theoretical context in which this research is situated. Some of the literature relating to these three subject areas is explored in order to establish the relevancy of this research, the state of current disaster literature and the areas on which this study builds.

This research is interdisciplinary therefore the literature that has been drawn on is diverse. First, cultural studies literature is used to establish important elements of culture that influence individual's and communities' responses to disaster events (Hoffman & Oliver-Smith, 2002; Lavigne et al., 2008; Schlehe, 2010). Second, psychological and sociological literature which seeks to identify and describe the meaning of childhood explains the notion of children as social actors and childhood in a cultural context (W.A. Corsaro, 2005; Prout & James, 1997; J Qvortrup, Bardy, Sgritta, & Wintersberger, 1994). Third, disaster literature which is interdisciplinary (Kreps, 1984) and encompasses the social aspects of disaster events reveals where progress has been made, where more research is needed and how this research fills some of these gaps. This chapter ties together these three different threads to create the foundation for Chapter 5 which presents the findings of this research.

### **4.1 Culture**

In this section, the idea of culture, what it means, how it has been defined, how different cultures compare and the implications for this research is explored. An understanding of culture is crucial when studying how people behave in the face of natural disasters because their behaviour is governed by social and cultural values (Lavigne et al., 2008). There is agreement across several disciplines such as social and cultural anthropology (García-Acosta, 2002; Hoffman & Oliver-Smith, 2002; McCabe, 2002; Oliver-Smith, 1996;

Schlehe, 2010), cultural theory (Douglas, 1992) psychology (Paton, Kelly, Burgelt, & Doherty, 2006; Paton et al., 2010) and sociology (Mileti, 1999; Peek, 2008) that people's behaviour is not solely tied to the "threat" of the hazard event, but "the danger is rather filtered by an individual's perception of the world, which varies according to social values, religious beliefs, community traditions and attachment to place" (Lavigne et al., 2008, p. 274). Thus, the research question of how and in what ways the Indonesian children's experiences were affected by cultural factors provides considerable cause for an investigation into culture.

This discussion draws on a wide variety of literatures largely because the study of culture is not confined to one discipline. Each of these areas adds value to this enquiry by offering either theoretical underpinning, descriptive knowledge or functional terminology: cross-cultural psychology (Laungani, 2007), cultural anthropology (Hall & Hall, 1990; Kluckhohn & Strodtbeck, 1961), intercultural communication (Ishii, 1997; Samovar, Porter, & McDaniel, 2009b), psychology (Triandis, 1994), sociology (Handel, Cahill, & Elkin, 2007), organizational psychology (Hofstede, 2001) and literature directed at cross-cultural business and organizational management (Brannen et al., 2004; Gannon, 2008; Gannon & Pillai, 2010; House, Hanges, Javidan, Dorfman, & Gupta, 2004).

This section first defines culture as it is relevant to this research, presents models of it, discusses worldviews and then examines other pertinent qualities of culture. It then moves on to look at cultural comparison and the various cultural dimensions that differ from culture to culture and how these dimension would be expressed in a natural disaster setting such as a flood event.

#### *4.1.1 Culture Defined*

There are multiple definitions of culture. Handel et al. (2007) describe it as "the way of life developed by a people in adaptation to the environment and social conditions that they collectively face" (p. 57). Triandis (1994) uses a more specific definition in his writings on culture: "[c]ulture is a shared meaning system found among those who speak a particular language dialect, during a specific historic period, in a definable geographic region" (p. 19); while McDaniel, Samovar and Porter (2009) refer to it simply as "the rules for living and functioning in society" (p. 10). Using the metaphor of a computer, Hofstede (2001) presents

culture as software of the mind: “the collective programming of the mind that distinguishes the members of one group or category of people from another” (p. 9). Finally, the definition offered by the International Organization Network (ION), a group of cross-cultural researchers, is: “[c]ulture is a combination of interdependent, gradually changing elements - including assumptions, beliefs, values, practices and institutions – that is distinctive to a particular society” (Brannen et al., 2004, p. 27). This final definition by Brannen et al. (2004) fits this research as it acknowledges that culture changes gradually over time. Indonesian culture is continuously evolving but the modernisation of the society and the social change that has resulted from the demise of the long-reigning authoritarian government has accelerated this rate of change, especially in the last decade. Furthermore, this definition provides an explanation of the various elements that constitute culture and recognises the interdependency of the cultural elements.

Drawing from anthropology, cross-cultural psychology and inter-related disciplines, Laungani (2007) offers a concise but clear description of the elements or features that define a culture. He categorises the features as primary or secondary. Primary features are considered to be essential requirement of culture and they are:

1. A past history ... oral or recorded.
2. Regulated political, legal and social systems and communication networks.
3. A dominant, organized religion(s) ... [that gives] meaning, legitimacy and a sense of continuity.
4. A set of core values and traditions, including regulatory norms of personal, familial and social conduct, patterns of socialization, kinship patterns, gender roles ... .
5. Artefacts unique to that society, such as literature, ... music, dance, drama ... religious texts, philosophical texts. (p. 35)

The secondary features are nonessential and vary between cultures:

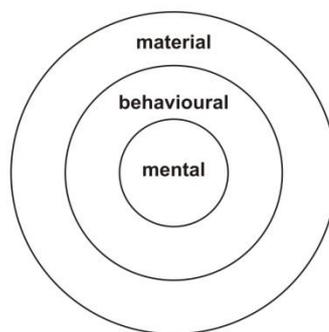
1. Freedom from linguistic, religious, political and social persecution.
2. Shared common language(s).
3. Internationally recognized common physical and geographical boundaries within which people of that particular society live.
4. Housing and other living arrangements.
5. Socially accepted dietary, health and medical practices. (p. 36)

The description of Indonesian culture in Section 2.2 addresses many of these features. Thus, the delineation of these primary and secondary features of culture is helpful to keep in mind in order to establish which cultural features are of greater significance than others, like

religion, core values and traditions. Apparent within the Indonesian cultural description is the interdependency, as outlined in Brannen et al.'s (2004) definition, of these culture elements. To illustrate how different culture elements are related, the next section will explore two models that are useful for comprehending the interconnected and 'layered' nature of culture.

#### 4.1.2 Models of Culture

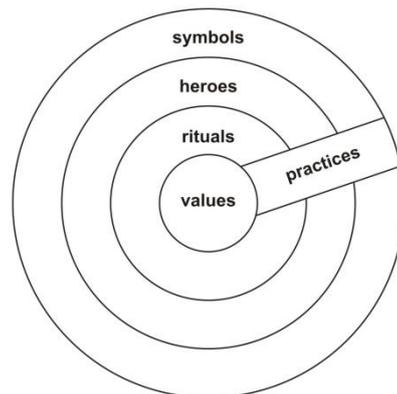
The first model of culture is found in intercultural communication literature presented by Ishii in a 1997 issue of the *Dokkyo International Review*. Ishii's model, as described by Miike (2009), depicts culture as having three layers: the material, the behavioural and the mental (see Figure 4-1). The outer layer is the material layer and Miike identifies this as the "most overt and visible" layer (p. 37). It is what outsiders to a culture encounter first; and depending on the length of time they spend in that culture, it may be all they observe. Artefacts like food, dress, music and art are representative of this layer. This layer is most easily changed whereas the subsequent layers are increasingly more resistant to change (McDaniel et al., 2009). Miike (2009) continues her description of the model with the behavioural layer, saying it is made up of "verbal and non-verbal behaviours" (e.g. words and gestures) and is "semi-overt" (p. 37). It directs the material layer and is in turn guided by the mental layer. The mental layer sits at the core of the culture and it encapsulates the cultural worldview. It is expressed in the form of values, beliefs and attitudes. This core layer is one of the most, if not *the* most, important parts of a culture. It is the "invisible" part of a culture which has control of and gives meaning to the outer two layers (p. 37)



**Figure 4-1: Ishii's cultural model**

(Source: Adapted from Miike, 2009, p. 37)

The second model is put forward by Hofstede (2001). His “Onion Diagram” shown in Figure 4-2 is similar to Ishii’s model, but he describes the cultural elements in a slightly different manner and categorises the outer three layers as practices. According to him, practices are visible to the outsider but their meaning is invisible and only known to insiders. So the outer three layers are the visible elements of the culture while the ‘values’ core remains invisible.



**Figure 4-2: Hofstede’s cultural “Onion Diagram”**

*(Source: Hofstede, 2001, p. 11)*

Symbols, equivalent to Ishii’s material and behaviour layers, are “words, gestures, pictures, and objects that carry often complex meanings recognized as such only by those who share the culture” (p. 10). The ‘heroes’ layer represents cultural role models who possess traits desirable in a culture. The heroes can be a “person, alive or dead, real or imaginary” (p. 10). Rituals are “collective activities that are technically unnecessary” to accomplish a goal or task, but are considered to be socially necessary, therefore they are performed “for their own sake” (p. 10). The core of Hofstede’s model is a “system of values” (p. 10).

In the literature examined in relation to flood hazards, these cultural models, or similar ones, were not in evidence. However, there can be great value in looking at the culture in a ‘layered’ manner in disaster research because it forces researchers to contemplate not just the material factors of loss, the way in which people behave or their priorities in response and recovery, but all three layers at the same time. In the case of this research, the flooding of schools was an obvious material concern, but many of the actions performed by participants, that is, their behaviours, stemmed from the cultural value that places high

regard on education. Once this culture value was recognised, the behaviours and comments of participants made sense. Hence these types of models facilitate an understanding of the complex nature of culture and expose the influence of the core invisible elements of a culture on the outer visible layers, which are more easily perceived in a disaster situation.

Taken together, these two cultural models demonstrate that at a culture's core are values, attitudes and beliefs. McDaniel Samovar, and Porter (2009, p. 13) define values as "those things we hold important in life, such as morality, ethics and aesthetics"; attitudes as "learned tendencies to act or respond in a specific way to events, projects, people or orientations"; and beliefs as "individually held subjective ideas about the nature of an object or event". Together these three components, values, attitudes and beliefs, form and reflect a culture's worldview. While this worldview is invisible, it is implied through cultural practices, rituals, artefacts and behaviours that are common to a culture. The worldview of a culture "represents one of the most essential qualities of culture impacting all aspects of how a culture perceives and recognizes the environment" (Ishii, Klopf, & Cooke, 2009, p. 28). For that reason, it deserves to be examined in greater detail because cultural perceptions of natural disasters influence the behaviour and practices of people, as demonstrated by these two culture models and by empirical studies (see Jardine-Coom, 2010; Lavigne et al., 2008; Paton et al., 2006; Schlehe, 2008).

#### ***4.1.2.1 Worldview***

A worldview acts as the lens through which people see the world around them. The philosophical questions concerning life, death, God, the universe, nature, suffering and the purpose of life are answered here (Ishii et al., 2009; McDaniel et al., 2009; Miike, 2009). It defines truth, reality, ethics and morality. Yet a person may not even be aware of their worldview as it is "deeply imbedded in one's psyche and usually operates on a subconscious level" (McDaniel et al., 2009, p. 14). Out of this set of assumptions about the world, flow the values, attitudes and beliefs of a person, or of a culture when they are shared by a collective. Another feature relevant to this research is the theory that a person's worldview develops in early childhood along with other cultural learning, and evolves as a person matures, though its fundamentals are unlikely to change past the age of twelve (Hofstede, 2001; Ishii et al., 2009). Given this statement, worldviews held by children age

nine to thirteen, the ages of those involved in this research, are mostly formed but events occurring during these years may still influence the shape of their worldviews.

There is consensus that the greatest influence on a person's worldview is in fact religion (Huntington, 1996; Ishii et al., 2009; Samovar et al., 2009b). Ishii, Klopf and Cooke (2009) argue that even those who are not 'religious' are still influenced by the culture's dominant religion: "[r]eligion ... is [a] deep and pervasive determinant of worldview. Even the most secular of people feel religion's influences. Those who reject religious faith still follow much of the religious heritage that influences their culture" (p. 31). This is evident in many Western societies which have Judeo-Christian heritage. Many people who do not hold to either of these religious faiths are influenced by particular ideas about good and evil (as established through the Ten Commandments in the Old Testament Bible or Torah). Likewise, Islam shapes the Indonesian worldview even for those who do not fervently adhere to the religion.

Religion, however, is not the only influence on the formation of a worldview. Sub-cultural influences, such as belonging to an agrarian or urban community, alter perceptions (Kanning, 2008) and cultural heritage also plays a role. There is a very strong cultural heritage in Java, and for many it has a greater influence on their worldview than the dominant religions (B. Anderson, 1965). The Javanese worldview is based on the idea that "individual[s], society, nature and the cosmos are inseparably connected and are ideally in a state of harmonious balance" (Schlehe, 2008, p. 277). The ensuing idea of social harmony is one the strongest element of Javanese culture (Megawangi et al., 1995). In the same way, the hierarchical social order that exists in Java is derived from the Javanese worldview of an "ordered" cosmos according to mythology (B. Anderson, 1965, p. 7).

The example of Mbah Marijan, the spiritual guardian of Mt. Merapi, illustrates the implications of a Javanese worldview of natural hazards. Merapi holds a high place in Javanese cosmology as part of a "tripartite", along with Yogyakarta and the ocean to the south of Central Java, which are believed to be "home to [spiritual] kingdoms" (Prasetya, 2001, para. 16-17). Mbah Marijan lived in the village of Kinahrejo, located approximately 5 km from the peak of Mt Merapi (Schlehe, 2008) and within the mandatory evacuation zone during volcanic eruptions (Shields, 2006). He was appointed by the sultan of Yogyakarta to lead the annual *Labuhan* ceremony to appease the spirits of Mount Merapi (Lang, 2010). He became a well-known for his refusal to evacuate during eruptions (1994,

1997, 2006) and for speaking out against the government's resettlement policy of those residing on the slopes of Merapi (Prasetya, 2001; Schlehe, 2008). Many villagers looked to him when there was unrest at Merapi and believed he would be warned in a vision of an eruption (Shields, 2006). He claimed to not be in opposition of the government's efforts to evacuate residents during the eruptions (Prasetya, 2001), but that the residents of Merapi's slopes and those in Yogyakarta "would be in danger if he did not maintain the relationship with the world of the spirits" (Schlehe, 2008, p. 116). Speaking of the other residents in his village who remained with him he said,

It has penetrated their hearts that as people who were born here, who obtain their food from the land of Merapi, to die for Merapi is only natural. Kinahrejo citizens feel it is their destiny that they were born in order to guard, and to become the fortress for the safety of Keraton Ngayogyakarta as well as the kawula (nation) of Mataram. (Prasetya, 2001, para. 26)

During the recent eruptions of Merapi in October 2010, Mbah Maridjan and at least twenty-five were killed by hot ash clouds while keeping vigil at the village mosque ("Mbah Marijan ...," 2010). His death has sparked debate over Javanese spiritual beliefs, some praising "the strength of his convictions" and others criticising "the superstitions centered on the mountain" (Sagita, Sembiring, & Malik, 2010, para. 3). This debate also points to the growing tensions in Javanese and Indonesian culture between traditional and modern worldviews.

While it is possible that this tension between modern and traditional worldviews exists in the perception of flood hazards, there was no literature found in this review of the influence of the Javanese worldview on perceptions of flood hazards. The influence of the Javanese worldview on the perception of volcanic hazards is discussed in several papers (Donovan, 2010; Dove, 2008; Lavigne et al., 2008; Schlehe, 2008), and the oral traditions were mentioned when discussing tsunami hazards (McAdoo, Dengler, Prasetya, & Titovd, 2006), but research of Indonesian cultural influences on flooding or other natural hazards was very limited. Moreover, the influence of culture on flooding hazards, in general, is minimal.

#### *4.1.3 Characteristics of Cultures*

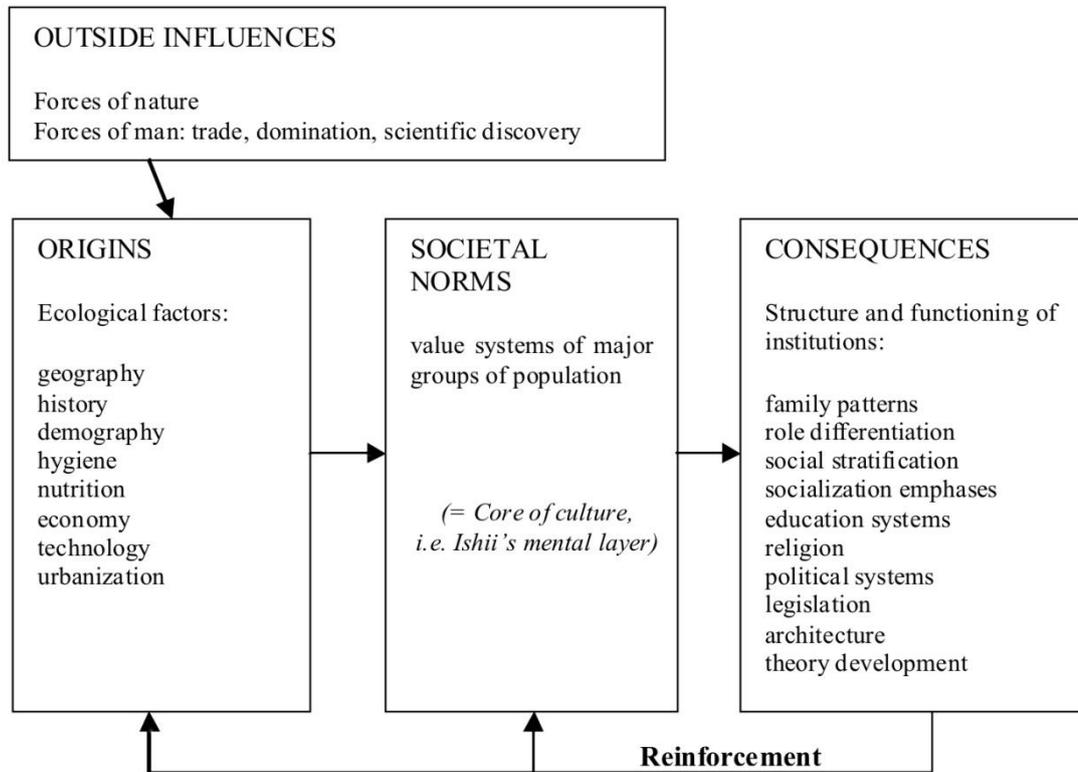
Having determined a definition of culture suitable for this research and illustrating how various cultural elements relate to each other, attention is now drawn to other important

characteristics of culture. In order to appreciate the influence of culture on a society's interactions with natural hazards and disasters, it is necessary to understand how it functions. The following traits provide insight into culture's functionality. According to McDaniel et al. (2009), three key relevant aspects are that it is "dynamic", "transmitted intergenerationally" and "learned" (p. 11-12). Each of these aspects and how they related to this research are explored here.

First, the idea that culture is dynamic is particularly pertinent as Indonesia is currently undergoing significant social change which is having a profound impact on its culture (Schlehe, 2010). The definition of Brannen et al. (2004) states that culture has "gradually changing elements" (p. 27). A culture is not static, but changes constantly (E. W. Lynch, 2004). The change may occur through the borrowing of new ideas, scientific discoveries, and technological inventions from other cultures or as a consequence of war, immigration, large-scale natural disasters, or political upheaval (McDaniel et al., 2009). The latter two forces, political upheaval and large-scale natural disasters, have had a profound impact on Indonesian society in the last decade. The end of a thirty-year authoritarian dictatorship in 1998 brought about a period of reform characterised by a liberalisation of various political and social movements as well as "increased ethnic and religious strife" (Newberry, 2010, p. 411). The process of "democratisation and decentralisation" (p. 119) that resulted coincided with "an extreme density of disasters" (p. 113) which began with the 2004 Indian Ocean tsunami (Schlehe, 2010). This event ushered in a new era of disaster management and research in Indonesia, which was formalised by the adoption of the 2007 Disaster Management Act (n<sup>o</sup>24) and the formation of the National Disaster Management Agency (BNPB) in 2008 (BNPB, 2011a). Most recently, the Indonesian President Susilo Bambang Yudhoyono was named the UNISDR Global Champion for Disaster Risk Reduction in May 2011 in Geneva, Switzerland (UNISDR, 2011). Within a less than a decade, significant changes in the cultural view and approach to natural hazards and disasters in Indonesia occurred, and have implications for rapidly growing field of research in this area.

Hofstede (2001) makes the argument that change rarely occurs "through direct adoption of outside values" but rather from shifts in ecological conditions – mainly technological, economic and hygienic factors (p. 12). That is, the outside forces influence the ecological conditions of the culture, and societal values gradually change as a result. Figure 4-3 illustrates this concept and what Hofstede refers to as "the stabilising of culture patterns"

(p. 12). For as much as culture does change, there is a measure of stability that must exist in order for it to persist over generations.



**Figure 4-3: “The Stabilizing of Culture Patterns”**

(Source: Hofstede, 2001, p. 12 [italics added])

As was noted when discussing the cultural models, most change that does occur is superficial (i.e. fashion, food). “[V]alues, ethics, morals, the importance of religion, or attitudes towards gender, age and sexual orientation, which constitute the deep structures of culture, are far more resistant to major change” (McDaniel et al., 2009, p. 12). This resistance is reinforced by the institutions that are developed by a culture which in turn act to maintain it. In the case of this research, the idea that deeper cultural attitudes are resistant to change was exemplified in the cultural attitude towards littering. Despite numerous acknowledgments and the seemingly overall community perception that this practice is not good, it is still widely persistent. Current social institutions and a lack of effective strategies appear to reinforce this attitude.

In the Indonesian context, the outside influences of technological discoveries and “the rapid movement of people and ideas” have led to globalisation in the country (Newberry, 2010, p. 411). The shift in the ecological conditions (i.e. technology) commonly associated with globalisation has created a tension in Indonesian cultural values between tradition and modernity. Schlehe (2010) noticed, when examining the 2006 Yogyakarta earthquake, a “new [cultural] tendency to polarise” tradition and modernity, “whereas Javanese culture was based on an image of the reconciliation of these spheres before” (p. 112). At the same time, Reuters (2009) observes a “local revivalism, in Indonesia ... [which] may be a response to globalisation” and that “new social movements across the full spectrum of Indonesian politics share a common agenda for revitalising traditional institutions” (p. 869). Hence while there is a cultural shift to modernity, there also appears to be resistance to this change from the cultural institutions; thus, the stabilising loop that Hofstede’s (2001) model proposes seems to be operating in this case. Schlehe (2010) alludes to existence of these stabilising forces in the conclusion of her article by reflecting on whether the tendency to polarise “holds true for a general new tendency in Javanese society, or whether it reflects a short-term reaction to the turbulence of the recent years” and the “Javanese strive for harmony” will win out in the end (p. 119). This polarization between modern and tradition and the potential future re-stabilization may have implications for disaster management systems that are adapted to current conditions. If there are no mechanisms that account for cultural shifts, systems adopted now may be ineffective in the future.

The second aspect of culture, according to McDaniel et al. (2009), is that it is “transmitted intergenerationally” (p. 11). The transmission of culture is quite important as a culture “exists only if it is remembered and repeated by people” (p. 11). Successive generations are taught by the previous ones. While new behaviours and values may be introduced by a new generation, the “accumulation of past traditions” from previous generations “is what we know as culture” (p. 12). Cultural knowledge concerning natural hazards and how to respond as a society is also transmitted intergenerationally. The island population of Simeulue in Indonesia’s Aceh province is an example of how oral history saved residents from tsunamis on 26 December 2004 and 28 March 2005 (McAdoo et al., 2006). McAdoo, Dengler, Prasetya, and Titovd (2006) described how stories have been told for generations of a large tsunami in 1907, which is said to have killed up to 70% of the population, underlining the urgency of “running to the hills after ‘significant shaking’” (p. S661). Only seven of the 78,000 islands residents died “as a direct result of the [December] tsunami”, compared to more than 50% of lives lost in a nearby coastal village (pop. ~10,000) on the

mainland (p. S661). Oral history of previous floods in Surakarta surfaced during the course of this research. Several children spoke of floods they had learned about from the grandparents and parents.

Implicit in the idea that culture is transmitted intergenerationally is its third characteristic of culture, that it is learned (Gannon, 2008). Cultural learning, referred to as enculturation, occurs both consciously and subconsciously through observation, interaction and imitation (Andersen & Wang, 2009; McDaniel et al., 2009). It can also be absorbed through art, proverbs, folklore and history (McDaniel et al., 2009). For example, Javanese mythology that shapes much of the Javanese worldview is learned from shadow-puppet dramas (B. Anderson, 1965). The family is the primary institution through which culture is learned (Gannon & Pillai, 2010); parents teach their (own) culture to their children. A person's first culture is typically "acquired" at an early age, "established" by the age of five (E. W. Lynch, 2004, p. 20); and unlikely to change past the age of twelve (Hofstede, 2001). Educational and religious institutions also play a vital role in reinforcing cultural learnings absorbed in the familial context. Accordingly, perceptions and ideas about natural hazards are transmitted to children from their parents (or elders) and reinforced in the classroom. The child research participants, when asked, listed family and educational institutions as their primary sources of flooding knowledge.

These functional traits of culture, that it is learned, dynamic and transmitted intergenerationally, are constant in all cultures. The ways in which these traits operate, however, vary with each individual culture. Equally, other cultural elements discussed such as values, traditions and behaviours differ between cultures. The importance of understanding how such features differ cannot be underestimated if the research findings are to be understood or applied in any culture other than the Indo-Javanese. The following section examines how different cultures can be compared using common dimensions.

#### *4.1.4 Cultural Comparison*

Cultures have been compared by many researchers using several various schemes (Hall & Hall, 1990; Hofstede, 2001; House et al., 2004; Kluckhohn & Strodtbeck, 1961; Laungani, 2007). Several dimensions have been identified as useful for looking at how cultures differ. Gannon and Pillai (2010) offer an excellent summary of various studies in the introduction

of their book which uses cultural metaphors to explore twenty-nine cultures. From these studies, three dimensions are pertinent to this research: Power Distance, Individualism and Humane Orientation. The first two dimensions were identified by Hofstede (1980) and the third by the Global Leadership and Organizational Behaviour Effectiveness Research Program (GLOBE) (House et al., 2004). These three dimensions are examined in light of the Indonesia culture using the cultural information from Chapter 2. Indonesia was included as a sample country for the GLOBE study but was not included in the Hofstede's original study, though the scale has subsequently been applied (Hofstede, 2009). In determining the cultural dimension scores, the GLOBE study questionnaires differentiated between "two levels of analysis (societal and organizational) and across the two culture manifestations (*As Is* and *Should Be*)" (House & Javidan, 2004, p. 21). The societal-level results of both *As Is* (referring to societal practices) and *Should Be* (societal values) will be used. Hofstede (1980) used a singular score value for group-level analysis. When looking at cultural dimensions it is good to keep in mind that they operate as continuums rather than as polar opposites (Laungani, 2007). A culture is not one or the other, but located somewhere in between.

Cultural dimensions have relevance to this research because they identify certain aspects of a culture and provide a framework by which these aspects can be easily understood. In addition, cultures with similar dimension scores or indices are more likely to share cultural traits. How broad social and cultural factors affect children's experiences of disaster in Indonesia is liable to be analogous to how they would affect children in a culture with similar cultural dimensions. Thus cultural dimensions can enable the comprehension and application of research findings in cultures other than the Indo-Javanese.

#### ***4.1.4.1 Power Distance***

The cultural dimension of Power Distance as defined by the GLOBE study is the "degree to which members of an organization or society expect or agree that power should be shared unequally" (Carl, Gupta, & Javidan, 2004, p. 517). Hofstede (2001) paraphrases Orwell to explain the nature of this dimension: "All societies are unequal but some are more unequal than others" (p. 81). According to the GLOBE study, Indonesian society has moderate Power Distance scores in both societal practices and values (Carl et al., 2004, pp. 539-540). Hofstede's study on the other hand assigns high Power Distance value of 78 (Hofstede,

2009). It is argued here based on the characteristics of a high Power Distance society taken from both studies that Indonesia is more accurately described as having high Power Distance.

A society with a high Power Distance index is likely to be hierarchical and esteem status while one with a low Power Distance index considers people as equals (Andersen & Wang, 2009). The degree of power inequality is often accepted in a high Power Distance society because it is embedded in the society's cultural heritage and existing cultural structures continue to support it (Hofstede, 2001). This is true of Java where the traditional culture upholds a hierarchical social order and certain social aspects of this tradition persist. Researchers of the GLOBE study, Carl et al. (2004), found that there are four "fundamental phenomena" that influence the acceptance of a high power distance: "the predominant religion or philosophy, the tradition of democratic principles of government, the existence of a strong middle class, and the proportion of immigrants in a society's population" (p. 518). In the case of Indonesia, these phenomena are such that high power distance is probable. They noted that although Islam, the predominant religion in Indonesia, "does not endorse" high power distance, societies that "embrace Islam as their principle religion tended historically to be highly hierarchical in nature" and "power distance practices continue" (p. 521). The principles of governance relate to power distance in that nations with a longer history of democratic traditions typically have a lower power distance compared with those that have "strong non-native historical influences and recent independence" (p. 536). The four hundred year colonial history and mid-twentieth century independence of Indonesia suggest that it is more likely to have a high power distance. In the same way, societies with an "emerging" middle class like Indonesia will have a higher power distance than those with "large, established middle class[es]". Finally, the presence of a large immigrant population, such as those found in Canada or New Zealand, is thought to be a sign of low power distance, as immigrants are able to "change their position in society" (p. 526). Indonesia lacks a significant immigration population, and in fact, with its negative migrant rate it is subject to emigration more than immigration ("Indonesia," 2011b). Another indicator of high power distance is high public corruption which still plagues Indonesia.

The implication for this research of a high power distance society is that mindset for inequality begins with the parent-child relationship. Children are "encouraged to learn qualities of 'hard work' and 'obedience' at home and are not encouraged to learn the quality

of ‘independence’” (Carl et al., 2004, p. 531, referencing Hofstede 2001). Therefore, children involved in a flood event would likely be obedient to their parents and elders and follow their guidance. In addition, any community action in or following a disaster event would be expected to follow existing local authority structures.

Finally, perhaps the greatest reason for the continued acceptance of a high power distance in Indo-Javanese culture is that “power is seen as providing social order, relational harmony, role stability” (Carl et al., 2004, p. 536) The culture concept of *rukun* (social harmony) and the need to maintain one’s role in Javanese society as explained in Section 2.2.3 means that a high power distance is to be embraced. While power may be deferred to certain individuals, it is done so with the hope that the power will be used for the collective benefit of society. For this reason, societies that exhibit a high power distance are also inclined towards low individualism.

#### **4.1.4.2 Individualism**

This cultural dimension concerns an individual’s relationship with others; how much one’s identity is based on one’s relationship to a group, independent versus interdependent self. It is the most studied empirical dimension (Gannon, 2008). Hofstede (2001) has defined the ends of its continuum, individualism and collectivism, as follows:

Individualism stands for a society in which the ties between individuals are loose: Everyone is expected to look after him/herself and her/his immediate family only. Collectivism stands for a society in which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people’s lifetime continue to protect them in exchange for unquestioning loyalty. (p. 225)

Indonesia is classed as a more collectivist culture by both Hofstede (2001, 2009) and the GLOBE study (Gelfand, Bhawuk, Nishii, & Bechtold, 2004). In fact, Indonesia has “one of the lowest world rankings for Individualism” on Hofstede’s scale; an Individualism index value of 14 compared to the world average of 43 (Hofstede, 2009).

The GLOBE study measures this dimension as the degree of collectivism rather than using the term ‘individualism’. It also differs from Hofstede’s dimension in that it divides its collectivism dimension into two measures: Institutional Collectivism and In-Group

Collectivism (Gelfand et al., 2004). They describe the Institutional Collectivism measure as having “focused on the degree to which institutional practices at the societal level encourage and reward collective actions” while the In-Group Collectivism measure “assessed the degree to which individuals express pride, loyalty, and interdependence in their families” (p. 463). Due to its focus on family and children, the In-Group Collectivism measure is used for this research. Within the In-Group Collectivism measure, the GLOBE researchers differentiate even further by saying the In-Group Collectivism *As Is* practices scale “focused exclusively on families, children and parents” in contrast to the *Should Be* values scale which also looked at the “value of having pride in the society as a whole” (p. 463). Indonesia holds a higher than average score for In-Group collectivist *As Is* practices and a score near the global mean for collectivist *Should Be* values. The absolute score value of the collectivist *Should Be* values however is higher than the collectivist *As Is* practices. This result is parallel to all other societies, meaning “societies generally want more in-group ... collectivism than they have” (p. 466). For simplicity’s sake, the term ‘collectivist’, rather than ‘more collectivist’ or ‘low individualist’, is used here to describe characteristics of a society with a strong collectivism dimension such as Indonesia.

One of the hallmarks of a collectivist society is a commitment to relationships. Social relationships are viewed as communal and the relationships are maintained even when it is not beneficial to one party (Triandis, 2009). The underlying reason for this dedication is that a person’s identity is thought of as being “interdependent with the group” (Triandis, 2009, p. 19). Self-worth is derived from “feelings of being in harmony with one’s group” (Samovar et al., 2009b, p. 129). Thus the principal aim of a collectivist culture is to promote harmony within a group (Nisbett, 2009). Based on this statement alone, Indonesian culture (Javanese in particular) would be considered collectivist as it is founded on the idea of “harmonious unity” (*rukun*) (Megawangi et al., 1995, p. 130).

Consequently, group goals are typically prioritised over personal goals and individual preferences (Laungani, 2007; Samovar et al., 2009b; Triandis, 2009). This idea plays out on a community-scale such that “on important issues the members of a community may meet and confer with one another, and any decisions taken are often binding on the rest of the members within the community” (Laungani, 2007, p. 62). It is unlikely that there would be open opposition to decisions made by the community as “[i]n most collectivist cultures, direct confrontation of another person is considered rude and undesirable. The word no is seldom used because saying no is a confrontation” (Hofstede, 2001, p. 228). Conflict

avoidance is in fact an “ideal human virtue” in Javanese society and many Javanese will never overtly express their disagreement (Megawangi et al., 1995, p. 125).

Another effect of the pursuit of group harmony is that it then becomes desirable to blend in (Nisbett, 2009; Samovar et al., 2009b). Triandis (2009) stated that uniqueness is seen as “deviance” while conformity leads to harmony. This statement may be overstepping in the case of Indonesia as individual qualities and differences are still valued. Nevertheless, more attention is given to “groups, roles, norms, duties and intergroup relationships” than to “individuals and their internal processes”; the former influencing social behaviour more than the latter (Triandis, 2009, p. 19). For that reason rules for ‘proper behaviour’ are marked by “particularistic approaches that take into account the context and the nature of the relationships involved” (Nisbett, 2009, p. 138). Relationships in collective societies are also by and large hierarchical and status thus is ascribed not achieved (Laungani, 2007; Triandis, 2009). This is true for the most part of Indonesian culture; though in recent years there appears to be greater social mobility via higher education or entrepreneurialism (McMahon, 2011).

The concept of the family as the foundation of Indonesian, Javanese and Islamic culture is consistent with collectivist cultures which endorse a “family-based and community-centred society” (Laungani, 2007, p. 62). Family is conceived of as the extended family rather than the nuclear and has strong and frequent contact (Hofstede, 2001). Often large extended families live in the same house and share resources. As Laungani (2007) explained, “[i]n a family-oriented society any problem that affects an individual – financial, medical, psychiatric, or whatever – affects the entire family” (p. 60). Lifelong loyalty is given to family by its members in return for protection (Hofstede, 2001). Laungani (2007) asserted that anxiety in this type of culture is often caused by the “‘imposition’ of ... familial ... identity” and expectations (p. 69). Finally, the pervasiveness of Islam and other religions in Indonesia is in line with the tendency for religion to play a dominant role in everyday life within collectivist cultures, guiding social behaviour and reinforcing social roles (Hofstede, 2001; Laungani, 2007).

As a consequence of this collectivist cultural leaning, strong commitment to family and community will be evident in Indonesia during a natural disaster like the flood event. The greater good of the community will be placed higher than individual desires or needs and children are likely to assist their family where possible. Moreover, it is expected that

decisions concerning the community would be made by community leaders for the entire community and its benefit as a whole.

#### ***4.1.4.3 Humane Orientation***

The final culture dimension constructed by the GLOBE study is Humane Orientation, which is defined as “the degree to which an organization or society encourages and rewards individuals for being fair, altruistic, friendly, generous, caring, and kind to others” (Kabasakal & Bodur, 2004, p. 569). The study assessed this element using questionnaire items that addressed: “being concerned, sensitive towards others, friendly, tolerant of mistakes, and generous” (p. 571). Indonesia received a higher than average score in the dimension of societal practices, as did the Southern Asian cluster of which Indonesia is part (p. 573). The societal values score, while high, is below the world average (p. 572, 574). The opposite effect, however, is true of those societies that have lower practices scores; their societal values are higher. Hence, societies where there is already a high level of Humane Orientation practices do not perceive that a significant difference is needed – i.e. that “people *should be* encouraged to be”: “Very concerned about others” (p. 572) - because they already are concerned.

Motivations for cultures with high Human Orientation are described as valuing the “need for belongingness and affiliation, rather than self-fulfillment, pleasure, material possessions, and power” (p. 565). The felt need for belonging and affiliation is often associated with collectivist cultures like Indonesia where a sense of identity is draw from being part of a group (Samovar, Porter, & McDaniel, 2009a). The following attributes are commonly associated with humane-oriented societies:

others [are] important (i.e. family, friends, community, strangers); values of altruism, benevolence, kindness, love, and generosity have high priority; people are expected to promote paternalistic norms and patronage relationships; close circle receives material, financial, and social support; concern extends to all people and nature; [and] people are urged to provide social support to each other. (Kabasakal & Bodur, 2004, p. 570)

All of these attributes are mirrored in the values of Indo-Javanese cultures. Family, friends and community are highly valued. The second *sila* of the national ideology *Pancasila*, a ‘just and civilized humanity’, calls specifically for “a willingness to treat others, even

foreigners, in a fair manner, free from suspicion, exploitation, and oppression” (Morfit, 1981, p. 840). Virtues held in high regard by the Javanese are generosity, empathy and understanding of others (Koentjaraningrat, 1985; Megawangi et al., 1995). Moreover, community principles such as *gotong royong* and *rukun tangga* (Koentjaraningrat, 1957) reflect the drive to provide others with support, be it social, moral or financial, in daily life or in times of crisis (Megawangi et al., 1995).

The implications of this cultural dimension for this research are quite evident. In a disaster event, the society will assist others, family, friends, neighbours and strangers in whatever ways possible. It is anticipated that this trait would be demonstrated by adults and children alike.

The role and place of children in a culture is the focus of the next segment of this chapter. It has been established that culture is “a way of life” (Handel et al., 2007, p. 57) that is passed on through generations and is learned by children, primarily from their parents, but also from their surroundings (McDaniel et al., 2009). In addition, the societal view of children and adult-child interactions is heavily influenced by the values, beliefs and attitude held by that society. When values are compared with other cultures and operationalised as cultural dimensions, there can be some speculation about how children are viewed in a society. The following discussion of children expands on these ideas concerning how children and culture relate.

## **4.2 Children**

Children are defined by the United Nations as “every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier” (CRC, 1989). This definition is given from a legal or rights-based approach and uses age as the definitive divide between adults and children. Age is thus one defining feature that divides adults and children. But, ‘age’ would not be chosen if it did not encapsulate other ways in which children may differ from adults.

In fact, most dictionary definitions of a ‘child’ do not mention age, except in reference to the law. Instead, definitions point to biological development stages or to socially defined

roles. Collins English Dictionary gives several biological and socially defined descriptors of a child: “a boy or girl between birth and puberty”, “a human offspring; a son or daughter” and “a member of a family or tribe; descendant” (“child,” 2010, para 3). Defining children with respect to biological development is appropriate as their “competence and skills are, to some degree, shaped by the ‘facts’ of their ongoing physiological and psychological development” (James & James, 2004, p. 18). According to Peek (2008), children’s physical size and level of cognitive development affects their experiences of natural disasters and their physical and psychological vulnerability in such an event. Prout and James (1997) acknowledge that biological immaturity is “a fact of life”, but emphasise how “this immaturity is understood and made meaningful is a fact of culture” (p. 7). Therefore defining a child based on his or her role within society is more appropriate for this research as it emphasises the social and culture components that shape children’s experiences.

In order to address the research question of how and in what ways children can be identified as social actors, this analysis draws on social theories of children beginning with traditional Western social theories, particularly the theory of socialization. Significant criticism of these traditional theories, however, eventually led to the development a new sociological theory of children and childhood, whose two principal concepts, children as social actors and the social construction of childhood, act as the theoretical framework for this research’s understanding of children. The importance of children’s peer cultures and the variation of possible childhoods acknowledged by this theory make it appropriate for this research because of the strong children’s culture that exists in the research community and how the participants’ childhoods are constrained by their cultural environment and socio-economic status.

#### *4.2.1 Traditional Social Theories and Socialization*

Traditional Western social science theories of children were dominated by individual and developmental psychology (W.A. Corsaro, 2005; Handel et al., 2007). As Corsaro (2005) explains, these theories see children as “consumers of cultures established by adults” (p. 7). Children are viewed as being “apart from society” and as those who “must be shaped and guided by external forces in order to become ... fully functioning member[s]” (p. 7). This task is accomplished through socialization. Chinoy (1961) explained that socialization

prepares the individual for the roles he is to play, providing him with the necessary repertoire of habits, beliefs, and values, the appropriate patterns of emotional response and the modes of perception, the requisite skills and knowledge. (p. 75)

Socialization is defined by Corsaro (2005) as “the processes by which children adapt and internalize society” (p. 7). He describes two models of socialization proposed by traditional theories: a deterministic model, and its successor, a constructivist model.

The earlier deterministic perspective explained by Parsons, one of its principle advocates, is such that “[i]n a cyclical process of dealing with problems and through formal training to accept and follow social norms, the child eventually internalizes the social system” (Parsons & Bales, 1956, p. 202). The actual process by which this is done however was not clear (W.A. Corsaro, 2005; Prout & James, 1997). The theory nevertheless implies that children have a “passive role” (W.A. Corsaro, 2005, p. 8) and are moulded by society (Prout & James, 1997). Childhood is seen as a preparation stage in which children learn to be adults, and the predominant trait of being a child is then “not yet an adult” (Shamgar-Handelman, 1994, p. 250). Such a view of children leads to the idea that children are “human becomings” (J. Qvortrup, 1994, p. 18). According to Corsaro (2005), the “overconcentration on the outcomes of socialization” was one of the theory’s “weaknesses” which drew criticism (p. 9). Another weakness he observes is that it “limits children’s involvement to cultural participation and reproduction while ignoring children’s contributions to cultural refinement and change” (p. 10).

This latter limitation was partially addressed by the constructivist model based on Piaget and Vygotsky’s theories of human development. It “stressed children’s active role” such that “children, through their acquisition and use of language, come to produce a culture that contains the knowledge of generations” (W.A. Corsaro, 2005, p. 13). Its opponents counter that the focus still remains “on individual development” offering a “somewhat lonely view of children” (W.A. Corsaro, 2005, p. 16) that fails to recognize the process’s “largely collective and communal character” (Handel et al., 2007, p. 18), despite Piaget and Vygotsky’s highlighting of the importance of social interaction in an individual’s development. The persistent emphasis on the end goal of socialization also “acts as a kind of suppressor of childhood’s present tense, orientating analysis either towards the past (what went wrong with socialization) or the future (what the goals of socialization should be)” (Prout & James, 1997, p. 28).

If these traditional views were to be adopted for the purposes of this research, it would mean that the long-term effects of natural disaster events on children's lives are of greater concern than the short-term impacts. On the other hand, it could be argued, through this lens of child-becoming-adult, that alleviating suffering for the child also mitigates psychological, physiological or social damage in the future; a significant benefit from an international or community development perspective.

Even so, two additional criticisms of the concept of traditional socialization challenge its acceptance as a research framework. First, it neglects the voice and agency of children (Pufall & Unsworth, 2004). Prout & James (1997) describe the history of the study of childhood as having "been marked not by an absence of interest in children ... but by their silence" (p. 7). Similar remarks have also been made by disaster researchers with respect to children (Jabry, 2002; Peek, 2008). In order "to give a voice to children" and not regard them simply as future adults, it is necessary to "regard them as people to be studied in their own right" (Prout & James, 1997, p. 8). Second, the recognition that "meaning attached to the category 'child' and 'childhood' might differ across time or in space" is in contrast with traditional theories which Prout and James (1997) believe to contain a "implicit [Western] cultural bias" (p. 14). Cultural variability of childhood must be accounted for if an approach is to be suitable for this study, if not for more than the fact that the children involved are from a non-Western country.

Reference has not been made to Indonesian sociological theories of children and childhood because of the limited availability of translated information on the subject. Even though it is also limited, the cultural theories of family and children presented in Section 2.2.5 and 2.2.6 offer some insight into how Javanese society views children and help inform this discussion. In examining the traditional Western theories, Shamgar-Handelman's (1994) statement that the predominant trait of a child is "not yet an adult" (p. 250) is reminiscent of the Javanese notion of a child being "*during Djawa* or 'not yet Javanese'" (Peacock, 1978, p. 57). The Javanese concept differs, however, from traditional Western concepts of children in that a Javanese child becomes "a cultured Javanese" after the age of five or six (Peacock, 1978, p. 57) and is treated as a young adult (K. W. Yuniarti, personal communication, March 4, 2010). Western societies typically view individuals as children until the age of thirteen (Frønes, 1994), and not adults until the age of eighteen (Manyena et al., 2008). The extent of the influence of this view of children in the disaster context is

difficult to ascertain given the limited information available. The thought that children above the age of five or six are considered as adults, however, does suggest that they would be seen to have ‘adult’ responsibilities and capabilities, which is more in line with new Western sociological theories that recognize children’s active nature and their contributions to society.

In response to traditional Western theories, critics of socialization proposed a new sociology of childhood that addresses the role and status of children in research and theory (James & Prout, 1997a). Some proponents of this new paradigm are careful to note that there is not a complete rejection of socialization, but merely a rejection of its focus.

[R]e-presenting childhood does not mean the complete rejection of socialization and social re-production theories. On the contrary they both remain important areas. But what is vital is to focus on children not only as protoadults, future-beings, but also on children as beings-in-the-present. The importance of some contemporary accounts of socialization lies therefore in the way they see the future shaping of a child’s adult life in and through present adult constructions of childhood. (James & Prout, 1997b, p. 245)

Corsaro (2005) on the other hand asserts that “the problem is the term *socialization* itself. It has an individualistic and forward-looking connotation that is inescapable. One hears the term, and the idea of training and preparing the individual child for the future keeps coming to mind” (p. 18). He proposes the term “interpretive reproduction” in its place (p. 18). Interpretive “captures the *innovative* and *creative* aspects of children’s participation in society” while reproduction, such as sub-cultural development, establishes “the idea that children are not simply internalizing society and culture, but are actively *contributing to cultural production and change*” (p. 19).

Handel et al. (2007) responds to both of these critiques by saying that many critics have “overreacted to those approaches’ shortcomings” (p. 18) and those involved in the study of children “were moving beyond” the traditional approaches before these “became popular targets” (p. 19). Handel et al. instead raise the idea of using symbolic interactionism to study children and childhood, which others (James, Jenks, & Prout, 1998) contend provides a “softer version” of socialization which still marginalises the voice and agency of children’s voice (p. 25).

This research is more apt to embrace the idea of “interpretive reproduction” proposed by Corsaro (2005, p. 18) to look at children and childhood as it is free of connotation and promotes the creative and productive nature of children. Nevertheless, both contemporary socialization and interpretive reproduction ascribe to the ‘new’ theory of childhood, which advocates for the agency of children and the variability of childhoods across cultures.

#### 4.2.2 *Sociology of Childhood*

The fundamental components of the prevailing sociological theory of childhood emerged in the early 1990s, in large part due to the impact of the international research project *Childhood as a Social Phenomenon – Implication for Future Social Policies* (Childhood Project), conducted 1987-1992 (J Qvortrup et al., 1994). Prior to 1985, there was “a near absence” of the study of children in mainstream sociology (W.A. Corsaro, 2005, p. 5). The Childhood Project noted a lack of “sociological tradition” of studying childhood and that, with few exceptions, sociologists interested in children concentrated on “socialization from a developmental framework” (J Qvortrup et al., 1994, p. x). The Childhood Project researchers identified several key concepts that have become the theoretical framework for the sociology of childhood from which other researchers operate (W.A. Corsaro, 2005; Handel et al., 2007; James & James, 2004; Lieten, 2008; Prout & James, 1997; Wyness, 2006).

The first fundamental concept explored here is that children are social actors (J. Qvortrup, 1994). Children are “active in the construction and determination of their own lives” and “the lives of those around them” (Prout & James, 1997, p. 8). Prout and James (1997) reiterated that “children’s social relationships and cultures are worthy of study in their own right, independent of the perspective and concerns of adults” (p. 8). Children’s cultures and their interactions with peers are a focus of Corsaro’s (2005) and Wyness’ (2006) work and its relevance to this research is discussed. The other cornerstone of this framework is that childhood is a social construction that has a “permanent” and “integrated structural” form (J. Qvortrup, 1994, p. 23). The following statement made about childhood by Prout and James (1997) harkens back to earlier comments about biological immaturity and cultural influences: “Childhood, as distinct from biological immaturity, is neither a natural nor universal feature of human groups but appears as a specific structural and cultural component of many societies” (p. 8). The implicit cultural variance of childhood

acknowledged in this theory becomes interesting in the light of a globalizing world and a research study like this that seeks to be transferable.

#### **4.2.2.1 *Children as Social Actors***

Children are deemed to be social actors (Bardy, 1994; W.A. Corsaro, 2005; James & James, 2004; James & Prout, 1997a; Lieten, 2008; Prout & James, 1997; J. Qvortrup, 1994; Ridge, 2002; Saporiti, 1994). Corsaro (2005) gave a description of children as “active, creative social agents who produce their own unique children’s cultures while simultaneously contributing to the production of adult societies” (p. 3). They have their own interests and needs and are exposed to political or socioeconomic societal forces as much as any other social group (Lieten, 2008; J. Qvortrup, 1994). Children’s interactions with these other social groups, and within their own peer groups, establishes them as social actors (Wyness, 2006).

From this perspective, children are seen as “full human beings” (Saporiti, 1994, p. 192), as persons in their own right, and not just in training for adulthood. The perception that children passively absorb the culture around them as “receptacles of adult teaching” (Hardman, 1973, p. 87), is countered by the statement that “[c]hildren do not simply imitate or internalize the world around them. They strive to interpret or make sense of their culture and participate in it” (W.A. Corsaro, 2005, p. 24). Seeing children as having agency, the ability to shape their own lives and contribute to both their peer culture and to adult culture, acknowledges that they are more than future adults. In fact, the existence of unique children’s cultures is, according to Wyness (2006), what “bring[s] us back to the here and now, to what children do as children rather than as proto-adults” (p. 167). The acknowledgement of agency, however, comes with the recognition that the parameters of their agency are determined by the social and economic structures of the environment in which they live (Lieten, 2008). So while children are active in (re-)producing or contributing to society they must do so within the constraints of their environments.

In light of these ideas, it is argued that children exposed to a natural disaster event are faced with their own unique needs which are as valid as adults’ concerns. The disaster event becomes something that children try to make sense of, but also actively participate in shaping. The research participants’ actions, as reported in this research, are constrained by

the social, cultural and economic structures that govern their lives as low-income Indonesian children, but they also actively participate as members of adult society and of their own unique children's culture.

#### ***4.2.2.2 Children's Cultures***

According to Corsaro (2005) and Wyness (2006), children have cultures all their own that exist in parallel with adult society, which change with age as the peer group takes on growing importance. These cultures, which are collectively produced and have recognised norms, values and behaviours, are one of the important social constructs through which children establish themselves as social actors and construct their reality. Handel et al. (2007) suggest that these parameters of children's cultures provide them with the opportunity to have relatively egalitarian relational experiences, in which friendships are the key feature (Wyness, 2006). These friendships provide the vehicle for children "to make sense of and creatively use" the knowledge they gather from adult society and allow them to gain the "practical social understandings and skills that are essential for ... participation in adult society" (Handel et al., 2007, p. 20). Hence, there exists a reciprocal relationship between children's cultures and 'adult' culture.

Handel et al.'s (2007) description of the locality of these dual cultures reflects the approach of my research remarkably well, "[w]hile kids are absorbing adult culture at home and in school, they also – on the street, on the playground, in school corridors, and in backyards – sustain an age-limited subculture of their own" (p. 184). This notion of children's use of physical space is also part of the argument put forward by Moss and Petrie (2002), in which "[c]hildren's space", as they refer to it, describes the physical spaces that provide children with "contexts within which they can interact" with others as well as the "cultural domain ... that privileges the perspectives of children" (cited in Wyness, 2006, p. 172). In the Indonesian site of this research, the research participants use the streets, the school grounds and open spaces, such as the dam and river bank to interact with their peers while home and school are where they interact with the adults in their lives.

One aspect that inevitably becomes a focus when researching children's cultures is play (Wyness, 2006). While play could be dismissed as frivolity, it represents the way in which children creatively and constructively relate to each other, making it a "socially productive

realm of activity” (Wyness, 2006, p. 165). In the case of this research, ‘play’ (or *bermain/main*) was always the label the child participants gave to the activities they did with their friends; the type of activity did not seem to matter as long as it involved their friends. At the same time as recognising its importance, Wyness (2006) also cautions that

an overemphasis on play, whether it trivialises, ‘exoticises’ or privileges children’s cultures, can take us away from the myriad ways in which children and adults connect and relate to each other and the mechanisms that underpin the structuring of children’s lives. (p. 171)

Therefore while children do have their own unique culture, it cannot be divorced from the concurrent adult society, nor from the cultural components and social structures that characterise children’s lives. These social and cultural components along with children’s relationships with others are described by the theoretical construct of childhood.

#### **4.2.2.3 *Childhood as a Social Construction***

Childhood is described as a social construction (Frønes, 1994; James & James, 2004; James & Prout, 1997a; Shamgar-Handelman, 1994; Wyness, 2006). Frønes (1994) added “cultural” and “economic” as descriptors and defines childhood as, “the life period during which a human being is regarded as a child, and the cultural, social and economic characteristics of that period” (p. 148). It is also a structural category in society, akin to social class or age group (W.A. Corsaro, 2005; J. Qvortrup, 1994).

For individuals, childhood is a temporary period; for society it is a “permanent structural form or category that never disappears even though its members change continuously and its nature and conception vary historically” (W.A. Corsaro, 2005, p. 3). Wyness (2006) described it as a “set of ideas or concepts, which define children’s nature and the kinds of relations they have with other members of society” (p.7) In the words of Frønes (1994), childhood acts as a “conceptual bridge” between society and the individual child. It outlines the norms, rules and expectations of society for its children (Shamgar-Handelman, 1994). These norms and rules are culturally determined, thus the nature of childhood must vary between societies just as culture does. In their explanation of childhood, James and Prout (1997a) recognised cross-cultural variation, but affirm that it is still a specific structural and cultural component of all known societies. The behavioural norms, for instance, of

Javanese-Indonesian children (See Section 2.2.6) differ from Western children; yet both societies acknowledge the concept of childhood.

There are several known features of childhood which differ between cultures. James and James (2004) refer to them as the “cultural determinants of childhood” and list them as: the social status children are assigned; the “influences children might have over their position *as children* during childhood; ... social factors such as family structure, the nature of kin and gender relations, the structure of the school system; conceptions of the educational process and of the child’s health and welfare; secular or religious discourses about what children are or should be; and the economic and political conditions which underpin such discourses” (p. 7). Some of these features, such as economic conditions, would imply that childhood must also vary intra-culturally; which is evident in the great diversity of ‘childhoods’ that exist within any one culture (Frønes, 1994).

Using James and James (2004) catalogue, the cultural descriptions in Chapter 2 and field observations, some of the cultural determinants for the children involved in this study can be derived. Indonesian children are seen from within their culture primarily as a part of the family. This is most likely the greatest determinant in their relationships and interactions with others. Family loyalties trump many other priorities in life and there is a strong adult authority presence which is reflective of the high power distance inclination of the culture (Hofstede, 2001). Children are also highly valued by society and parent-child relationships are to provide children with “nurturance, unconditional emotional support, and love” (Megawangi et al., 1995, p. 116). While the children in this research may occasionally assist with family economic activities, such as food stalls, they are not relied on for economic activities. Gender differences were not highlighted in this research, but observation shows that children have equal but more traditional gender-specific roles in society. The educational process is a large social structure in these children’s lives. Primary and junior secondary education is free and compulsory for all Indonesian children (UNESCO, 2010) and education is seen as a way to escape poverty. The children involved in this research are from low income families and are constrained by their socio-economic status.

Despite the obvious variation between cultures, there are some similarities in the cultural determinants of childhood across cultures. Lieten (2008) has contended that such commonalities between cultures, and thus childhoods, are increasing as a result of globalization, which is having the effect of making the traditional and specific culture of a

territory less important. He offers the example that the concerns of “children living in the *favelas* of Rio de Janeiro, the suburbs of Beijing, the villages of Bangladesh, the mountain slopes of the Himalayas, or the oases of the Sahara” are more centred on gaining the knowledge and skills needed to secure a “livelihood in a ‘modernising’ world” than on the children’s “specific ‘culture’ ... and how children used to live traditionally” (p. 6). Moreover, traditional cultures are continuously evolving to include modern societal values, such as universal education and access to health care (p. 6).

The existence of similar features of childhood across cultures is significant for this research. Natural disasters hit every culture, but infrequently; meaning that research and expertise in the field may not exist in every country or be culture-specific. Therefore commonalities between childhoods allow new ideas regarding children in disasters to be transferred across cultures using these similarities as the link. For example, the common value of universal education is already being taken advantage of by using schools as a vehicle for disaster reduction efforts. The UN International Strategy for Disaster Reduction focused their efforts in 2006-2007 under the theme “*Disaster Risk Reduction Begins at School*” and they describe schools as being “the best venue for sowing collective values [of disaster risk reduction]” (ISDR, 2007, p. vii). Their report offers accounts of children from over thirty different countries who have been involved in DRR efforts through their schools. Nevertheless, as is evident in the various accounts, the effective implementation of these ideas still rests on an understanding of the specific culture because it heavily influences the manner in which these common goals are reached.

This section has directed attention to children as social actors whose contributions and participation as members of adult society and of their own unique children’s culture are constrained by the social, culture and economic structures of their childhood. The concepts that govern children’s relationships and role in society are culturally determined and therefore differ between cultures. Yet similarities in the lives of children across cultures due to globalizing and modern development influences not only allow for the transfers of ideas between cultures, but also suggest that the way in which natural disasters impact children in different cultures may in fact be analogous.

The final portion of this chapter is dedicated to looking at how disasters affect children. It attempts to tie together the various threads of culture and social theories of children in order to understand how they relate to children’s experiences of natural disasters.

### **4.3 Children in Natural Disasters**

Children have been exposed to disaster situations – both natural and man-made – for as long as they have been occurring. As a consequence of being an integral part of society, any events affecting a society will affect the children in it, whether directly or indirectly. This project limits its scope to natural disasters, though some of the findings may enlighten research of man-made events.

There was little systematic research focusing on children in disasters prior to 1950 (Vogel & Vernberg, 1993a). In the 1950s and the following decade, research was conducted primarily in the field of psychology and it indicated that children's responses to disasters are relatively mild and transient. In the 1970s and 1980s, however, evidence emerged suggesting that the effects on children in disasters can be severe and long-lasting (Vogel & Vernberg, 1993a). The generally accepted view now is that children can be severely affected psychologically by disasters and the effects may be long-lasting. This psychological approach to researching children and disasters dominated the field until recently (Peek & Fothergill, 2006). Much of this research has been carried out in Western contexts, but the effects are seen in children in both Western and non-Western settings (J. Morris et al., 2007). In his review of available literature in 2002, Jabry found that the literature available “confines children to three areas”: studies on women in disaster; ““medicalised”” narratives of “trauma, psychological and psychiatric studies and social work”; and media representation of disasters where children play the victims (Jabry, 2002, p. 8). Progress is being made in this ‘understudied’ field (W. A. Anderson, 2005; Jabry, 2002) and there is a strong interdisciplinary character to this research as well. A special issue of *Children, Youth and Environment* in 2008, that focused on children and disasters, drew papers from a wide range of disciplines: “anthropology, education, environmental science, geography, landscape architecture, psychology, public health, sociology, urban planning, and urban and public affairs” (Peek, 2008, p. 3).

From this diverse body of literature are taken the factors that influence the vulnerabilities, the experiences and the agency of children in a natural disaster to inform this study and to provide insight into the effect of culture in the situation. The following sections outline the existing disaster literature which forms the theoretical and empirical foundation that this study builds on and uses to understand its findings.

### *4.3.1 Vulnerabilities of Children*

Children are a highly vulnerable group in disaster situations due to their stage of development. Childhood is a “unique” and dynamic period of development within which the majority of an “individual’s physical, mental, emotional and social development” occurs (Jabry, 2002, p. vi). If there is significant damage at this stage in life, it is often difficult to recover from at later stages in life. Therefore events that occur during childhood have the potential for life long impacts (La Greca, Silverman, Vernberg, & Roberts, 2002b).

The physical vulnerabilities of children are more widely recognised and given priority in disaster situations because of children’s physical size, level of mental development and complete or partial dependence on adults (Jabry, 2002; Peek, 2008). The majority of injuries and fatalities of children occur in developing countries, owing to the prevalence of certain recognised social or environmental factors, such as living in substandard structures (Zahran et al., 2008). Children’s mental and emotional vulnerabilities have been very well documented in psychological studies which hold the generally accepted view that children are affected by disasters and these effects can be severe and long-lasting (Vogel & Vernberg, 1993a). Children’s social development, their ability to develop and interact with others as members of society, can also be impacted by disasters as exhibited by their educational vulnerabilities (Peek, 2008) and potential disruptions of key social relationships (Lauten & Lietz, 2008). But Peek and Stough (2010) pointed out that children are not equally vulnerable and that it is an intersection of “personal and social characteristics” rather than any one single demographic factor that determines the “likelihood of harm” (p. 1261).

Some of the factors that affect children’s vulnerability are age, gender, family structure, socio-economic status, geographic location, urban or rural settings, ethnicity, nationality, the traditional role of children in society, parental distress, loss of or separation from parent(s), family conflict or instability, poor diet or malnutrition, the presence of social support and residing in and attending school in substandard structures (Bartlett, 2008b; Jabry, 2002; K. Morris & Edwards, 2008; Peek & Stough, 2010; Ronan, Crellin, Johnston, & Becker, 2008; Ronan & Johnston, 2005). While the influence of some of these factors on children’s vulnerability is easily established, this is not the case for all factors. For instance, there is strong consensus that poor children in developing countries are especially vulnerable to physical injury or death (Bartlett, 2008b; Jabry, 2002; Peek & Stough, 2010;

Weissbecker et al., 2008; Wisner et al., 2004). In contrast, the age at which children are more vulnerable to injury or death depends on the type of disaster, that is, flooding poses more risk to young children who are dependent on their mothers for safety whereas earthquakes place school-age children at greater risk because of sub-standard school buildings (Zahran et al., 2008, p. 373).

As Peek and Stough (2010) mentioned, it is the intersection of these various demographic and familial factors, and how they are compounded by each other, that determines vulnerability. To expand on the previous example of poor children in developing countries, they are more vulnerable to physical injury and death because they are not likely to have the resources for high quality housing and therefore reside in substandard housing (Peek & Stough, 2010). Moreover, children who are urban poor, are also likely to live in the most hazardous areas because of the pressures on available properties in urban settings (Bartlett, 2008b). These factors support the conclusion that the children who are highly vulnerable to disaster are the urban poor living in hazardous areas in developing countries; which is the case for the children involved in this study.

This example also highlights poverty as being a significant determinant of children's vulnerability as it leads to many other causal factors. Bartlett (2008b) confirms this statement in saying that “[a]most all of the disproportionate impacts for children are exacerbated by poverty and by the difficult choices that must be made by poor households as they adapt to more challenging conditions” (p. 73). While poverty is a significant factor of children's vulnerability, it does not mean it must play a significant role in a child's experience of a disaster. Evidence would suggest that it does, but there are several other factors beside poverty that shape children's experiences and these are discussed in the next section.

#### *4.3.2 A Child's Disaster Experience*

Each child's experience and response to a disaster is unique. A person's experience is based on what is perceived, understood and remembered. So while the disaster event provides context, each person gives meaning to the event based on his or her own biography or experiences. Bartlett (2008b) explained this as “the way children understand and experience

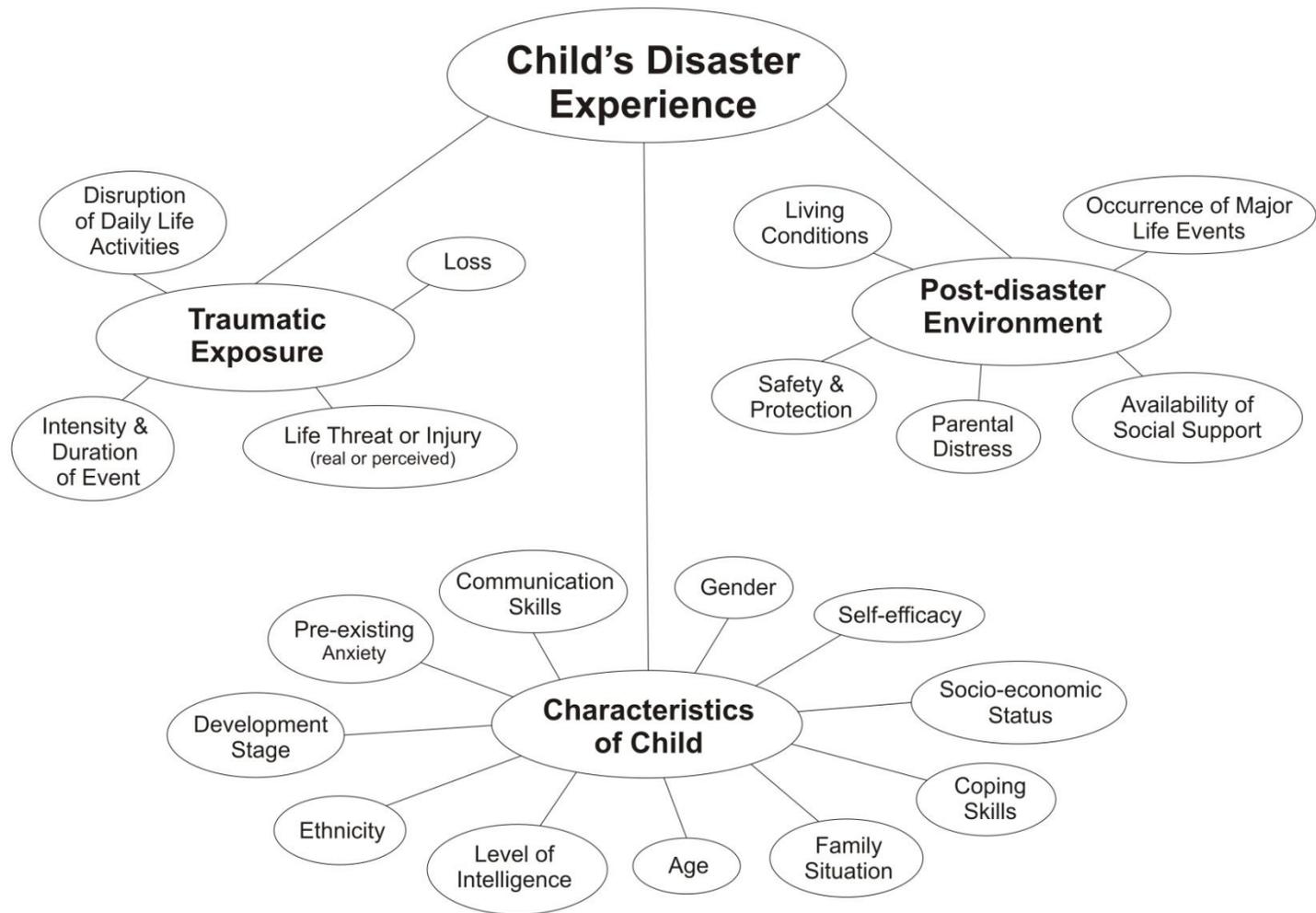
hardship will depend a great deal on local child-rearing practices and expectations, and the experiences they have had in their daily lives” (p. 82).

That said, there is a general consensus in disaster literature that the common factors affecting a child’s experience of disaster can be placed in three groups. While the terminology differs slightly depending on the source, in general, they are: the degree of trauma exposure, the characteristics of the child, and the post-disaster environment (Peek, 2008; Ronan, 1997; Ronan & Johnston, 1999; W. Silverman & La Greca, 2002; Vogel & Vernberg, 1993a). Figure 4-4 highlights these areas and shows possible contributing factors.

#### ***4.3.2.1 Traumatic Exposure***

The degree of traumatic exposure experienced by a child has been found to be the greatest determining factor in the level of distress experienced (Weissbecker et al., 2008). This trauma is most often described as the real or perceived threat of injury or death to themselves or family (Vogel & Vernberg, 1993a). But it also includes the loss of property, income or status; the loss of or separation from family and friends; the disruption of daily routines, school, and community activities; displacement from home and exposure to the grotesque (Lauten & Lietz, 2008; Ronan, 1997; Ronan & Johnston, 1999, 2005; W. Silverman & La Greca, 2002; Vogel & Vernberg, 1993a; Weissbecker et al., 2008). Peek and Fothergill (2006) found in their research of the children impacted by Hurricane Katrina that the “degree of loss made a difference in how the children fared”; those who lost possessions fared better than those who experienced the loss (death) of a family member or friend (p. 10).

Often these factors are part of a complex series of “cascading” events triggered by the disaster (Weissbecker et al., 2008, p. 32). For example, the loss of a parent’s employment because of damaged buildings may mean that a child is forced to relocate and therefore face the loss of home, the loss of friends and the prospect of starting at a new school. Likewise, the disruption of schooling can result in delayed progress and even the failure to complete education, if, for instance, a child has to stay at home to help or seek employment due to changes in family income (Babugura, 2008; Peek, 2008). In extreme circumstances for children in developing countries, the loss of parents can lead to them being exploited,



**Figure 4-4: Factors affecting a child's experience of disaster**

*(Data Source: Peek, 2008; W. Silverman & La Greca 2002; Vogel & Vernberg, 1993)*

becoming street children or joining armed groups (Inter-Agency Standing Committee, 2007; Weissbecker et al., 2008). These types of subsequent events illustrate that while a group of children can be exposed to the same initial traumatic event, it is their individual circumstances and characteristics that ultimately determine the full impact of the disaster on their lives.

#### ***4.3.2.2 Characteristics of the Child and Resiliency***

The individual characteristics of a child that have been identified by studies to have a bearing on his or her disaster experience are: his or her stage of development, age, gender, socio-economic status, religious and cultural beliefs, level of intelligence, communication skills, self-efficacy, coping skills, family situation, ethnicity, and pre-existing anxiety (W. Silverman & La Greca, 2002; Vogel & Vernberg, 1993a; Weissbecker et al., 2008). As was pointed out when discussing the vulnerabilities of children, there is no single trait that controls a child's experience, but rather it is the combination of several traits (Peek & Stough, 2010). Despite this there are some characteristics that will be more influential than others. Poverty has already been mentioned as having an intensify affect on "almost all of the ... impacts" (Bartlett, 2008b, p. 73). Another characteristic, which Ronan & Johnston (1999, 2005) asserted includes the most significant elements influencing a child's experience, is the child's family situation; that is, parental distress, significant distress in other family members, conflict in family and lack of a supportive environment. They believed that these particular factors (in combination with others mentioned) heavily govern children's reaction and response to disaster.

As individuals, children's psychological responses to disaster vary. However, commonly reported reactions are post-traumatic stress disorder, depression, anxiety, emotional distress, sleep disorders, somatic complaints, and behavioural problems (Norris et al., 2002; Peek, 2008; Peek & Stough, 2010). A study of adolescents aged 11 to 15 years in Aceh following the 2004 Indian Ocean tsunami found common reactions to the event to be:

rebellion in home, refus[al] to undertake responsibilities, school problems (absenteeism, fighting, withdrawal, loss of interest, attention seeking behaviour), physical problems (headaches, vague pain, skin eruptions, psychosomatic complaints), loss of interest in peer social activities, decreased attention and/or concentration, ang[ry] outburst and/or aggression, increased

negative and deviant behaviour, and increased risk of substance abuse. (Hestyanti, 2006, p. 305)

The expression of psychological trauma by children in this Indonesian study is similar to many Western findings (Balaban, 2006; Murray, 2006; W. Silverman & La Greca, 2002). It is possible that children exhibit similar reactions regardless of culture, but this statement cannot be conclusive because, as Balaban (2006) pointed out at the time of his publication, no study exists which directly compared the psychological responses of children to disasters from one culture to those in another.

When discussing the reactions of children, it is essential to remember that even though children are vulnerable they also possess characteristics that make them highly resilient. Weissbecker et al. (2008) noted a recent shift in literature from “identifying vulnerabilities” to “considering people’s own strategies to cope and adapt” (p. 43). Many of the characteristic variables that influence children’s vulnerability and act as predictors to their psychological reactions have been identified, but research lags in the determination of what (personal) variables make children more resilient and what types of interventions can promote their resilience (La Greca et al., 2002a; Peek, Sutton, & Gump, 2008).

One study that does specify the factors which contribute to children’s resiliency is Hestyanti’s (2006) study of Acehnese adolescents. The participant that were found to be resilient had “internal protective factors” such as “strong internal motivation to recover, good heart, open to other people, high motivation to bond to religiosity, self-responsible, sense of humor, and easygoing” (p. 303). The outward expression of their resilience was seen in their ability to “live normally”: “participate in school activities, play with friends, perform daily chores, be involved in religious activities, [and] develop healthy relationships with caregivers and peers” (p. 303).

Duncan and Arntson (2004) named similar characteristics of resiliency in children in their evaluation manual *Children in Crisis: Good Practices In Evaluating Psychosocial Programming*. The manual, which was developed in collaboration with Save the Children Federation to assist relief organisations in critically reviewing of their own psychosocial programs that are implemented during a crisis, identifies traits and signifiers that can be used to ascertain whether a child is resilient. A child is considered resilient if he or she has “strong attachment to caring adults and/or peer groups [and] encouraging role models” (p. 10). He or she is “socially competent at interacting with adults and children; independent

and requests help when necessary; curious and explores the environment; plays actively; adapts to change; likely to think before acting; confident he or she can control some parts of his or her life; involved in hobbies, activities, and has multiple talents” (p. 10). These authors also described resiliency as being “a result of the interplay between children’s needs and capacities, and the risk and protective factors within their environment”, and emphasised the point that “this interplay will always reflect and be shaped by the culture and local circumstances” (p. 10). Hence, the resiliency of children is not necessarily exhibited in the same manner in each culture, nor can it be encouraged by a psychosocial program using a “one size fits all” approach (p. 10).

Therefore children’s individual characteristics affect their experience of the disaster event by influencing their reaction to the event, their vulnerability and their resiliency. Yet it is clear from the descriptions of the characteristics of resilient children that external factors such as family and community support also play a significant role in shaping children’s experiences of disasters. These external factors typically come to light in the post-disaster context of the event.

#### ***4.3.2.3 Post-Disaster Environment***

The post-disaster environment encompasses the various factors that have the potential to either cause more harm (physical, emotional and psychological) or to aid children to return to ‘normal’ life. As was mentioned above, the natural disaster event may in fact be the trigger for a series of other events. For a child, these events rather than the immediate trauma may be what is remembered most and causes the most harm. The post-disaster period has been reported to be the most stressful aspect of a disaster because of the long, slow process of recovery that is often riddled with uncertainty (Bartlett, 2008b; Becklund, Wheaton, & Wessels, 2005; Ensor, 2008). Thus the goal of a post-disaster environment is ideally to minimise the impact of the immediate trauma and the stress of the recovery process. The primary factors that influence children’s experiences in the post-disaster setting are: the occurrence of major life events, living conditions, safety and protection measures, parental distress and the availability of social support (Peek, 2008; W. Silverman & La Greca, 2002; Vogel & Vernberg, 1993a).

The first factor, the occurrence of major life events, refers to incidents like the death of a parent, parental divorce or a lengthy hospitalization to treat an injury sustained during the event. The occurrence of such an event would likely result in greater mental and emotional stress and alter many other conditions of a child's life. The second factor, living conditions, involves matters such as shelter, the availability of basic necessities, food and clean water, and proper sanitation which are essential for survival. These matters are typically the focus of initial recovery efforts and children's physical needs are "usually given a very high priority" in these instances (Jabry, 2002, p. 4). If basic living conditions are not adequately met, children are more prone to illness and malnutrition (Peek, 2008). In flood disasters, a lack of clean water and inadequate sanitation can elevate the number of cases of water-borne diseases such as cholera and malaria as a result of large amounts of contaminated standing water (Bartlett, 2008b).

Safety and protection measures are the third influential element of the post-disaster environment. Following a disaster event, children can be exposed to violence, physical abuse, sexual abuse, or other forms of exploitation (Lauten & Lietz, 2008) as tension in families increases and parents' attention is focused on other things. Children who are separated from family or orphaned can be vulnerable to trafficking if proper safety and protection measures are not in place (Jabry, 2002). Ensuring these measures are in place for children makes their recovery easier as it increases their sense of security (Lauten & Lietz, 2008).

Even when broader civil protection measures are operating, Winterbottom (2008) has pointed out that the "struggle" by parents to secure the basic necessities can result in the most important protective factors being missed (p. 437). He described these factors as "nurturing relationships with care providers, supportive relationships with peers, meaningful interactions with adults and positive cognitive and emotional stimulation" (p. 437). The need for nurturing relationships between children and significant adults is well-recognized, as is the need for social support from the larger community (Barrett, Barron Ausbrooks, & Martinez-Cosio, 2008; Cryder, Kilmer, Tedeschi, & Calhoun, 2006; Hestyanti, 2006; La Greca et al., 2002b; Lauten & Lietz, 2008; J. Morris et al., 2007; Murray, 2006; Peek & Stough, 2010; Peek et al., 2008). Peek et al. (2008) have described parents as "the single most important source of social support for children in the aftermath of disaster" (p. 409). The physical, emotional and social support that parents offer children in a safe environment helps them adapt (La Greca et al., 2002b; Peek & Stough, 2010; Peek

et al., 2008). Since parents are the primary support for a child, their reaction to the event will strongly influence on how a child deals with their own distress. The fourth factor, parental distress, is one of the most significant factors and predictors of child distress or anxiety following a disaster (Ronan & Johnston, 1999, 2005).

For that reason, the availability of external social support for parents (and families) has some bearing on a child's experience. In the words of Barrett et al. (2008), "[f]amily members tend to be the first line of defense during a disaster situation, but when family is unable to help, a second layer of support needs to be laid" (p. 216). It is here that the availability of social support, the fifth element of the post-disaster environment, plays an important role. Kostelny & Wessells (2005) report that typically less than 15% of children need mental health care following a disaster. Instead, researchers and practitioners agree that most children need community-based activities rather than therapy to help restore a sense of safety, connection to caring adults and hope for the future (Kathleen Kostelny & Wessells, 2005; Ronan et al., 2008). Providing support to parents in particular is a way to promote family cohesion and thereby support children (Hestyanti, 2006; Lauten & Lietz, 2008; J. Morris et al., 2007; Murray, 2006).

Social support can be expressed through both institutional structures and relationships. One of the great stressors following disasters is a lack structure in daily life (Bartlett, 2008b). Therefore the re-establishment of routines and 'normal' activities such as school, sports, play, and religious activities can restore structure (Barrett et al., 2008; Inter-Agency Standing Committee, 2007; J. Morris et al., 2007; Peek & Fothergill, 2006; Peek et al., 2008; W. Silverman & La Greca, 2002; Weissbecker et al., 2008). The associated social networks of these activities, which include family, friends, members of the clergy, teachers, neighbours and healthcare professionals, also play an influential role (Murray, 2006; Peek et al., 2008). Using the idea of resilience, it can be seen that social support both in its institutional and relational forms increases children's resiliency. Hestyanti's (2006) tsunami study listed several external factors that contributed to the participant's resiliency. Children found to be resilient had/were: "support from significant others, able to do religious practice routinely, able to learn traditional dance in groups, have opportunities to be involved in structured play/psychosocial activities, and have access to natural resources for recreation, such as a river" (p. 303). These types of activities are only possible with the support of community members and institutions.

Community activities also “reinforce cultural values” (Winterbottom, 2008, p. 437). According to Kostelny (2006), when familiar environments are lost there can also be a felt loss of identity and culture. Weissbecker et al.(2008) have acknowledged that “cultural customs and beliefs can also play a role in a child’s post-disaster recovery environment.” (p. 46). Each culture has its own strengths, protective factors and coping strategies to counter disaster impacts (Inter-Agency Standing Committee, 2007; Lauten & Lietz, 2008; Weissbecker et al., 2008). Therefore those trying to support children ought to capitalise on such culturally specific practices as these practices are apt to positively influence children’s disaster experience.

Another area that can be capitalised is “children’s own strengths and coping strategies” (Weissbecker et al., 2008). Bartlett (2008b) offers guidelines to reduce children’s vulnerability and enhance their resilience. Her first three guidelines have already been covered in this discussion of the post-disaster environment: “[e]nsuring children’s optimal health and nutrition; [s]trengthening families’ capacity to cope; [and] [m]aintaining and restoring children’s routines, networks and activities” (p. 90-91). The fourth item, “[r]especting children’s capacities; allowing them the chance for active involvement” is the subject of the final section of this chapter (p. 91).

### *4.3.3 Contributions and Agency of Children*

The contributions of children in disasters have received little attention in literature until quite recently (Ensor, 2008; Jabry, 2002). It is acknowledged that children are active “before, during and after the event” and their active participation in relief and recovery activities helps them gain “a sense of control” and efficacy in the post-disaster environment (Weissbecker et al., 2008, p. 48). Mitchell et al. (2008) have pointed out, however, that this recognition of children’s ability in disaster settings has been largely confined to the international development field (p. 255). Nonetheless, studies conducted in recent years reveal that children can help their families and communities prepare for and recover from disaster (Babugura, 2008; Ensor, 2008; Klein & Huang, 2007; Manyena et al., 2008; K. Morris & Edwards, 2008; Plan, 2008; Tanner, 2010).

From the perspective of Plan International, a child-centred non-governmental organization, Jabry (2002) has reported that there are specific areas, such as school, family and

neighbourhood, where children have opinions and superior knowledge. In her study of a housing rebuild project following the 2004 tsunami in India, Bartlett (2008a) found that the children involved understood community traffic patterns better than the adults. The children were also able to offer useful insights for community areas and housing design. Moreover, the children tested bricks and

counted to make sure that the full order had been delivered. They took charge of the curing process for all new concrete foundations and pads, wetting them down every morning and evening for seven days so that they would dry slowly for maximum strength. They also made sure workers did not get confused by all the individual modifications in each family's house plan. (Bartlett, 2008a, p. 471)

Another study reports children establishing emergency camps, "organising themselves into different brigades to travel to vulnerable areas to ensure families have the appropriate support" and restoring "degraded mangrove ecosystems" following a hurricane (Tanner, 2010, p. 346). Children have also been involved in risk communication (Mitchell et al., 2008; Peek & Fothergill, 2006), DRR community risk mapping and mitigation activities (Tanner, 2010), preparedness at home (Peek & Fothergill, 2006) and aiding the recovery of other children (Peek & Fothergill, 2006).

There are challenges however with involving children in DRR or recovery efforts. Tanner (2010) has observed that there is "no single mode of child participation" but rather the "nature and mode of participation is influenced by a combination of community and institutional dynamics, livelihood strategies and living standards, and cultural factors, as well as the hazard burden facing the communities" (p. 346). Even so, the underlying issues and challenges are more often than not cultural. The "failure to consider cultural aspects", as Manyena et al. (2008) have noted, can "affect children's participation [in DRR], sometimes to the extent of harming family relations" (p. 305). These researchers and Ensor (2008) have discussed how the social construct of childhood plays a role in children's involvement and participation in disasters-related activities since the position of children is culturally defined. Manyena et al. (2008) concluded that:

Dealing with family and cultural pressures imposed on children may therefore be inherent aspects of community-based DRR programs. Ignoring or postponing addressing these contextual issues will mean that the input of children as partners in building disaster-resilient communities is likely to be of little consequence (p. 323).

Bartlett (2008a) has offered concrete examples of this assertion from the post-tsunami housing rebuild project which was charged with “involving children” (p. 473). She presented several reasons why the process would have not have had value if it was “conducted with children alone”, ignored their social context and did not include significant adults such as parents or grandparents (p. 482). The first reason deals with long-term sustainability, in that not including adults in the process may mean that even a successful project will die once the organization leaves. The second reason offered is particularly relevant to the idea that children’s active participation assists in their psychosocial recovery from the disaster. Bartlett argued that,

We are quick to see the need for psychosocial support groups for children in the face of emergency and disaster, but we may forget the value to children of seeing their parents and neighbors as competent people who can take an active role in planning their lives and making decisions. In Cooks Nagar, small girls beamed when they saw their shy mothers presenting an idea to a large community group. Involving children and bypassing their elders is not a healthy way to support strong family and community relationships, especially in challenging times. (p. 483)

The final reason given noted that the project resulted in significant social change as parents who were able to see the “fresh perspective and practical common sense” of their children were now more likely to include them in “family decision-making” in the future (p. 483). Moreover, participants reported that the community dynamic as a whole appeared to have changed and people were demonstrating more concern for their fellow neighbours. This positive example demonstrates that promoting children’s agency in disasters within their social and cultural context is not only valuable for the children but also the community. Consequently, children’s involvement in disaster preparedness is seen as necessary to increase long-term resilience of communities (Jabry, 2002; Mitchell et al., 2008; Peek, 2008; Ronan & Johnston, 2005).

#### ***4.4 Summary and Conclusion***

This chapter has explored literature that is useful in answering how and in what ways children experience disasters. Important elements of culture were reviewed to understand how it affects individuals and communities and thereby shapes their experiences. Sociological theories explained the notion of children as social actors and childhood in a cultural context. Previous studies that focused on children in disasters were examined to

determine the factors that influence the vulnerabilities, the experiences and the agency of children in a natural disaster. This literature review has not only informed this study but has also revealed where more research is needed.

It was found that culture acts as the lens through which children perceive their lives and the world. Children's behaviour, in general, is governed by interdependent and gradually changing social and cultural values. Even as modernising and globalisation forces impact the outer material and behavioural layers of the Indonesian culture, the deeper rooted cultural values are resistant to change. The result is a tension between modern and traditional values and worldviews which is revealed in Indonesia during natural disaster events by way of differing explanations and responses to these events. The idea that culture is transmitted intergenerationally and is learned provides an explanation of how children gain knowledge of natural hazards. This transmission occurs primarily through the family but also via other social institutions such as schools.

Cultures can also be understood and compared using cultural dimension tools, which facilitate the comprehension and application of the research findings in cultures other than the Indo-Javanese. Examination of three cultural dimensions indicates that Indonesian culture accepts and supports a high power distance, has a strong collectivist leaning and is very concerned for and generous to other members of society. It would therefore be reasonable to expect that children involved in a flood event to be obedient to their parents and elders, to exhibit strong commitment to family and community and to be compassionate to others. In the same manner, the community as a whole would likely follow existing local authority structures, permit its leaders to make collective decisions, place the greater good of the community over individual desires and assist family, friends, neighbours and strangers in whatever ways possible.

This chapter has also argued that children are social actors whose contributions and participation as members of adult society and of their own unique children's culture are constrained by the social, cultural and economic structures of their childhood. The flood event therefore becomes something that children not only try to make sense of, but actively participate in shaping. The research participants' actions are constrained by the structures that govern their lives as low-income Indonesian children. The principles that govern children's relationships and role in society are culturally determined and therefore differ between cultures. Yet similarities in the lives of children across cultures due to

globalization and modern developmental influences not only allow for the transfer of ideas between cultures, but they also suggest that the way in which natural disasters impact children in different cultures may, in fact, be analogous.

Finally, children are a highly vulnerable group in disaster situations because of the potential effects on their physical, mental, emotional and social development. However, they can also be a highly resilient group and provide motivation and energy to their communities. Factors that affect a child's experience of disaster are the degree of trauma exposure, the characteristics of the child, and the post-disaster environment. Trauma exposure encompasses both the initial trauma of the event and that resulting from the complex series of events that follow. Children's individual characteristics affect their experience by influencing their reactions to the event, their vulnerability and their resiliency. Similarly, the post-disaster environment has the potential for both positive and negative impacts. It can cause more (physical, emotional and psychological) harm or it can assist children in returning to 'normal' life by minimizing the impact of the immediate trauma and the stress of the recovery process. In particular, culturally specific practices have been found to positively influence children. Likewise, valuing the expression of children's agency in disasters within their social and cultural context has been found to be beneficial for both children and the community.

While establishing the state of current disaster literature and the foundation on which this study builds, several gaps in knowledge were exposed. For example, studies of vulnerability lacked correlation with studies which identified and investigated the factors that influence resilience. The issue of how culture affects a child's vulnerability and resilience is also poorly understood and has not been explored in depth (Bartlett, 2008b; Peek, 2008). Peek (2008) observed that previous studies have lacked "a rich contextual discussion of the ways that [age, gender, and ethnicity] (and others, such as social class, religion, family structure, power and status differences, access to resources, and physical ability) shape children's lives, opportunities, and post-disaster functioning" and that "even less is known about the different experiences of children in developed and developing countries" (p. 11). Finally, there is a need to widen the knowledge of children's abilities to contribute (Peek, 2008): what motivates their desire to help and which factors promote or discourage their inclusion in disaster-related activities.

This present study responds to some of these identified gaps by providing a rich contextual discussion of children's experience of a disaster event in a developing country. It offers an analysis of how the social and cultural context of Indonesian children who live in an urban setting in the municipality of Surakarta affected their experience of flooding. It also describes the ways in which children manifested their capabilities and some of the externally supportive factors. This analysis and other findings are presented in the following chapter.

## 5 Research Findings and Discussion

This thesis seeks to better understand the perspective and experiences of children who have been affected by a natural disaster and ground this knowledge in the social and cultural context in which they live. A case study involving children between the ages of nine to thirteen who live near the Bengawan Solo River in Central Java was used to explore, describe and understand the social effects of flooding. The community in which the thirty-two child participants live was inundated by a moderate flood event in December 2007. This event and the Indo-Javanese culture provide the context in which the research questions put forward by this study are answered.

The research questions were posed from three broad perspectives: the cultural and social context, the geographic and circumstantial contexts, and the idea of children as social actors. The cultural and social context was found to affect the children's experience through the socially and culturally specific practices, attitudes and conditions of the communities of which they were a part. The geographic context of the flood influenced children as they interacted with the flood in the sites of their daily lives while the impact of the circumstantial context was seen in the traumatic exposure experienced and the nature of the post-disaster environment. The notion of children as social actors was shown in the ways in which the child participants manifested active participation and their capabilities in the flood conditions.

The first two perspectives, which focus on the external factors that affect children's experiences and reactions to the flood situation, provide evidence for the principal thesis of this research: when children are involved in a disaster situation, the culture of the affected community and the context of the event, being the nature of the disaster event and the nature of the post-disaster environment, matter. Yet these aspects affect how adults experience the event as well. Therefore, it is the third perspective, of children as social actors, which completes this argument because children have unique and important capabilities in a disaster situation which deserve recognition. Knowledge of children's capacities as social actors may be invaluable to individuals and organisations who work in disaster situations.

This chapter outlines the evidence from the Indonesian case study that supports this argument. The three broad perspectives are presented under the headings: socially and

culturally specific practices, attitudes and conditions; sites and circumstances; and children as social actors. The data used to illustrate these concepts were gathered directly from, or by, the child participants and the significant adults in their lives. The presentation of the findings and the analysis of these are dealt with simultaneously. Following the presentation of the findings is a discussion of how these findings contribute to the current understanding of children's vulnerability and resilience in the disaster field and what they add to it.

The findings in relation to the social and cultural practices were derived from the multiple method approach. The literature on Indonesian culture drew attention to the broad ideas of, for example, *gotong royong*, and these insights were supported by findings from the group interviews and individual interviews. In addition to the information derived from the interviews, the children's drawings and priority lists pointed to key aspects of the social and cultural context.

### **5.1 *Socially and culturally specific practices, attitudes and conditions***

The research confirmed that the flood event highlighted practices, attitudes and conditions that are a part of the local Indo-Javanese culture. Three of the "core features" of culture that Laungani (2007) described – core values and traditions, government structures and religion – appeared to contribute to shaping the children's experiences of flooding. In the following subsections, five key themes are developed from the research. First, the traditional Javanese practice of *gotong royong*, 'mutual help' within a community, emerged strongly as the community worked together to support the affected residents and tackle the effects of the floodwaters. Second, the traditional village system of local leadership which has evolved into very well-defined local government organization played a significant role in this response. Third, religious beliefs appeared to shape the participants' worldviews and were used to explain the deeper reasons for the flood's occurrence. Religious practices also motivated people to assist others. Each of these cultural practices was highlighted by the flood event and influenced children's behaviour and response to it. In addition, a fourth element, the pre-existing social attitude which values education, was emphasised by children's and parent's responses to the disruption of normal school activity. The focus on education pointed to the fifth theme, that of poverty, a significant social constraint of the child participant's lives. The influence of each of these social and cultural aspects on children is discussed in light of the flood event.

### 5.1.1 *Gotong Royong*

The traditional Javanese cultural practice *gotong royong* motivated the extensive response by the city to the flood. *Gotong royong*, meaning “mutual help” (Megawangi et al., 1995, p. 136), is birthed from the traditional concept of community members’ obligation to seek the general welfare of the village. It appears that this orientation inspires a strong volunteer culture and was specifically named on numerous instances when discussing the flood.

Many neighbours and other citizens who did not live in the flooded area helped affected residents. When asked where help came from, one Bapak RT said:

*We had **gotong royong** from the community, the one was flooded and the one was not, everyone worked together, and there was also food aid ...*

*(Bapak 1, male, n.a.)*

Neighbours and relatives assisted each other in cooking for others, sharing housewares, and helping save or move possessions.

*... I went here and there ... helping ... cooking*

*(parent 1, female, n.a.)*

*I was helping at the neighbour's house ...*

*(Anggrek, female, age 14)*

*Indah : Then what did they [parents] do?*

*Lucy : Stayed home*

*Aquarius : Stayed home. And helped those who got flooded*

*Indah : Oh ... so during the flood, the parents did not go to work? But they were helping those who got flooded? Is this right?*

*Indah : How did they help?*

*Aquarius : They collected the belongings*

*Leon : They helped people*

*(Lucy, female, 11)*

*(Aquarius, female, age 9)*

*(Leon, male, 12)*

*(Indah, female assistant)*

Those not flooded stored belongings and hosted evacuees.

*Indah : Oh ... was your house used as an evacuation place?*  
*Leon : For the belongings. To help the others.*  
*(Leon, male, 12)*  
*(Indah, female assistant)*

Volunteers from outside of the community worked alongside local residents to set up public kitchens, distribute food, and assist in transporting belongings to safe places. Two of my field assistants, Jo and Indah, who live in another area of Solo, acted as volunteers during the flood. In an interview with Jo, he described how they set up a public kitchen with the help of local residents and assisted in evacuating people and their belongings.

*Jo :During the flood in Solo, we were ... volunteers (chuckles) Ok, we were volunteers during the flood in Solo in December 2007, we provided public kitchen and we also helped with the evacuation, evacuating the people and their belongings for a few days during the flood.*  
*Rcher 1: Was there anyone else ... did you get help?*  
*Jo :ee.. the local residents*  
*(Jo, male assistant 1)*  
*(Rcher 1, female)*

When asked why they volunteered, Jo said that they often volunteer following disasters.

*Rcher 1 : Why did you ... why did you go and do it?*  
*Jo : Ehm ... I don't know*  
*Rcher 1 : you weren't involved with someone else, no one asked you to go?*  
*Jo : No, no, we often become volunteers during disasters ... like the one in Mount Merapi, earthquake in Jogja and Klaten, tsunami in Aceh*  
*(Jo, male assistant 1)*  
*(Rcher 1, female)*

The reciprocal nature of *gotong royong* is demonstrated well by one particular group of people. A community leader spoke of the assistance offered to the riverbank community by volunteers from an area affected by the May 2006 earthquake in the Yogyakarta, 50km away. These volunteers had been assisted following the earthquake by members of the riverbank community and came to return the favour.

*There was an earthquake in Klaten, I can't remember which month, and the community especially [this RW], they helped the people in Klaten. And so in 2007, the people from Klaten came here to help. So **they helped each other**. That's the first thing I know.*  
*(Bapak 4, male, n.a.)*

The practice of *gotong royong* following the Yogyakarta earthquake was noted by Wilson & Reilly (2007) in an evaluation report of three international aid organizations. They reported that “truckloads of volunteers ... came from surrounding cities and universities to help” (p. 7). According to Wilson and Reilly, the tradition was encouraged by the government in order to reduce dependence on external aid. In their assessment, thirty-seven percent of the people reported having built their “transitional shelters with support from neighbours via ‘*gotong royong*’” (p. 7).

This cultural practice has already been transmitted to the next generation. Some of the child participants assisted in cleaning their local school after the second flood, saying it was ‘communal work’, or ‘*kerja bakti*’ (the Bahasa Indonesian term for the Javanese *gotong royong*):

*At my school, they asked us to clean up. We had day off, but they asked us to come and clean up.*

*(Leon, male, 12)*

*Communal work ... We brought [a] mop on the first day ...*

*(Charli, male, 10.5)*

This example reveals how *gotong royong* promotes the recognition of the children’s agency. One of the school principals mentioned that they had asked the children to come help, attesting to idea that adults believe children are capable. Furthermore, *gotong royong* provided children with the opportunity to express their agency and contribute to their community’s response and recovery.

### *5.1.2 Local Government Organisation*

The well-defined local administrative structure of Indonesian communities played a key role in the flood response. The local leadership of Bapak RWs and RTs was instrumental in several aspects of the flood response. They were the individuals who operated the traditional warning system. The child participants recalled awakening the night of the first flood to the sound of the *kenthogan* (traditional Javanese bamboo or wooden instrument) and the Bapak RT shouting “*Banjir! Banjir!*” (Flood! Flood!).

The local leadership also formed a committee to take care of the flood response and those affected. A coordination post was set-up for the larger RW (composed of several RTs) and the local sports building was transformed into an evacuation centre and public kitchen:

*ee..during the flood, the **committee of RT and RW X** was trying to provide a temporary shelter. They evacuated people, put them in a building, and provided necessary tools and equipments. There was a sport centre building that was just finished being built when the flood happened.*

*(Bapak 3, male, n.a.)*

The RW also obtained a raft to help those living on the flood plain. Mention was made of them creating their own search and rescue team in the future.

*Jo : Do you, as the head of RT, have plans in case there's another flood in the future?*

*Bapak 2 : I did talk about it during RW meeting ... up to RT5 ... how do we tackle flood problem in the future ... we **form a SAR committee** ... to help the people who are affected by the disaster ...*

*(Bapak 2, male, n.a.)*

*(Jo, male assistant 1)*

The local leadership provided information to the community and coordinated incoming assistance. A child participant said the Bapak RT gave information about the flood to community members right when it happened.

*Jo : Anyone gave you information during the flood? That there was a flood ...*

*Romeo : Yes*

*Romeo : That evening*

*Jo : Who told you?*

*Romeo : **Pak RT***

*(Romeo, male, age 9)*

*(Jo, male assistant 1)*

Similarly, one parent spoke of gathering at the Bapak RT's home to find out information and receive assistance. One mother said residents had gathered at the Bapak's home in order to receive food aid.

*We gathered at pak RT's and around*

*(Parent 2, female, n.a.)*

One of the Bapak RTs interviewed spoke of trying to secure incoming help:

*so we, as volunteers, **tried to get as much help as we could** for the people ... I think we had more than enough help*

*(Bapak 2, male, n.a.)*

Both parents and community leaders commented in their interviews that there was ample help and that it was delivered very smoothly by those in charge.

*... I think we had **more than enough** help*

*(Bapak 2, male, n.a.)*

*Dimas : How about the help you received?*

*Parent 4 : It was smooth ... it **kept on coming***

*(Parent 4, male, n.a.)*

*(Dimas, male assistant 2)*

Higher levels of local government also provided effective assistance. The city government and the mayor in particular, received high praise from both child and adult participants.

*Tukul : We were given help*

*Jo : Help from?*

*Carli : The **mayor***

*Tukul : just like always*

*(Tukul, male, 12)*

*(Carli, male, 13)*

*(Jo, male assistant 1)*

*The **government of Surakarta** was very good in dealing with the flood, they acted fast."*

*(Teacher 1, male, n.a.)*

Water tanks were provided by the municipality to clean the schools, and suction pumps to remove the water from low lying areas. The mayor himself visited the neighbourhood, which was mentioned in a parent interview with some amazement, and distributed aid directly to residents.

*Parent 5 :Pak Gani also visited us here, **directly came for a visit.***

*Dimas : Pak Gani?*

*Parent 5 : Yes, directly.*

*Dimas : Amazing*

*Parent 5 : Directly to this place, then gave the aid. Wasn't allowed to give it to the village head but to directly give it out*

*(parent 5, female, n.a.)*

*(Dimas, male assistant 2)*

The existence of such a local community structure, one that is trusted and respected, was invaluable in preventing chaos during the flood. According to one Bapak RT, it was chaotic when the flood first occurred as it happened at night, so suddenly and without warning. The need for the local community to take responsibility for its own safety in such situations and not be reliant on others was mentioned by another community leader:

*Jo : How will we warn, if it floods all of a sudden, how do we alert the community?*

*Bapak 4 : Well automatically we wouldn't know because we would be fast asleep, so it all depends on us. **We need to find our own safety.***

*Jo : Hmm*

*Bapak 4 : When the water arrives unexpected, automatically we cannot give help, the government can't either, because the water comes in such a short time.*

*(Bapak 4, male, n.a.)*

*(Jo, male assistant 1)*

Local government structures support an attitude of self-reliance. Communities are empowered and motivated to act when they believe their relationship with their leaders is fair and the leaders are “perceived as trustworthy, as acting in the interest of community members” (Paton et al., 2010, p. 188). Families took care of their own affairs, but they did so alongside neighbours and under the broader guidance of the Bapaks. The cultural characteristics of collectivism and hierarchy typical of Indonesia appeared in the community’s respect of these existing local authority structures and the recognition of decisions made by the community leaders for the whole community.

Another benefit of leadership at such a local level is that vulnerable or struggling community members are difficult to overlook, and as a result their needs are addressed. One example of this in the flood event was the community evacuation plan in which the elderly and children were prioritised, according to the Bapaks interviewed.

*the plan for the flood, the evacuation ... the children evacuate, then the parents and the local residents help in saving all the belongings*

*(Bapak 1, male, n.a.)*

*kids and elderlies were prioritized.*

*(Bapak 3, male, n.a.)*

Thus, this type of local leadership contributes to decreasing children’s vulnerability by perceiving and addressing their special needs.

### 5.1.3 Religion

In order to understand how religion shaped the child participant's perceptions of the flood event, it is necessary to see how it influences their daily lives. Observation and background reading helped to tease out this theme on religion and worldview as none of the data collection specifically sought information in relation to this, other than responses to the biographical profile in the first questionnaire.

Religion permeates Indonesian society (Beatty, 1999), and the child participants are no exception. Islam and Christianity are the two faiths held to by the child participants, 72% and 28% respectively as determined from the first questionnaire. They attend church or the mosque regularly. After some of the group interviews or English lessons, Muslim children were spotted heading to the mosque for weekly classes dressed in *khimar* apparel (waist long veil). None of the children wear religious dress to school, at home or regularly in the street unless there is a special ceremony or they are attending mosque. The multiple religions of Central Java allow for a relaxation of some of the Islamic religious practices, particularly traditional dress; which is not the case in other parts of Indonesia.

Notwithstanding the adaptation of some of the religious practices, religious activities are still adhered to and are integrated into daily rhythms. The first phase of fieldwork of this research was conducted during Ramadan, the Islamic month of fasting. Practicing Muslims refrain from eating and drinking between dawn and sunset, and many of the children participated in the fasting. Even though there were some children who did not fast, especially those who are not Muslims, there appeared to be an understanding and respect of the practice from others in the community. In one instance, a Christian girl was drinking juice, upon her Muslim friends seeing it she went outside until it was finished. The awareness and tolerance for different religions and religion's place in society are maintained social values of the children.

As a result of the pervasive cultural importance of religion, there is a shared worldview, irrespective of religion, that humans alone do not control the world and there is a higher power(s) at work. Ishii et al.'s (2009) remarks about religion influencing a society's worldview were echoed in discussions about why the flood happened and if one could happen again. Several of the views offered referred to God, or to fate (as something that would be determined by God). In one of the group interviews, the answer to the question of

how and why the flood happened was fate. In both cases it was said somewhat flippantly, but points to a deeper cultural worldview:

*Jo* : *How did the flood happen?*  
*Tukul* : *I don't know*  
*Jo* : *I don't know?*  
*Kantel* : *Ask the guard at Wonogiri dam, he would know.*  
*Carli* : ***Fate.***  
*Rooney* : *Fate, pak.*  
*Jo* : *Hahahaha.*  
.....  
*Jo* : *Did you know that the flood would happen?*  
*Carli* : *No*  
*Kantel* : *No*  
*Tukul* : *Fate*  
*Kantel* : *Fate. Hahaha*  
*Dany* : *Fate*  
*Tukul* : *Fate ...*

*(Tukul, mal, 12)*  
*(Kantel, female, 11)*  
*(Carli, male, 13)*  
*(Rooney, male, 13)*  
*(Jo, male assistant 1)*

Another two participants when discussing whether a flood could happen again made reference to a high power, God, being in control:

*Jo* : *It's possible to flood again?*  
*Dela* : ***God willing no***  
*Romeo* : ***Depends on God***

*(Dela, female, 10)*  
*(Romeo, male, 9)*  
*(Jo, male assistant 1)*

This sentiment was echoed by one of the Bapaks:

*Jo* : *Do you think the flood will happen again in the future?*  
*Bapak 3* : *Well it can happen, after all it is natural disaster, and it **depends on the one up there.** We actually anticipate before it happens and the government is doing it's [sic] best to prevent flood from happening in the future. But if God wants it to happen, then nothing can stop it from happening. But we have flood prevention.*

*(Bapak 3, male, n.a.)*  
*(Jo, male assistant 1)*

These comments attest to a deeply-held cultural worldview that the spiritual world does affect the physical world in which humans live. Recognition of the spiritual world, and humanity's limited control, however, does not mean that the participants and the community believe that they have no responsibility or capability to prevent disasters, and that all is left to fate. The religion teacher at one of the local schools described how he speaks of the human causes of flooding in his lessons when discussing moral deeds:

*I explain about good and bad deed, I slip them in. Like how the flood happened because of human recklessness.*

*(Teacher 2, male, n.a.)*

Both Islam and Christianity require believers to be responsible for their actions, which extends to flood prevention and risk reduction. Even here, spiritual practices appear. Interviewees talked of practical or physical ideas, but they also made reference to prayer. Prayer appears at the beginning and at the end of lists of actions given by two different adults who were interviewed by child participants.

*Number one.. pray and be grateful to Allah SWT<sup>2</sup> ... that nothing would happen.*

*(mother – intv by Jesika, female, 11)*

*The last one is of course to pray to God, beg so we'll be protected and be saved from any disasters and one of them is flood.*

*(neighbour - intv by Melati, female, 11)*

One interesting example of the ingrained belief in prayer in the society's psyche is one child's response to one of field assistants' explanation of flood prevention and risk reduction. When trying to make the point that a flood may not be preventable but the risk of it happening can be reduced, Dimas first explained that the flood cannot be prevented. Before he was able to say the "only" option is to "reduce the risk of it happening", the boy interrupted (or rather tried to finish his sentence) saying that prayer is the only option.

*Dimas : But do you think natural disaster can be prevented?*

*Donal : Cannot*

*Ricirit : Can*

*Dimas : How?*

*Ricirit : It's easy, plant trees.*

*Dimas : Plant trees, but still it didn't prevent. One day there will be heavy rain, it will be the same. We can only ...*

---

<sup>2</sup> SWT is appended after Allah by most Muslims. It is an acronym for the Arabic "Subhanahu Wa Ta'ala", which translates to mean "The most glorified, the most high" ("Introduction to Islam," 2011).

Ricirit : **Pray.. pray..**

Dimas : *Reduce the risk of happening ...*

*(Donal, male, 10)*

*(Ricirit, male, 12)*

*(Dimas, male assistant 2)*

From this conversation, it would seem that when there is a perceived lack of control over events prayer is the default option. Prayer was also included in the priority lists by two of child interview groups and ranked overall 11<sup>th</sup> out of the 32 items (see Figure 3-3).

The same spiritual conviction which turns people to prayer in times of trouble also allowed the residents to see good that came as a result of the flood. One father spoke of the government relocation of floodplains residents as being a gift from God in spite of the troubles the flood caused.

*flood gave us troubles, as the victims from that flood, for example, we must leave the house we lived in because it was flooded quite high. But we are also **grateful to God** because He has other plans. The disaster became **gift from God**. Because at the moment, especially for us who live in the riverbank, are being relocated by the government and are given houses, official certified lands, this is what I meant with **God has its own plan**. Behind this disaster there was gift.*

*(father – intv by Melati, female, 11)*

The religious worldview and beliefs of the participants appear to not only provide explanations for the events that occur, but also enable them to view the flooding event in a positive light, seeing the good that came from the disaster. In the Indonesian context, it could be argued that religion would also aid psychological coping and recovery following a disaster.

The practical application of religious beliefs in the flood event context was shown by the generous donations by churches and mosques to flood-affected residents. The church was specifically referred to by several participants as having donated school supplies for children.

*Even the **Church** was looking after them, the **Church** gave groceries help, school equipments ...*

*(parent 6, male, n.a.)*

Bapak 1 : Yes, notebooks, school equipments ... there were many,  
 Jo : School equipments?  
 Bapak 1 : Yes ...  
 Jo : Where did they come from, the help for the children?  
 Bapak 1 : Mostly came from the **church**, we worked with the church people, the people from the church  
 (Bapak 1, male, n.a.)  
 (Jo, male assistant 1)

Jo : Ok. Was there any special aid for children, Pak?  
 Bapak 4 : Yes, we did receive aid for children, books, but those were from the **church**. From church Husada ...  
 (Bapak 4, male, n.a.)  
 (Jo, male assistant 1)

Kantel : We received shoes when we went back to school  
 Jo : Really?  
 Kantel : Books, help  
 Jo : Who gave them?  
 Rooney: The teacher  
 Kantel : The teacher, the government. And the **church**  
 (Kantel, female, 11)  
 (Rooney, male, 13)  
 (Jo, male assistant 1)

Mosques were mentioned as being places of refuge. The story told by one boy about his drawing (Figure 5-1), which described people evacuating to a mosque that was used as a refugee centre.

Leon : In one afternoon, my cousin's house got flooded [ ... ]  
 Because the house was flooded, they used boat to save themselves  
 Indah : Where did they evacuate to? Where did they save themselves to?  
 Leon : The **mosque**  
 (Leon, male, age 12)  
 (Indah, female assistant)

The role of religious institutions in disaster recovery has been noted in several studies. Hestyanti's (2006) study in Aceh included external factors of how children found to be resilient were "able to do religious practice routinely" (p. 303). The continuation of religious services during the flood event gave the child participants the opportunity to do this. A study by Peek et al. (2008) concluded that religious organisation can offer children

“emotional support, and a sense of normalcy ... and play[] an important role in fostering resiliency among children” (p. 408). The continued presence of religious organizations and their activities during the flood maintained one of the integral elements of the children’s daily lives.



**Figure 5-1: Child participant drawing (Leon, male, age 12)**  
*people in the boat evacuating to the mosque*

This study confirms the positive influence of religious organizations in recovery from a natural disaster event. In addition to offering their facilities as a place of refuge, they enabled a continuation of normal routines, and provided children with the necessary supplies to return to school, both of which contributed to restoring children’s “sense of safety and normalcy” (Weissbecker et al., 2008, p. 47).

#### *5.1.4 Scholastic Orientation*

Scholastic themes were referred to by many of the participants, both adults and children, when discussing the flood. As a cultural determinant of Indonesian childhood, education is

an important social structure of children's lives (UNESCO, 2010). It consumes a large portion of their daily lives and school represents one of the main, stable locations where children participate socially. Remarks made by parents and children suggest however that education is more than just a social structure; it is also a cultural value that is given a high regard and priority by this community. Whether the children adopted this view based on their parent's ideals or if they developed it individually is unclear, but in either case, it appears to be a very strong value of this sample.

For the child participants, the importance of studying is shown in their priority lists. Scholastic supplies, or even school itself, were listed by all of the groups as one of the ten most important things that children would want or need in a flood situation. School supplies ranked overall as the fourth most important item in the priorities lists. Other items pertaining to school were also included and ranked on the lists: school (13<sup>th</sup>), school books (14<sup>th</sup>), school uniform (26<sup>th</sup>) and school bag (31<sup>st</sup>) (see Figure 3-3). The children's views on education were also revealed in their questionnaire responses. One question on the second questionnaire asked, "what are the expectations of children?"; that is, what is it that the interviewees think children are supposed to do? Of the nineteen child respondents, fifteen answered: "*studying*", being smart, or otherwise referred to education. Interestingly, in response to the subsequent question, "According to adults, what are children able to do?", only three of the same fifteen participants answered studying; other responses referred to playing and helping their parents. While this may indicate children's views of their parent's (or adult's) standpoint, it does not appear to be representative of what parents actually think. When a female child participant asked what kind of life is desired and what help is needed during or following a flood, her mother brought up the topic of education:

*Proper life, simple, and can see the **children studying** and reach their successes, to be useful for the country and the nation ... and parents.*

*(mother – intv by Kantel, female, 11)*

*As the people who live in the river bank I wish the government to give help ... proper to family and children so they can **continue their study***

*(mother – intv by Kantel, female, 11)*

Later when discussing the fact the family will be relocating to an area outside of the flood plain, she made reference is again to school:

*Yes, yes I will move on, and **put you and your sibling to school**, so you can be clever*

*(mother – intv by Kantel, female, 11)*

The value and importance placed on education becomes very apparent in a disaster situation. The flood occurred during the school year just as exams were to begin, which resulted in the postponement of the exams by a week. The interruption of the “*studying process*” was a cause of concern for parents who believed their children should continue studying despite the flood.

*Dimas : ... were they [the children] happy during the flood?*

*Parent 1: The children ... I am not sure ... how they are ... the **most important thing is they keep on studying** ...*

*(Parent 1, female, n.a.)*

*(Dimas, male assistant 2)*

This same mother referred to school in response to the very first question of her interview, asking how the flood was and what she felt:

*I was scared. And the children could **not go to school***

*(Parent 1, female, n.a.)*

In the same way, the first comment made by the father of a male participant concerning the children’s reactions was about school:

*The children were obviously troubled, **school was disturbed***

*(Parent 6, male, n.a.)*

Attempts were made by parents to maintain normal scholastic routines in spite of the flooding. The aforementioned father relocated his family during the flood event for various reasons, one of them being school:

*Yes, finally to anticipate the children **so they won’t miss their study**,*

*I relocated the children to their aunt’s place, 7km from here. So, for school, we left from there.*

*(Parent 6, male, n.a.)*

Even families that did not relocate from the area tried to prevent disruption of school activity. One female participant said that her parents asked her to go to school the day after the flood, even though there was water still covering large parts of the community.

... *in the morning, I was **asked to go to school** but the school was flooded.*

*(Anggrek, female, 14)*

Not to be hindered by the flood, another mother pointed out that even if the children could not attend school, this did not mean they could not study:

*Just scared ... they [children] weren't stressed ... scared how [they] would the school go ... but they **could still study***

*(Parent 1, female, n.a.)*

Some of the child participants attempted to follow this advice, but they encountered difficulties:

*Melati : When we wanted to study, it was raining*

*Jesika : there were **leaks on the tent***

*Indah : so you **couldn't study?***

*Melati : No*

*(Melati, female, 11)*

*(Jesika, female, 11)*

*(Indah, female assistant)*

The flood event highlighted the importance given to education by the affected community. One possible reason it is valued so highly may be that school offers children the chance to “reach their dreams” (Leon, male, age 12). For most of the children, obtaining a good education represents the only real way to escape poverty.

Babugura (2008) offers support for this conclusion. Her study of how drought impacts children in Botswana found that education was highly valued by children as it leads to a better future.

Attending school was important for all of them, as they recognized the importance of getting a good education as they dreamed of having a good job one day. Moreover, growing up in poor homes was a strong motivator for them to want to go to school. They want a better life in the future, for themselves and their future children, and they believe this will only happen if they go to school. (Babugura, 2008, p. 143)

Yet Babugura’s study reveals a contrast in the way education may be valued by parents. One third of her child participants (ten out of thirty) were taken out of school during the drought in order to help with household chores (e.g. fetching water) or take care of siblings so caregivers could go work (p. 142). While the children understood the importance of

helping their family, they were “unhappy about being taken out of school” (p. 143) and one girl felt that if her mother knew how much she liked school she would make different arrangements (p. 147). Babugura does not however include any comments from parents concerning education in her paper.

There are also a few notable differences between the two studies which may explain why school is not prioritised by (all) parents in Botswana during a drought. The most obvious difference is the duration of the disaster. The Indonesian flood event lasted a week while droughts may continue for months, severely straining already precarious financial situations of families. Poverty is clearly the driving force behind the removal children from school in Botswana. Daily survival supplants the longer-term benefits of education during the drought. In addition, the number of single female-headed households (15 in total; 8 of whom removed children from school) in the Botswana study, compared to the number in this study (4, two of which have other adult relatives residing with them), means that if the mother must leave home to find work due to the drought there is no one else to take care of household duties. The Botswana sample was also older (10-18 yrs); though based on my observations, a high school education is equally valued and prioritised by Indonesian parents.

In both cases, education is highly valued and prioritised by children as a means to escape poverty, and this value becomes quite evident in disasters. Parental responses to education during disaster events differ between these two studies. While the reasons for this difference are not clear, the duration of the event and the degree of poverty experienced may play a role.

### 5.1.5 Poverty

The socio-economic status of the child participants did contribute to their experiences. The research area is a low-income neighbourhood (by Indonesian standards). There is a range of economic status within the community, exemplified by ownership of a house, the quality of housing materials and furnishings, and many parents are employed as factory workers or day labourers.

*the people at the riverbank, [are] mostly small people or hard workers ... their **incomes cannot be counted** with big or small, to*

*survive or get extra decent income, so they can live like most people ...*

*(mother – intv by Kantel, female, 11)*

The child participants are not left untouched by this poverty. One of the community leaders described how poverty affected the children within the community,

*here, there are **many poor children**. Labourer. They're sent to school, they haven't had breakfast. Just given 2000, 3000 for food. They're left to work.*

*(Teacher 2, male, n.a.)*

The implications of poverty are compounded when there is a flood event. From an economic standpoint, the greatest impacts of the flood were caused by the loss of possessions and the loss of income both of which are linked to poverty. Apart from the safety of family members, much of the stress and concern children expressed related to these losses.

The loss of possessions, further described in Section 5.2.2.3, meant that families were faced with the problem of replacing them, which can be very difficult for those struggling to provide for daily expenses such as food and clothing. The loss of expensive items such as televisions, radios and fridges, even irons, can mean that they will not be replaced for some time, if at all. One female participant's fridge was destroyed and had not been replaced a year and half later. In her child-run interview of her mother, she asks about what things her mother would like to buy:

*Kantel : What kind of things [do] you want to buy but you cannot buy it yet?*

*Kantel's mother : Yes, like ... **chair, refrigerator** which cannot be saved earlier and now I **couldn't afford it yet**, and so on, like the things that are still messy. Machine.. **iron**.. things which were destroyed.. and so on, if we have enough fortune in the future we will buy them again, and now we can just ask for our kids to have good education.*

*(Kantel, female, 11)*

*(mother – intv by Kantel, female, 11)*

The refrigerator mentioned here appears in the child participant's drawing (Figure 5-2) and was mentioned during the group interview. A bird cage was also lost and is included in the drawing.



**Figure 5-2: Child participant drawing (Kantel, female, 11)**

*includes fridge and bird cage (gupon) destroyed by the flood*

Expensive possessions, such as televisions and radios, appear in several of the child participant's drawings (Figure 5-3 & Figure 5-4). These items were also mentioned frequently when discussing which belongings were saved from a flood. One group discussed that the main reason behind these choices was financial,

*Jo : Why did you bring the TV?*

*Bella : Because when it is broken again, we would have to spend more money*

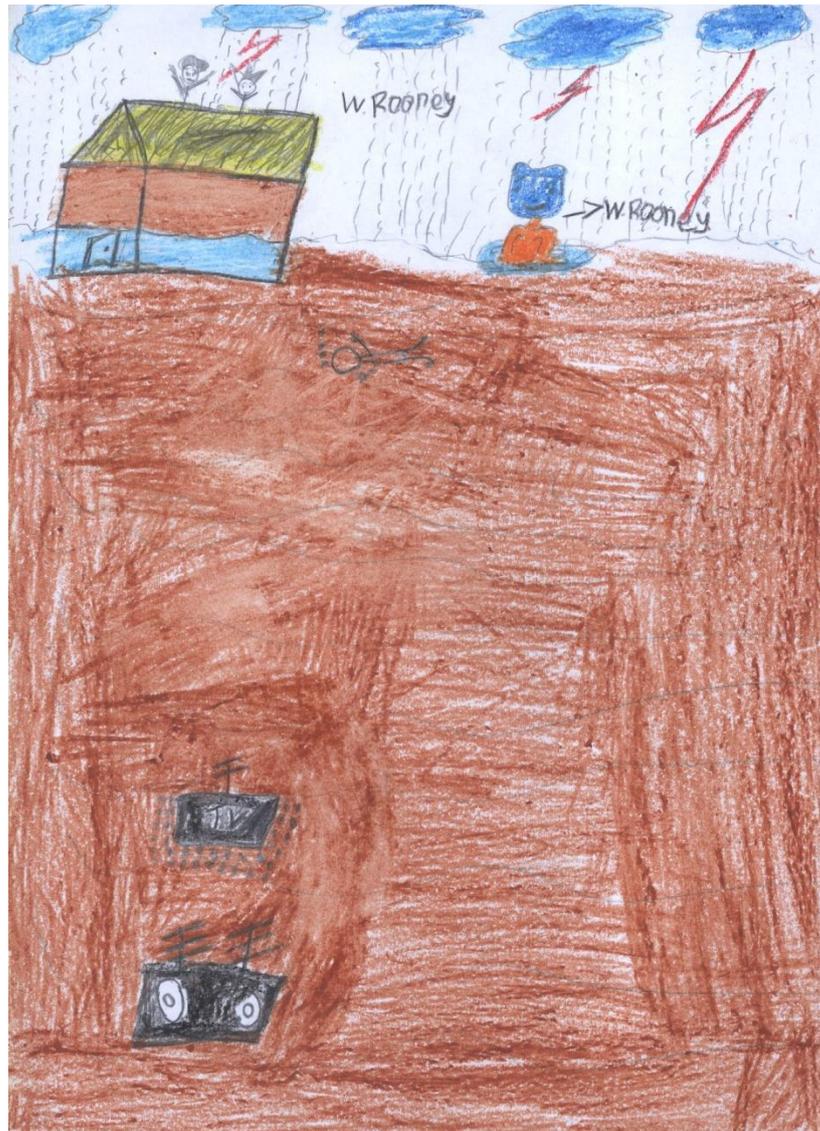
*Jo : Because it is expensive?*

*Kristian : Waste of money*

*(Bella, female, 9)*

*(Kristian, male, 9)*

*(Jo, male assistant 1)*



**Figure 5-3: Child participant drawing (Rooney, male, 13)**

*TV and radio in the flood water*

The financial burden of replacing lost possessions is heightened the already pressing problem created by a loss of income. During the flood event parents were unable to work for various reasons. The problem was put rather succinctly by one of the child participants:

*When you are wet, you can't earn money*

*(Bella, female, 9)*

A loss of income for some meant that daily expenses such as purchasing food became difficult. One mother said in an interview conducted by her daughter:

*... I cannot work. I cannot eat. Because I don't have money, I even sold my chicken to eat ...*

*(mother – intv by Anggrek, female, 14)*



**Figure 5-4: Child participant drawing (Jordan, female, 11)**

*TV inside the house and out of reach of the flood water*

For children whose families have few monetary resources (and no insurance), the effects of a flood endures long after the water subsides. Lost or destroyed items were replaced slowly, if at all. The loss of income to a family crippled them at the time and forced them rely on government assistance and the generosity of others. No child reported that their parents were unable to return to work or had permanently lost employment because after the flood, so income did return following the flood, but losses incurred did not appear to be made up easily.

This socio-economic condition, along with the other socially and culturally specific practices, and attitudes described, contributed to shape the children's experiences of the flood event. Together these elements formed the broad cultural and social context of the flood event that creates the backdrop from the geographic and circumstantial context.

## ***5.2 Sites and Circumstances***

The geographic and circumstantial context of the flood refers to the specific sites where children experienced and interacted with the flood events and the impacts of these flood events during and after the event. The physical geography of the flood event interacted with the geography of daily life, altering the physical landscape of the community and forcing the children to either adapt or suspend regular activities. The perceived threat to life, the short yet intermittent nature of the flood and the significant loss of possessions defined the ‘traumatic exposure’ impacts experienced. The impacts of the post-disaster environment were however largely moderated by the wide-spread availability of social support, which influenced the living conditions and tempered the influence of parental distress. Each of these elements formed a piece of the contextual setting which influenced the child participants’ experiences and reactions.

The disaster literature discussed in Chapter 4, theories concerning a child’s experience of disaster in particular (Section 4.3.2), shape the way in which these findings were analysed. The group and individual interview data, questionnaires and the priority lists again played a large role in substantiating the findings. The children’s drawings stood out as being especially valuable when discussing the traumatic exposure experienced as they were able to capture sentiments in a way that the other data collection methods could not.

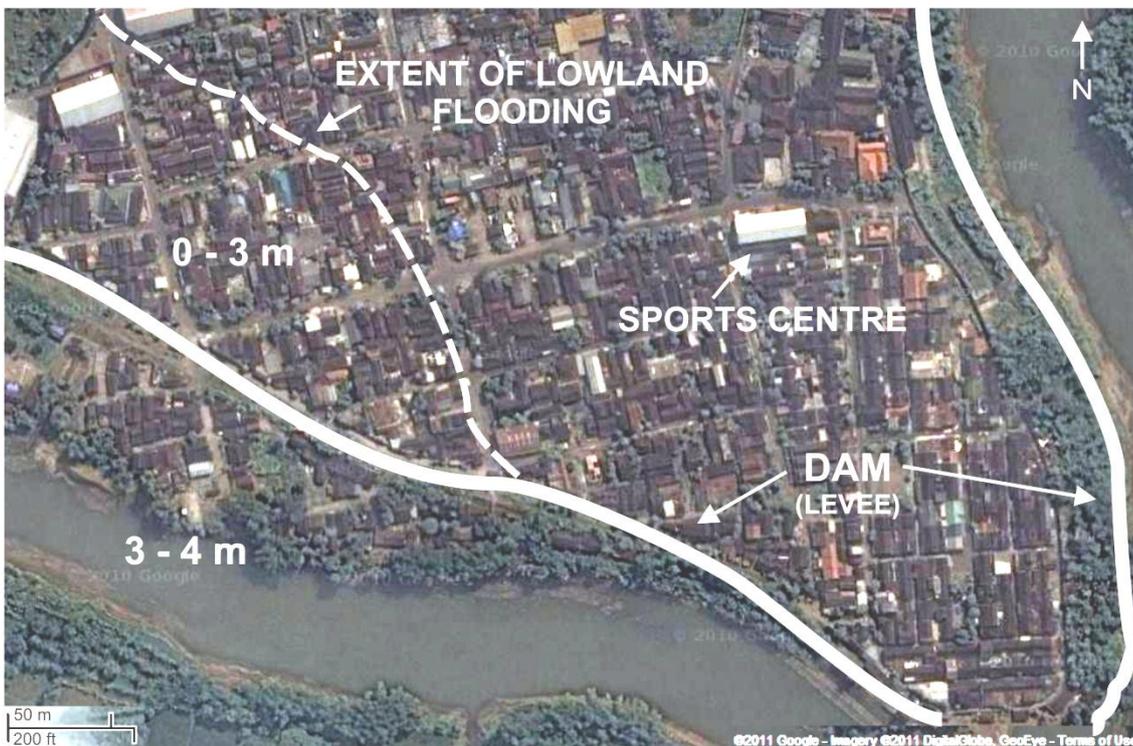
### ***5.2.1 Geography of Daily Life***

The physical locations that children occupy align with their daily activities: home for family life; schools for studies; the streets and the dam for play; and public places (i.e. mosques, church, stores, etc.) for community activities. When the flood occurred, it affected these activities as it entered into the physical spaces where they are normally conducted. The activities were either suspended until the floodwater receded and the places returned to ‘normal’ or they were adapted to the new physical landscape created by the flood.

The dam, which is normally used as a walkway through the community and a place of social gathering for both adults and children, was occupied with tents to shelter belongings and residents. The sports centre and another local warehouse often used for community functions were transformed into living quarters, public kitchens and storage spaces. Local

schools that were flooded suspended classes, while other schools became evacuation centres. In the same manner, some religious buildings were flooded, so other congregations grew to accommodate the displaced worshipers. Motorcycles were replaced with boats on the flooded streets; even as some pedestrians and cyclists still attempted to negotiate the roads.

The geographic feature that had the greatest control over how the community was affected by the flood is the levee or stopbank, which participants (and this study) refer to as the dam. Figure 5-5 shows how the dam physically divides the community. As a result, the research participants are divided into three groups with respect to flood water exposure. The first group in the southwest segment lives on the floodplain of the riverbank side of the dam. Here between three and four metres of water from the river inundated all of the houses. The second group, northwest segment, lives on the city-side of the dam, where land gradients reduced flooding to between zero to three metres; most of the water coming from the city. The third group which lives at a slightly higher elevation (central segment) did not have any water in their houses, but were cut off from the rest of the city by the water covering lower lying areas.



**Figure 5-5: Map of researched community**  
*showing the height of floodwater, dam and sport centre*  
*(Source: Adapted from Google Maps, 2011)*

The influence of the flood on the four physical areas (home, school, streets and public places) of children's daily lives, and their related activities are described in more depth in the following pages.

### **5.2.1.1 Home**

Home represents the space where family life is lived out. Therefore floodwaters entering children's houses meant that their daily family life and routines were interrupted.

Thirteen of the child participants were unable to stay in their houses. Most families stayed quite close to their homes, in the tents on the dam, or with relatives living nearby. A few of the children whose houses were not flooded, but were cut off from the city, evacuated to relatives' homes in the country, though typically one member of the family stayed behind to watch the house.

*Jo : Did you stay separately during the flood?*

*Romeo : Separately*

*Jo : With your family?*

*Romeo : I stayed separately*

.....

*Jo : Whose house you said?*

*Romeo : Huh?*

*Romeo : Grandmother's house*

*Jo : And your father stayed in the house .. yes?*

*Romeo : Yes*

*(Jo, male assistant 1)*

*(Romeo, male, 9)*

The participants' families did stay together with a few exceptions. One participant mentioned that her siblings were evacuated to different relative's homes.

*Jo : During the flood, did you stay together or separated?*

*Carli &*

*Rooney: Together*

*Tukul : Together*

*Jo : Together*

*Kantel : My younger sibling and my older **sibling were separated***

*Jo : Hmm*

*Kantel : At my relative's house*

*(Carli, male, 13)*

*(Rooney, male, age 13)*

*(Tukul, mal , 12)*

(Kantel, female, 11)  
(Jo, male assistant 1)

Another two participants whose houses were not flooded said their grandmothers went to stay with other relatives.

Jo : *Anyone from your family evacuated?*  
Pamungkas : *yes ... my grandmother*  
Ricirit : *My grandmother*  
.....  
Jo : *Where did your **grandmother** evacuate?*  
Pamungkas : *to her sister*  
Jo : *You .. where did your grandmother evacuate?*  
Ricirit : *In Tanggel*  
(Pamungkas, male, age 11)  
(Ricirit, male, 12)  
(Jo, male assistant 1)

In some cases, fathers would spend the night guarding their house or possessions on the dam while the rest of the family slept at relative's homes or at the evacuation centre.

*... and every night we **guarded***  
(father – intv by Runi, male, 10.5)

Calsye : *Where did your dad sleep?*  
Kristian : *My **dad wasn't asleep**. Dad was at the dam*  
Jo : *Who was not sleeping? Grandparents?*  
Kristian : *Dad*  
.....  
Jo : *Dad was not sleeping at all?*  
Bella : *no*  
Bella : ***Watching the belongin**g upstairs*  
Kristian : *Above the dam making tent*  
(Calsye, female, age 9)  
(Kristian, male, age 9)  
(Bella, female, age 9)  
(Jo, male assistant 1)

Indah : *The whole family was sleeping? And then ...*  
Aquarius : ***Except father***  
Indah : *Except Father?*  
Leon : ***He took care of the house***  
(Aquarius, female, age 9)  
(Leon, male, age 12)  
(Indah, female assistant)

The water physically entering the home also caused emotional distress for the participants. Several of the children said they were unable to sleep during the flood event because they were afraid that the water would enter the house (again).

*Jo* : *Why couldn't you sleep during the flood?*

*Romeo* : **Scared** that the water would rise again

*Aknes* : **And the water would get in**

*(Romeo, male, 9)*

*(Aknes, female, 9)*

*(Jo, male assistant 1)*

Flood water entering the house, or the threat of it doing so, took away the sense of safety and security that home provides (Kaniasty & Norris, 1993). Every single one of the participants' drawings featured a house(s), but one in particular stood out. Its composition is unique, with no house in the foreground, but it is the feeling that it evokes that is especially striking. The drawing's (Figure 5-6) portrayal of small houses and other objects floating in a sea of water suggests a loss of control, as though the flood had taken over and removed all that is safe and secure.



**Figure 5-6: Child participant drawing (Bella, female, 9)**

This participant's house was flooded up to the roof. She explained her drawing in the group interview this way:

*This is a story about the flood, as high as the door as if the door was drowning. The garbages are everywhere. The fishes in the aquarium are gone. The Eceng Gondok [rice cooker] is swimming. The housewares ... All housewares are floating in the water. It rains heavily, the cloud is black. Cupboard, glass, branch are floating in the water. The water colour is brown, the cloud is black, the houses are covered in water so the mud or soil goes into the house.*

*(Bella, female, 9)*

Many of the lost objects are featured floating in the water in her drawing. The flood invaded her home bringing garbage, mud and soil, while removing many of its normal items – rice cooker, cupboard, houseware and aquarium fish. The flood had in effect removed the 'sense of home'.

Another feature that the flood removed from the 'home' was the physical space in which family can easily be together. Children said they desired to be with their family during the flood. One friend interviewee specifically mentioned this occurring at home.

*I felt sad [ ... ] I cannot sleep in the house peacefully ... [ ... ] ...  
And ... I **cannot be together** with my family or friends **in the house**  
...*

*(friend - Kantel, female, 11)*

Thus the flood had a negative impact on the home, removing the sense of safety felt by children as well as the space in which family can naturally congregate.

The polluted water left flooded houses in poor condition after it had receded. The children reported their houses being filled with mud, dirty, bugs and some having damaged walls.

*Lucy : Not yet ... hehehe. When the flood's gone, what's your house like?*

*Leon : Mmh ... ya ... **muddy, bugs, dirty***

*Genie : Ouch*

*Leon : The **walls were damaged**, belongings were floated away*

*(Lucy, female, 11)*

*(Leon, male, 12)*

*(Genie, female, age 11)*

*Jo : After the flood, was the house damaged?*

*Kantel : No, was **dirty**.*

*Jo* : *Dirty? What was it?*  
*Carli* : *It was soil.*

*(Kantel, female, 11)*  
*(Carli, male, 13)*  
*(Jo, male assistant 1)*

Many of the actions taken by children following the flood involved restoring their homes to 'normal' conditions, such as cleaning and setting up furniture.

*Indah* : *Who cleaned your house?*  
*Melati* : *My parents*  
*Indah* : *Did you help?*  
*All* : *Yes*  
*Indah* : *What did you **clean** after the flood?*  
*Melati*  
*& Jesika* : *The **floor***

*(Jesika, female, 11)*  
*(Melati, female, 11)*  
*(Indah, female assistant)*

*Dimas* : *So you were cleaning up right?.. and? What else?.. or adding the mess?*  
*Leon* : *To arrange*  
*Dimas* : *What? What did you do in detail*  
*Genie* : *To **arrange home***

*(Leon, male, 12)*  
*(Genie, female, age 11)*  
*(Dimas, male assistant 2)*

These actions allowed the children's homes to return to their normal conditions, regaining the sense of safety and allowing families to once again have a physical space in which they could connect.

### **5.2.1.2 School**

School is the place where children formally learn and engage academically. Children's peer culture also operate here since they are together during classes and breaks. The flood's impact on the 'place' of school was felt by all of the children whether or not they had to evacuate and was therefore the most prominent disruption.

Two of the local schools, where half of the participants attend, flooded. Only two of the thirty-two children said they attended school during flood as their schools were outside the flooded area. According to participants, a teacher visited them at home to tell them that the

school was flooded. Some students also went to school on the first morning and were told on arrival that it was closed. One participant said his school that was not flooded, but was used instead as an evacuation center:

*I went in [to school] ... and I was told it was used for evacuation  
(Pamungkas, male, 11)*

The two local schools were flooded to between 0.25m and 1.5m, closer to the river. Classrooms, the library, the teacher's and principal's offices and the canteen were inundated. Most of the library books were damaged, as well as other school equipment such as desks. The school was re-opened after cleaning, five to seven days following the first flood.

For some, not being able to attend school was a positive turn of events. One community leader said,

*Some of the children were happy because they could play, because normally those children did not have much time to play.  
(Bapak 3, male, n.a.)*

For others it was mentioned with sadness:

*what I didn't like ... I could not go to school  
(Pamungkas, male, 11)*

School exams were scheduled to take place when the flood happened. One child who attempted to study said it was difficult with the rain and leaking tents which got her books wet.

*Indah : Could you study during the flood? Did you have time to read your books?*

*Melati : No*

*Indah : No?*

*Melati : No because they got rained on*

*Indah : The books?*

*Melati : When we wanted to study, it was raining*

*Jesika : there were leaks on the tent*

*Indah : so you couldn't study?*

*Melati : No*

*(Jesika, female, 11)*

*(Melati, female, 11)*

*(Indah, female assistant)*

Following the flood, the exams were rescheduled and the semester extended. The impact of the flood on the school was not limited to the physical location, but extended to the children's performance and studies, according to local teachers and a school principal. One teacher interviewed reported emotional distress in the children, but said their grades were not affected. The school principal stated that there not being a great effect on the children, except for those who were severely affected; that is, those whose houses were fully flooded.

*Dimas : how far did the flood affected the children, in their school achievements, and in their interactions at school?*

*Principal 1 : There was not much effect to the children, only those which the water went up to the roof, ... and whose house was invisible got disturbed.*

*(Principal 1, female, n.a.)*

*(Dimas, male assistant 2)*

In contrast, the other teacher interviewed reported a decline in some of the children's academic progress, as well as a loss of motivation. When asked if the flood had an impact on children's studies, he said,

*Teacher 2 : Affecting much. The students did not have will to study. They lost hope, didn't have anything. Finally they were helped, books, bags, and others. So slowly we gave them motivation to get back on their own feet, to study hard. It was like a test.*

*Dimas : So the performance was also affected?*

*Teacher 2 : Yes. Their grades. Before the flood, they got 8 and after the flood, they only got 6 or 7, and many were 5 and below.*

*Dimas : So it really affect them?*

*Teacher 2 : Yes. We paid attention to this*

*(Teacher 2, male, n.a.)*

*(Dimas, male assistant 2)*

A decline in academic performance as a result of emotional distress or stress has been known to occur following disasters (Hestyanti, 2006; Murray, 2006; Peek, 2008; Vogel & Vernberg, 1993a). In spite of this, school can play a role in recovery following disaster. The above teacher mentioned providing '*motivation to get back on their own feet*' as well as being attentive to the children's reactions. Multiple studies confirm the importance of school for creating a supportive environment and returning children to normal routines which assists in their recovery (Barrett et al., 2008; La Greca et al., 2002b; Lauten & Lietz, 2008; Madfis, Martyris, & Triplehorn, 2010; Peek & Fothergill, 2006; Ronan & Johnston,

1999, 2005; Weissbecker et al., 2008). Both of these actions were taken by the local schools which worked to re-open the schools as soon as possible and were attentive to the children's emotional distress.

### 5.2.1.3 Streets

Streets are, for children, primarily a place where they interact with their peers. Because of the tropical climate of Indonesia and densely built small houses, a large part of life is lived on the streets. Streets still act as throughways through the community and provide links to the rest of the city, but they represent a great deal more than simple routeways. Flooded streets, therefore, cause not only disruption to mobility and general community activity, but also to children's recreational activities with peers. Rather than suspend these activities, the children adapted them to the new geography.

When children were not spending time helping their parents clean or move belongings, they played with friends in the water, swimming, exploring, observing, making boats, catching fish, and looking for crabs. Several drawings featured people swimming or floating in tires in the floodwaters (see Figure 5-2 & Figure 5-7). Children who lived in the adjacent neighbourhood that was not flooded talked about playing in the flooded neighbourhood. One child bragged that she was allowed to play as long as she liked, while another girl admitted she was scolded for swimming in the water.

*Aknes : I was at RT2 as long as I liked*

*Cinta : I got scolded by my father after I went back [home]*

*(Aknes, female, 9)*

*(Cinta, female, 10)*

Yet these new 'water-based' activities posed a significant health threat to the children because of the contaminated standing waters (Bartlett, 2008b). Several children said that they got sick during the flood. The girl who was scolded for playing said that she developed a fever after swimming.

*Swam then got a fever*

*(Cinta, female, 10)*

One mother said that many children caught colds because they were playing in the water.

*playing with water ... **many had cold** because they were playing with water*

*(Parent 2, female, n.a.)*

The submerged streets also restricted movement in and around the community. One mother described how her house was spared from flooding, but the floodwater left the family stranded in their home.

*[The flood] got here, but it did not get into the house. Only a few houses were flooded here. But we still **could not get out** of the houses*

*(Parent 2, female, n.a.)*

For those that could leave their homes, the flooded streets left them with few places to go.

*Everywhere was flooded ... **where could you go?***

*(Dela, female, 10)*

Motorbikes, the main transportation vehicle for families, and cars could not be used. Several children said they attempted to ride push bikes, but it was too hard to pedal in the water. Boats replaced these normal modes of transport, and appeared in several of the children's drawings (see Figure 5-7 & Figure 5-8), but their limited numbers made many daily activities difficult for participants.

Parents of participants spoke of the difficulties of finding food for their families since they were unable to go to the market or shops. As a result, they were forced them to rely on food aid provided by volunteers.

*wanted to go out.. water, wherever I wanted to go there were water, wanted **to find food was difficult**.. wanted to go to the market [it] was impossible*

*(mother – intv by Mamar, female, 10)*

*Parent 3 : ..Yes ... we couldn't go to work ... couldn't go to school ... it was even difficult to eat because*

*Parent 4 : So **just wait for help***

*Parent 3 : Help ... wait for help to come ...*

*(Parent 3, female, n.a.)*

*(Parent 4, male, n.a.)*



**Figure 5-7: Child participant drawing (Ricirit, male, 12)**  
*people using boat to get around neighbourhood and person swimming in the floodwater*



**Figure 5-8: Child participant drawing (Pamungkas, male, 11)**

Thus the flooded streets led to limited daily activities within the community since they relied on normal street conditions and to alternative transport methods such as boats. This same altered space became a stimulus for children, however, who created new activities that would not have been possible but for the unusual landscape of the flooded streets (swimming, see Figure 5-7). Unfortunately, these water activities created a health risk and resulted in some children becoming ill.

The lack of safe areas where children can play is an issue in and following disasters. The Children's Charter for Disaster Risk Reduction developed by the Children in a Changing Climate Coalition has declared that having safe areas in which to play is a priority for children (Save the Children, 2011). The children who were consulted in the development of the Charter said they wanted:

safe play areas to be identified before a disaster so they can continue as normal a life as possible. If safe play areas are not identified before a disaster, [they] report that their movement is restricted and they end up either staying in their homes or playing in unsafe environments such as rubbish dumps or flood waters. (p. 2)

The child participants' experience matches to this description. Their movements were restricted by the flooded streets and their play shifted to the floodwaters, as the areas normally used were altered by the flood.

#### ***5.2.1.4 Public Places***

In the researched community, I observed children interacting with their community, adults in particular, in the public places of their daily lives. Shops, markets and street food stalls were also frequented almost daily. Similarly, mosques and churches were regularly attended by the child participants and their families. Other buildings such as the sport centre are used for community-wide functions. Some of these public places were inundated or inaccessible during the flood event which resulted in their normal activities being suspended. The places that were still operational experienced additional patronage or their normal function was altered to accommodate the disaster event.

Many shops in the area of the research site were closed and one of the main city markets was inundated, making it hard to find food locally. The flood also inundated some local

mosques and churches which meant some participants were not able to attend religious services with their usual local congregation.

*Jo : Could you go to the mosque during the flood?*

*Tukul : Yes yes*

*Carli : Yes*

*Jo : Yes? Did you go to the church?*

*Kantel : No, the **church was drowned***

*(Tukul, mal , 12)*

*(Carli, male, 13)*

*(Kantel, female, 11)*

*(Jo, male assistant 1)*

Most children, however, were still able to attend religious services, even if it was with nearby congregations.

Other public places that were not flooded altered their function to provide support to flood affected residents. The sports centre was used as a temporary shelter.

*temporary shelter.[ ... ] There was a sport centre building that was just finished being built when the flood happened.*

*(Bapak 3, male, n.a.)*

A local warehouse was likewise transformed into living quarters.

*Jo : Where did you stay during the flood?*

*Bella : I stayed in the building*

*Jo : In that building, that building over there? What's the name of the building?*

*Bella : **Warehouse***

*(Bella, female, 9)*

*(Jo, male assistant 1)*

Public kitchens operated out of these centres and belonging were also stored. As has been mentioned, a few schools and mosques became evacuation centres.

Public or community spaces are frequently used in disaster situations. Schools, churches, community centres and sport complexes become temporary shelters while parks have been used as temporary hospitals or triage centers (Peek & Fothergill, 2006; Romanos, 2011; Save the Children, 2011). In this case, the local sports centre was used as a temporary shelter. The multi-purpose function of many of these public places allowed for the easy conversion of these spaces into ones that could benefit the flooded state of the community.

Furthermore, this multi-purpose quality allowed children's interactions with adults to continue as these spaces retained their capacity for enabling social interactions within a community.

The disruption of normal activities that has been described in relation to the geography of children's daily life is generally considered to be a part of the traumatic exposure that children experience in a disaster situation (see Figure 4-4). The impacts of the flood event that occurred in the four specific sites of home, school, streets and public places are now described using the concept of traumatic exposure.

### *5.2.2 Traumatic Exposure*

The children's experiences of this flood event were heavily influenced by the degree of traumatic exposure they encountered. In this context, traumatic exposure included the duration and intensity of the flood event, threat of injury or death and the loss of possessions and income. The claim made by Weissbecker et al. (2008) that this is the greatest determining factor in the level of distress experienced by children is verified by this research. The children who appeared to have been most affected were those that experienced the most loss; which was proportional to the intensity of the event.

#### *5.2.2.1 Duration and Intensity of Flood Event*

The 2007 Solo flood event was the largest that most of the children and adults in the area had seen in their lives. Comments indicated that there had been small ones in the previous decade but never as large as this one.

*As far as I know there were **never flood this big**,  
(mother – intv by Mamar, female, 10)*

*The **biggest flood** here, and the condition was, it was more than the previous floods. So I didn't really know whether it was because of the overflow of water from every directions ... **Because** before, the water didn't come into the city. But the flood in 2008, it did, it went into the city. That was a **big flood**, from my point of view.  
(Parent 6, male, n.a.)*

***Big**, according to us **in the last 23 years**. The flood plain area got flooded a lot, I understand, but outside the area, how come the flood was this big. We could not believe it ... the belongings were not carried away [before] ... the TV [gone]*

*(Bapak 2, male, n.a.)*

The first of the series of three floods occurred suddenly in the night and a few children remembered hearing the noise of the water rushing into the house. One mother recalled when the river began to overflow,

*The rain was at night. And in the morning, **around 3 am**, the water from the river was **overflowed**. And at 6 am the water was half the house*

*(Parent 1, female, n.a.)*

The water rose on the floodplain quite quickly, reaching the roof of these houses within one to two hours. The floodwaters had little current, so panicked residents were not in danger of being swept away, but one Bapak commented that many of the residents did not know how to swim.

*Yes ... all confused, the flood happened suddenly, everyone was shocked ... it was **chaotic**, they were helping themselves, their own precious belongings in their houses, kept safe above the dam. And most of them **could not swim***

*(Bapak 1, male, n.a.)*

The first flood was followed by two successively smaller floods, each occurring in the night and subsiding during the day. One child participant described the flood heights in terms of her house door.

*As high as the **door** ... the second one was **half a door** ... third one was a quarter*

*(Bella, female, 9)*

The waters receded completely after four to five days, depending on the location. Daily routines were reported to have returned to normal within one to two weeks of the first flood event. The intermittent nature of the flooding did however catch residents off guard as many had believed the flood had ended.

*Parent 1 : It was raining ... and 2 am [ ... ] ... my siblings, my relatives, were knocking on the door ... there's another flood ... [ ... ]*

*Dimas : You **thought it's over***

*Parent 1 : Yes .. a day of cleaning up ... washing the clothes in the wardrobe*

*(Parent 1, female, n.a.)  
(Dimas, male assistant 2)*

One child participant described becoming angry because she had spent the whole day cleaning damaged household items only to have it flood again.

*Angry ... was tired cleaning up the mattress then there was another flood*

*(Melati, female, 11)*

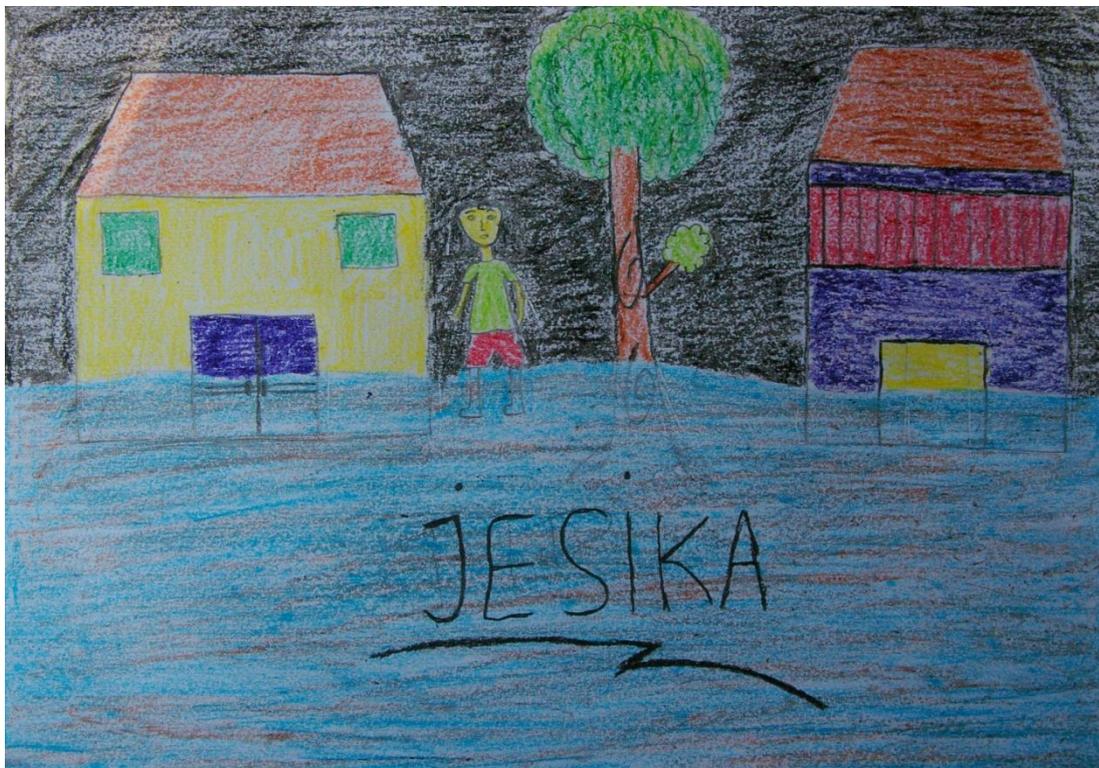
The discontinuous nature of the flooding, together with its week long duration, removed some of the uncertainty that can come with prolonged floods like the 2010 Pakistan floods, where water lingered for weeks (Gall, 2010). In addition, the localised nature of the flooding allowed for assistance to reach flooded residents easily as most of the surrounding city infrastructure was not affected.

In terms of personal flood exposure, the child participants divided into three groups: one quarter of the participants had water in their houses up to the roof or top of the first floor; another quarter had some water in their house, between ankle height and halfway up the door; the remaining half did not have any water in their homes. The loss of possessions was generally proportional to the amount of water in a participant's house. It was the children from these heavily inundated homes, the ones who had experienced the greatest traumatic exposure, who expressed the greatest sense of loss.

The differing levels of exposures, and consequent sense of loss, emerged in unique ways through children's drawings. The drawings of children who experienced more traumatic exposure are much more sombre. They have dark clouds, black skies, rain, floodwaters filling up much of the picture, and in some cases, brown flood water (see Figure 5-2, Figure 5-9, Figure 5-10 & Figure 5-14). The water heights shown in these two drawings (Figure 5-9 & Figure 5-10) below are an accurate portrayal of reality; though this is not always the case.



**Figure 5-9: Child participant drawing (Melati, female, age 11)**  
*water up to the roof during the flood*



**Figure 5-10: Child participant drawing (Jesika, female, age 11)**  
*water half way up door during the flood*

In contrast the drawings of those who were not personally flooded are bright, and have white skies, blue clouds and no rain. In a few instances, such as in Figure 5-11 and Figure 5-12, the floodwaters appeared to be added almost as an afterthought.



**Figure 5-11: Child participant drawing (Aknes, female, age 9)**  
*no water in house during the flood*

Another interest feature of the drawings was how the house was placed in relation to the floodwaters. Many of the houses that did not have water inside during the flood sat on top of the waters in the children's drawings. Figure 5-13 shows the house in one child's drawing sitting on top of the water and the pathway up to the house covered by water. During the flood, her house did not have water inside, but it did reach the doorway and many houses nearby were flooded.



**Figure 5-12: Child participant drawing (Cinta, female, age 10)**  
*no water in house during the flood*



**Figure 5-13: Child participant drawing (Mamar, female, age 10)**  
*no water in house during flood, but it did reach the doorway*

These visual data portray the children's sentiments about the flood and impact it had on them with a richness of expression that is not as apparent in the verbal discussions. The drawings suggest that having water in the home had a notable emotional impact of the children.

#### **5.2.2.2 Life Threat or Injury**

There were no fatalities or serious injuries mentioned by participants. Several children said they caught colds and one girl suffered a cut on her foot from broken glass. There was one only story told by the child participants which described a real threat of injury or death. One boy described how he saved his friend, one of the female participants, from drowning while they were playing in the water.

*Carli : Mamar and I were going to die. Really*  
*Jo : You must have been playing with water*  
*Carli : Yes, the deep part. My friend could not swim, I could, she's **drowning** so I had to help her and carry her to the side*

*(Carli, male, 13)*  
*(Kantel, female, 11)*  
*(Jo, male assistant 1)*

The girl involved was in a different group interview and made no mention of the event, even when asked when she had felt scared. It is possible the incident may not have had a significant impact on her and had consequently been forgotten or the severity may have been exaggerated by the boy.

Several children did, however, perceive threats of injury or death to themselves or family. Participants mentioned being afraid that water would come into the place where they were staying at night, and as a consequence, they would drown. This led to many not being able to sleep:

*Jo : Why were you **scared**?*  
*Romeo : That I would **drown** ... where would I evacuate?*

*(Romeo, male, 9)*  
*(Jo, male assistant 1)*

Jo : *If you liked playing with water, what didn't you like?*  
Jordan : ***Sleeping, and you will be drowned!***  
(Jordan, female, 11)  
(Jo, male assistant 1)

The children's concern also extended to other family members:

Dela : *I was very scared ... I cried, scared that my mother would die*  
Dany : *During the flood? Why?*  
Dela : *I was **worried my mother got flooded** there [at work]*  
(Dela, female, 10)  
(Jo, male assistant 1)

When asked how they would feel if a flood occurred again, one girl replied that she would feel panicked because the last time was scary; but in response to whether they still felt scared or anxious of water, another girl replied that she no longer did.

Indah : *What will you do if say, there's a flood right now ... ?*  
Jesika : ***Panic***  
Indah : *Panic?*  
Jesika : *Yes*  
Indah: *You're scared because the last time was scary?*  
Jesika : *Yes*  
Indah : *Do you have trauma ... for example you have trauma when you see water ... [ ... ] do you feel scared of water? Do you feel really scared of water these days?*  
Melati : ***Not anymore***  
Indah : *How about in the past?*  
Melati : *Yes, I did*  
(Jesika, female, 11)  
(Melati, female, 11)  
(Indah, female assistant)

The perceived threat to their lives and those of their families caused distress to the child participants. Fortunately, the lack of fatalities and serious injuries removed the possibility of severe distress or reactions in the children (Vogel & Vernberg, 1993a). Peek and Fothergill (2006) noted that children in their study of Hurricane Katrina who experienced “any loss of life” within their close family and friends were in a “much more fragile state” than those who had only lost possessions (p. 10). In the case of this research, with the former loss removed, it is the latter loss, that of possessions, that emerges as the strongest element of traumatic exposure for these child participants.

### 5.2.2.3 Loss

The losses experienced by the child participants in the flood included the loss of possessions, the loss of family income, and the loss of animal life. Of these, the loss of possessions was mentioned most frequently and appeared to affect the children the most emotionally and practically. There was no permanent loss of home as none of the participant's houses were severely damaged and all were able to return after the water subsided and a clean-up was completed. Some reference was made however to a few houses within the neighbourhood and surrounding areas were carried away by the river.

The lost or damaged possessions mentioned by the children during interviews were household items (cooking utensils, pots and pans, rice cooker, kettle, dishes) furniture and appliances (cupboard, wardrobe, bed, mattress, praying mat, fridge), electronic equipment (television, radio, clock, CDs, VCDs, computers), personal items (clothes, shoes, piggybank, ball, bicycle) and school-related items (books, school uniform, notebooks, writing utensils, report cards). Several children, primarily those whose houses were flooded up to the roof, reported losing all their clothes, shoes, school equipment and books:

*all shoes and all school equipment washed away*  
(Kantel, female, 11)

*all the things of the house were damaged*  
(Aknes, female, 9)

*I wasn't drowned, only the belongings*  
(Kantel, female, 11)

Lost possessions featured in several children's drawings, typically as objects floating in the water (see Figure 5-2, Figure 5-3, Figure 5-6 & Figure 5-14). Many of the objects illustrated are significant items that the child artists personally lost (see Figure 5-2, Figure 5-6 & Figure 5-14).



**Figure 5-14: Child participant drawing (Calsye, female, 9)**

*The brown mattress drawn inside house was lost in the flood*

One of the child participants described some of the possessions that were saved. When asked why only those items, another participant replied that those were all that others were able to take.

*Jo : When you evacuated, did you bring your belongings?*

*.....*

*Kantel : Bucket, t-shirts, and cooking pot ... cooking pan ... and stove*

*Jo : Why did you only take those?*

*Kantel : Those were the only ones possible*

*Tukul : All the others in the village **only carried those***

*(Kantel, female, 11)*

*(Tukul, male, 12)*

*(Jo, male assistant 1)*

Some belongings were left behind because they were too large or heavy to carry:

*[The] bicycle was drowned ... .We left it with the cupboard. If we bring it [cupboard] out, **it won't fit***

*(Kristian, male, 9)*

Others were left behind because of insufficient time as the water rose too quickly. When one girl presented her drawing to the group, she described the night of the first flood and how the speed of the water prevented her family from saving more belongings.

*When I was sleeping, there was a flood ... I woke up because I was scared ... I helped my parents take our belongings to the refugee camp. **Suddenly the river water went into my house** ... my family and I were all scared and the **belongings** in our house were **still many left behind***

*(Melati, female, 11)*

In the same way, the mother of another participant said, in her interview conducted by her son:

*What I can saved ... not all ... the most important thing was to save you.. and your elder sibling..And the thing I can saved was just television ... and some clothes ... I can't saved the rest ...*

*(mother – intv by Charli, male, 10.5)*

In actual fact, the flood on the second evening caused more losses than the one on the first night. Many families had saved items or spent the day cleaning damaged items, only to have them be carried away or destroyed by the second flood. Two children spoke of their neighbours' ensuing losses:

*Jesika : One of my neighbour ... was **already carried back into the house***

*Indah : the belongings?*

*Jesika : They were piled in front of the house when the **flood came***

*Jesika : All the **belongings were missing***

*(Jesika, female, 11)*

*(Indah, female assistant)*

*Jordan : Nothing at my house ..*

*Jo : Nothing? How about other places?*

*Jordan : Yes, the fridge ... it just subsided ... it was gonna be put inside, and it was missing again (Jo: when subsided?)*

*Crisjon : The **water rose again** ... so fast ... (Jordan: yes) and the **belongings were missing***

*Jo : So after the flood, the water subsided (Crisjon: subsided, and it rose again) cleaned, put the belongings in, and there was another flood?*

*Jordan : Yes*

*(Crisjon, male, 9)*

*(Jordan, female, 11)*

*(Jo, male assistant 1)*

A mother in her parent interview made a similar comment, saying that everything had been lost as a result of the second flood:

*All were [drown]. The place of the Ibu [her house] was all damaged. All the belongings were outside. All the tools at the back were gone. That was twice. One day, one night, the water subsided. They cleaned up in the morning. All the **belongings were taken outside, suddenly the water came again** at night. That's when they were damaged. The belongings were taken down, all were cleaned up, the clothes were drifted*

*(Parent 5, female, n.a.)*

Lost belongings were the theme of a study conducted by Klein and Huang (2007) in Thailand following the India Ocean tsunami. They focused on the “role of material goods in the recovery process” in the lives of adolescents (p. 54). Their rationale is based on Belk’s (1988) argument that “possessions both build and reflect people’s identities; people derive a view of who they are and who they were from their possessions” (Klein & Huang, 2007, p. 54); therefore “[w]hen possessions are lost to natural disasters ... this can lead to shifts in self-identity and feelings of self-loss” (p. 54). In this research, many of child participants talked about their lost possession with sadness.

*Indah : Why were you sad?*

*Yohana : Because the **belongings** would be **missing***

*(Yohana, female, 11)*

*(Indah, female assistant)*

*What I **didn't like** was many **belongings** were **missing***

*(Ronaldo, male, 13)*

Several of the lost possessions mentioned by the children were not essential items, like a piggybank, a ball, report cards, (school) books, CDs, and VCDs. There is a deeper sense of loss associated with these items as they cannot be (easily) replaced and have memories attached to them.

The loss of so many possessions put some families in precarious financial positions (see Section 5.1.1.5). Some possessions that needed to be replaced right away (clothes, cooking utensils) were fortunately donated. Others had to be replaced by families, some of which were already short on funds due to the temporary losses in income incurred during the flood. Losses occurred because parents were not able to work during the week, either because the items they used for their profession (cooking utensils or carts) were

inaccessible, the place of their work was flooded, their house was isolated by flooded roads, or they were guarding their houses and possessions from the flood waters and theft.

A few participants referred to the loss of animal life during their group interviews: bugs, puppies, fish and animals from the zoo.

*Lots of **bugs** died*

*(Leon, male, age 12)*

*The **fishes** in the aquarium are gone.*

*(Bella, female, 9)*

*The **animals at the zoo** were washed away*

*(Jesika, female, age 11)*

*Leon : One of my friends' dog died, the **puppy**. During birth.*

*Indah : The dog gave birth during the flood?*

*Leon : Yes. One died*

*(Leon, male, age 12)*

*(Indah, female assistant)*

A pig farm upstream from the community was also flooded and dead pigs were seen floating in the river. One child said that he felt sorry for the owner who had lost all of his animals.

*Ronaldo : the pig's price is not more than Rp.500,000*

*Ricirit : compare to your loss ... missing*

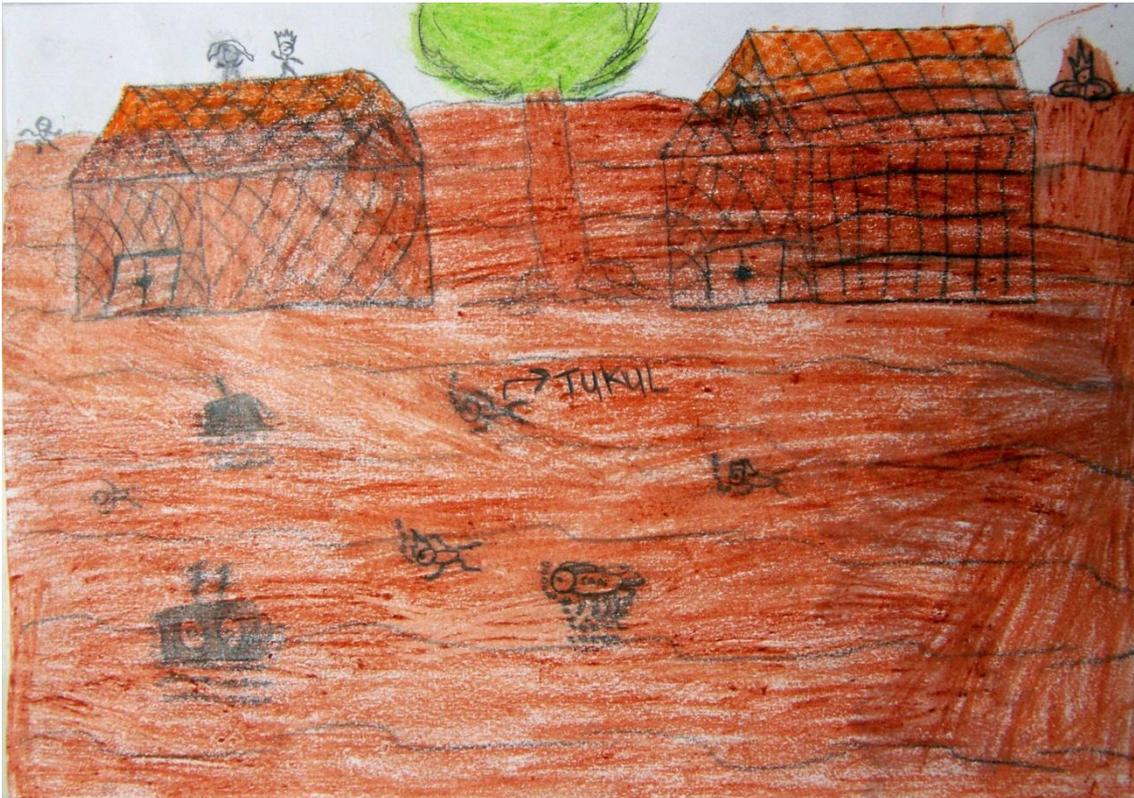
*Messi : feel sorry right ...*

*(Ronaldo, male, 13)*

*(Messi, male, 9)*

*(Ricirit, male, 12)*

The pigs, along with a dead cow, were mentioned in every group interview. One boy included the cow in his drawing (Figure 5-15); he also drew himself and another person swimming in the water, “*looking for missing belongings*” (*Tukul, male, 12*).



**Figure 5-15: Child participant drawing (Tukul, male, 12)**

The significant losses felt by some of the participants prompted others to try to help. The principal of one of the local schools described how the sadness he saw in the children's faces caused him to encourage students to help each other by offering whatever assistance they could.

*The effect to the children's psychology, they look sad. The sadness from their faces, this I often call them, that some of our belongings, maybe together with the children's friends, your friend get hit by the flood, if you have any proper clothes please give your help, or maybe by bringing rice or maybe noodles or anything, let **show our care to your friend**.*

*(Principal 2, male, n.a.)*

This type of the social support and practical assistance in the face of the impacts of the flood event was one of the main features of the post-disaster environment.

### *5.2.3 Post-disaster Environment*

The post-disaster environment was characterised by a high level of social support. Family and community networks ensured safety and protection, and with the help of external

support, provided adequate living conditions and meet basic needs. Significant amounts of aid and assistance were offered by other citizens and organizations motivated by cultural customs like *gotong royong*. There was no civil unrest and rescue or recovery activities appeared to be relatively calm, so the children were not exposed to violence or intense situations which have been known to occur when aid is distributed following disasters (Romero & Lacey, 2010). Parental distress was the one factor that appeared to affect the children.

Yet on the whole, the post-disaster environment in this case was positive and enabled a swift recovery from the event. Factors that Hestyanti (2006) deems to contribute to the resiliency of children were present in this environment. The children received “support from significant others” and the ability to participate in religious practices routinely as mentioned in Section 5.2.1.4 (Hestyanti, 2006, p. 303). In addition, two other factors, “hav[ing] opportunities to be involved in structured play/psychosocial activities, and ... access to natural resources for recreation, such as a river”, combined into a unique make-shift alternative of playing in the floodwaters (see Section 5.2.1.3).

The ten most important items to have in a disaster according to the participant’s priority lists are shown in Table 5-1.

**Table 5-1: Ten most important items in a disaster, according to participants**

Ranking	Item
1	food
2	clothes
3	place to stay
4	school supplies
5	electricity
6	clean water
7	tent
8	mattress
9	money
10	medicine

Half of these items pertained to living conditions, while other goods such as clothes, school supplies, and medicine were provided to flood-affected residents during and after the flood event. Money is fairly ubiquitous item that can be used to buy food and any necessary goods. Mattresses were mentioned in a few group interviews as items that participants took time to clean or had replaced following the flood. Mattresses have a dual purpose of

sleeping and lounging in many Solo households, and are often used by children when watching television.

### 5.2.3.1 Living Conditions

The living conditions described by the participants met the needs of the residents. Basic necessities like food, drinking water and shelter were available to all. Local RTs set up both emergency shelters and public kitchens, assisted by external organizations, private citizens, and government.

Food assistance was mentioned by all of the interviewees. One participant mentioned borrowing her neighbour's stove to help her parents cook in their tent on top of the dam. Most cooking stoves are gas operated, so people could still cook, though they were limited by the availability of ingredients; however some participants did tell of groceries being given by churches. The majority of participants described food coming from public kitchens operated by the community or from the government, and that there was enough food for all and it was distributed well.

*Jo* : *Where did you eat during the flood?*

*Carli* : *We had **food aid***

*Tukul* : *We were given help*

*(Carli, male, 13)*

*(Tukul, male, 12)*

*(Jo, male assistant 1)*

*The food came **from help***

*(Lucy, female, 11)*

*The food ... we were **given rice** in the afternoon, and noodle, indomie three each*

*(Parent 2, female, n.a.)*

*Parent 3* : *... like rice ... noodles ... potatoes*

*Parent 4* : *3 times a day ... that's the **food aid** ... we were **not lack of them***

*(Parent 4, male, n.a.)*

*(Parent 3, female, n.a.)*

One mother however said the aid did not always arrive, or at least on time.

*Yes from pak RT, looking for ... aid. But the **aid didn't always arrive**. Sometimes it did, sometimes it didn't. the rice arrived in the afternoon. There's none in the morning, just instant noodles.*  
(Parent 5, female, n.a.)

As with food, shelter was available for anyone who needed it. The emergency shelter at the sport centre and tents from the army and health department were set up by the RW/RT committee, but housing decisions were left up to individual families.

*Jo : So people were evacuated to the **sport centre** building?*  
*Bapak 3 : Yes it was completely built at that time.*  
*Jo : were there any other places than this building?*  
*Bapak 3 : Yes, some had **relatives nearby** so they evacuated to their places.*  
*Jo : Were there tents?*  
*Bapak 3 : There were **tents**, they were provided above the dam, kids and elderlies were prioritized. But then back again to **their own choice**, some wanted to stay with their relatives especially they who lived near the river area.*  
(Bapak 3, male, n.a.)  
(Jo, male assistant 1)

Of the 32 child participants, half remained in their own homes, while an additional three moved to the second floor of their houses. Seven participants stayed with relatives, five stayed at a community evacuation centre (*posko*) or evacuation tents, and one participant reported having slept on or in the roof (rafters) of his house.

*I lived at my **grandmother's house***  
(Lucy, female, 11)

*On top of the **dam***  
(Melati, female, 11)

*I have 2 houses, the other one is **2 storey** ... I evacuated to this one*  
(Yohana, female, 11)

*I evacuated to my **father's house***  
(Romeo, male, 9)

One girl wrote on her questionnaire that she had stayed in the tents, but said in the group interview she stated that she had actually slept at her neighbours while the family belongings (and likely one parent) remained were in the tent.

*Indah : Where did you sleep?*  
*Melati : **At our neighbours**, the ones who weren't flooded*

.....

*Indah* : so you put your **belongings in tents**, and slept over at your neighbours

*Melati* : Yes

(*Melati, female, 11*)

(*Indah, female assistant*)

Sleeping on the dam was not a pleasant experience, according to one set of parents, and it also led to one of the ever-present dangers of floods, illness.

*Parent 3* : It's not nice to sleep on top of the dam

*Parent 4* : It's **cold**

*Parent 3* : I was **sick** for a month ... diarrhoea ... I lost a lot of weight

*Parent 4* : Diarrhoea

(*Parent 4, male, n.a.*)

(*Parent 3, female, n.a.*)

Illness and disease often increase during floods due to limited availability of clean water and the presence of stagnant, polluted water. When asked if people were sick during the flood, the children mentioned that they or their friends had caught colds or were itchy. Those who played in the floodwaters were more prone to being sick and developing skin rashes. One father said his son got sick even though their family was not flooded.

*Parent 6* : Many of the children were affected with **virus**. Romeo got it too.

*Dimas* : Even though it was not flooded, right sir?

*Parent 6* : Even though it was **not flooded**, virus spread through air and everything, and **eventually** the children were contaminated, eh, **affected**.

(*Parent 6, male, n.a.*)

(*Dimas, male assistant 2*)

Diarrhoea, fevers, coughs, dengue fever, blisters and cuts from broken glass were other illnesses and injuries mentioned, though the participants did not necessarily have them.

There was limited availability of clean water for one to two weeks. Drinking water is normally boiled or bottled in Solo, so bottled water was easily available through aid. Children had access to clean water for bathing at relative's homes or the evacuation centres. Bathing is typically done twice a day, morning and late afternoon.

*Jo : how did you shower?*

*Rooney: At our **relatives' house or neighbour's***

*(Rooney, male, 13)*

*(Jo, male assistant 1)*

Accounts of the availability of other utilities like electricity varied between participants. Some said there was electricity while others had none or experienced blackouts. In some areas power was shut down for safety reasons. Bamboo torches were used in its place to provide light.

*On the flooded area, there was **not electricity**, turned off by the government.*

*(Lucy, female, 11)*

*Rcher 1 : Was there still any electricity after the flood?*

*Parent 2 : They put down the electricity. ya*

*Parent 2 : Most of the areas were covered with water, it would have been dangerous to keep the electricity on*

*Rcher 1 : Oh yes*

*Parent 2 : Water might electrocute. Lots of water. We used **torch, bamboo and oil***

*(Parent 2, female, n.a.)*

*(Rcher 1, female)*

***Torches made out of bamboo**, attached with cloth, put some oil and lit with matches*

*(Jesika, female, 11)*

Electricity was restored once the flood waters had receded. Services began to return to their normal state in the week following the flood. These living conditions provided the children with the basic necessities and safety, making the steps to recovery easier and aid minimised the stress of trying to obtain items by themselves or as a family. In addition, these provisions enabled what Winterbottom (2008) calls “the most protective factors”, that is, “nurturing relationships with care providers ... and meaningful interactions with adults” (p. 437). This social support continued even after the waters had receded.

### **5.2.3.2 Availability of Social Support**

The extensive assistance offered to affected residents came in the form of food, material goods and services and originated from a wide variety of sources. Since most of it was distributed through local channels, there was a significant amount of social support for the children as it strengthened pre-established relationships and promoted community self-

efficacy. It followed Klingman's (2002) continuity principle which Lauten and Lietz (2008) indicate "focuses on the importance of maintaining the child's existing individual, familial, organization and communal strengths and resources in order to counteract the disruptive effects of disaster" (p. 164).

Food aid came three times a day in the form of cooked food (rice, noodles, eggs, etc.), snacks, fruit, groceries including milk for infants, and bottled drinking water. Various other goods were distributed: blankets, towels, shoes, used clothing, housewares (glasses), personal hygiene items (toothpaste and toothbrushes, shampoo, hair brushes). Parents and community leaders commented in their interviews that there was more than enough help.

*Some came from the society. We had **tremendous help** ... we didn't lack of anything. Even the health department helped. We had clean water, and that really helped.*

*(Bapak 3, male, n.a.)*

Although there were some disagreements over its distribution, these parents commented that this is common when there are large groups of people involved.

*Parent 3 : Food ... medicines ... **everything was enough** ... medicines came often, 2 times a day sometimes 3 times a day*

*Dimas : And it's all well spread? There was no **argument** between one another ..*

*Parent 3 : There was*

*Parent 4 : But it's **normal among lots of people***

*(Parent 4, male, n.a.)*

*(Parent 3, female, n.a.)*

*(Dimas, male assistant 2)*

The assistance came from various sources: relatives, neighbours, churches, non-governmental organizations, local (RT & RW) and city government, other neighbours and citizens who were not flooded.

*Jo* : *Who gave help during the flood?*  
*Carli* : **Mayor, government**  
*Kantel* : **Church**  
 . . . . .  
*Rooney* : *Mayor, **Head of RT***  
*Jo* : *Head of RT*  
*Rooney* : **Head of RW**

(*Carli, male, 13*)  
 (*Kantel, female, 11*)  
 (*Rooney, male, 13*)  
 (*Jo, male assistant 1*)

*Charli* : **Neighbour**  
*Jo* : *Neighbour, Who else*  
*Madrid* : **RT**  
*Madrid* : *Communal work again*  
*Jo* : *Oh the neighbours helped.*

(*Charli, male, 10.5*)  
 (*Madrid, male, 11*)  
 (*Jo, male assistant 1*)

A few children did not know where the aid came from, but just that it came. Neighbours and relatives assisted each other in cooking for others, sharing housewares, hosting evacuees and helping save or move possessions. One mother who was not flooded stored others' belongings in her house and helped neighbours with what needed to be done.

*Parent 1* : *Full ... most of the places here [pointing around the room and the next room] ... upstairs*  
*Dimas* : *This is 2 storey, bu?*  
*Parent 1* : **Many TVs were here**  
*Dimas* : *They were kept here*  
*Parent 1* : *Yes. I was scared myself. What if the dam ... I went here and there ... helping ... cooking.*

(*Parent 1, female, n.a.*)  
 (*Dimas, male assistant 2*)

Churches, mosques, the local army detachment and some international non-governmental organizations provided clothes, groceries, school equipment, blankets, tents, and eating utensils. The Indonesian Red Cross set up a 24-hour emergency health clinic. Search and rescue teams and others with boats assisted in evacuating people and belongings. Children reported receiving school supplies such as bags, clothes, uniforms, shoes, books from the government via the school and from churches:

*I got **uniform***

(*Laura, female, 11*)

*Kantel : We received **shoes** when we went back to school*  
*Jo : Really?*  
*Kantel : **Books**, help*  
*Jo : Who gave them?*  
*Rooney: The teacher*  
*Kantel : The **teacher**, the **government**. And the **church***  
*(Kantel, female, 11)*  
*(Rooney, male, 13)*  
*(Jo, male assistant 1)*

The headmaster of one of the local schools said that they were instructed to list all the children who had been affected. The schools also received new equipment such as desks from the city government and other nearby schools. This type of assistance was exactly what on Bapak described as useful.

*Bapak 1 : Obviously ... and I, as the head of RT, would like to ask ... the children whose houses get flooded are mostly poor ... and i hope they will have help like notebooks or school equipments ...*  
*Jo : School equipments?*  
*Bapak 1 : Yes, that's simple ... notebooks and pencils. Many children are poor ... and the flood caused a big loss ... 2007 caused a big loss ...*  
*(Bapak 1, male, n.a.)*  
*(Jo, male assistant 1)*

Reference was also made to the atmosphere of support that was felt. One Bapak RT noted that even though the community did not receive direct assistance from the (higher levels of) government, they still felt supported.

*Jo : Also from the government, Pak?*  
*Bapak 4: Yes, from the government ... but the community could not feel the distribution.*  
*Jo : Hmm ...*  
*Bapak 4: But **in social area**, they **could feel the help** from the government or groups. They knew that companies, or government, were always ready to help.*  
*(Bapak 4, male, n.a.)*

This sense of support pervaded the post-disaster environment and had a positive influence on the children's experiences of the event. There was little mention of discontent or feelings of neglect from any of the participants. The children were very grateful for the items they received, which allowed them allowed to return to normal life (home and school) with the

appropriate supplies. When asked how she felt in the flood, one girl said that she was scared, but also glad to have received help.

*Melati : I could feel scared and **glad***  
*Indah : Glad?*  
*Melati : Why did you feel glad?*  
*Indah : **Got some help** ...*

*(Melati, female, 11)*  
*(Indah, female assistant)*

The substantial effort by the local community also reinforced the social support networks that are considered of great importance for children post-disaster (Murray, 2006) because the donated goods were distributed through local channels such as the Bapak.

*Hmm, yes I distributed school equipments to those children.*  
*(Bapak 4, male, n.a.)*

External community personnel like the army and search and rescue teams were also referred to with admiration by child participants, supporting Peek et al.' (2008) conclusion that shelter workers and local volunteers can also assist with children's emotional coping. The social assistance offered by the larger community provided support to parents who were trying to cope with the situation while maintaining caring relationships with their children.

### **5.2.3.3 Parental Distress**

The child participants were aware that their parents were distressed by the flood. Several participants stated that their parents were worried and sad.

*Rcher 1: how about your parents? Were they happy, sad? Worried ... confused?*  
*Melati: **Worried***

*(Melati, female, 11)*  
*(Rcher 1, female)*

*Jo : What did your parents do during the flood?*  
*Tukul : **Sad***  
*Jo : Sad? Hehehe*  
*Rooney: Hehehe. Sad*  
*Carli : Really ... sad*

*(Tukul, male, 12)*  
*(Rooney, male, 13)*  
*(Carli, male, 13)*  
*(Jo, male assistant 1)*

One question asked during the group interviews was whether the children talked to their parents about the flood. While some said they had and others had not, a few of the children said that they had been afraid to ask or talk to their parents about the flood because they did not want to cause them more trauma.

*Indah : ... After the flood or before the flood, have you ever talked about the flood with your parents?*

*Leon : No*

*Aquarius : No*

*Leon : Too scared*

*Indah : No? You were **too scared to ask**?*

*Aquarius : Scared*

*Indah : Why?*

*Leon : Trauma*

*Indah : Oh trauma? Because many were losing their belongings, lots of tears, and feeling sorry for the ones who got flooded? ... [Leon nods]*

*(Aquarius, female, 9)*

*(Leon, male, 12)*

*(Indah, female assistant)*

So the children were certainly aware of their parent's struggles. They also showed a great deal of emotional sensitivity towards their parents, which was especially evident in a few of the child-run interviews. But from statements made by the child participants in the group interviews, it appeared that their parent's anxiety did not have a significant influence their own reactions to the flood. Discussions of the children's own experiences compared to that of their parents led to some interesting comments.

*My **parents** were **sad** ... **I** was **happy** ... *Melati and I could play with water ... swimming**

*(Anggrek, female, 14)*

*Indah : The **parents** were **in trouble**, but **you** were **having fun**?*

*Leon : Strange*

*Lucy : **Strange but true.***

*(Leon, male, 12)*

*(Lucy, female, 11)*

*(Indah, female assistant)*

One of the parents who interviewed made a similar observation.

*during the flood, many of their friends are happy ... unhappy.  
None of the children looked worried. Not like the parents ...  
(Parent 1, female, n.a.)*

In contrast, an account given by one of the teachers interviewed suggests the parents' anxiety did in fact affect the children, and by extension their studies.

*[The children] were affected. When it was raining, they wanted to go home. They were scared there would be another flood. It happened often, even the parents. When there was heavy rain, lots of parents picked up their children. They [the parents] were traumatized by the flood. The studying process did not go smoothly. We wanted it to go smoothly. But it was not, because the **parents** were probably traumatized.*

*(Teacher 1, male, n.a.)*

While parental distress did affect the children, as clearly seen in some of the comments made by the participants, it is unclear whether parental anxiety led to the children becoming more anxious. Ronan and Johnston (1999, 2005) list parental anxiety as one of the most significant factors and predictors of child distress or anxiety. But the research findings do not indicate that this was the case for the child participants. Researchers have also found that the physical, emotional and social support that parents offer children in a safe environment helps children adapt (La Greca et al., 2002b; Peek & Stough, 2010; Peek et al., 2008). The extensive social support and the continued provision of adequate living conditions and basic necessities of life allowed parents to provide these supports for their children and may have played a role in moderating children's distress and reactions to the flood event.

### **5.3 Children as Social Actors**

The chapter up to this point has focused on the external factors that affected children's experiences and reactions to the flood event. It has been established that the socially and culturally specific practices, attitudes and conditions of the communities, as well as the context in which the event took place, did influence the child participants' experiences of the flood. This however is only half of the story. The internal factors, more specifically children's capacities as social actors, are also influential and these comprise the focus of the remainder of this chapter. External factors affect all people on whom the disaster has an

impact – adults as well as children. Adults, however, are usually regarded as social actors who have the capacity to respond effectively and appropriately in disaster situations. Children are less likely to be seen as social actors in their own right.

The child participants in this research can be identified as social actors by how they manifested their active participation and capabilities in the natural disaster situation. Their participation in the activities of adult society and their peer culture continued during the flood, even as these activities changed to accommodate the new conditions. The way in which the children demonstrated their capabilities as social agents is shown by the practical actions they undertook during the flood, their knowledge of their environment, and the ways in which they used this knowledge to formulate flood prevention plans and ideas.

The flood-safe community plans that the children developed were a key element in determining the children's knowledge and capabilities. The interviews that they conducted have already been seen to generate useful findings and they contributed to the development of these plans. The other multiple methods, group interviews, adult interviews, questionnaires, priority lists and drawings verified the findings. The literature concerning the sociology of childhood was used to formulate the theoretical basis for the analysis of these findings while disaster literature pertaining to children's contributions placed these findings into the context of current disaster context.

### *5.3.1 Active Participation*

The children involved in this study actively participate in their society through school, family, the neighbourhood community, and religious organizations. These sites of participation, which correspond to the geography of children's daily lives as described in Section 5.2.1, enable them to contribute to both their own peer culture and adult society simultaneously.

The 2007 flood event affected the daily activities of the children's lives and their contributions. On the one hand, the mediums through which the children contribute to their peer culture (play) and adult society (familial role) remained the same. Their contributions, the specific 'activities', on the other hand, were adapted to the flood event and took the form of assisting their friends, family and neighbours with disaster recovery activities.

Children's active participation in these efforts was valuable as it enabled them to "regain a sense of control" over their lives (Weissbecker et al., 2008, p. 48).

### ***5.3.1.1 Participation in Peer Cultures***

A unique children's culture exists concurrently with adult society and the child participants weave in and out of the two seamlessly. The children's culture in the researched community thrives on the strong informal network of children who live in close quarters. A large part of their lives is spent in front of their homes, in the streets or in open spaces, like the dam and river bank. Child participants would often be found sipping juice at small food stalls or flying kites on the dam. While the children may have some organised activities in the afternoons, much of their time is spent playing with friends in the neighbourhood. When I asked what they did during the day in the English classes, the child participants would say they went to school and then played (*bermain/main*). Therefore play (*main*) is indicative of their peer culture.

In the second questionnaire seven children listed playing as one of the things that children are expected to do. It also appeared in three of the group priority lists of the ten most important things to have or do during a flood, but ranked 25<sup>th</sup> out of the 32 items that were listed collectively and was the least important items on all but one of the twelve participant's lists. Fittingly, it was one of the daily activities that was adapted to the flood event rather than being suspended. Children were active in creating new ways to play, trading kites and television for water games and swimming. In some cases "normal" activities were adapted to flood conditions. One child participant spoke of watching television a tent.

*The best part was to **watch tv in the tent**, at the neighbour*

*(Bella, female, 9)*

Playing in the water was often said to be only part of the flood that they liked. Nearly every child spoke about playing or swimming in the water. The participants would say that they were bored, could not play or do anything.

*We could **not watch TV**, we could **not play***

*(Lucy, female, 11)*

But inevitably when asked if they played in the water, the answer was yes. Thus the culture of play continued even when some of the children were not actively aware of its new form.

The children's culture, nonetheless, is not limited to playing. The participants demonstrated a great deal of compassion and care for each other. The following conversation took place during one of the child-run interviews. Charli interviewed his friend (Harry) who spoke lightly of the flood until he realised how it affected Charli.

*Harry: my place was not as damaged as your place ... at my house it was up to the door only ... it was fun Charli, we can go swimming ... we don't have to pay. hehehehe.*

*Charli: Harry, you still can sleep ... I cannot ... it was difficult Har, I can't go anywhere ...*

*Harry: **Sorry Charli.. I was just joking** ...*

*(Charli, male, 10.5)*

*(friend (Harry) – intv by Charli, male, 10.5)*

This kind of emotional care was displayed frequently by children who were not flooded; they viewed the flood as a sad event, in light of their friends' losses. In addition, several participants said that they talked often about the flood with their friends, processing the event. Some said that they talked about it more with their friends than their parents.

*Jo : Did you talk about the flood with your friends?*

*Kantel : Often. We **talk** about it **at school** [ ... ]*

*(Kantel, female, 11)*

*(Jo, male assistant 1)*

*Jo : Did your parents ever tell you about the flood?*

*Jordan : No*

*Dany : How about at school?*

*Jordan : Yes*

*Dany : talk about flood at school*

*Donal : **Friends told us***

*(Jordan, female, 11)*

*(Donal, male, 10)*

*(Jo, male assistant 1)*

*Rcher 1 : Who did you talk more about the flood ... your friends or your parents?*

*Genie : **Friends***

*(Genie, female, 11)*

*(Rcher 1, female)*

The children were also active in helping their friends with practical tasks. One female participant said that she helped take care of her friend's younger sibling during the flood.

*Helped taking care of this younger one [pointing at her friend]  
(Melati, female, 11)*

Caring for other children has been identified as a contribution that children often make in disaster situations (Babugura, 2008; Peek, 2008). Another participant told a story of saving his friend from drowning in the floodwaters, mentioned in Section 5.2.2.2. These actions demonstrate that children support each other in situations that are external to adult society. In this case, their peer culture continues to flourish, as seen in how they adapted ways of play to the new physical conditions of the neighbourhood, and the children demonstrate compassion and emotional and practical care for each other. The benefit of children being together, during and after a disaster event has been noted by Bartlett (2008b). She makes the point that in addition to enjoying each other's company and playing games, children "also find relief in being engaged in actively improving their surroundings" (p. 88). During the flood children were happy to play with their friends, but before doing so they made consistent efforts to help their families and community.

*I was helping my parents ... and when I finished, I was playing  
with my friends  
(Anggrek, female, 14)*

While one group was discussing ideas for the 'flood-safe community' plan, another girl gave this suggestion:

*less play and help our parents  
(Melati, female, 11)*

These comments demonstrate that some aspects of children's culture such as play are given a lower priority by the children in a flood. A reduction in children's play time and socialization was also found in Babugura's (2008) study of drought impacts on children. Therefore this study adds weight to the idea that disasters cause a reduction in time for play, even if it is a semi-voluntary reduction. It follows then that children's time involvement in their peer culture was affected by the flood event, as family matters took priority. Some of the child participants' contributions to flood response and recovery were made in collaboration with their peers, but the most visible instances were in conjunction with their (extended) family or community.

### 5.3.1.2 Participation in Adult Societies

While children generate their peer culture, they also contribute to adult society. Their participation in adult society is exhibited at home, at school, and in the public places of their neighbourhood. Children are viewed as being an integral part of the family and society, having rights but also responsibilities. During the flood, the majority of their contributions were made from the position of their familial role as a child, maintaining the cultural notion that the family is the foundational social institution of Javanese, Indonesian and Islamic culture (Laungani, 2007).

At home, the children contributed to their families by helping their parents. Many of the activities that children listed involve saving possessions or cleaning. Many gathered belongings together in order to evacuate them, and then helped carry them.

Jo : *Did you help your parents during the flood?*  
Bella : *Yes*  
Jo : *What kind of help?*  
Kristian  
& Bella : *Shoes*  
Jo : *Shoes?*  
Bella : *I put my school equipment into a sack then I lifted it to the neighbor*  
Bella : *Book*  
Jo : *Oh, books. What did you help Vian?*  
Kristian : *I helped with shoes, clothes,*  
Jo : *Did you mean by **carrying them**?*  
Kristian : *Bicycle, mattress.*  
Jo : *You lifted them?*  
Kristian : ***Yes, lifted** ... mattress*

(Bella, female, 9)  
(Kristian, male, 9)  
(Jo, male assistant 1)

Jo : *How did you help your parents?*  
Charli : ***Carrying** the mattress*  
Runi : *Carrying mattress*  
Rcher 1 : *What else?*  
Charli : *Carrying the house*  
Charli : *Radio, TV*

(Charli, male, 10.5)  
(Runi, male, 10.5)  
(Jo, male assistant 1)  
(Rcher 1, female)

The cleaning process they assisted with entailed mopping the house floors, washing clothes or mattresses. The length of time spent cleaning up varied between two hours to one or two days depending on the child and the state of their house.

*Jo : Did you help during the flood, your family?*

.....

*Rooney : I helped cleaning up*

*(Rooney, male, 13)*

*(Jo, male assistant 1)*

*Indah : Who cleaned your house?*

*Melati : My parents*

*Indah : Did you help?*

*All : Yes*

*Indah : What did you clean after the flood?*

*Melati*

*& Jesika : The floor*

*Indah : The floor and what else?*

*Mamar : Clothes*

*(Melati, female, 11)*

*(Jesika, female, 11)*

*(Mamar, female, 10)*

*(Indah, female assistant)*

Child participants also helped parents by with cooking, washing dishes, taking care of siblings, erecting tents, and setting up the house after the flood receded.

*Melati : Helping my parents, cooking*

*Indah : What did you help with?*

*Melati : Washing the dishes*

*(Melati, female, 11)*

*(Indah, female assistant)*

*Indah : ... During the flood, did you help taking care of something ... did anyone ask you to take care of family members?*

*Lucy : Take care of younger sibling*

*(Lucy, female, 11)*

*(Indah, female assistant)*

The children mentioned also helping relatives, friends and neighbours, but priority was given to parents. One participant expressed her intentions to help others, but that her responsibilities to her parents came first.

*I will also help those who are affected by the flood, but **after I help my parents** to tidy up my belongings*

*(Melati, female, 11)*

The desire to help other flood affected residents was common among the child participants.

*I **want to help** the people who suffer from the flood*

*(Genie, female, 11)*

Furthermore, advice that one group suggest for other children affected by a flood is: “*just help*” (Kantel, female, 11).

The idea of helping others was illustrated in one of the children’s drawing. When presenting her drawing (Figure 5-16), she pointed to the person in the boat closest to the tree and said, “[t]his person helps the people who got flooded helping” (Aquarius, female, 9).



**Figure 5-16: Child participant drawing (Aquarius, female, 9)**

*the person in the boat closest to the tree “helps the people who got flooded”*

The desire of children wanting to help was also recognised in the study by Klein and Huang (2007) of Thai adolescents and their lost belongings. Two of their participants said that helping “‘felt good’ ” and helped them “‘feel normal’”, and “‘that they wanted to do more’” (p. 57). Bartlett (2008b) supports the idea that giving children the “[o]pportunities to exercise and develop their competence in the aftermath of disaster, and to have their efforts responded to with approval, can build confidence in children and a sense of identity and effectiveness that can go a long way towards relieving distress” (p. 88). In this case, children affirmed their identity not only as family members but also as community members through their assistance to neighbours and the school.

The children assisted in cleaning the school as part of communal work, *gotong royong* (see Section 5.1.1). One principal described how the children worked together with the teachers and guard to clean the school after the two floods.

*There were 2 **clean ups**, the clean ups by the children, so they **worked together** ... guard, teachers, [ ... ] in the morning everybody worked together, cleaning up, it was really clean, and it was exhausted. The water came again in the evening, that happened ... [ ... ] We were clean again. [ ... ] so it was the **students and the teachers***

*(Principal 1, female, n.a.)*

The children also helped neighbours moving belongings to safe places.

*Mamar : I was **helping my neighbours***

.....

*Indah : What did you help with?*

*Mamar : Clothes, mattress, tv*

*Indah : You helped carrying ... you're strong ...*

.....

*Mamar : Just the clothes*

*(Mamar, female, 10)*

*(Indah, female assistant)*

*Jo : [Neighbours] [h]elped each other?*

*Jo : Did you help?*

*Charli : Yes*

*Jo : What did you do?*

*Charli : **Carrying the tables***

*(Jo, male assistant 1)*

*(Charli, male, 10.5)*

These actions confirmed children's active participation in adult society. The inclusion of children in the flood response and recovery activities by parents and other adults acknowledged and enabled children's capabilities to contribute to adult society. These capabilities, however, extend beyond the practical actions described and merit further examination.

### 5.3.2 *Capability*

Children's capabilities have already been demonstrated in how they carried out many of the practical tasks that arose as a result of the flood. They helped their parents, moved small things, packed up belongings, and carried out daily living tasks like cooking. They were active in their community and peer group, showing compassion and helping with communal work. Yet children also have knowledge about their environment, and the ability to gather information and to formulate plans as demonstrated by the child-run interviews and flood-safe community plans (FSC Plan). The child participants were able to explain what they would do in practical ways in the event of another flood and offer ideas to prevent floods from occurring. Moreover, the knowledge that they gathered about reducing the risk of the flooding was combined with the recognition of the need to work together in order to accomplish these aims.

#### 5.3.2.1 *Existing Knowledge and its Sources*

The child participants showed a clear understanding of the environmental causes of the flooding as well as the influence of human society on the environment. The causes frequently identified by the participant were: continuous heavy rain for two days; garbage blocking the water channel, river and gutters; (illegal) logging; and the dam being closed or overloaded.

*Indah* : Do you know why the flood happened?

*Leon* : Mhh ... Because of people **throwing garbage** not at the right place.

*Indah* : And?

*Leon* : Rain. **Heavy rain.**

*Lucy* : Heavy rain

*Leon* : For two days

Lucy : *Two days three nights*  
Leon : *All day long*  
*(Lucy, female, 11)*  
*(Leon, male, 12)*  
*(Indah, female assistant)*

Jo : *What caused the flood?*  
Romeo : ***Disposing the garbage in the river ...***  
Jo : *And ..*  
Romeo : ***Heavy rain***  
*(Romeo, male, 9)*  
*(Jo, male assistant 1)*

Jo : *Other than the rain, what else caused the flood? Other than rain? The cause of flood?*  
Madrid : *Because because*  
Charli : *Because ... The dam was overflowed*  
*(Madrid, male, age 11)*  
*(Charli, male, 10.5)*  
*(Jo, male assistant 1)*

Jo : *What caused the flood?*  
Ronaldo : ***heavy rain, the dam was overflowed ... too much water***  
*(Ronaldo, male, age 13)*  
*(Jo, male assistant 1)*

Jo : *How did the flood happen in the past?*  
Jordan : ***Throwing garbage carelessly***  
*(Jordan, female, 11)*  
*(Jo, male assistant 1)*

Jo : *What do you think was causing the flood? How did the flood happen?*  
Bella : *Because it was **raining continuously***  
Kristian : *The rain was heavy*  
*(Bella, female, 9)*  
*(Kristian, male, 9)*  
*(Jo, male assistant 1)*

- ◆ *lack of awareness, people still **throw garbage** in the river*
- ◆ *people's own recklessness, **cutting trees** recklessly in the forest or by the river*
- ◆ *Heavy, consistent **rain***

*(FSC Plan 5)*

Many of these reasons for flooding, in particular logging and garbage, were also cited by another group of Central Javanese children who were involved in a DRR workshop (Plan, 2008). Concerning the possibility of future flooding, several child participants said that it could flood again in the event of heavy rain;

*Jo* : So if you stay here there might be flood again?  
*Kristian* : It might  
*Bella* : It can  
*Bella* : When the **rain is heavy, it will flood again**  
*Bella, female, 9)*  
*(Kristian, male, 9)*  
*(Jo, male assistant 1)*

*Jo* : Can it flood again in the future?  
*Crisjon* : Can  
*Jordan* : can  
*Crisjon* : it can ..  
*Donal* : Hopefully not  
*Crisjon* : **If it rains** ... hopefully not  
*(Donal, male, 10)*  
*(Jordan, female, 11)*  
*(Crisjon, male, 9)*  
*(Jo, male assistant 1)*

Following a discussion of garbage being a cause of the flood, another participant said the possibility of future flooding would depend on the people who care for the river, as to whether it gets blocked again by garbage.

*Jo* : It can flood again, right? If it's blocked, it can cause another flood?  
*Dela* : Hopefully not  
*Romeo* : **Depends on the people who care for it**  
*(Dela, female, 10)*  
*(Romeo, male, 9)*  
*(Jo, male assistant 1)*

The complex interactions of natural and societal causes may not be entirely understood by the participants, as some of the scientific reasoning appeared to be confused by some participants, but the human influence behind the flooding was certainly grasped. One boy wrote a poem about the flood as part of his group's flood-safe community plan. In his poem, the boy expresses sorrow over humanity's treatment of the natural environment.

### Flood

Flood ...  
 You come from human  
 We can't take care  
 [of] the beauty and keep the world clean

Flood  
You come from us  
Some cut trees down illegally  
And some throw garbage recklessly

Flood  
We want you to subside  
We want you to forgive  
our fault  
So we can  
see the beauty of the world

*(Leon, male, 12)*

The wisdom and awareness displayed in this poem reveal that the children can and do comprehend the impact of human actions on the environment. Similarly, in another group interview, the participants recognised how the careless actions of a few people affect the whole village.

*Rooney : Yes, they [parents] said the flood happened because of lots of garbage*

*Jo : Lots of garbage ... does it mean lots of people threw their garbage carelessly?*

*Rooney : Yes*

*Carli : Yes that's right*

*Kantel : Yes that's right*

*Kanel : Only some threw them, but it **affected the whole village***

*(Rooney, male, 13)*

*(Carli, male, 13)*

*(Kantel, female, 11)*

*(Jo, male assistant 1)*

This conversation, which took place during the first set of group interviews, also indicates that parents are a key source of flooding information. Much of the knowledge that the child participants have about flooding has been gleaned from interactions with family, friends, neighbours, and teachers. Furthermore, this information passes through communication channels without formal prompting. Many of the ideas that the participants used in the flood-safe community plans were ones that the participants had already listed in the group interviews, prior to them conducting the interviews.

The interviews conducted by the children as part of the research activities (see Section 3.6.1.2) were designed to help them access additional information about flood prevention, and to understand who they turn to for information. They were asked to interview two people: a parent and one other person of their choosing. For their second interview, the

children chose siblings, friends, neighbours and a school teacher. According to the second questionnaire, some of the reasons why these individuals were chosen were because they are “*smart*” (*Tailor, male, 10*), they “*know more about the flood*” (*Jesika, female, 11*) and “*because I can trust him*” (*Genie, female, 11*). One boy repeated these sentiments, saying the person can be trusted because of who they are.

*Dimas* : Why did you choose that person to be interviewed? ...

.....  
*Leon* : You can **trust them**

*Dimas* : Why? ...

*Leon* : Because of the person

.....  
*Leon* : Because you can trust them

(*Leon, male, 12*)  
 (*Dimas, male assistant 2*)

In other words, the interviewee’s relationship with the child heavily influenced the children’s confidence in the information given. The choice of interviewees also revealed that informal, trusted sources such as family and friends are favoured over more formal sources. Admittedly, the issue of access to formal or ‘expert’ sources could be a contributing factor.

It is difficult to determine what the child participants learn about flooding in the formal scholastic setting. Accounts varied between the teachers and headmasters interviewed, and between schools. The teacher of a Year 5 class said that there is no lesson about how to act or react to a flood, but that information about tackling flood problems is often given verbally (The participants were spread across Year 4, 5 or 6, 11/11/8 children respectively, with the exception of one participant who was in Year 3). Yet he also mentioned that the Year 5 and Year 6 classes were asked to write a story about the flood and how to handle it. The headmaster of this same school said the children studied flooding and how to prevent it in social science classes in Year 5 and Year 6. The headmaster of the adjacent school, however, made contradictory statements about lessons about flooding; first saying the topic was covered in all years, but then that “*there is no such thing yet*” (*Principal 2, male, n.a.*) as specific lessons. The Religion teacher of this school confirmed this statement, saying that there were no lessons about the flood, written or verbal. In fact, both men acknowledged that the children learn about flooding through their daily life experience, society and the media. Nevertheless, several of the child participants did say they learned about some of the

causes of flooding at school, so, regardless of the method of transmission, some knowledge is being gained at school.

The children clearly demonstrated they understood the basic reasons why flooding happens and the complexities of human and environment interactions. Much of this information came from informal trusted sources like family; though some was gathered at school, whether in lessons or informally. These findings are consistent with literature that indicates children often develop their understanding of hazards from family, friends and school (Babugura, 2008). In addition, people look to community members for information concerning hazards or disasters that confront their community and that trust in the information sources plays a large role in following the advice given (Paton, Smith, Daly, & Johnston, 2008). The role of schools in providing hazard information and in DRR is well recognised (K. Morris & Edwards, 2008; Ronan & Johnston, 2005; Wachtendorf et al., 2008). This research suggests that some information about flooding is given to children at school, but the conflicting reports between teachers and principals indicate it is neither a formal part of the school curriculum nor consistently taught. Schools are being promoted internationally as central to DRR (ISDR, 2007; Wisner, 2006), but as this study reveals, this advice has not yet been adopted by the researched communities' schools. Nevertheless, the knowledge that the children did gain from these sources and their own life experiences provides them with the tools to respond to future flood events with relevant practical actions.

### ***5.3.2.2 Practical Actions***

The practical actions that the participants would undertake in the event of another flood fall into the categories of preparation and response. The most frequently mentioned actions were saving belongings and helping parents. They also offered sage advice concerning things that should or should not be done during a flood.

The actions that appear in the flood-safe community plans or were mentioned during the discussions are to: keep belongings safe from water (evacuating them if necessary); find a safe place to live; help parents, siblings and relatives; clean the house; build tents; work together; keep some medical supplies; be aware of the weather; and pray. Staying with family, taking care of them and finding money for food were also noted.

- ◆ *Help parents*
  - ◆ *save valuable belongings*
- (FSC Plan 4)

- ◆ *Stay with family during the flood*
  - ◆ *Place or take the valuable belongings to a safe place*
  - ◆ *Take necessary medications*
  - ◆ *Listen to the weather report during rain*
  - ◆ *Take care of the family and save them during the flood*
- (FSC Plan 3)

- ◆ *Keep the belongings in dry and waterproof place*
  - ◆ *Choose a safe place to keep the belongings and for us to stay safe*
  - ◆ *Look for a safe place to live*
  - ◆ *Don't live our house*
  - ◆ *Don't play with dirty water, we'll get sick*
  - ◆ *Don't miss studying even during flood*
- (FSC Plan 1)

Several participants made specific reference to preparation saying, “*prepare things before it happens*” (Romeo, male, 9). A few participants discussed that clothing was wrapped or put into a sack before the flood so it could be evacuated quickly if the flood did occur.

*Jesika: The river water was high in the evening before, the clothes were put in safe place*

*Mamar: **In a sack***

(Jesika, female, 11)

(Mamar, female, 10)

*Dimas : So, what do you have to do to reduce the risk, what?[...]*

*Calsye : To **wrap the clothes***

*Dimas : That can be, to wrap the clothes ... for example ... you mean to wrap it with plastic so it won't get wet?*

*Calsye : Yes, with fabric*

*Dimas : Ohh ... so you can run fast or ... what? Why you need to wrap it?*

*Calsye : So you can **carry them***

(Calsye, female, 9)

(Dimas, male assistant 2)

*Took a cardboard box and **put** the valuable things on top at the **safe place***

(Romeo, male, 9)

Following the same line of reasoning, another participant offered the advice to be prepared to move belongings.

*Bella* : *Advi[s]e them to be prepared (talking about friends)*  
*Jo* : *To be what?*  
*Bella* : ***Prepared to lift the stuff to a higher place so it won't get [reached] by the water during the flood***  
*(Bella, female, 9)*  
*(Jo, male assistant 1)*

The child participants were asked what advice they would offer to other children who may be faced with a flood. Some of the advice given is:

*be patient* *(Lucy, female, 11)*  
*don't swim* *(Pamungkas, male, 11)*  
*just help* *(Kantel, female, 11)*  
*don't play in the water too long* *(Melati, female, 11)*  
*never give up* *(Leon, male, 12)*

Interestingly, this advice and some actions listed plainly reflect the cultural conditions and social attitudes that define the children's lives. The priority placed on saving belongings reflects the reality of living in poverty; while reference, in the flood-safe community plan, to studying even during the flood emphasises the importance of education.

In addition, the practical actions that the children undertook and suggested to others are ones that they believe can be accomplished within the constraints of their lives as children. The children showed that they understood the limits of their abilities. When asked what barriers prevented them from implementing their plans, several participants mentioned that it would be difficult to accomplish the following tasks:

*Carrying heavy belongings* *(Bella, female, 9)*  
*Can not clean the river quickly* *(Kantel, female, 11)*  
*Building tents to live in* *(Yohana, female, 11)*

In each of these cases, the participants suggested that these difficulties could be overcome by asking for help and working together.

*Asking for help* *(Bella, female, 9)*

*Working together*

*(Kantel, female, 11)*

*Building tents together so it's faster*

*(Yohana, female, 11)*

Thus, the child participants were not only able to demonstrate their capabilities by understanding their environment and actively applying this knowledge, they also recognised the constraints they face. Furthermore, they saw that some of the barriers to these practical actions could be overcome by involving others from both adult society and their peer culture.

According to Manyena et al. (2008), some of the barriers to children's involvement in DRR activities can be solved by offering practical examples of what children have done during disasters. In order to overcome the debate of "children's participation", they argue that "the way forward is to demonstrate 'children's resilience actions'—what children are capable of doing at the individual and community level as part of human agency" (p. 323). One informant in their study made particular reference to the social and cultural context of the community in saying,

While we appreciate the need for children not only to be involved but to be taken seriously when they make decisions, we need to be cautious in our approach. We need to take into account the socio-economic and cultural contexts of their respective communities. ... The way forward is to demonstrate what children are capable of doing by setting up practical examples such as tree growing. (Manyena et al., 2008, p. 319)

The practical actions accomplished by the children in this study demonstrate their capabilities and prove the value of their involvement in DRR activities. While the actions outlined here are primarily in preparation or response to a flood event, it would be ideal to prevent the flood from occurring in the first place, or at least to minimise the risk. Ideas for flood prevention and risk reduction were also included in the flood-safe community plan.

### **5.3.2.3 Prevention**

The child participants demonstrated their abilities to apply their knowledge of flooding and its causes by proposing avenues for flood prevention and risk reduction. The children's own ideas were combined with suggestions made by interviewees during the child-run interviews to create the flood-safe community plans, which revealed several recurring ideas. Common ideas were planting trees by the river, stopping illegal logging, reforestation, and

stopping littering. Other infrastructure related ideas referred to improving water drainage and strengthening and raising the dam. In order to reduce the risks posed to homes, they suggested that gutters should be cleaned, more drainage built and houses raised or relocated to areas safe from flood risk. In addition, a few participants recommended that people learn how to watch the river to understand how and when it floods and to clean up the river and environment. Some of the prevention ideas were offered prior to the creation of the plans:

*Dimas : Just tell us how to prevent the flood*

*Rooney: It is easy ... by **cleaning the drainage** ... so it won't be flooded.*

.....

*Dimas : Why can the drainage, a dirty drainage can cause flood?*

*Rooney: Well it will get jammed*

*(Rooney, male, age 13)*

*(Dimas, male assistant 2)*

*Indah: Then what will you do to prevent the flood?*

.....

*Leon: **Throw the garbage at the right place***

*Indah: And?*

*Lucy: **Keep the environment clean.***

*Indah: Really? Are you sure?*

*Leon: **Didn't cut down trees carelessly***

*Indah: This is education from school. Lesson at school.*

*Lucy: Yes*

*(Leon, male, 12)*

*(Lucy, female, 11)*

*(Indah, female assistant)*

*Dimas: But do you think natural disaster can be prevented?*

*Donal: Cannot*

*Ricirit : Can*

*Dimas: How?*

*Ricirit: It's easy, **plant trees***

*(Donal, male, age 10)*

*(Ricirit, male, 12)*

These ideas were added to by the child-run interviews:

*to reduce risk: pay close attention to **cleanliness of the river***

*(father – intv by Melati, female, age 11)*

*How, by telling the people **not to litter**, then work together by **cleaning the drains** or sewers. Cut trees in the wood and make flood gate*

*(friend – intv by Donal, male, age 10)*

*Garbage in what place ... do not litter in the river.. to tackle the flood.. then.. what is it.. **not to do illegal logging**.. must use*

*selective logging method ... selective logging means cut teak trees or old trees.. or trees that might disturbed the roads.. so the logging is not random..*

*(teacher – intv by Leon, male, age 12)*

The flood-safe community plans that the children developed included the previous ideas and those they gathered from their own interviews:

- ◆ *Plant trees*
  - ◆ *Raise the dam height permanently*
  - ◆ *Stop throwing garbage recklessly*
  - ◆ *create gutters / water channel*
- (FSC Plan 1)*

- ◆ *Plant trees together*
  - ◆ *make a permanent dam*
- (FSC Plan 2)*

- ◆ *Build a reservoir or dam to keep the rain water*
  - ◆ *Don't throw garbage recklessly*
  - ◆ *Build residencies far from the river*
  - ◆ *Make enough water absorption place[s]*
  - ◆ *Plant trees on tree-less area*
  - ◆ *Prohibit illegal tree-cutting*
- (FSC Plan 3)*

- ◆ *throw garbage in the right place*
  - ◆ *Plant more trees*
- (FSC Plan 4)*

- ◆ *Create dam/water gate*
  - ◆ *Build a strong and permanent dam*
  - ◆ *Work together in planting trees by the dam to stop the flood*
  - ◆ *Inform the people not to throw garbage into the river/gutter*
- (FSC Plan 5)*

- ◆ *Raise the house height*
  - ◆ *Raise the dam height*
  - ◆ *Clean the gutters*
  - ◆ *Plant trees*
- (FSC Plan 6)*

Of these ideas, the most frequently mentioned was to stop littering. The topic of garbage and littering was mentioned in every group interview, often listed as a cause of the flood and one of the first things the children mentioned when asked how to prevent flooding. It was also identified by the interview facilitators and the adult interviewees; suggesting

general agreement in the society. The phrase “*jangan membuang sampah sembarangan*”, which means “do not litter” was repeated mechanically by the child participants. For instance, in one group interview the facilitator mentioned that littering could be a cause of the flood and the children chimed in as though they were repeating a rule or lesson they had heard over and over.

*Indah : Do you know what also could cause the flood? Because the garbage was thrown*

*All : Recklessly ...*

*Indah : recklessly. You know ...*

*(Indah, female assistant)*

The child participants were asked, in part of the second questionnaire, which parts of their flood-safe community plans they could carry out in their daily lives. Eleven of the nineteen respondents said that stopping littering was something they could achieve. Some participants said that they would be brave enough to tell older people not to litter. One participant said it is “*easy not to litter*” (*Bella, female, 9*) while another said in his plan that advising society not to litter is the thing he can do most. The conversation in which the boy said he would advise society not to litter, however, reveals a contradiction that exists between ideals and reality.

*Romeo: Third way, to advice the society not to litter.*

*Dimas: What can you do the most?*

*Romeo: The third.*

*Dimas: Third is the fastest right? But you still litter, don't you?*

*Romeo: Still.*

*(Romeo, male, 9)*

*(Dimas, male assistant 2)*

While the participants may say that one should not litter, some actively do. Following one of the group interviews, I found several little wrappers from the chocolates the participants had been given at the end of the interviews on the ground. There was a small food stall two to three metres from where the wrappers lay, so the children could have put their wraps into a bin if they wished, but some obviously did not. Such small incidents point to a deeper attitude of denial that was identified by the same male participant who still litters, saying that no one wants to admit that they litter even if they do.

*Jo* : *Who threw the garbage in the river?*  
*Cinta* : *No one*  
*Romeo* : *No one wants to admit*

*(Cinta, female, 10)*  
*(Romeo, male, 9)*  
*(Jo, male assistant 1)*

Littering is therefore a cultural issue as the attitude towards littering is the problem, not an inability to deal with the garbage. There will likely have to be a change in mindset if there is to be lasting change. A neighbour who was interviewed by two of the child participants recognised this principle; that if there is to be true change toward flood prevention, it must come from within the society.

*But for prevention I think it **must come from the human itself**, such as not to litter, especially in the river or drains, because it will hamper the flow of the water and it will cause flood.*  
*(neighbour – intv by Melati, female, 11)*

This idea was repeated by others who were interviewed, both children and adults. Yet transforming this growing awareness into effective action appears to be the crux of the matter. Factors that may be impeding progress are a persistent lack of awareness on the part of some, and a failure to appreciate the connection between the natural environment and societal activities. The following conversation with one of the Bapak RTs is illuminating:

*Jo* : *What do you think was the cause of the last flood?*  
*Bapak 2* : *I think it's because of the rain ... the rain was a bit strange*

*Jo* : *So it's natural cause?*  
*Bapak 2* : *Too heavy and long ... the rain was long ... the water gate wasn't really functional*

*Jo* : *The water gate wasn't functional*

.....

*Jo* : *Natural cause or any other factors?*  
*Bapak 2* : *The flood plain, in Solo ... people were throwing garbages recklessly in the river, the river became shallow*

*Jo* : *The river became shallow*

*Bapak 2* : *Yes*

*Jo* : *Because of the people*

*Bapak 2* : *Yes ... they are often throwing the garbage recklessly ... we've seen it a lot ... we used to live by the river for 12 years ... we saw the problem ... the people who lived there were throwing their garbages ... often people from outside the area would throw out clothes ... it's like a tradition*

*Jo* : ***Lack of awareness***

*Bapak 2 : That's right ... lack of awareness ... and they cut down the trees by the river ... because no one owned the land ... so they did what they wanted ... and the dam was build in ... 1985 ... it was build to tackle the flood problem ... during the last flood, the water was only 5cm from overflowing ... if the dam was overflowed, this area would be finished ... I took the mayor there*

*Jo : Pak Gani*

*Bapak 2 : Pak Gani ... I took him to see ... he was shaking his head ... he **did not even know** his house was potentially to be flooded*

*(Bapak 2, male, n.a.)*

*(Jo, male assistant 1)*

Even when citizens are conscious of the issues, it does not mean that measures meant to deal with them are 'effective'. In another interview with a Bapak RT, the issue of littering arose. He explained that a program had been created to solve the littering problem, so according to him it was no longer an issue.

*Jo : How about the garbage/waste?*

*Bapak 4 : It's the most important aspect, and for our area, we have warned the community not to dispose their garbage in Bengawan Solo river. And everyday, or three times a week, there is a garbage collection. It is also a program from the city government. So the garbage problem in Solo, it's been in a program and it can not be classified as a problem.*

*(Bapak 4, male, n.a.)*

*(Jo, male assistant 1)*

Unfortunately the current state of the city and some of its waterways indicates that the problem has not been entirely solved. On the other hand, it presents a potential opportunity for children to express their agency and capabilities. It is a matter the participants identified as a problem and they believe that stopping littering is something they can achieve in their daily lives.

Littering and poor waste disposal is a theme that has been raised in other DRR projects conducted with children (Bartlett, 2008a; Plan, 2008; Tanner, 2010). Just as in the case of the child participants of this research, the children involved in these studies recognise littering as a problem in their communities, have a desire to change it and believe they can play a role in educating their parents and community to do so. Children are viewed as "a relatively untapped source of motivation within a community" (Ronan et al., 2008, p. 342),

so this may be one area in which the child participants can provide the motivation and be a driving force for action.

The final portion of this chapter considers how these findings are positioned within the current disaster field, how this study adds to current knowledge and how it has identified areas for further research.

## **5.4 Discussion**

This research demonstrated that children in Solo who experienced flooding were affected by the broad social and cultural factors that bear on their lives. The research enabled an analysis of five broad areas of social practices, attitudes and conditions: *gotong royong*, local government organisation, religion and worldview, scholastic orientation, and poverty.

### *Gotong Royong*

Prior to commencement of the research, the influence of *gotong royong* was not known to me. This was partly because I lacked understanding of the cultural context and partly because there is little written cultural information that has been translated into English. The translated literature that does exist is largely from the 1950s and 1960s and it is difficult to determine whether this information is still valid or if there have been cultural shifts within the last fifty years. This is particularly true of literature pertaining to familial relationships and children.

Once on the ground however, it became immediately obvious that the structure of *gotong royong* influences children. The practice, which relies on the collective efficacy of community members, recognises that children are able to contribute to the community and enables them to do so. The example of children helping clean the school points directly to this practice. The term “*kerja bakti*” (Bahasa Indonesia term for the Javanese *gotong royong*) which means ‘communal work’ was specifically used by one of the children to describe how they helped clean up the school. The children’s abilities were acknowledged, respected and utilised in the recovery effort through the tradition of *gotong royong*. Bartlett’s (2008b) premise, that “respecting children’s capacities” and enabling their active participation reduces children’s vulnerability and increases their resilience, is borne out in

the cultural practice of *gotong royong*, which not only provides an outlet for children to use their abilities and contribute to their community, but also increases their resilience.

*Gotong royong* is a culturally specific practice in Indonesia and its presence would not be expected in other cultures, which limits the transferability of these findings to other cultures. One comparable instance though is the Hakka Spirit in Taiwan, which also uses reciprocal support in adverse situations (Jang, 2005). The use of the reviewed cultural dimensions, Humane Orientation and Individualism index, however, may provide a route forward in other cultures. The practical examples of *gotong royong*, and the principles underlying this tradition, support the idea that Indonesian society has a high Humane Orientation and low Individualism. A society with a high Humane Orientation is presumed to comprise individuals who are compassionate to others and assist family, friends, neighbours and strangers in whatever ways possible. The strong commitment to contribute to the good of the community and do so through collective actions are typical of a society with a low Individualism rating. Thus, the traits seen in the practice of *gotong royong* in this flood event are similar to those expected in a society with a high Humane Orientation and a low Individualism. It follows then that societies with similar cultural dimensions may also respond to a disaster in a similar manner as seen in *gotong royong*. Further research into a possible link between *gotong royong* and cultural dimensions characterising high Humane Orientations could open the possibility of discovering practices in other cultures that influence children's disaster experiences in a similar way.

#### *Local Government Organisation*

The culturally specific organisation of local leadership enables face-to-face interaction with government on a level that is atypical in most Western countries. If compared with a municipal government in New Zealand, for example, Solo evidences three additional layers of government in between a resident and a city councillor (see Figure 2-2). The presence of a structure like this in an urban environment confronted stereotypes (and my own expectations) that urbanization typically leads to a break down in traditional community structures.

In normal daily life, this structure allows community needs to be heard and addressed. Residents come to the Bapak's homes if they have concerns about the community and some municipal administrative work is also done by the Bapak. Therefore, when the flood event occurred there was a pre-existing chain of command through which larger community

decisions were made and aid provisions distributed easily. One mother, for example, had noted that residents had gathered at the Bapak's home in order to receive food aid. Other residents noted that they were aware of who to seek information from and where to direct their concerns. The local leadership structure appeared to provide a stable environment during the flood event, and helped ensure safety for the children. The children knew, trusted and respected these leaders, and were aware that their welfare and that of their families was being tended to as well as was possible. The Bapaks, for their part, ensured that "*kids and elderlies were prioritized*" (Bapak 3, male, n.a.) during the evacuation and demonstrated that the local government was able to contribute to lowering the vulnerability of children. It could be argued that similar efforts to prioritise children's needs are common in most disaster situations (Jabry, 2002). However, in this instance, those in charge could be held accountable because they were known personally by the community in a way that is only possible with this level of devolved responsibility. The extent which devolution affects children's resilience may be an area for future research.

### *Religion and Worldview*

In addition to these quite specific cultural instances, religion and worldview appeared to more broadly influence children's experience in at least three ways. First, their holistic worldview derived from their cultural and religious beliefs governed the way in which the event was perceived. The explanations of why the flood event occurred and what could be done to prevent future floods referred to both physical and spiritual elements. Prayer was mentioned frequently as a religious practice done in conjunction with prevention actions. This worldview therefore enabled them to be proactive on two levels, both spiritual and physical.

In Indonesia, the holistic worldview, that does not see a separation between the spiritual world and physical events, has received some criticism. Makin suggested in the *Jakarta Post*:

We should be able to differentiate between scientific explanations and mythical belief, so that preventive action can be taken ... Mythical and religious perspectives, which can easily be distorted by preachers and politicians to make people afraid, still dominate our perception of nature.

(Makin, 2010)

Interestingly, the children in this research did not appear to be troubled by tensions implied here and, indeed, they seemed able to be able to differentiate and draw on both physical and

spiritual aspects, referring to the influences of both ‘fate’ and ‘deforestation’ in their accounts.

Second, fatalism often appears in discussions of the specific context of the Islamic worldview and it did so here. The belief that there may be a higher power that is in control was identified by participant’s remarks. Fate, God, and the role of the mosque (and the church) featured strongly in the participants’ accounts. While the notion of fatalism did arise, I would argue that it did not conduce to apathy or paralysis in the participants, but more an acknowledgement of the limits of human abilities. Rice’s (2010) explanation of philosophers’ views of fatalism aligns with this supposition:

Though the word “fatalism” is commonly used to refer to an attitude of resignation in the face of some future event or events which are thought to be inevitable, philosophers usually use the word to refer to the view that we are powerless to do anything other than what we actually do. (para 1)

Therefore, the mention of fate and the like by the children and adults in this research is more an acceptance of the reality before them, knowledge of their limits in controlling large-scale events and possible future events, than a belief that they have no influence. Instead they recognised societal influences on flooding and that there were actions they could take to prevent flooding.

Third, this study reveals that religion should not be seen as a barrier to actions in the disaster context, but as a way to provide motivation to people to act. The example of the religion teacher explaining the cause of flooding in terms of good and bad moral deeds gives further motivation to those listening because flood prevention then becomes a moral issue, not only a practical one. Moreover, religious beliefs prompted religious institutions, such as churches and mosques, to respond to the needs created by the flooding. The donations of school supplies and provision of shelter by religious institutions were noted by both children and adults. The continuation of normal religious services also provided a degree of stability, which is believed to increase children’s resilience (Hestyanti, 2006; J. Morris et al., 2007). If children’s beliefs are ignored in a disaster context, a significant aspect of their lives is discounted and possible coping mechanisms found in religion (Weissbecker et al., 2008) are undermined. Therefore, religion played a positive role in the children’s experience and this study demonstrates that it can increase children’s resilience.

The motivation that religious beliefs provide for actions in both prevention and response activities in a disaster context is worth further investigation.

### *Scholastic Orientation*

The value that is placed on education emerged strongly in this study. Both children and adults distinguished it as being very important and their reactions to its interruption by the flood were telling. The inclusion of school supplies and its ranking as the fourth most important item on the priority lists, above other items such as clean water and electricity, furthered underlined its importance.

There is a growing conviction, to which this study adds empirical evidence, that the disruption of education by disasters is a significant concern for children. The priority of education in a disaster setting was identified by the Children in a Changing Climate Coalition which has developed a Children's Charter for Disaster Risk Reduction, unveiled at the Global Platform for Disaster Risk Reduction in May 2011 (CCC, 2011). Five key points, based on common themes identified during consultations with several hundred children, are listed in the abbreviated version of this charter, and the first refers to education: "Schools must be safe and education must not be interrupted" (Save the Children, 2011, p. 1). Education was said to be the "most commonly occurring theme and prioritised by all children" (Save the Children, 2011, p. 2). In Solo, evidence pointed to the interruption of the education process by a natural disaster event as being a concern for the children.

Education is likely prioritized by those involved in this study is because it offers children the opportunity to be successful. Educational success, in this Solo community, is understood as a pathway out of poverty. The mothers interviewed implied that, by studying, the children could become successful and then, later, they can assist their parents. Given the poverty of the community and the constraints poverty places on children's lives, it is not surprising that education is valued by so many because it does represent a feasible way children can escape poverty. This strengthens the belief that education is one of the greatest concerns of poor children living in developing countries affected by disasters.

Differences in how parents perceive the priority of formal education in the face of disaster was revealed by the comparative analysis of this study with Babugura's (2008) study of children affected by drought in Botswana. In both studies, the children desired to continue their education. In Solo, the children received very strong support from their parents to

re-engage with schooling as soon as possible. Some children in the Botswana study did not and they were removed from school by their parents in order to help at home. Given the presence of poverty and esteem of education by the children in both communities, the contrasting responses of parents were surprising. Though far from conclusive, this study of a flood hazard rather than a drought hazard suggests that parent's perspectives and decisions may be influenced by the duration and severity of the event and the degree of poverty. Therefore, children's access to education in and following disaster situations is a complex issue and barriers may arise in both the home environment and externally. The differences between children's and parents' prioritization of education in disasters is an area for further investigation. On broader scale, the 'triangle' linkage of poverty, education and disasters is a matter that merits more exploration as it was revealed by this study that the three are entwined and cannot be regarded as independent elements.

### *Poverty*

The Solo floods and the participant's responses to them highlighted that poverty was a significant determinant of children's vulnerability and influenced their experience of the flood event. It was not only the greatest determining factor in how well a family was able to recover from the flood event, but also influenced who was affected most.

The children whose homes were flooded the most (up to the roofs) and lost the most possessions were those living on the floodplain. They were also, in general, among the poorest in the community and lived on government-owned land because they could not afford to buy land. Thus, poverty had made these children more vulnerable because it forced them to live in an area more likely to be affected by a hazard event. The flood inflicted a disproportional impact on the poorest, and the impacts of both the loss of possessions and the loss of income, affected these poorest families most.

Most of the distress expressed by the child participants was over the loss of possessions, which appeared as a theme in every type of data. It was mentioned most frequently and appeared to affect the children the most emotionally and practically. While some possessions, such as those with sentimental value, could not be replaced, others (houseware, shoes, clothes, books, appliances, furniture) could if there was sufficient money. But the lack of funds was the problem for some families, particularly in regard to expensive items. Saving expensive items was therefore a priority that emerged in the children's drawings and group interviews. This participant's drawing, which was used earlier to illustrate how

people assisted others, also depicts a TV and radio on top of the roof with the people (Figure 5-17).



**Figure 5-17: Child participant drawing (Aquarius, female, 9)**

*TV and radio on roof with people*

Limited monetary resources (and no insurance) led to the flood having significant long term effects. The loss of income to a family was crippling at the time of the flood and forced residents to rely on government assistance and the generosity of others for their daily needs. Fortunately, the short duration of the flood event and the continuation of employment for parents allowed income to return quickly. The losses of possessions incurred during the flood on the other hand could not be made up as easily. This research has shown how a disaster can have a severe impact on poor children because of its ability to wipe out financial reserves. Families in developing countries typically have no mechanism, such as insurance, to replace items outside of donations.

While poverty did result in longer lasting flood impacts in the lives of children, cultural mechanisms such as *gotong royong* and the local government organization operated during and after the event to counter these impacts and lessen children's vulnerability. As Yodmani

(2001) pointed out, poverty is “only *one* of the several dimensions of vulnerability ... .A poor community may be economically vulnerable but at the same time may have social, cultural and political capacities to cope with disasters” (p. 4). In this case, all of the affected children received replacement school supplies, books from civil and religious groups and government assistance for new school uniforms, so the children could resume their highly valued education as soon as possible. The impact of one social condition, poverty, was tempered by other cultural practices and social institutions. Thus, within the cultural and social context in which the children live there was a complex interaction of socially and culturally specific practices, attitudes and conditions that shaped their experiences of the flood event.

In the same way, the interaction of the geographical and circumstantial factors of this event created a distinct experience for the children. This research revealed sites in which the children tended to interact with the flood events and the impacts of the flood on their lives during and after the event.

#### *Geography of Daily Life*

By looking at the geography of children’s daily lives, the four particular sites in which they experienced and interacted with the flood events were easily identified: home, school, streets and public places. The impacts of the flood on the activities that take place in these physical spaces and the relationships that operate within them were also better understood. Normal activities were suspended or adapted to the new geographic conditions. For the most part, relationships continued; though some experienced a degree of separation, in the case of some families, and an alteration of roles, for example, with teachers and students becoming ‘cleaners’. Overall though, the presence of the floodwaters across all of the spaces the children inhabited increased their vulnerability because it led to the disruption of routines and significant relationships.

The focus of this Solo study on the “geographies of impact” confirmed that a lack of ‘safe’ space in which children can play following a disaster is an important issue. The flood stimulated children’s creativity causing them to invent new ways of the playing, yet the lack of physical spaces where activity could be carried out safely increased their vulnerability to health risks, as children turned to the flooded streets as an alternative playground.

The importance of context in a disaster research was also highlighted by viewing the flood spatially. These physical spaces were temporarily altered by the flood, but their return to 'normal' was fairly rapid (within one to two weeks) following the initial event. In contrast, a permanent loss of space, the destruction of buildings or landscape, in any of these four physical sites would have had greater consequences because the activities these spaces sustain would need to find an alternative site or cease. The Solo experience tends to confirm that it is the permanent loss of particular spaces within which peer social interactions take place that is more likely to have a detrimental effect on children's lives.

### *Traumatic Exposure*

The traumatic exposure that children experienced was also determined by the context of the flood event. The week-long duration and relatively small scale of this flood event were some of the most significant circumstantial elements that minimised their distress. The flood's intermittent nature and its effects on children's homes and possessions, however, was the principal source of distress.

The short duration of the flood reduced the stress that can come with not knowing when, or if, 'normal' life will resume again (Myers, 1989). It allowed for daily routines to be suspended rather than having to be significantly altered. Furthermore, the extensive social support that was available was sustainable over this period of time and those assisting did not reach a point of 'disaster fatigue'. The small scale of the event aided in this with assistance reaching affected residents easily. The city's unaffected infrastructure could be used to bring the supplies and personnel to the flooded zone rapidly and frequently. The minor to moderate intensity of the flood event contributed to the lack of injuries and fatalities which in turn removed the possibility of severe distress in the children (Vogel & Vernberg, 1993a). The intermittent nature of the flood event, three separate floods, removed the uncertainty of when the flooding would end, but instead, it frayed resident's nerves and led to more loss.

The impacts of the children's exposure to the floodwaters, chiefly water in their homes and the loss of possessions brought on by this, were captured in a vivid manner by the children's drawings. The children were given the simple instructions of drawing a picture about the flood. The content and insight that the drawings provided, however, was not something I had anticipated as the method had not been designed as a data-producing tool but as a medium of communication and to create a relaxed atmosphere for the group interviews. Yet

the drawings produced contained accurate portrayals of the height of water in the home, the inclusion of lost possessions and the stark contrast in tone between the children whose homes had been flooded and those whose had not. These drawings were able to express elements of the children's experiences, particularly the varying degree of traumatic exposure, in a rich way that the other multiple methods used could not have. Therefore, this study demonstrated that the use of drawing in disaster research may be valuable as it can express elements of traumatic experiences that may not communicated well through other mediums.

#### *Post-disaster Environment*

The post-disaster environment contributed to the resiliency of the child participants. The high level of social support, family and community networks that ensured safety and protection and the external support that assisted in the provision of adequate living conditions and basic needs made the steps to recovery easier for children. The donation of goods, for instance, allowed them to return to normal routines with the appropriate supplies. The distribution of this assistance, which came from a variety of sources, through local channels strengthened these pre-established relationships.

The social support offered by the community and external personnel had the positive effect of reducing the stress of parents who were trying to provide for their family's needs. The influence of parental distress on children's experiences in this study was surprising. Parental distress affected the children's *experience* of the flood event, in that they were aware and sensitive to it, but from the available data, it could not be concluded to influence their own *reactions* to the event. This was unexpected as parental distress is said to be one of the most significant factors in predicting children's anxieties (Ronan & Johnston, 1999, 2005). It is possible the research did not capture this aspect well, as it was not its principal focus, but the physical, emotional and social support given to parents by other community members may have lessened its influence, and consequently children's own distress and reactions.

When the reactions of parents and children were being examined, play emerged as a means of distraction for the children. In dealing with major life stressors, Prinstein et al. (1996) found that children commonly cope - coping being "the active attempt to deal with a major stressor or life event" - by using three types of mechanisms: "distraction", "reinstitution of familiar roles and routines" and "emotional processing" (p. 464). Each of these mechanisms was employed during the flood event. The child participants said they felt both happy and

sad: sad to have lost belongings, but happy to be able to play in the water. Hence, the water provided a distraction for them and helped them cope with the negative aspects of the flood. The reinstatement of familiar routines, which helped the children gain a sense of stability, was aided by the swift recovery of children's lives, especially at home and school. The concept of familiar roles is based on the notion that children play distinct roles in life, and these are "culturally and socially defined" (Dunbar, 2007, p. 60). In this study, children's roles were examined from the perspective of children as social actors. Their active participation in their peer culture and adult society and the demonstration of their capabilities through the application of their knowledge confirmed them as social actors. The continuation of their roles in their peer culture and adult societies aided their coping of the flood event, and thereby increased their resilience. The final coping mechanism, emotional processing, was found to take place primarily within the peer culture, where children talked about the flood with their friends.

### *Children's Cultures*

The presence of children's culture in the researched community emerged prominently in this research, in large part because the children were the primary link the research team had with the community. The elements of this culture that emerged in this study during the flood event are encapsulated in three primary elements: helping parents first, playing and helping friends. The participants made specific mention of prioritizing their family commitments over play, that they should "*less play and help our parents*" (Melati, female, 11). Therefore, this research strengthens the belief that disasters cause a reduction in time for play, even if it is semi-voluntary. The 'play' activities that the children did engage in were ones that were adapted to the flooded landscape. The ways in which the children assisted each other was both emotionally processing the impacts of the event together and practically, helping to move belongings and take care of younger siblings. Children's peer cultures, therefore, increased children's resilience to the flood event by providing them with a way to be actively involved in the recovery effort by their own accord and maintaining normal routines of play.

### *Participation in Adult Society*

The aspect of children's participation in adult society that stood out in this study was the influence of Indonesian cultural parameters. Many of the children's contributions were primarily through their familial role. Helping their parents stood out strongly as a priority, even over helping others. The assistance provided to parents, and the fact that it was

prioritised, reveals how children's agency was influenced by cultural parameters, which encourages a strong commitment to family and obedience to parents. By the same token, children's assistance of their neighbours followed cultural principles of mutual assistance (*gotong royong*). It could also be said that their desire and actions to help others exhibits the altruistic nature of the Indonesia society.

However, similar studies of children in disaster situations (Babugura, 2008; Klein & Huang, 2007) have also revealed the strong desire of children to help, so the degree to which this cultural parameter as a distinctively Indonesian cultural characteristic influenced the children is not clear. The Humane Orientation more generally might carry more explanatory power. This cultural aspect merits further investigation as it could be one of the factors which motivate children to contribute to family and community well-being in disaster situations. Nevertheless, what the Solo research does reveal is that children's participation in adult society during the flood was heavily influenced by culture practices and attitudes.

#### *Capabilities*

The influence of social and cultural attitudes was also seen as one of the three ways in which the children in this study manifested their capability. The first manifestation, the practical actions children undertook and the advice they offer to others, reflects the social and cultural conditions and attitudes of their lives. The two primary actions of children, ones they would also carry out in another flood event, were saving belongings and helping parents. The saving of belongings reflects the poverty of their lives and helping their parents reveals the notion of family as the foundation of Indonesian society. Furthermore, the advice to “[d]on't miss studying even during flood” (*FSC Plan 1*) reveals the importance of education.

The second way children manifested their capabilities is through the demonstration of knowledge about their environment. The children were able to recognise the environmental causes of flooding and the complexity of human influences on it. This knowledge was gleaned from family, friends, neighbours and teachers. The children's choices of informants for their interviews show evidence of informal, and more importantly, *trusted* sources being favoured by children when gathering information.

The limited learning of flooding at school was significant as school is being promoted as a central feature for DRR (ISDR, 2007). A review of the role of education and knowledge and

disasters conducted by Wisner (2006) listed three subjects as “most urgent and central: [t]eaching about hazards and risk reduction in schools; [s]chools as centres for community based disaster risk reduction; [and p]hysical protection of schools from natural hazards” (p. 2). The research findings indicate a lack of formal teaching of flood hazards and DRR in schools and the flooding of the two local schools demonstrates that the schools are not physically protected from natural hazards. There appears to be much greater scope for the involvement of schools regarding DRR in the researched community.

The third way in which the children demonstrated their capabilities was through the application of the knowledge they had to formulate plans and propose avenues for prevention and risk reduction. The most prominent prevention idea suggested was stopping littering. Though the children acknowledged it as something they could do in their daily lives to prevent flooding, it was something they still actively did. The problem lies deeper than simple ignorance of the issue, something that education could solve, based on the fact that children can mechanically repeat “do not litter”. In analysing the issue, it seems that it is the social or cultural attitude towards littering that seems to be the main problem. Determining the underlying factors that contribute to this attitude and identifying what inhibits children from following their own advice is something that needs more attention.

Yet this very issue of littering may present the best opportunity for children to express their agency and capabilities. It is an issue they identified as being within their capabilities to address. Given the inclusive nature of the solutions offered in their flood-safe community plans, the children could provide the motivation for their community to work towards a solution to the issue of littering and provide a catalyst for other DRR activities.

## 6 Conclusion

This thesis explored, described and gave contextual understanding to the social effects of flooding on children between the ages of nine to thirteen who live near the Bengawan Solo River in Central Java. Children's perspectives and personal experiences of a moderate flood event in December 2007 in the municipality of Surakarta were sought and this knowledge was grounded in their social and Indo-Javanese cultural context. The research addressed an acknowledged gap in the literature which identified more culturally and contextually grounded studies and empirical knowledge as necessary to better understand how disasters affect children.

The study used three broad perspectives to approach the research problem: the cultural and social context, the geographic and circumstantial context, and the notion that children are social actors. It determined that, when children are involved in a disaster situation, the culture of the affected community and the context of the event – the nature of the disaster event and the nature of the post-disaster environment – influence children's experiences. These aspects were seen to affect adults' experiences of this event as well. The third perspective of children as social actors recognised the unique and important capabilities of the children in this flood event.

Within the cultural and social context, five specific social and cultural practices, attitudes and conditions were revealed to influence children's flood experiences. The cultural practice of *gotong royong*, the local government structure, and religious beliefs and practices increased children's resilience while the disruption of education was a significant concern for participants and the social condition of poverty increased their vulnerability.

The practice of *gotong royong* recognises that children are able to contribute to the community and allowed their abilities to be acknowledged, respected and utilised during the flood in the recovery effort. The recognition of their abilities, and the provision of an outlet through which they could contribute, increased children's resilience. Similarly, the local government organisation contributed to lowering children's vulnerabilities by providing them with a stable and supportive environment. The localised nature of the government structure held community leaders to account and enabled them to recognise and attend to vulnerable members of the community such as the children.

Religion and the culture's holistic worldview governed the way in which the flood event was perceived by the children. The acknowledgment of the spiritual world, and humanity's limited control, however, did not mean that the participants and the community believed that they had no responsibility or capability to prevent disasters. The human influence on flooding was recognised and participants believed that there were practical actions they could take to prevent flooding or reduce its risk. These actions were both physical and spiritual; for instance, the spiritual practice of prayer was often mentioned. Religion also aided psychological coping and recovery following a disaster because it engendered gratitude in participants for the positive outcomes of events. Religious institutions increased children's resilience by providing a place of refuge, continuing regular religious services and donating school supplies for the children so they could return to school, all of which restored their sense of security and normalcy.

The disruption of education by the flood was a great concern for children and parents and revealed the strong scholastic orientation of the community. It was found that education is prioritised because it offers children a way out of poverty. The final cultural element, poverty, was a significant determinant of children's vulnerability and influenced their experience of the flood event. It was the principal determining factor in how well a family was able to physically recover, and resulted in disproportionate impacts on the poorest. Poverty made children more vulnerable because it forced them to live in more hazardous areas and exacerbated the loss of possessions and loss of income from the flood. The lack of financial reserves meant that families could not replace expensive items, and in some cases, even inexpensive ones, easily. Saving belongings emerged as one of the strongest actions that the child participants undertook and one that they clearly identified they would do again in the future.

The particular geographical sites in which children experienced and interacted with the flood events were home, school, streets and public places. The impacts of the flood in these spaces resulted in normal activities being suspended or adapted to the new geographic context and an increase of children's vulnerability. In particular, the lack of 'safe' space for play was highlighted as making children more vulnerable. Home provides a sense of safety and a physical space where family can be together. The flood removed this sense of security, disrupting family routines and causing the separation of family members. School offers children a space to learn, engage intellectually, and interact with their peers. The flood interrupted the highly valued study process and also caused emotional distress and a

loss of motivation in some children, which affected their performance in school. Streets are the places children in Solo primarily interact with their peers. The flood stimulated children to create new activities, which, in this instance, exposed children to greater health risks and vulnerability because the play activities revolved around the contaminated floodwater. In addition, the floodwaters limited mobility and daily activities and restricted access to daily needs (food and water), forcing families to rely on others to provide for these. The child participants ordinarily interacted with their community in shared public spaces. The flood caused the additional use of some public places and altered the use of others. The multi-purpose function of public places, however, allowed for easy alteration and for the places to retain their capacity to facilitate children's social interactions with their community. Actions that were taken by children and adults following the flood were done with the aim of returning these spaces and the activities they host to normal.

The impacts of the flood during and after the event were affected by the circumstantial context of the event: the duration and intensity, the threat of injury or death, the loss of possessions and income, and the characteristics of the post-disaster environment. The short duration of the event reduced the stress and enabled the sustainability of the available social support. The small scale of the event meant that assistance easily reached the affected residents. The minor to moderate intensity of the event contributed to the lack of serious injuries and fatalities, which in turn removed the possibility of severe distress in the children. The intermittent and recurrent nature of the flood event, however, frayed resident's nerves and led to the loss of more possessions. The greatest and longest lasting impact of the flood was the loss of possessions. It was mentioned most frequently and appeared to affect the children the most emotionally and practically. Lost income incurred during the flood removed any financial reserves, making the impact of the loss of possessions that much greater.

These effects were tempered by the post-disaster environment which contributed to children's resilience. The extensive social support offered by family and community networks ensured safety and protection for the children and, with the help of external support, provided adequate living conditions and met basic needs. The donation of goods, and the distribution of them through local channels, aided the children's recovery and strengthened significant pre-established relationships in children's lives. This social support may have also had a moderating effect on the influence of parental distress on children.

Finally, children were identified as social actors by their active participation in their peer culture and adult society, and by the demonstration of their capabilities through the application of their knowledge of flooding. This identity had the effect of altering the children's experiences of the flood event by lowering their feelings of distress, enabling a swifter recovery for them, their families and their community and increasing their resiliency. The practical actions that the children carried out during the flood gave them a measure of control over their situation, reducing the instability produced by the event. Within their peer culture, in addition to playing, children were able to give one another the space to share and process the event, and to support each other in practical ways. Their contributions to adult society allowed their families and neighbours to save more possessions and to return to their houses sooner as these were cleaned faster. Children's assistance in cleaning the local schools also facilitated the re-opening of the school, permitting the resumption of normal routines. Without the child participant's contributions, the recovery process would have taken much longer and resulted in a lengthier period of instability. Finally, the awareness that children have of their environment, their ability to apply this knowledge and their willingness to involve others indicates that the long-term resilience of their community would be enhanced by involving the children in DRR activities.

This study also noted influence of culture on the ways in which children participated and manifested their capabilities. Children's participation in adult society revealed a prioritization their parents and family's needs, which exhibited the strong cultural commitment to family. Their contributions to community were made through cultural practices like *gotong royong* and were demonstrative of the collective and altruistic nature of the Indo-Javanese culture. Similarly, the practical actions the children took and advice they offered to others, reflected the social and cultural conditions and attitudes that shape their lives.

These themes were explored in this inquiry from the perspective of children. This study learned of the flood impacts by listening to children tell about their personal experiences and by probing to identify the ways the children could be identified as social actors. The research used a reflexive methodology and multiple mixed methods to gain the rich descriptions and give a voice to the participants. The reflexive methodology's focus on how the data was collected and the role of the researcher gave a rigour and trustworthiness to the study. It also facilitated careful reflection of the ethical and cultural dimensions of the

research process. Cross-cultural working relationships within the research team emerged as an unexpected issue during the research process and were related to a limited understanding, or confidence, in cultural knowledge of the principal researcher.

Each of the research methods employed contributed to the overall shape of the study and generated data that created a comprehensive picture of the children's flood experience. Conducting research with children was not as difficult as had been anticipated. The inclusion of children as co-researchers was highly effective and spoke to the study's overall ethos that children are active beings. Methods that worked well with the children were those that had clear instructions and expectations. Creative methods, like drawing and the flood-safe community plans, enabled greater insight into the children's experiences than would have otherwise been gained. Even so, this study revealed that drawing may not always be the best, or perhaps the most natural, way in which children express themselves. In the Javanese culture, dance and poetry may be more appropriate and may have removed a sense of 'work' from the data generation process.

## ***6.1 Contributions of the Research***

This thesis contributes a rich contextual study of children's experiences of flooding. It addresses the need for more culturally and contextually grounded studies in the field of disaster research. This study highlights the importance of context by demonstrating how the children's experiences were shaped by the culture of their community and the particular disaster event. The comprehensive approach used allowed for the consideration of the multiple social, cultural, geographic and circumstantial elements simultaneously and provided insights that may have been lost in a study which focused on individual or discrete elements. Furthermore, it offered insights into children's contributions and capabilities in a disaster situation.

The contributions of this thesis are as diverse as the various threads that were woven together in its telling. Significant contributions have been made to the empirical knowledge of the disaster research field. It extends the current knowledge of the influence of culture on children's experiences and capacities, the abilities of children to contribute and the factors that influence children's vulnerability and resiliency. It also adds to the theoretical

knowledge base of the sociology of childhood and theories regarding a child's disaster experience. Finally, it has taken participatory approaches involving children in disaster related work forward tremendously.

### *Influence of Culture*

This study has succeeded in incorporating cultural issues and analysing these issues in a comprehensive way which has not been done by many (if any) previous studies of children in disasters. Children's priorities and actions during the flood were found to reflect their social and cultural context and the constraints these conditions place on their lives. The findings provide an understanding of how the cultural and social context influences children who are most at risk, that is, those with limited economic resources living in developing countries. This study identified particular cultural traditions, *gotong royong* and the local government structure, which lowered children's vulnerability and increased their resiliency. It also recognised how cultural practices and values (i.e. *gotong royong* and the priority of family) promoted the inclusion of children in the disaster response and enabled them to act within their existing roles and capabilities.

This research also offers empirical knowledge to the literature of children from a non-Western culture. The scope of the research did not allow for any comparisons to be made between Indonesian children and those from a Western (or other) culture, but it opens the door for future research by suggesting a range of data collection methods that could be used effectively in cross-cultural situations.

### *Children's Contributions*

This research responded to the call for more studies of children's contributions and what motivates them to help. This study indicated that children's contributions facilitated a swifter recovery from a disaster event for both families and the community as whole. The findings indicate that children's contributions are not limited to efforts they make in 'adult society', but that children also play a large role in their peer culture, assisting other children in coping with the disaster event. It identified a general altruistic and compassionate attitude within the community, as exhibited by adults, which prompted the children to help. The cultural practice of *gotong royong* was also recognised as promoting and enabling children to contribute to disaster response. The factors that motivate children and promote or discourage their inclusion in disaster prevention activities, however, still require more research.

### *Resiliency and Vulnerability*

The knowledge generated furthers current understanding of the factors which make children more resilient and less vulnerable. In addition, it demonstrated how some factors can combine to moderate the negative impacts of others. Cultural practices and children's own agency emerged strongly as factors that increased the children's resiliency. The focus on particular geographic sites allowed this study to confirm that a lack of 'safe' space in which children can play is an issue (Save the Children, 2011) and can increase children's vulnerability to injury and disease. Similarly, the loss of space for families to congregate in influenced children's experiences, disrupting normal routines and increasing their vulnerability. It also illustrated how poverty is a significant determinant of children's vulnerability and influences their experience of the flood event (Bartlett, 2008b). Finally, the disruption of education by the flood was significant concern for the children (Peek, 2008; Save the Children, 2011) and can lead to an increase in children's vulnerability to longer term negative outcomes if unchecked.

### *Sociology of Childhood and Disasters*

In my review of sociological literature, I found disasters to be mentioned as being significant events in children's lives, but specific studies of them were limited. Equally, while there is reference in current disaster literature to children being social actors, the comprehensive application of the theory of the sociology of childhood, its main principles and the recognition of a distinct peer culture, to a disaster case study is new. This study may be one of the first of its kind. The research also operationalized the theory in an Indonesian culture context and confirmed its applicability to a non-Western setting.

### *A Child's Disaster Experience*

The integration of various theories of children and disaster into the diagram depicting a child's disaster experience (Figure 4-4) was helpful for this research, and other researchers may find this diagram to be a useful tool. In considering the findings of this research, however, it would be appropriate to make an addition to this diagram: adding "cultural practices" as a factor that influences the 'Post-disaster Environment' (see Figure 6-1). The explicit inclusion of "cultural practices" validates the significance of this factor in a child's disaster experience. Its addition to the 'Post-Disaster Environment' rather than to

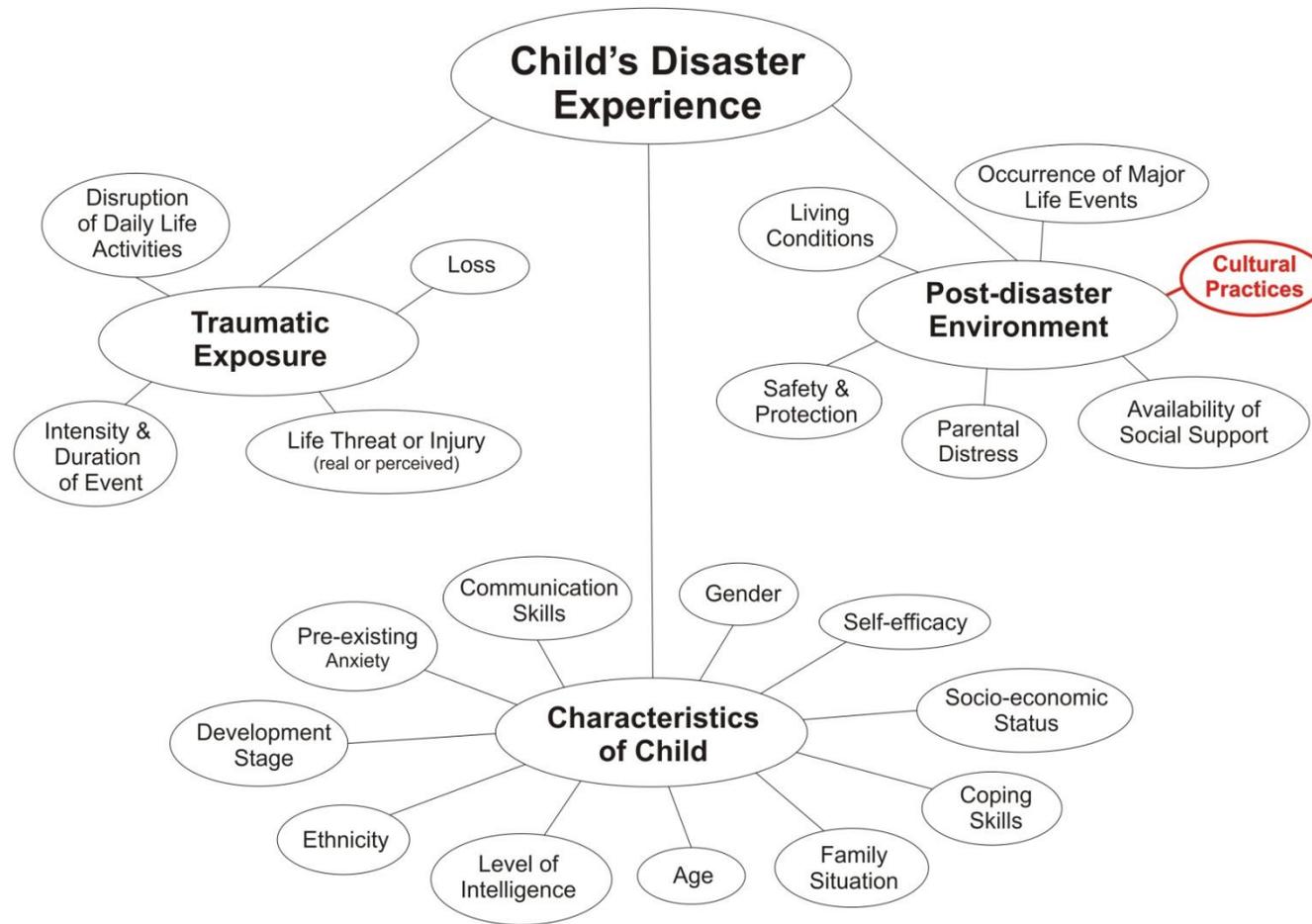


Figure 6-1: Factors affecting a child's experience of disaster, including 'cultural practices'

‘Characteristics of Child’ recognises its shared nature. The influence of cultural practices seen in this research was positive for the children and community involved. The children were prompted and able to contribute to the recovery process as a result of a cultural practice and the community benefited as a result. It is possible, however, in other instances that cultural practices may have negative impacts on the children. For example, if the practice places children at a disadvantage, its influence would likely result in a negative experience.

The structure of the local government as an additional ‘Post-Disaster Environment’ factor could also be included in the diagram, but it likely sits well under the “safety and protection” factor, as it provided security and order to community activities in this instance.

### *Methodological Contributions*

From a methodological point of view, this study attempted to learn about children’s experiences *from* them and gather their opinions and perspectives directly, something that has been found lacking in the literature (Jabry, 2002; Peek, 2008). The rich data generated by this research gives clear insight into the world and views of the children who were exposed to a flood event in a way that would not have been possible if the narratives and data were not generated by the children themselves. The research was also able to find suitable approaches by which to obtain these views.

The notion of ‘giving children a voice’ has been put forward as beneficial and much needed in the methodology of studies focusing on children in disasters. One of the key questions, however, that this research must respond to is whether there was benefit to focusing on children’s perspectives. In comparing the children’s narratives with those given by the adults interviewed, contradictions were not found to exist between the accounts, but the principal themes that emerged from the two sets of accounts did differ. Parents and other adults focused more on the interruption of routines, health issues and children’s behaviour while the loss of possessions and play featured strongly in children’s accounts. Hence this research demonstrates that children do offer different insights than adults, which may be lost or overlooked if adults alone are addressed. Much of the existing disaster literature focuses on the themes brought up by the adults (Balaban, 2006; Barrett et al., 2008; Cryder et al., 2006; Dolch, Meyer, & Huval, 2008; Dunbar, 2007; Duncan & Arntson, 2004; Kathleen Kostelny & Wessells, 2005; La Greca et al., 2002b; J. Morris et al., 2007; Murray, 2006; Norris et al., 2002; Orr, 2007; Peek et al., 2008; Prinstein et al., 1996; Ronan et al.,

2008; Vogel & Vernberg, 1993a, 1993b; Weissbecker et al., 2008; S. L. Wilson & Kershaw, 2008), but there are very few studies that give attention to the themes raised by the children (Klein & Huang, 2007; Madfis et al., 2010). It is clear that there is still work to be done to address the issues that the children see as important, as identified in this study.

The research used multiple mixed methods to obtain children's views that proved to be complementary to each other and generated rich descriptive knowledge. The methods were successful in bringing out the 'voice of children' and grounding the knowledge in their social context to gain an appropriate understanding of its meaning. In addition, the critique given of the various methods and the reflexive commentary concerning the 'researcher experience' offers practical guidance to future researchers who undertake similar work.

The child-centred data production and the inclusion of children as co-researchers was found to be effective and promoted the children's agency and personal development. The use of these types of methods in disaster research is rare, and in the case of the child-run interviews, quite unique. The study exemplified that the priority list method offers great promise for studies involving children as the method is simple and concise and it garnered a high level of engagement from the children. The generation of a single list that all the children subsequently prioritise would remove the analysis complication that was encountered in this study. The study also countered the stereotype that drawing is a natural method for children, as dance and poetry emerged as a more culturally appropriate medium. Finally, the child-run interviews take disaster research a step forward in terms of the participatory approaches that can be used to involve children in disaster related work. The children respond positively to the idea of acting as interviewers and the interviews permitted access to information and sources that a foreigner or adult researcher may not have been able to access.

## **6.2 Applications**

The practical applications of this research for Emergency Management are given here as a series of recommendations. These recommendations are useful for anyone working with or designing policy for children or communities in disaster situations, such as government bodies, international aid agencies, non-governmental organisations, and research

institutions. Since this research focused on a case study in Indonesia, there are particular culturally-based recommendations that would be helpful for policy and practice in Indonesia.

Some of the following recommendations have been noted in previous studies or are known to reflect current best practices; thus this study strengthens the argument by demonstrating that children view these issues as important.

- *Ensure there are safe places for children to play:*

Child-safe spaces have been utilised in disaster situations (Madfis et al., 2010) and this study confirmed that a lack of 'safe' space in which children can play following a disaster is a significant concern. 'Play' is an activity that children carried on doing irrespective of the flood event, but it resulted in increasing their vulnerability to health risks. The provision of safe physical spaces in which children can play will aid them in coping with the event and lower their vulnerability.

- *Resume school/education as soon as possible:*

Education is a priority for most children, particularly those in developing countries. The interruption of the education process was a significant concern for the children interviewed. The re-commencement of schooling, or a temporary version of classes, reduces children's vulnerability both in the present, and in the long-term.

- *Give attention to the recovery or replacement of possessions:*

The loss of possessions had a substantial impact on the children's experiences. Saving possessions was a key action that they undertook during the flood event and the replacement of lost possessions was a significant concern. Assisting families to safeguard their possessions would minimise the need for replacements, which can be a struggle for poor families. If faced with replacing items, the marketing tool suggested by Klein and Huang (2007) that assists in the replacement of possessions would be an excellent mechanism for organisations to use. Ensuring the provision of school supplies would be another valuable endeavour.

- *Prioritise the needs of the poorest:*

The poorest of those affected in this study felt the greatest losses. The ability of poor families to recover from disaster is typically lower than other families due to their inability to absorb financial shocks that can result from the event. Any assistance given should prioritise on their needs.

- *Benefit of religious beliefs and activities:*

If children's religious beliefs are ignored in a disaster context, a significant aspect of their lives may be discounted and possible coping mechanisms along with it. Religious beliefs aided psychological coping and recovery in this case while religious institutions increased children's resilience by carrying out

activities that restored their children's sense of security and normalcy. This study also showed that religious beliefs can provide motivation for people to act.

- *Promote child-peer support:*

The research has shown that children assist each other in disaster response and recovery. Interventions or programs that permit children the time and space to interact with each through 'play', and also in practical ways, such as helping each other take care of younger siblings or complete household tasks, would be beneficial.

- *Support children in helping their own families:*

Helping their families is likely to be a high priority for children in a disaster event. This study showed that families' recoveries were swifter as result of the children's contributions and that helping can be cathartic for the children.

- *Involve children in disaster prevention activities:*

Children have the energy, creativity and motivation to do things within their communities, and this study illustrated that the children are knowledgeable of disaster prevention ideas and are capable of carrying out tasks within their abilities. At the same time, attention should be paid to the cultural and social constraints that influence children's social position in the community which could affect their involvement.

- *Promote children's involvement in waste management:*

This research has led to the conclusion that the issue of littering (and waste management) is a pressing issue in this community, and in many other communities. The promotion of local waste management and environmental care programs and projects which tap into the energies and capabilities of children would be advantageous for communities and act as a catalyst for other disaster risk reduction activities.

- *Seek children's perspectives on issues, programs and projects:*

This study has showed that children's perspectives will highlight different issues than adults' opinions. If a program will affect the lives of children in any way, their perspective is useful and insightful. In seeking their views, the use of participatory techniques such as priority lists and culturally appropriate creative mediums (drawing, dance, poetry, writing) would be beneficial in addition to offering an open forum where children can speak freely.

Recommendations for Indonesian government bodies and organisations:

- *Maintain and support local government structures (Rukun Warga / Rukun Tannga):*

The localised nature of the government structures in Solo greatly benefitted the affected communities by providing order to the response and recovery activities, which in turn offered children a stable environment. This face-to-face

interaction with ‘government’ is very valuable in disaster situations and should be maintained.

- *Support and promote gotong royong (or similar practices) during crisis events:*

This practice encouraged self-efficacy and increased the resiliency of the local community and of the children by enabling them to contribute to the disaster response.

- *Use schools and the national curriculum as vehicle for disaster risk reduction:*

The use of schools for disaster risk reduction education has been well promoted internationally (ISDR, 2007), but this study revealed that its implementation in Indonesian schools is still lagging. The frequency of natural disasters throughout the country and the impacts they have on communities provides great incentive for the strategic and systematic addition of this type of education to schools and the national curriculum. The inclusion of scientific information concerning how and why the events happens, practical response tips for students and suggestions of ways they can be active in their community for disaster prevention will create better informed and more resilient communities now, and in the future.

### **6.3 Limitations of Research**

This research and its findings are limited by several factors. While facilitating a more detailed and comprehensive picture, the use of a singular case study limits the generalisation of the research results. These results are also heavily influenced by the cultural and contextual setting, thus some of the findings may not be directly transferable to other locations. However, the detailed cultural and contextual information provided in conjunction with these findings offers the reader the ability to determine which aspects were likely influenced by these factors, and therefore offers a better indication of how they might differ in another context.

Data collection occurred over a finite period of time; therefore the information the participants provide is a reflection of their views at these specific points in time. The data is also retrospective of an event that occurred a year and half prior to the first phase of field work, and thus relies on the memories of participants which may have been influenced by events that occurred in the interim. Yet the recollections that they were able to make were substantial and did not appear to be coloured by other subsequent events. The time limitation of the study did not allow for an investigation of the longitudinal effects of the

flooding event, an aspect that deserves further research, but it was sufficient to achieve the goals of this research.

The data collection process was influenced by the presence of an external, foreign researcher. The researcher's linguistic and cultural proficiency may have limited interactions with the participants and affected what information was shared. Fortunately, the presence of field assistants who were fluent native speakers compensated for many of the communication barriers between the research team and participants. The translation of the data into English and its analysis, which was done by a non-Indonesian, leaves open the possibility that some cultural connotations may have been lost or overlooked. The presence of the researcher during all interviews and prolonged engagement in the field, however, lessened the number of possible misinterpretations significantly.

Lastly, this study attempts to present the views of children, but the research was designed, its data analysis completed and results presented by an adult. The chosen methods may have limited the expression of the views and opinions of the child participants and created an 'adult' bias as to which data receives more attention and consideration. The involvement of children in the analysis and design process was constrained by time and somewhat unavoidable, but their participation as co-researchers allowed them some input. Emphasis was placed on their contributions in the presentation of results to allow their views to be seen in their own words.

#### **6.4 Recommendations for Future Research**

In the exploration of the various themes that emerged to influence children's experience, several areas were found to hold promise but lay outside the objectives of this study. Furthermore, there are aspects of the themes presented here that merit further investigation.

The compelling way in which *gotong royong* emerged in this study as a culture practice that increased children's resiliency and allowed them to exercise their agency in a disaster situation advocates for further research into this practice. In addition, research of similar practices in other cultures and their influence on children in disaster situations would be valuable. One avenue that could be taken to discover similar practices is by establishing a

clear link between *gotong royong* and the specific cultural dimensions of a high Humane Orientation and low Individualism rating.

In the same vein, the scope of the research did not allow for any comparisons to be made between the Indonesian children and those from a Western (or other) culture. The concept of a pseudo-universal childhood, created by the effects of globalization and the adoption of modern values, was also raised in the literature review, but its relevance to this study was limited because no cross-cultural comparisons were made. A similar contextual study that emphasises culture components of Western children's disaster experiences could be contrasted and compared with this study to determine similarities and the extent of the influence of cultural factors.

This study also revealed that poverty was a constraint on the child participant's lives and was a very significant determinant of their experiences. The degree of its influence compared to the cultural determinants identified (i.e. *gotong royong*, local government organisation) was not determined in this study, but would be very useful. Similarly, research into the 'triangle' relationship between education, poverty and disasters would be highly valuable as education and poverty have been in other studies as being of serious concern in disasters. More specifically, the differences between children's and parents' prioritization of education in disasters is a topic worth further investigation. This study suggests that parent's perspectives and decisions may be influenced by the duration and severity of the event and the degree of poverty experienced. More studies in this area could establish if these propositions are valid.

The role of the local and municipal government emerged unexpectedly as a significant influence in children's experience of disasters. The research highlighted several areas that would be worth further investigation. One area is the extent to which the face-to-face government interaction, displayed by the Bapaks, affects children's vulnerability and resiliency. It would also be interesting to see if this kind of government interface exists in other cultures and how it operates during a disaster situation.

An additional area that has been touched on very briefly by this study, in the Chapter 3 and referred to in Section 5.1.3, but has potential for insightful research is the government relocation plan that resulted from this flood. In response to the December 2007 flood, the central government provided "generous" funds to residents living on the floodplain (those

most affected). The money that was allotted was enough to purchase a section of land and build a house. The houses on the floodplain were subsequently removed and the land reforested. One aspect of interest is how the relocation affected the children involved. At least six of the child participants from this study were moved to the new location, 15-20 km away. Another aspect is how the resettlement and housing construction process was undertaken. It came out in some of the parent interviews that the new housing settlements were developed in two different ways: one community built their own houses while the other used a developer and contractor. The first community appeared to much happier with the end result while the other faced problems of mismanagement, poor construction and significant delays. Studies that address the issue of government-supported voluntary relocation in response to hazardous areas and its affects on children will become crucial to the field of disaster research as climate change impacts begin to create environmental refugees.

Other important themes that emerged in this study worth pursuing in more depth are the loss of possessions as a significant element in children's disaster experiences, the role of play in a disaster situation, the significance of religious beliefs in motivating prevention and response activities, and the (permanent) loss of physical spaces, particularly public ones during disasters.

The flood-safe community plans developed in conjunction with this research demonstrate the capabilities of children. More work is needed in determining the factors that motivate them and promote or discourage children's inclusion in disaster prevention and risk reduction activities. The role of schools in Indonesia in this regard warrants serious attention as school have been identified as central to DRR (ISDR, 2007), but their utilization is still limited. Another avenue to pursue is finding a cultural mechanism or tradition that promotes children's participation in prevention activities in a similar manner to what *gotong royong* does with children's participation in response and recovery activities.

Lastly, and perhaps an area that has great potential on several levels, is future research into the cultural attitude towards littering. The importance of the issue of littering has been demonstrated in this study as it was the most frequently mentioned cause of flooding. In other DRR projects conducted with children, littering and poor waste disposal was identified as a problem which needed to be addressed (Bartlett, 2008a; Plan, 2008; Tanner,

2010). Moreover, the problem of poor waste disposal reaches into health hazards and places strain on the environment and can lead to significant environmental degradation. Understanding the factors that promote and discourage this activity would go a long way into changing cultural attitudes towards environmental care in general, which would feed into disaster risk reduction activities.

And it is here that children have the opportunity to express their agency and capabilities as they believe that stopping littering is something they can achieve in their daily lives. Given the inclusive nature of the solutions offered in their flood-safe community plans - “*working together*” (Kantel, female, 11) - the children could provide the motivation for their community to work towards a solution to the issue of littering and provide a catalyst for other DRR activities. Neither their social position as children nor their age appears to be something that they will let hinder them from accomplishing such a goal:

*Indah : Are you brave enough to say to your parents or to someone who's older than you "Please do not throw the garbage carelessly"*

*Lucy : Brave enough*

*Leon : Brave enough*

*(Lucy, female, 11)*

*(Leon, male, 12)*

*(Indah, female assistant)*

## 7 Reference

- Adam, A. W. (2010, 1 June). Insight: Four Stages of Pancasila. *The Jakarta Post*, from <http://www.thejakartapost.com/news/2010/06/01/four-stages-pancasila.html>
- Administrative Division in Indonesia. (2009). *Bird Flu Information Corner: For Indonesia Bird Flu News*. Retrieved 30 June 2010, from <http://birdflucorner.wordpress.com/from-the-desk/administrative-division-in-indonesia-what-the-heck-are-kabupaten-kecamatan-rukun-warga/>
- Agustan. (2008, 10 November). Tentang Solo. *Peta dan Toponimi*, from <http://agustan.wordpress.com/2008/11/10/tentang-solo/>
- Alderson, P. (2000). *Young Children's Rights: Exploring Beliefs, Attitudes, Principles and Practice*. Philadelphia: Jessica Kingsley.
- Alderson, P. (2008). Children as Researchers: Participation Rights and Research Methods. In P. Christensen & A. James (Eds.), *Research with Children: Perspectives and Practices* (2 ed., pp. 276-290). Milton Park: Routledge.
- Alvesson, M., & Sköldbberg, K. (2009). *Reflexive Methodology* (2 ed.). London: Sage Publications Ltd.
- Andersen, P. A., & Wang, H. (2009). Beyond Language: Nonverbal Communication Across Cultures. In L. A. Samovar, R. E. Porter & E. R. McDaniel (Eds.), *Intercultural Communication: A Reader* (12 ed., pp. 264-280). Boston: Wadsworth Cengage Learning.
- Anderson, B. (1965). *Mythology and the Tolerance of the Javanese*. New York: Cornell Modern Indonesia Project.
- Anderson, W. A. (2005). Bringing Children into Focus on the Social Science Disaster Research Agenda. *International Journal of Mass Emergencies and Disasters* 23(3175.), 159-175.
- Anwar, S. (2003, September 11-13). *Watershed Management in Indonesia*. Paper presented at the Preparing for the Next Generation of Watershed Management Programmes and Projects: Asia, Kathmandu, Nepal.
- Babugura, A. (2008). Vulnerability of Children and Youth in Drought Disasters: A Case Study of Botswana. *Children, Youth and Environments*, 18(1), 126-157.
- Baker, J., & Willis, S. (2003). "Is it Fun?" Developing Children Centred Research Methods. *International Journal of Sociology and Social Policy*, 23(1/2), 33-58.
- Balaban, V. (2006). Psychological Assessment of Children in Disasters and Emergencies. *Disasters*, 30(2), 178-198.
- Bardy, M. (1994). The Manuscript of the 100-Years Project: Towards a Revision. In J. Qvortrup, M. Bardy, G. Sgritta and H. Wintersberger (Ed.), *Childhood Matters : Social Theory, Practice and Politics* (pp. 299-318). Aldershot: Avebury.
- Barrett, E. J., Barron Ausbrooks, C. Y., & Martinez-Cosio, M. (2008). The School as a Source of Support for Katrina-Evacuated Youth. *Children, Youth and Environments* 18(1), 202-236.
- Bartlett, S. (2008a). After the Tsunami in Cooks Nagar: The Challenges of Participatory Rebuilding. *Children, Youth and Environments*, 18(1), 470-484.
- Bartlett, S. (2008b). The Implications of Climate Change for Children in Lower-Income Countries. *Children, Youth and Environments* 18(1), 71-98.
- Battuta, I. (2009). Ibn Battuta at Pasai. In T. Hellwig & E. Tagliacozzo (Eds.), *The Indonesia Reader*. Durham, NC: Duke University Press.

- Beard, V., & Cartmill, R. S. (2007). Gender, Collective Action and Participatory Development in Indonesia *International Development Planning Review*, 29(2), 185-213.
- Beatty, A. (1999). *Varieties of Javanese Religion*. Cambridge: Cambridge University Press.
- Becklund, A., Wheaton, W., & Wessels, M. (2005). Rapid Child Protection Assessments in Emergency Contexts. *Responses to Young Children in Post-Emergency Situations, Early Childhood Matters 104*, 12-15.
- Belk, R. W. (1988). Possession and the Extended Self. *Journal of Consumer Research*, 15(2), 139-168.
- Berelson, B. (1952). *Content Analysis in Communications Research*. New York: Free Press.
- Berg, B. L. (2009). *Qualitative Research Methods For the Social Sciences* (7 ed.). Boston: Allyn & Bacon.
- BNPB. (2011a). Badan Nasional Penanggulangan Bencana. Retrieved 4 July, 2011, from <http://bnpb.go.id/website/asp/index.asp>
- BNPB. (2011b). Data & Informasi Bencana Indonesia [database]. *Badan Nasional Penanggulangan Bencana*. Retrieved 3 July 2011, from <http://dibi.bnpb.go.id/>
- Boyden, J. (1997). Childhood and the Policy Makers: A Comparative Perspective on the Globalization of Childhood. In A. James & A. Prout (Eds.), *Constructing and Reconstructing Childhood: contemporary issues in the sociological study of childhood* (pp. 165-189). London: RoutledgeFalmer.
- BPS. (2008). *Surakarta in Figures 2007*. Surakarta: Badan Pusat Statistik kota Surakarta.
- Brannen, M., Gomez, C., Peterson, M., Romani, L., Sagiv, L., & Wu, P. (2004). People in global organizations: Culture, personality, and social dynamics. In H. Lane, M. Maznevski, M. Mendenhall & J. McNett (Eds.), *Handbook of global management: A guide to managing complexity* (pp. 26-54). Oxford, UK: Blackwell.
- Brewer, J. D. (2000). *Ethnography*. Buckingham: Open University Press.
- Broening, S. (1998, March 20). Q & A / Steve Hanke: Voice of Suharto's Guru. *The New York Times*, from <http://www.nytimes.com/1998/03/20/business/worldbusiness/20iht-hanke.t.html>
- Broussine, M. (2008). Underlying Theory and Principles. In M. Broussine (Ed.), *Creative Methods in Organisational Research* (pp. 11-32). London: Sage.
- Cameron, J. (2005). Focusing on the Focus Group. In I. Hay (Ed.), *Qualitative Research Methods in Human Geography* (2 ed., pp. 116-132). Melbourne: Oxford University Press.
- Carl, D., Gupta, V., & Javidan, M. (2004). Power Distance. In R. House, P. J. Hanges, M. Javidan, P. Dorfman & V. Gupta (Eds.), *Culture, Leadership and Organizations: The GLOBE Study of 62 Societies*. Thousand Oaks, CA: Sage Publications, Inc.
- CCC. (2009). *A Right to Participate: Securing Children's Role in Climate Change Adaptation*. Brighton: IDS/Children in a Changing Climate.
- CCC. (2011). *Children in a Changing Climate*. Retrieved 29 May 2011, from <http://www.childreninachangingclimate.org/home.htm>
- Charmaz, K. (2010). Grounded Theory: Objectivist and Constructivist Methods. In W. Luttrell (Ed.), *Qualitative Educational Research* (pp. 183-207). New York: Routledge.

- child. (2010). *Collins English Dictionary - Complete & Unabridged 10th Edition*  
Retrieved January 14, 2011, from Dictionary.com website:  
<http://dictionary.reference.com/browse/child>
- Chinoy, E. (1961). *Society: An Introduction to Sociology*. New York: Random House.
- Christensen, P., & James, A. (2008). Introduction: Researching children and childhood: Cultures of communication. In P. Christensen & A. James (Eds.), *Research with Children: Perspectives and Practices* (2 ed.). New York: Routledge.
- Clark-Ibáñez, M. (2007). Inner-City Children in Sharper Focus: Sociology of Childhood and Photo Elicitation Interviews. In G. C. Stanczak (Ed.), *Visual Research Methods: Image, society, and representation* (pp. 167-196). Thousand Oaks, CA: Sage Publications, Inc.
- Clark, C. D. (1999). The Autodrive Interview: A Photographic Viewfinder into Children's Experiences. *Visual Sociology*, 14, 39-50.
- Cochrane, J. (2009). Spirits, Nature and Pilgrimage: The "Other" Dimension in Javanese Domestic Tourism. *Journal of Management, Spirituality & Religion*, 6(2), 107-119.
- Cohen, D., & Crabtree, B. (2006). Lincoln and Guba's Evaluative Criteria. *Qualitative Research Guidelines Project*. Retrieved 15 June, 2011, from <http://www.qualres.org/HomeLinc-3684.html>
- Corsaro, W. A. (2005). *The Sociology of Childhood* (2nd ed.). Thousand Oaks, CA: Pine Forge Press.
- Corsaro, W. A., & Molinari, L. (2008). Entering and Observing in Children's Worlds: A Reflection on a Longitudinal Ethnography of Early Education in Italy. In P. Christensen & A. James (Eds.), *Research with Children: Perspectives and Practices* (2 ed.). New York: Routledge.
- CRC. (1989). *Convention of the Rights of Children (CRC)*. Retrieved Sept 25 2008. from Office of the United Nations High Commissioner for Human Rights website: <http://www2.ohchr.org/english/law/crc.htm>.
- Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks, CA Sage.
- Cribb, R. (2009). The Mass Killings of 1965-66. In T. Hellwig & E. Tagliacozzo (Eds.), *The Indonesia Reader*. Durham, NC: Duke University Press.
- Crotty, M. (1998). *The Foundations of Social Research: Meaning and Perspective in the Research Process*. London: Sage.
- Cryder, C. H., Kilmer, R. P., Tedeschi, R. G., & Calhoun, L. G. (2006). An Exploratory Study of Posttraumatic Growth in Children following a Natural Disaster. *American Journal of Orthopsychiatry* 76(1), 65-69.
- Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social Vulnerability to Environmental Hazards. *Social Science Quarterly* 84(2), 242-261.
- Darbyshire, P., MacDougall, C., & Schiller, W. (2005). Multiple Methods in Qualitative Research with Children: More Insight or Just More? *Qualitative Research* 5(4), 417-436.
- Dartmouth Flood Observatory. (2011). Global Active Archive of Large Flood Events [data file]. Retrieved 20 April 2011, from <http://www.dartmouth.edu/~floods/Archives/index.html>
- de Graaf, H. J., & Pigeaud, T. F. (2009). Chinese Muslims in Java. In T. Hellwig & E. Tagliacozzo (Eds.), *The Indonesia Reader*. Durham, NC: Duke University Press.
- Denzin, N., & Lincoln, Y. (1994). Entering the Field of Qualitative Research. In N. K. Denzin & Y. Lincoln (Eds.), *Handbook of Qualitative Research*. London: Sage.

- Denzin, N., & Lincoln, Y. (2005). Introduction: The Discipline and Practice of Qualitative Research. In N. Denzin & Y. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3 ed., pp. 1-32). London: Sage Publications, Inc.
- Dinas Perhubungan Komunikasi dan Informatika Provinsi Jawa Tengah. (2009). Tentang Provinsi Jawa Tengah. *Pemerintah Provinsi Jawa Tengah*. Retrieved 21 April, 2011, from <http://www.jatengprov.go.id/?mid=tentang>
- Disaster Occurrence. (2006). *International Strategy for Disaster Reduction (ISDR)*. Retrieved Sept 9 2008, from <http://www.unisdr.org/disaster-statistics/occurrence-trends-century.htm>
- Dolch, N., Meyer, D., & Huval, A. (2008). Hurricane Disaster Response by School-Based Health Centers. *Children, Youth and Environments*, 18(1), 422-434.
- Donovan, K. (2010). Doing social volcanology: exploring volcanic culture in Indonesia. *Area*, 42(1), 117-126.
- Douglas, M. (1992). *Risk and Blam: Essays in Cultural Theory*. London: Routledge.
- Dove, M. R. (2008). Perception of Volcanic Eruption as Agent of Change on Merapi Volcano, Central Java. *Journal of Volcanology and Geothermal Research*, 172(3-4), 329-337.
- Dowling, R. (2005). Power, Subjectivity, and Ethics in Qualitative Research. In I. Hay (Ed.), *Qualitative Research Methods in Human Geography* (2 ed., pp. 19-29). Melbourne: Oxford University Press.
- Dunbar, S. B. (2007). *Occupational Therapy Models for Intervention with Children and Families*. Thorofare, NJ: SLACK.
- Duncan, J., & Arntson, L. (2004). *Children in Crisis: Good Practices in Evaluating Psychosocial Programming*. Washington, DC: Save the Children Federation, Inc.
- Dunn, K. (2005). Interviewing. In I. Hay (Ed.), *Qualitative Research Methods in Human Geography* (2 ed., pp. 79-105). Melbourne: Oxford University Press.
- Easterby-Smith, M., & Malina, D. (1999). Cross-Cultural Collaborative Research: Toward Reflexivity. *The Academy of Management Journal*, 42(1), 76-86.
- Ensor, M. O. (2008). Displaced Once Again: Honduran Migrant Children in the Path of Katrina. *Children, Youth and Environments* 18(1), 280-302.
- Etherington, K. (2004). *Becoming a Reflexive Researcher: Using Our Selves in Research*. London: Jessica Kingsley Publishers.
- Fetterman, D. (1998). *Ethnography: Step by Step* (2 ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Fleer, M., & Quiñones, G. (2009). A Cultural-Historical Reading of "Children as Researchers". In M. Fleer, M. Hedegaard & J. Tudge (Eds.), *Childhood Studies and the Impact of Globalization: Policies and Practices at Global and Local Levels* (pp. 86-107). New York: Routledge.
- Flekkøy, M. G., & Kaufman, N. H. (1997). *The Participation Rights of the Child: Rights and Responsibilities in Family and Society*. London: Jessica Kingsley Publishers.
- Freeman, M., & Mathison, S. (2009). *Researching Children's Experiences*. New York: The Guilford Press.
- Frønes, I. (1994). Dimensions of Childhood. In J. Qvortrup, M. Bardy, G. Sgritta and H. Wintersberger (Ed.), *Childhood Matters: Social Theory, Practice and Politics* (pp. 145-164). Aldershot: Avebury.
- Gall, C. (2010, 26 August). Pakistan Flood Sets Back Infrastructure by Years. *New York Times*, from [http://www.nytimes.com/2010/08/27/world/asia/27flood.html?\\_r=1&hp](http://www.nytimes.com/2010/08/27/world/asia/27flood.html?_r=1&hp)

- Gannon, M. J. (2008). *Paradoxes of Culture and Globalization*. Thousand Oaks, CA: Sage Publications, Inc.
- Gannon, M. J., & Pillai, R. (2010). *Understanding Global Cultures* (4 ed.). Thousand Oaks, CA: Sage Publications, Inc.
- García-Acosta, V. (2002). Historical Disaster Research. In S. M. Hoffman & A. Oliver-Smith (Eds.), *Catastrophe and Culture: The Anthropology of Disaster* (pp. 49-66). Santa Fe, NM: School of American Research Press.
- Geertz, C. (1983). Local Knowledge: Fact and Law in Comparative Perspective. In C. Geertz (Ed.), *Local Knowledge: Further Essays in Interpretive Anthropology* (pp. 167-234 ). New York: Basic Books.
- Geertz, H. (1961). *The Javanese Family*: The Free Press of Glencoe, Inc.
- Gelfand, M. J., Bhawuk, D. P. S., Nishii, L. H., & Bechtold, D. J. (2004). Individualism and Collectivism. In R. House, P. J. Hanges, M. Javidan, P. Dorfman & V. Gupta (Eds.), *Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies* (pp. 437-512). Thousand Oaks, CA: Sage Publications, Inc.
- Gewirtz, S., & Cribb, A. (2006). What to Do about Values in Social Research: The Case for Ethical Reflexivity in the Sociology of Education. *British Journal of Sociology of Education*, 27(2), 141-155.
- Google Maps. (2010). Surakarta, Central Java, Indonesia [satellite map]. Retrieved 29 June, 2010, from <http://maps.google.ca/maps?q=Surakarta,+Central+Java,+Indonesia&hl=en&ll=-7.588155,110.728455&spn=0.289609,0.41851&z=12>
- Greene, J. C. (2010). Knowledge Accumulation: Three Views on the Nature and Role of Knowledge in Social Science. In W. Luttrell (Ed.), *Qualitative Educational Research* (pp. 63-77). New York: Routledge.
- Greene, S., & Hogan, D. (2005). *Researching Children's Experience: Methods and Approaches*. London: Sage.
- Greig, A., Taylor, J., & MacKay, T. (2007). *Doing Research with Children* (2nd ed.). London: Sage Publications Ltd.
- Guba, E., & Lincoln, Y. S. (1989). *Fourth Generation Evaluation*. Newbury Park, CA: Sage.
- Hall, E., & Hall, M. (1990). *Understanding Cultural Differences*. Yarmouth, ME: Intercultural Press.
- Handel, G., Cahill, S. E., & Elkin, F. (2007). *Children and Society: The Sociology of Children and Childhood Socialization*. Los Angeles, CA: Roxbury Publishing Company.
- Hardman, C. (1973). 'Can There be an Anthropology of Children?' *Journal of the Anthropological Society of Oxford*, 4(1), 85-99.
- Hart, R. (1997). *Children's Participation: The Theory and Practice of Involving Young Citizens in Community Development and Environmental Care*. London: Earthscan/UNICEF.
- Hart, S. N. (2001). *Children's Rights in Education*. London: Jessica Kingsley.
- Heard, R. (1992). A Comparison of the Relations Between Government and Industry in Britain [working paper], *Economic and Social Research Council China project working paper*. Lancaster, U.K.: Economic and Social Research Council
- Heiman, G. W. (2010). *Basic Statistics for the Behavioral Sciences* (6 ed.). Belmont, CA: Cengage Learning.
- Hellwig, T., & Tagliacozzo, E. (Eds.). (2009). *The Indonesia Reader*. Durham: Duke University Press.

- Hesse-Biber, S. N., & Leavy, P. (2008). Pushing on the Methodological Boundaries: The Growing Need for Emergent Methods within and Across the Disciplines. In S. N. Hesse-Biber & P. Leavy (Eds.), *Handbook of Emergent Methods* (pp. 1-15). New York: The Guilford Press.
- Hestyanti, Y. R. (2006). Children Survivors of the 2004 Tsunami in Aceh, Indonesia: A Study of Resiliency. *Annals of the New York Academy of Sciences*, 1094, 303-307.
- Hidayat, F. (2009). *Floods and Climate Change - Observations from Java*. Solo, Indonesia: Center for River Basin Organizations and Management.
- Hidayat, F., Sungguh, H. M., & Harianto. (2008, September 1-4). *Impact of Climate Change on Floods in Bengawan Solo and Brantas River Basins, Indonesia*. Paper presented at the 11th International Riversymposium Brisbane, Australia.
- Hoffman, S. M., & Oliver-Smith, A. (Eds.). (2002). *Catastrophe & Culture: The Anthropology of Disaster*. Santa Fe, NM: School of American Research Press
- Hofstede, G. (1980). *Culture's Consequences: International Differences in Work-Related Values*. Thousand Oaks, CA: Sage.
- Hofstede, G. (2001). *Culture's Consequences: International differences in work related values* (2 ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Hofstede, G. (2009). Indonesia. *Geert Hofstede™ Cultural Dimensions*. Retrieved 26 April, 2011, from [http://www.geert-hofstede.com/hofstede\\_indonesia.shtml](http://www.geert-hofstede.com/hofstede_indonesia.shtml)
- House, R., Hanges, P. J., Javidan, M., Dorfman, P., & Gupta, V. (Eds.). (2004). *Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies*. Thousand Oaks, CA: Sage Publications, Inc.
- House, R., & Javidan, M. (2004). Overview of GLOBE. In R. House, P. J. Hanges, M. Javidan, P. Dorfman & V. Gupta (Eds.), *Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies* (pp. 9-28). Thousand Oaks, CA: Sage Publications, Inc.
- Howitt, R., & Stevens, S. (2005). Cross-Cultural Research: Ethics, Methods and Relationships. In I. Hay (Ed.), *Qualitative Research Methods in Human Geography* (2 ed., pp. 30-50). Melbourne: Oxford Univeristy Press.
- Huntington, S. P. (1996). *The Clash of Civilizations and the Remaking of World Order*. New York: Simon & Schuster.
- An Ideology or a Way of Life? [Editorial]. (2010, 1 June). *The Jakarta Post*, from <http://www.thejakartapost.com/news/2010/06/01/editorial-an-ideology-or-a-way-life.html>
- IFRC. (2008, 5 January). Indonesia: Floods and Landslides [Information Bullentin n<sup>o</sup>2]. *International Federation of Red Cross and Red Crescent Societies (IFRC)*, from <http://www.ifrc.org/docs/appeals/rpts08/IDFLIB02-050108.pdf>
- Indonesia. (2010). *Bureau of Public Affairs: Office of Electronic Information and Publications, U.S. State Department*. Retrieved 23 June, 2010, from <http://www.state.gov/r/pa/ei/bgn/2748.htm>
- Indonesia. (2011a). *Encyclopædia Britannica*. Retrieved 2 February, 2011, from <http://www.britannica.com/EBchecked/topic/286480/Indonesia>
- Indonesia. (2011b). *CIA World Factbook 2011*. Retrieved 19 April, 2011, from <https://www.cia.gov/library/publications/the-world-factbook/geos/id.html>
- Indonesia Map. (2011). *Mapsof.net*. Retrieved June 29, 2011, from <http://mapsof.net/indonesia/static-maps/jpg/indonesia-map>
- Indonesia: Sukarno's Policies. (2011). *Encyclopædia Britannica*. Retrieved 2 February, 2011, from <http://www.britannica.com/EBchecked/topic/286480/Indonesia>

- Inter-Agency Standing Committee. (2007). *IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings*. Geneva: IASC.
- Introduction to Islam. (2011). *Al-Islami.Com*. Retrieved 12 June, 2011, from <http://www.al-islami.com/islam/allah.php>
- ISDR. (2007). *Towards a Culture of Prevention: Disaster Risk Reduction Begins at School*. Geneva: United Nations.
- Ishii, S. (1997). Tasks for Intercultural Communication Researchers in the Asia-Pacific Region in the 21st Century. *Dokkyo International Review*, 10, 109-122.
- Ishii, S., Klopff, D., & Cooke, P. (2009). Worldview in Intercultural Communication: A Religio-Cosmological Approach. In L. A. Samovar, R. E. Porter & E. R. McDaniel (Eds.), *Intercultural Communication: A Reader* (12 ed., pp. 28-35). Boston: Wadsworth Cengage Learning.
- Jabry, A. (Ed.). (2002). *Children in Disasters: After the Cameras Have Gone*. London: Plan UK.
- James, A., & James, A. L. (2004). *Constructing Childhood*. New York: Palgrave Macmillan.
- James, A., Jenks, C., & Prout, A. (1998). *Theorizing Childhood*. New York: Teachers College Press.
- James, A., & Prout, A. (1997a). Introduction. In A. James & A. Prout (Eds.), *Constructing and Reconstructing Childhood: contemporary issues in the sociological study of childhood* (2nd ed.). London: RoutledgeFalmer.
- James, A., & Prout, A. (1997b). Re-presenting Childhood: Time and Transition in the Study of Childhood. In A. James & A. Prout (Eds.), *Constructing and Reconstructing Childhood*. London: RoutledgeFalmer.
- Jang, L. (2005). *Natural Disasters: Effects of Cultural Factors on Resilience*. Saarbrücken: VDM Verlag Dr. Muller Aktiengesellschaft & Co.
- Jardine-Coom, L. (2010). *When Men and Mountains Meet : Rūiamoko, Western Science and Political Ecology in Aotearoa/New Zealand*. Unpublished master's thesis, University of Canterbury, Christchurch.
- Joffe, H., & Yardley, L. (2004). Content and Thematic Analysis. In D. Marks & L. Yardley (Eds.), *Research methods for clinical and health psychology* (pp. 56-68). London: Sage.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher*, 33(7), 14-26.
- Kabasakal, H., & Bodur, M. (2004). Humane Orientation in Societies, Organizations, and Leader Attributes. In R. House, P. J. Hanges, M. Javidan, P. Dorfman & V. Gupta (Eds.), *Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies* (pp. 564-601). Thousand Oaks, CA: Sage Publications, Inc.
- Kaniasty, K., & Norris, F. H. (1993). A Test of the Social Deterioration Model in the Context of Natural Disaster. *Journal of Personality and Social Psychology*, 64, 395-408.
- Kanning, M. (2008). *Influence of Overseas Travel Experiences on the Worldviews of U.S. Backpackers*. Unpublished doctoral dissertation, Clemson University, Clemson, SC.
- Kellett, M. (2005). Children as Active Researchers: A New Research Paradigm for the 21st Century? [Electronic Version]. *NCRM Methods Review Papers*. Retrieved 16 June 2011, from [www.ncrm.ac.uk/publications](http://www.ncrm.ac.uk/publications)
- Kemmis, S., & McTaggart, R. (2005). Participatory Action Research: Communicative Action and the Public Square. In N. Denzin & Y. Lincoln (Eds.), *The Sage*

- Handbook of Qualitative Research* (3 ed., pp. 559-604). London: Sage Publications, Inc.
- Kim, Y. Y. (2009). Toward Intercultural Personhood: An Integration of Eastern and Western Perspectives. In L. A. Samovar, R. E. Porter & E. R. McDaniel (Eds.), *Intercultural Communication: A Reader* (12 ed., pp. 435-446). Boston: Wadsworth Cengage Learning.
- Klein, J. G., & Huang, L. (2007). After All Is Lost: Meeting the Material Needs of Adolescent Disaster Survivors. *American Marketing Association*, 26(1), 54-59.
- Klingman, A. (2002). Children under Stress of War. In A. La Greca, W. Silverman, E. M. Vernberg & M. Roberts (Eds.), *Helping Children Cope with Disasters and Terrorism* (pp. 359-380). Washington, D.C.: American Psychological Association.
- Kluckhohn, F., & Strodtbeck, F. (1961). *Variations in Value Orientations*. Evanston, IL: Row, Peterson.
- Koentjaraningrat. (1957). *A Preliminary Description of the Javanese Kinship System (Southeast Asian Studies Cultural Report Series)*. New Haven, CT: Yale University.
- Koentjaraningrat. (1985). *Javanese Culture*. London: Oxford University Press.
- Kostelny, K. (2006). A Cultural-Based, Integrative Approach: Helping War-Affected Children. In N. Boothby, A. Strong & M. Wessells (Eds.), *A World Turned Upside Down: Social Ecological Approaches to Children in War Zones* (pp. 19-37). Bloomfield, CT: Kumarian Press.
- Kostelny, K., & Wessells, M. (2005). Psychosocial Aid to Children after the Dec 26 Tsunami. *The Lancet*, 366, 2066-2067.
- Kreps, G. A. (1984). Sociological Inquiry and Disaster Research. *Annual Review of Sociology*(10), 309-330.
- Krippendorff, K. (2004). *Content Analysis: An Introduction to Its Methodology*. Thousand Oaks, CA: Sage Publications, Inc.
- Krueger, R. A., & Casey, M. A. (2009). *Focus Groups: A Practical Guide for Applied Research* (4 ed.). Thousand Oaks, CA: SAGE Publications, Inc.
- La Greca, A., Silverman, W., Vernberg, E., & Roberts, M. (2002a). Children and Disasters: Future Directions for Research and Public Policy. In A. La Greca, W. Silverman, E. Vernberg & M. Roberts (Eds.), *Helping Children Cope With Disasters and Terrorism* (pp. 405-423). Washington, DC: American Psychological Association.
- La Greca, A., Silverman, W., Vernberg, E., & Roberts, M. (Eds.). (2002b). *Helping Children Cope With Disasters and Terrorism* (1 ed.). Washington, DC: American Psychological Association.
- Lang, O. (2010, 27 October). Spiritual Guardian of Indonesian Volcano Dies. *BBC News*, from <http://www.bbc.co.uk/news/world-asia-pacific-11634824>
- Laungani, P. D. (2007). *Understanding Cross-Cultural Psychology*. London: Sage Publications, Inc.
- Lauten, A. W., & Lietz, K. (2008). A Look at the Standards Gap: Comparing Child Protection Responses in the Aftermath of Hurricane Katrina and the Indian Ocean Tsunami. *Children, Youth and Environments* 18(1), 158-201.
- Lavigne, F., De Coster, B., Juvin, N., Flohic, F., Gaillard, J. C., Texier, P., et al. (2008). People's Behaviour in the Face of Volcanic Hazards: Perspectives from Javanese Communities, Indonesia. *Journal of Volcanology and Geothermal Research*, 172(3-4), 273-287.

- Legono, D. (2005, 1-2 December ). *Important Issues on Sediment-Related Disaster Management in Indonesia*. Paper presented at the International Symposium on Fluvial and Coastal Disaster, Kyoto, Japan.
- LeVine, R. A., & New, R. S. (Eds.). (2008). *Anthropology and Child Development: A Cross-Cultural Reader* (1 ed.). Oxford: Blackwell Publishing Ltd.
- Lieten, G. K. (2008). *Children, Structure and Agency: Realities Across the Developing World* (1 ed.). New York: Routledge.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Beverly Hills, CA: Sage. .
- Lloyd, G. (2000). *Indonesia's Future Prospects: Separatism, Decentralisation and the Survival of the Unitary State* Retrieved. from <http://www.aph.gov.au/library/pubs/cib/1999-2000/2000cib17.htm#unitary>.
- Luttrell, W. (2010). Introduction: The Promise of Qualitative Research in Education. In W. Luttrell (Ed.), *Qualitative Educational Research*. New York: Routledge.
- Lynch, C. (2008). Reflexivity in Research on Civil Society: Constructivist Perspectives. *International Studies Review*, 10(4), 708-721.
- Lynch, E. W. (2004). Conceptual Framework: From Culture Shock to Cultural Learning. In E. W. Lynch & M. J. Hanson (Eds.), *Developing Cross-Cultural Competence* (3 ed., pp. 19-39). Baltimore, MD: Paul H. Brookes Publishing Co.
- Madfis, J., Martyris, D., & Triplehorn, C. (2010). Emergency Safe Spaces in Haiti and the Solomon Islands. *Disasters*, 34(3), 845-864.
- Madriz, E. (2000). Focus Groups in Feminist Research. In N. Denzin & Y. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 835-850). London: Sage Publications Inc.
- Makin, A. (2010, 8 November). Mythical Perceptions of Nature and Survival. *The Jakarta Post*, from <http://www.thejakartapost.com/news/2010/11/08/mythical-perceptions-nature-and-survival.html>
- Malchiodi, C. (2001). Using Drawing as Intervention with Traumatized Children. *TLC's Journal, Trauma and Loss: Research and Interventions* 1(1.), 21-28.
- Manning, M. L. (1994). Addressing Young Adolescents' Cognitive Development. *The High School Journal*, 78(2), 98-104.
- Manyena, S. B., Fordham, M., & Collins, A. (2008). Disaster Resilience and Children: Managing Food Security in Zimbabwe's Binga District. *Children, Youth and Environments* 18(303-331).
- Marfai, M. A., King, L., Singh, L. P., Mardiatno, D., Sartohadi, J., Hadmoko, D. S., et al. (2008). Natural Hazards in Central Java Province, Indonesia: An Overview. *Environmental Geology*, 56(2), 335-351.
- Mastan, K. (2006). Business and Market Overview of Indonesia. *ArticlesBase.com*. Retrieved 26 June, 2010, from <http://www.articlesbase.com/business-opportunities-articles/business-and-market-overview-of-indonesia-39090.html#axzz1Qw7Hv7DD>
- Mayo, M. (2001). Children and Young People's Participation in Development in the South and Urban Regeneration in the North. *Progress in Development Studies* 1(4), 279-293.
- Mbah Marijan Among 25 Killed as Indonesia Volcano Death Toll Rises. (2010, 27 October). *The Jakarta Globe*, from <http://www.thejakartaglobe.com/home/mbah-marijan-among-25-killed-as-indonesia-volcano-death-toll-rises/403484>
- McAdoo, B. G., Dengler, L., Prasetya, G., & Titovd, V. (2006). Smong: How an Oral History Saved Thousands on Indonesia's Simeulue Island during the December 2004 and March 2005 Tsunamis. *Earthquake Spectra*, 22 (S3), S661-S669.

- McCabe, J. T. (2002). Impact of and Response to Drought Among Turkana Pastoralists: Implication for Anthropological Theory and Hazards Research. In S. M. Hoffman & A. Oliver-Smith (Eds.), *Catastrophe and Culture: The Anthropology of Disaster* (pp. 213-236). Santa Fe, NM: School of American Research Press.
- McDaniel, E. R., Samovar, L. A., & Porter, R. E. (2009). Understanding Intercultural Communication: The Working Principles. In L. A. Samovar, T. Parsons & E. R. McDaniel (Eds.), *Intercultural Communication: A Reader* (12 ed., pp. 6-17). Boston: Wadsworth Cengage Learning.
- McIntyre-Mills, J., Manurung, L., Sumarto, H., & Komariya, Y. (2009). Identity in Post Suharto Indonesia. *Systemic Practice and Action Research*, 22(3), 149.
- McMahon, W. W. (2011). The Impact of Education on Indonesia's Development. *Blog Putera Sampoerna*. Retrieved July 1, 2011, from <http://www.puterasampoerna.com/the-impact-of-education-on-indonesia%e2%80%99s-development/>
- Mead, M. (2008). The Ethnography of Childhood. In R. A. LeVine & R. S. New (Eds.), *Anthropology and Child Development: A Cross-Cultural Reader* (pp. 22-27). Oxford: Blackwell Publishing Ltd.
- Megawangi, R., Zeitlin, M. F., & Colletta, N. D. (1995). The Javanese Family. In M. F. Zeitlin, R. Megawangi, E. M. Kramer, N. D. Colletta, E. D. Babatunde & D. Garman (Eds.), *Strengthening the Family: Implications for International Development*. Tokyo: United Nations University Press.
- Miike, Y. (2009). "Harmony without Uniformity": An Asiatic Worldview and Its Communicative Implications. In L. A. Samovar, R. E. Porter & E. R. McDaniel (Eds.), *Intercultural Communication: A Reader* (12 ed., pp. 36-47). Boston: Wadsworth Cengage Learning.
- Mileti, D. S. (1999). *Disasters by Design : A Reassessment of Natural Hazards in the United States* Washington, D.C. : Joseph Henry Press.
- Mitchell, T., Haynes, K., Choong, W., & Hall, N. (2008). The Role of Children and Youth in Communicating Disaster Risk. *Children, Youth and Environments*, 18(1), 254-279.
- Morfit, M. (1981). Pancasila: The Indonesian State Ideology According to the New Order Government. *Asian Survey*, 21(8), 838-851.
- Morris, J., Van Ommeren, M., Belfer, M., Saxena, S., & Saraceno, B. (2007). Children and the Sphere Standard on Mental and Social Aspects of Health. *Disasters*, 31(1), 71-90.
- Morris, K., & Edwards, M. (2008). Disaster Risk Reduction and Vulnerable Populations in Jamaica: Protecting Children within the Comprehensive Disaster Management Framework. *Children, Youth and Environments*, 18(1), 389-407.
- Morse, J. M. (2003). Principles of Mixed Methods and Multimethod Research Design. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (pp. 189-208). Thousand Oaks, CA: Sage Publications, Inc.
- Moss, P., & Petrie, P. (2002). *From Children's Services to Children's Spaces*. London: RoutledgeFalmer.
- Mulder, M. (1978). *Mysticism & Everyday Life in Contemporary Java: Cultural Persistence and Change*. Singapore: Singapore University Press
- Mulder, N. (2005). *Mysticism in Java: ideology in Indonesia*. Yogyakarta: Kanisius.
- Murray, J. S. (2006). Collaborative Practice . Addressing the Psychosocial Needs of Children Following Disasters. *Journal for specialists in pediatric nursing*, 11(2), 133-137.

- Myers, D. G. (1989). Mental Health and Disaster. In R. Gist & B. Lubin (Eds.), *Psychosocial Aspects of Disaster* (pp. 190-228). New York: John Wiley & Sons.
- Neuman, W. L. (2006). *Social Research Methods: Qualitative and Quantitative Approaches* (6 ed.). Boston: Pearson Education, Inc.
- Newberry, J. (2010). The Global Child and Non-Governmental Governance of the Family in Post-Suharto Indonesia. *Economy and Society*, 39(3), 403 - 426.
- Nicholl, R. (2009). Portuguese Sources on Products and the Monsoons. In T. Hellwig & E. Tagliacozzo (Eds.), *The Indonesia Reader*. Durham, NC: Duke University Press.
- Nisbett, R. E. (2009). Living Together versus Going It Alone. In L. A. Samovar, R. E. Porter & E. R. McDaniel (Eds.), *Intercultural Communication: A Reader* (12 ed., pp. 134-144). Boston: Wadsworth Cengage Learning.
- Norris, F. H., Friedman, M. J., Watson, P. J., Byrne, C. M., Diaz, E., & Kaniasty, K. (2002). 60,000 Disaster Victims Speak: Part I. An Empirical Review of the Empirical Literature, 1981–2001. *Psychiatry* 65(3), 207-239.
- NZ Aid. (2011). New Zealand Aid Programme: Indonesia. *New Zealand Ministry of Foreign Affairs and Trade*. Retrieved 13 June 2011, from <http://www.aid.govt.nz/programmes/c-indonesia.html>
- Oliver-Smith, A. (1996). Anthropological Research on Hazards and Disasters. *Annual Review of Anthropology*, 25(1), 303-328.
- Orr, P. P. (2007). Art Therapy with Children after a Disaster: A Content Analysis. *The Arts in Psychotherapy*, 34, 350-361.
- Oxfam GB. (2008). Who is Doing What Where - 3Ws. *ReliefWeb*. Retrieved 10 March, 2009, from <http://reliefweb.int/node/8719>
- Pancasila. (1993). In W. H. Frederick & R. L. Worden (Eds.), *Indonesia: A Country Study*. Washington, DC: GPO for the Library of Congress.
- Parsons, T., & Bales, R. (1956). *Family, Socialization and Interaction Process*. London: Routledge and Kegan Paul.
- Paton, D., Kelly, G., Bürgelt, P. T., & Doherty, M. (2006). Preparing for Bushfires: Understanding Intentions. *Disaster Prevention and Management*, 15(4), 566 - 575.
- Paton, D., Sagala, S., Okada, N., Jang, L., Bürgelt, P. T., & Gregg, C. E. (2010). Making Sense of Natural Hazard Mitigation: Personal, Social and Cultural Influences. *Environmental Hazards*, 9, 183-196.
- Paton, D., Smith, L., Daly, M., & Johnston, D. (2008). Risk Perception and Volcanic Hazard Mitigation: Individual and Social Perspectives. *Journal of Volcanology and Geothermal Research*, 172 179–188.
- Patton, M. Q. (2002). *Qualitative Research and Evaluation Methods* (3 ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Peacock, J. L. (1978). *Muslim Puritans: Reformist Psychology in Southeast Asian Islam*. Berkley, CA: University of California Press.
- Peek, L. (2008). Children and Disasters: Understanding Vulnerability, Developing Capacities, and Promoting Resilience - An Introduction. *Children, Youth and Environments*, 18(1), 1-29.
- Peek, L., & Fothergill, A. (2006, August 8). *Reconstructing Childhood: An Exploratory Study of Children in Hurricane Katrina*. Paper presented at the annual meeting of the American Sociological Association, Montreal Convention Center, Montreal, Quebec.
- Peek, L., & Stough, L. M. (2010). Children with Disabilities in the Context of Disasters: A Social Vulnerability Perspective. *Child Development*, 81(4), 1260-1270.

- Peek, L., Sutton, J., & Gump, J. (2008). Caring for Children in the Aftermath of Disaster: The Church of the Brethren Children's Disaster Services Program. *Children, Youth and Environments* 18(1), 408-421.
- Penrose, A., & Takaki, M. (2006). Children's Rights in Emergencies and Disasters. *The Lancet*, 367, 698-699.
- Plan. (2008). *Indonesian Children's View on Disaster Risk Reduction*. Retrieved 28 May 2010, from [http://www.childreninachangingclimate.org/database/plan/Publications/PlanIndonesia-RMIT\\_ChildrensViewDRR\\_2009.pdf](http://www.childreninachangingclimate.org/database/plan/Publications/PlanIndonesia-RMIT_ChildrensViewDRR_2009.pdf)
- Prapañca, M. (2009). The Nāgarakṛtāgama. In T. Hellwig & E. Tagliacozzo (Eds.), *The Indonesia Reader* (pp. 58-60). Durham, NC: Duke University Press.
- Prasetya, H. (2001, 2 February). 'Mbah' Maridjan keeps faith on Mt. Merapi. *The Jakarta Post*, from <http://www.thejakartapost.com/news/2001/02/02/039mbah039-maridjan-keeps-faith-mt-merapi.html>
- President Suharto Resigns. (1998). *BBC News*. Retrieved February 3, 2011, from [http://news.bbc.co.uk/2/hi/events/indonesia/latest\\_news/97848.stm](http://news.bbc.co.uk/2/hi/events/indonesia/latest_news/97848.stm)
- Prinstein, M., La Greca, A., Vernberg, E., & Silverman, W. (1996). Children's Coping Assistance: How Parents, Teachers, and Friends Help Children Cope after a Natural Disaster. *Journal of Clinical Child Psychology*, 25(4), 463-475.
- Prout, A., & James, A. (1997). A New Paradigm for the Sociology of Childhood? Provenance, Promise and Problems. In A. James & A. Prout (Eds.), *Constructing and Reconstructing Childhood: contemporary issues in the sociological study of childhood* (pp. 7-33). London: RoutledgeFalmer.
- Pufall, P., & Unsworth, R. (2004). Introduction: The Imperative and the Process of Rethinking Childhood. In P. Pufall & R. Unsworth (Eds.), *Rethinking Childhood* (pp. 1-21). New Brunswick, NJ: Rutgers University Press.
- Quarantelli, E. L., & Dynes, R. R. (1977). Response to Social Crisis and Disaster. *Annual Review of Sociology*, 3, 23-49.
- Qvortrup, J. (1994). Childhood Matters: An Introduction. In J. Qvortrup, M. Bardy, G. Sgritta and H. Wintersberger (Ed.), *Childhood Matters: Social Theory, Practice and Politics* (pp. 1-23). Aldershot: Avebury.
- Qvortrup, J., Bardy, M., Sgritta, G., & Wintersberger, H. (Eds.). (1994). *Childhood Matters: Social Theory, Practice and Politics* Aldershot: Avebury.
- Rabalais, A., Ruggiero, K., & Scotti, J. (2002). Multicultural Issues in the Response of Children to Disasters. In A. La Greca, W. Silverman, E. Vernberg & M. Roberts (Eds.), *Helping Children Cope with Disasters and Terrorism* (pp. 73-106). Washington, D.C: American Psychological Association.
- Rashid, S. F. (2000). The Urban Poor in Dhaka City: Their Struggles and Coping Strategies during the Floods of 1998. *Disasters*, 24(3), 240-253.
- Reay, D. (1996). Insider Perspectives or Stealing the Words out of Women's Mouths: Interpretation in the Research Process. *Feminist Review*(53), 57-73.
- Reuter, T. (2009). Globalisation and Local Identities: The Rise of New Ethnic and Religious Movements in Post-Suharto Indonesia. *Asian Journal of Social Science*, 37, 857-871.
- RI Economy to grow 6.2% in 2011: World Bank. (2011, 13 January). *The Jakarta Post*, from <http://www.thejakartapost.com/news/2011/01/13/ri-economy-grow-62-2011-world-bank.html>

- Rice, H. (2010). Fatalism. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2010 ed.): <http://plato.stanford.edu/archives/win2010/entries/fatalism/>.
- Ridge, T. (2002). *Childhood Poverty and Social Exclusion: From a Child's Perspective* (1 ed.). Bristol: The Policy Press.
- Ritchie, S. J. (2002). Contesting Secularism: Reflexive Methodology, Belief Studies, and Disciplined Knowledge. *The Journal of American Folklore*, 115(457/458), 443-456.
- Robertson-Snape, F. (1999). Corruption, Collusion and Nepotism in Indonesia. *Third World Quarterly*, 20(3), 589-602.
- Romanos, A. (2011, 23 February). Christchurch Quake: British High Commissioner Looks for UK Nationals. *Hawke's Bay Today*, from <http://www.hawkesbaytoday.co.nz/local/news/christchurch-quake-british-high-commissioner-looks/3941698/>
- Romero, S., & Lacey, M. (2010, 16 January). Looting Flares as Authority Breaks Down. *The New York Times*, from <http://www.nytimes.com/2010/01/17/world/americas/17looting.html?hp>
- Ronan, K. R. (1997). The Effects of a "Benign" Disaster: Symptoms of Post-traumatic Stress in Children Following a Series of Volcanic Eruptions [Electronic Version]. *The Australasian Journal of Disaster and Trauma Studies*, from <http://www.massey.ac.nz/~trauma/issues/1997-1/ronan1.htm>
- Ronan, K. R., Crellin, K., Johnston, D., & Becker, J. (2008). Promoting Child and Family Resilience to Disasters: Effects, Interventions and Prevention Effectiveness. *Children, Youth and Environments*, 18(1), 332-353.
- Ronan, K. R., & Johnston, D. M. (1999). Behaviourally-based Interventions for Children Following Volcanic Eruptions: An Evaluation of Efficacy. *Disaster Prevention and Management* 8, 169-176.
- Ronan, K. R., & Johnston, D. M. (2005). *Promoting Community Resilience in Disasters*. New York: Springer.
- Sagita, D., Sembiring, D., & Malik, C. (2010, 30 October). Javanese Spiritual Beliefs Called into Question as Volcano Death Toll Climbs to 36. *The Jakarta Globe*, from <http://www.thejakartaglobe.com/home/javanese-spiritual-beliefs-called-into-question-as-volcano-death-toll-climbs-to-36/403984>
- Samovar, L. A., Porter, R. E., & McDaniel, E. R. (2009a). International Cultures: Understanding Diversity. In L. A. Samovar, R. E. Porter & E. R. McDaniel (Eds.), *Intercultural Communication: A Reader* (12 ed., pp. 128-133). Boston: Wadsworth Cengage Learning.
- Samovar, L. A., Porter, R. E., & McDaniel, E. R. (Eds.). (2009b). *Intercultural Communication: A Reader* (12 ed.). Boston: Wadsworth Cengage Learning.
- Sandelowski, M. (1993). Rigor or Rigor Mortis: The Problem of Rigor in Qualitative Research Revisited. *Advances in Nursing Science* 16(2), 1-8.
- Saporiti, A. (1994). A Methodology for Making Children Count. In J. Qvortrup, M. Bardy, G. Sgritta & H. Wintersberger (Eds.), *Childhood Matters : Social Theory, Practice and Politics* (pp. 189-210). Aldershot: Avebury.
- Sarantakos, S. (2005). *Social Research* (3 ed.). New York: Palgrave Macmillan.
- Save the Children. (2007). *Legacy of Disasters: The Impact of Climate Change on Children*. London: Save the Children UK.
- Save the Children. (2011). *Children's Charter: An Action Plan for Disaster Risk Reduction for Children by Children*. London: Save the Children UK.

- Schlehe, J. (2008). Cultural Politics of Natural Disasters: Discourses on Volcanic Eruptions in Indonesia. In M. Casimir (Ed.), *Culture and the Changing Environment* (pp. 275-299). New York: Berhahn Books.
- Schlehe, J. (2010). Anthropology of Religion: Disasters and the Representations of Tradition and Modernity. *Religion*, 40(2), 112-120.
- Schwandt, T. A. (2007). *The SAGE Dictionary of Qualitative Inquiry* (3 ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Setiyarso, B. (2008). Banjir Kota Surakarta [digital map]. Surakarta: Universitas Sebelas Maret
- Shamgar-Handelman, L. (1994). To Whom Does Childhood Belong? In J. Qvortrup, M. Bardy, G. Sgritta & H. Wintersberger (Eds.), *Childhood Matters : Social Theory, Practice and Politics* (pp. 249-266). Aldershot: Avebury.
- Shields, E. (2006, 17 May). Merapi Mystic Defies Java Volcano Alert. *BBC News*, from <http://news.bbc.co.uk/2/hi/asia-pacific/4990186.stm>
- Sijabat, R. M. (2010, 1 June). Pancasila is Better than no Ideology, Experts Say. *The Jakarta Post*, from <http://www.thejakartapost.com/news/2010/06/01/pancasila-better-no-ideology-experts-say.html>
- Silverman, D. (2006). *Interpreting Qualitative Data* (3 ed.). Thousand Oaks, CA: Sage Publications Inc.
- Silverman, W., & La Greca, A. (2002). Children Experiencing Disasters: Definitions, Reactions, and Predictors of Outcomes. In A. La Greca, W. Silverman, E. Vernberg & M. Roberts (Eds.), *Helping Children Cope with Disasters and Terrorism* (pp. 11-34). Washington, D.C: American Psychological Association.
- Singh, D. (2010, 19 January). Rukun Tetangga to Foster Unity: Dr Koh. *The Star (Malaysia)*, from <http://thestar.com.my/news/story.asp?file=/2010/1/19/nation/20100119153605&sec=nation>
- Skeggs, B. (2002). Techniques for Telling the Reflexive Self. In T. May (Ed.), *Qualitative Research in Action*. London: Sage
- Skorik, A., & Isanuk, M. (2005). Indonesia Natural Disaster Profiles. Retrieved 22 June 2010, from Center For Hazards and Risk Research at Columbia University website: [http://www.ldeo.columbia.edu/chrr/research/profiles/pdfs/indonesia\\_profile1.pdf](http://www.ldeo.columbia.edu/chrr/research/profiles/pdfs/indonesia_profile1.pdf)
- Smyth, J., & Shacklock, G. (1998). Behind the 'Cleansing' Socially Critical Research Accounts. In J. Smyth & G. Shacklock (Eds.), *Being Reflexive in Critical Educational and Social Research* (pp. 1-12). London: Falmer Press.
- Stein, E. A. (2009). "Sanitary Makeshifts" and the Perpetuation of Health Stratification in Indonesia. In R. A. Hahn & M. C. Inhorn (Eds.), *Anthropology and Public Health* (2 ed., pp. 541-565). Oxford: Oxford University Press.
- Stonebanks, C. D. (2008). An Islamic Perspective on Knowledge, Knowing and Methodology. In N. K. Denzin, Y. S. Lincoln & L. T. Smith (Eds.), *Handbook of Critical and Indigenous Methodologies*. Thousand Oaks, CA: SAGE Publications, Inc.
- Strauss, A., & Corbin, J. (2008). *Basics of Qualitative Research : Techniques and Procedures for Developing Grounded Theory* (3 ed.). London: Sage Publications, Inc.
- Sudarsono. (2009). *The Bengawan Solo Water Council - providing insight and directions*. Solo, Indonesia: Center for River Basin Organizations and Management.

- Sukarno. (2009). Exploring Panca Sila. In T. Hellwig & E. Tagliacozzo (Eds.), *The Indonesia Reader*. Durham, NC: Duke University Press.
- Takeuchi, K., Jayawardena, A. W., & Takahasi, Y. (Eds.). (1995). *Catalogue of Rivers for Southeast Asia and the Pacific* (Vol. 1): The UNESCO-IHP Regional Steering Committee for Southeast Asia and the Pacific. Retrieved from [http://flood.dpri.kyoto-u.ac.jp/ihp\\_rsc/riverCatalogue/Vol\\_01/index.html](http://flood.dpri.kyoto-u.ac.jp/ihp_rsc/riverCatalogue/Vol_01/index.html).
- Tanner, T. (2010). Shifting the Narrative: Child-led Responses to Climate Change and Disasters in El Salvador and the Philippines. *Children & Society*, 24(4), 339-351.
- Taylor, J. G. (2003). *Indonesia: Peoples and Histories*. New Haven, CT: Yale University Press.
- Teddlie, C., & Tashakkori, A. (2003). Major Issues and Controversies in the Use of Mixed Methods in the Social and Behavioural Sciences. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (pp. 3-50). Thousand Oaks, CA: Sage Publications, Inc.
- Thorne, B. (2010). Learning from Kids. In W. Luttrell (Ed.), *Qualitative Educational Research* (pp. 407-420). New York: Routledge.
- Toer, P. A. (1982). *This Earth of Mankind*. Ringwood, Victoria, Australia: Penguin.
- Triandis, H. C. (1994). *Culture and Social Behaviour*. New York: McGraw-Hill.
- Triandis, H. C. (2009). Culture and Conflict. In L. A. Samovar, R. E. Porter & E. R. McDaniel (Eds.), *Intercultural Communication: A Reader* (12 ed.). Boston: Wadsworth Cengage Learning.
- U.S. Census Bureau. (2008). International Data Base (IDB) – Pyramids. *US Census Bureau*. Retrieved Sept 9, 2008, from <http://www.census.gov/ipc/www/idb/pyramids.html>
- UN-HABITAT. (2007). *Enhancing Urban Safety and Security – Global Report on Human Settlements 2007*. London: Earthscan Publications.
- UNESCO. (2010). *Secondary Education Regional Information Base: Country Profile Indonesia*. Bangkok: UNESCO Asia and Pacific Regional Bureau for Education.
- UNISDR. (2011, 11 May ). Indonesian President Recognized as “UNISDR Global Champion for Disaster Risk Reduction” at Global Platform Opening Ceremony. *United Nations International Strategy for Disaster Reduction Secretariat (UNISDR)* Retrieved 4 July, 2011, from <http://www.unisdr.org/archive/19883>
- United Nations. (1993). *Economic and Social Council, 49th Session, Commission on Human Rights, Resolution 1993/97. Situation in East Timor*. Retrieved. from <http://ap.ohchr.org/Documents/gmainec.aspx>.
- USGS. (2010). Historic World Earthquakes. *U.S. Geological Survey Earthquake Hazards Program*. Retrieved 1 July, 2010, from [http://earthquake.usgs.gov/earthquakes/world/historical\\_country.php](http://earthquake.usgs.gov/earthquakes/world/historical_country.php)
- Vickers, A. (2005). *A History of Modern Indonesia*. Cambridge: Cambridge University Press.
- Vogel, J., & Vernberg, E. (1993a). Part 1: Children’s Psychological Responses to Disasters. *Journal of Clinical Child Psychology*, 22(4), 464 - 484.
- Vogel, J., & Vernberg, E. (1993b). Part 2: Interventions with Children following Disasters. *Journal of Clinical Child Psychology*, 22(4), 454-498.
- Wachtendorf, T., Brown, B., & Nickle, M. C. (2008). Big Bird, Disaster Masters, and High School Students Taking Charge: The Social Capacities of Children in Disaster Education. *Children, Youth and Environments* 18(1), 456-469.

- Watson, G. (1987). Make Me Reflexive, but Not Yet: Strategies for Managing Essential Reflexivity in Ethnographic Discourse. *Journal of Anthropological Research*, 43(1), 29-41.
- Weatherbee, D. E. (1985). Indonesia in 1984: Pancasila, Politics, and Power. *Indonesia in 1984: Pancasila, Politics, and Power*, 25(2), 187-197.
- Weissbecker, I., Sephton, S. E., Martin, M. B., & Simpson, D. M. (2008). Psychological and Physiological Correlates of Stress in Children Exposed to Disaster: Review of Current Research and Recommendations for Intervention. *Children, Youth and Environments*, 18(1), 30-70.
- Wilkinson, S. (2004). Focus Group Research. In D. Silverman (Ed.), *Qualitative Research: Theory, Method and Practice* (pp. 177-198). London: Sage Publication Ltd.
- Willitts-King, B. (2009, June). The Silver Lining of the Tsunami?: Disaster Management in Indonesia. *Humanitarian Exchange Magazine*, 43, 10-12.
- Wilson, P., & Reilly, D. (2007). *Joint Evaluation of Their Responses to the Yogyakarta Earthquake*. Yogyakarta: CARE, Catholic Relief Services, Save the Children and World Vision Indonesia.
- Wilson, S. L., & Kershaw, M. A. (2008). Caring for Young Children after a Hurricane: Childcare Workers Reflect on Support and Training Needs. *Children, Youth and Environments*, 18(1), 237-253.
- Winchester, H. P. M. (2005). Qualitative Research and its Place in Human Geography. In I. Hay (Ed.), *Qualitative Research Methods in Human Geography* (2 ed., pp. 3-18). Melbourne: Oxford University Press.
- Winterbottom, D. (2008). Garbage to Garden: Developing a Safe, Nurturing and Therapeutic Environment for the Children of the Garbage Pickers Utilizing an Academic Design/Build Service Learning Model. *Children, Youth and Environments* 18(1), 435-455.
- Wisner, B. (2006). *Let Our Children Teach Us! A Review of the Role of Education and Knowledge in Disaster Risk Reduction*. Retrieved 20 June, 2011, from <http://www.unisdr.org/2005/task-force/working%20groups/knowledge-education/docs/Let-our-Children-Teach-Us.pdf>
- Wisner, B., Blaikie, P., Cannon, T., & Davis, I. (2004). *At Risk: Natural hazards, people's vulnerability and disasters* (2 ed.). London: Routledge.
- Wohl, E. E. (2000). *Inland flood hazards: human, riparian, and aquatic communities*. Cambridge: Cambridge University Press.
- World Bank. (2011). Poverty in Indonesia. *The World Bank Group*. Retrieved 29 May, 2011, from <http://go.worldbank.org/XARYMSLYC0>
- Wright, P. (1994). *Conducting Focus Groups with Young Children Requires Special Considerations and Techniques [Technical Assistance Bulletin]*. Rockville, MD: National Clearing House for Alcohol and Drug Information.
- Wyness, M. (2006). *Childhood and Society*. New York: Palgrave Macmillan.
- Yodmani, S. (2001, February 5-9). *Disaster Risk Management and Vulnerability Reduction: Protecting the Poor*. Paper presented at the Asia and Pacific Forum on Poverty Organized by the Asian Development Bank, Manila, Philippines.
- Zahran, S., Peek, L., & Brody, S. D. (2008). Youth Mortality by Forces of Nature. *Children, Youth and Environments* 18(1), 371-388.
- Zein, M. (2010). *A Community-Based Approach to Flood Hazard and Vulnerability Assessment in Flood Prone Areas: A Case Study in Keluarahan Sewu, Surakarta City - Indonesia*. Unpublished master's dissertation, Gadjah Mada University, Yogyakarta.

## Appendix A

## Appendix A: Ethics Approval

This appendix outlines the ethics approval process that was undergone by this research in order to comply with the *Massey University Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants*.

A flowchart illustrates the process that was used to gain approval. Both a Low-Risk Notification and a full Human Ethics Application were completed and were granted acknowledgement and approval, respectively. The cover pages of these two documents are included here.

In addition, all documentation used to explain the research to participants and gain their consent is included. Confidentiality Agreements for all research personnel are also included. These forms were required to be translated into Bahasa Indonesia. The English forms are shown first, followed by the Indonesian translation.

Ethics Approval Flowchart	A3
Low Risk Notification - Cover Page	A5
Human Ethics Application - Cover Page	A7
Child Participant Information Sheet	A9
Child Participant Information Sheet (Bahasa Indonesia)	A11
Parent Information Sheet	A15
Parent Information Sheet (Bahasa Indonesia)	A17
Key Informant Information Sheet	A21
Key Informant Information Sheet (Bahasa Indonesia)	A23
Child Participant Consent Form	A25
Child Participant Consent Form (Bahasa Indonesia)	A27
Parental Consent Form	A29
Parental Consent Form (Bahasa Indonesia)	A31
Key Informant Consent Form	A33
Key Informant Consent Form (Bahasa Indonesia)	A35
Authority for Release of Tape Transcripts Form	A37
Authority for Release of Tape Transcripts Form (Bahasa Indonesia)	A39
Confidentiality Agreement	A41
Confidentiality Agreement (Bahasa Indonesia)	A43
Transcriber's Confidentiality Agreement	A45
Transcriber's Confidentiality Agreement (Bahasa Indonesia)	A47
Translator's Confidentiality Agreement	A49
Translator's Confidentiality Agreement (Bahasa Indonesia)	A51

## Ethics Approval Process





NOTIFICATION OF LOW RISK RESEARCH/EVALUATION INVOLVING HUMAN PARTICIPANTS

(All notifications are to be typed)

SECTION A:

- 1. Project Title: The role of non-governmental organizations (NGOs) in Indonesia during long-term recovery from natural disaster
Projected start date for data collection: March 30, 2008
Projected end date: July 2010
2. Applicant Details (Select the appropriate box and complete details)

ACADEMIC STAFF NOTIFICATION

Full Name of Staff Applicant/s
School/Department/Institute
Region (mark one only): Albany, Palmerston North, Wellington
Telephone, Email Address

STUDENT NOTIFICATION

Full Name of Student Applicant: Heather Lynne Taylor
Postal Address: 26 Parlane St., Addington, Christchurch
Telephone: 03 960 2624
Email Address: heather.l.taylor@gmail.com
Employer (if applicable): Associate Professor David Johnston, Professor Stuart Carr, Associate Professor Robin Peace
Full Name of Supervisor(s)
School/Department/Institute: School of Psychology
Region (mark one only): Albany, Palmerston North, Wellington (X)
Telephone: 04 570 1444
Email Address: David.Johnston@gns.cri.nz

GENERAL STAFF NOTIFICATION

Full Name of Applicant
Section
Region (mark one only): Albany, Palmerston North, Wellington
Telephone, Email Address
Full Name of Line Manager
Section
Telephone, Email Address

## Human Ethics Application

### FOR APPROVAL OF PROPOSED RESEARCH/TEACHING/EVALUATION INVOLVING HUMAN PARTICIPANTS

*(All applications are to be typed and presented using language that is free from jargon and  
comprehensible to lay people)*

#### SECTION A

1. **Project Title** Children's Experiences of Flooding in Surakarta, Indonesia  
**Projected start date** 15 June 2009 **Projected end date** October 2010  
**for data collection** **Projected end date**

**In no case will approval be given if recruitment and/or data collection has already begun.**

2. **Applicant Details** *(Select the appropriate box and complete details)*

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#### ACADEMIC STAFF APPLICATION (excluding staff who are also students)

**Full Name of Staff Applicant/s** .....

**School/Department/Institute** .....

**Campus (mark one only)** Albany  Palmerston North  Wellington

**Telephone** ..... **Email Address** .....

---

#### STUDENT APPLICATION

**Full Name of Student Applicant** Heather Taylor .....

**Employer (if applicable)** .....

**Telephone** 027 223 2215 **Email Address** htaylor.uni.massey@gmail.com .....

**Postal Address** 11 Kenilworth St, Addington, Christchurch 8024 .....

**Full Name of Supervisor(s)** David Johnston  
Robin Peace  
Stuart Carr .....

**School/Department/Institute** Psychology .....

**Campus (mark one only)** Albany  Palmerston North  Wellington

**Telephone** 04 801-5799 **Email Address** David.Johnston@gns.cri.nz  
Ext 62168 .....

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#### GENERAL STAFF APPLICATION

**Full Name of Applicant** .....

**Section** .....

**Campus (mark one only)** Albany  Palmerston North  Wellington

**Telephone** ..... **Email Address** .....

**Full Name of Line Manager** .....

**Section** .....

**Telephone** ..... **Email Address** .....

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## **Children's Experiences of Flooding in Surakarta, Central Java, Indonesia**

### **PARTICIPANT INFORMATION SHEET**

**Selamat**, my name is Heather Taylor. I am a university student from New Zealand. I am studying how large natural events (floods, earthquakes, landslides, etc.) affect people's lives, particularly children and youth. For this project, I am looking at the flooding that can happen in Solo.

I haven't live in Solo when there has been flooding. But you may have, so that makes you the expert! If you are between the ages of 10 and 12 years old, I want to invite you participate in this project and share what you know about flooding, some of your experiences, thoughts and ideas.

Please read the information below carefully, so you can decide whether or not you want to participate.

**Flooding in Solo** - I would like to know what someone your age thinks about it and how it affects them and their family. What are some of the things that change in your life when there is flooding? How could someone help their family or friends when there is flooding? What advice would be good to tell other children who might be near the flooding?

There are a lot of people that are affected by flooding and a lot of people that try to help them - like your own family, your communities, community or international organizations, and government. Your ideas and thoughts could be very helpful to them. If these people knew what children think and can help do, they will know better how to help you and your family. They will also learn about the ways you can help them.

### **Group Discussion Days**

You would be meeting in a group of 8-10 people - with other children from your neighbourhood. We will try some different ways to talk about your experiences with flooding, and what ideas and thoughts you have about it. We will have time for you to tell your stories, as well as activities, games, drawing, and whatever creative ideas you have and want to use to share your knowledge about flooding with me. I'll come up with some ideas, but you bring yours too! Since I don't speak Bahasa very well, I will need to tape record and/or video tape our meetings so I can listen to them again to understand everything you said. I'll need your permission to do this.

There will be 2 meetings (2 hours each) - one in the dry season and one during the rainy season. Make sure you can be there for both times. There will also be two shorter information meetings

### **When and Where?**

- All of the meetings will be after school and at a time when everyone in your group can come.
- The information meetings will be before the first group discussion, in August/September 2009
- The two group discussions will be in August/September 2009 and in January/February 2010.
- We will meet at a community building, like a school or community hall, near where you live so you can walk or ride a bike.

## What'll Happen After?

- The information that we discuss will be used to write my university report and may be used for articles in journals or magazines. I will need your permission to use any pictures or videos of you..
- I'll give a presentation (hopefully with your help!) to share all the results at the end of my stay in Indonesia. A short report of what we learned will be available on a website too. And I will give you a copy of the final video and any photos to keep.

## Important Things to Know

- You need to have your parents' or guardians' permission to participate in the project. If they decide that it's not a good idea for you to participate, we need to respect their decision.
- Sometimes when people talk about things that have happened to them, it can make them feel uncomfortable. You don't need to talk about anything you don't want to, or answer questions that make you feel uncomfortable in this group. Feel free to share as little and as much as you want. Any information that you so share will be confidential.
- If you think you might be uncomfortable participating in the project, you should probably choose not to. If you do decide to join in, and being involved in this project brings up memories or experiences that you would like to talk to someone about some more, there are counselors I know who you can talk with freely and in private.
- Remember you do not have to say yes to this invitation. If you decide to join in, you can choose to:
  - not to answer any particular questions that might be asked of you;
  - leave either of the groups at any point during the project
  - ask any questions about what we will be doing in the study at any time
  - give me your own name to use to write down what you say when you talk and share ideas or ask me to use another name rather than your own. If you use another name, no one will know what you have said.
  - ask for a copy of the video we will make as well as any pictures that you might choose to keep
  - ask for a copy of the short report that will be a record of what we found out during the project .

**So if you think you'd like to join in on this project, or know someone else who would, please come along to the first information meeting on [date] at [location]!**

If you have any questions about the project at any time please contact me, my colleague from UGM (Indonesian) or my supervisor in New Zealand:

Heather Taylor  
email: htaylor.uni.massey@gmail.com  
ph: [REDACTED]

Rahmat Hidiyat  
Professor Psikologi, UGM  
email: [REDACTED]  
ph: [REDACTED]

Dr. David Johnston  
Massey University, New Zealand  
email: David.Johnston@gns.cri.nz  
ph: +64 4 8015799, ext62168

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 09/24. If you have any concerns about the conduct of this research, please contact Dr Karl Pajo, Chair, Massey University Human Ethics Committee: Southern B, telephone 04 801 5799 x 6929, email humanethicsouthb@massey.ac.nz

## ***Pengalaman Anak-anak yang mengalami bencana banjir di Surakarta, Indonesia***

### **LEMBAR INFORMASI PESERTA**

**Salam**, nama saya Heather Taylor, saya mahasiswi salah satu perguruan tinggi di Selandia Baru yang sedang menyelesaikan studi S-3 (PhD), Saya sedang belajar mengenai sejauh mana bencana alam (banjir, gempa, tanah longsor dll) berdampak pada kelangsungan hidup masyarakat, terutama anak-anak. Dalam studi ini, saya memilih topik mengenai bencana banjir yang mungkin terjadi di Solo

Saya sendiri belum pernah tinggal di Solo ketika banjir terjadi, tetapi mungkin sebagian dari masyarakat yang tinggal di Solo pernah mengalaminya. Untuk itu, sesuai dengan tujuan studi ini, saya bermaksud mengajak adik-adik yang berusia 10 - 12 tahun untuk ikut berpartisipasi dalam studi ini. Berbagi pengalaman, ide dan saran dalam menghadapi bencana banjir dalam kelompok-kelompok bermain dan diskusi.

Mohon untuk membaca informasi atau penjelasan berikut, jik adik-adik berminat untuk berpartisipasi atau ikut serta.

**Banjir di Solo** -.Saya ingin mengetahui dari adik-adik bagaimana bencana banjir ini berpengaruh pada kehidupan sehari-hari adik-adik, keluarga dan lingkungan sekitar. Kegiatan apa saja yang biasanya dilakukan, menjadi tidak dapat di lakukan ketika banjir terjadi, atau sebaliknya. Lalu bagaimana orang-orang saling tolong menolong ketika banjir terjadi dan saran apa yang terbaik yang sebaiknya disampaikan kepada anak-anak yang lain yang berada di sekitar daerah banjir mengenai kemungkinan banjir melanda lokasinya?

Banyak orang-orang yang terkena dampak bencana banjir, dan banyak pula orang-orang yang ingin menolong, seperti keluarga adik-adik, masyarakat sekitar, organisasi masyarakat dan pemerintah, nasional dan internasional. Saran dan ide adik-adik akan sangat membantu mereka dalam memberikan pertolongan yang diperlukan oleh anak-anak dan keluarga yang mungkin tertimpa bencana banjir.

### **Kegiatan Diskusi Kelompok**

Adik-adik dapat berkumpul dalam satu kelompok dengan jumlah anggota antara 3- 4 yang terdiri dari anak-anak di sekitar tempat tinggal adik-adik. Saya ingin mengetahui pengalaman adik-adik mengenai bencana alam banjir yang pernah adik-adik alami dan apa-apa yang adik pikirkan mengenai bencana banjir. Untuk itu, kita bisa lakukan dengan kegiatan-kegiatan yang adik-adik suka seperti bercerita, menggambar, bermain dan lain - lain. Saya akan membawa beberapa ide bermain, dan adik-adik tentunya memiliki ide-ide yang bagus untuk diskusi kelompok ini juga. Untuk aktivitas ini saya akan mohon ijin dari adik-adik secara tertulis.

Aktivitas atau kegiatan ini akan kita lakukan dalam dua kali pertemuan, masing-masing kurang lebih selama 2 jam. Satu pertemuan untuk musim kemarau dan satu pertemuan untuk musim hujan. Adik-adik di mohon untuk bisa ikut di dua pertemuan ini.

### **Kapan dan Dimana?**

- Semua kegiatan dilakukan setelah jam sekolah dan pada waktu dimana semua anggota kelompok bisa berkumpul.
- Kedua kelompok diskusi akan dilakukan pada bulan Agustus/September 2009 dan Januari/Februari 2010

- Pertemuan kemungkinan akan diadakan di tempat-tempat yang mudah terjangkau ( Rumah RT setempat ) dimana peserta berada.

## **Kegiatan Selanjutnya**

- Informasi yang kita diskusikan akan saya gunakan untuk laporan kegiatan pada universitas dimana saya belajar, dan kemungkinan juga di publikasi dalam majalah atau journal ilmiah. Saya akan memohon ijin kepada peserta studi apabila materi diskusi akan digunakan sebagai bahan publikasi.
- Saya akan presentasikan (dengan harapan bantuan adik-adik peserta ! ) semua hasil studi ini pada saat akhir kegiatan di Indonesia. Laporan singkat mengenai apa-apa saja yang sudah kita pelajari bersama akan tersedia di website. Saya akan memberikan satu copy dari video dan foto2 untuk di simpan sebagai dokumentasi dari kegiatan ini.

## **Hal penting untuk diketahui**

- Adik-adik harus memiliki ijin dari orang tua/wali untuk ikut dalam kegiatan ini. Jika orang tua/wali merasa bahwa kegiatan ini tidak bermanfaat bagi adik-adik, dan tidak memberi ijin adik-adik untuk berpartisipasi, maka kita harus menghormati keputusan orang tua/wali.
- Kadang-kadang, ada orang-orang yang tidak bisa menceritakan kejadian yang menyedihkan ketika terjadi bencana alam yang menyimpannya, maka jika adik-adik merasa kesulitan untuk bercerita mengenai hal tersebut, adik-adik tidak harus bercerita, adik-adik bisa bercerita mengenai hal-hal lain yang adik merasa bisa untuk berbagi cerita. Jangan khawatir mengenai sedikit atau banyaknya informasi yang adik-adik bisa ceritakan. Semuanya bermanfaat bagi studi ini. Semua informasi yang disampaikan akan disimpan dengan baik (rahasia) dan tidak didistribusikan/publikasikan tanpa seijin adik-adik peserta diskusi..
- Jika adik-adik merasa tidak nyaman untuk ikut serta, maka sebaiknya untuk tidak ikut. Tetapi jika adik-adik berminat, maka adik-adik bisa mempersiapkan atau mengingat-ingat kembali pengalaman adik-adik sebelumnya, dan bercerita kepada kita semua dalam kelompok kegiatan atau pada orang yang adik kenal.
- Mohon untuk diingat bahwa adik-adik tidak harus untuk ikut berpartisipasi dalam kegiatan ini. Jika adik-adik memutuskan untuk ikut, adik-adik bisa memilih:
  - untuk tidak menjawab pertanyaan yang di tanyakan;
  - boleh meninggalkan kelompok kegiatan kapan saja
  - bertanya tentang apa yang akan dilakukan pada saat studi kapan saja
  - menyebutkan nama untuk di tulis sebelum bercerita atau berbagi saran dan ide, atau boleh menggunakan nama lain yang adik-adik suka. Jika menggunakan nama lain, tidak ada yang mengetahui apa yang adik-adik sudah katakana/ceritakan.
  - mintalah copy dari video atau foto yang kami buat yang bisa adik-adik simpan dan lihat kembali nantinya.
  - mintalah copy dari laporan singkat berdasarkan apa-apa yang tercatat dan di temukan dalam kegiatan ini.

**Jika adik-adik tertarik dan bersedia mengikuti diskusi kelompok ini, mohon mendaftarkan diri dan membawa formulir ijin orang tua & anak yang sudah/akan diberikan. Silahkan memberitahu teman-teman yang lain untuk ikut serta.**

Jika ada pertanyaan mengenai kegiatan ini, silahkan menghubungi saya, atau kolega saya dari Universitas Gadjah Mada (UGM) atau supervisor saya di Selandia Baru:

Heather Taylor  
Massey University  
email: htaylor.uni.massey@gmail.com  
ph: [REDACTED]

[REDACTED] [Jo, field assistant]  
[REDACTED], Ngemplak - Solo  
email: [REDACTED]  
ph: [REDACTED]

Rahmat Hidiyat  
Professor Psikologi, UGM  
email: [REDACTED]  
ph: [REDACTED]

Dr. David Johnston  
Massey University, New Zealand  
email: David.Johnston@gns.cri.nz  
ph: +64 4 8015799, ext 62168

*Kegiatan ini telah dikaji dan mendapat persetujuan dari Komite Kode Etik Kemanusiaan Universitas Massey Selandia Baru (Massey University): Southern B, Aplikasi 09/24. Jika ada yang ingin anda ketahui lebih jauh dari pelaksanaan kegiatan ini, silahkan menghubungi Dr. Karl Pajo, Ketua, Komite Kode Etik Kemanusiaan Universitas Massey Selandia Baru (Massey University): Southern B, Telepon: 04 801 5799 x 6929*

# **Children's Experiences of Flooding in Surakarta, Indonesia**

## **PARENT INFORMATION SHEET**

**Selamat**, my name is Heather Taylor. I am a university student completing a doctorate (PhD) degree in disaster management at Massey University, in New Zealand. I am studying how large natural events (floods, earthquakes, landslides, etc.) affect people's lives, particularly children and youth. For this project, I will be looking at the flooding that can happen in Solo during the wet season.

To learn about children's experiences and their knowledge of flooding, I would like to speak to them directly to hear their thoughts and ideas, and learn from their experiences. I am inviting your child, if they are interested, to share their knowledge of the flooding in Solo with me.

Please read the information below carefully, and consider whether you would want your child to participate in this project. Please ask if there is anything that is not clear or if you would like more information.

**Flooding in Solo** affects many people in the area, those living directly near the river, and those whose livelihoods are impacted by the flooding. I am interested to know what children think of the flooding that can happen in Solo - how it affects their daily lives, family and community. If we know what children think and what they can do to help, we can include them more in preparing for flooding and teach them important things they should know about when there is a flood. The information from the children could also be shared with organizations and agencies that offer assistance when there is flooding, so that they have a better opportunity to direct their programs and aid to meet the special needs of children.

### **Project Details**

I will be meeting with children between the ages of 10 to 12 years old in groups of 8-10 children since it is easier and more comfortable to share ideas in this setting. I will use activities, games and drawing, as well as letting them tell their stories as ways to collect information. As I don't speak Bahasa very well, I will be recording these group sessions on a tape and video recorder. I will need permission from your children, as well as you for consent to do this.

There are two steps for joining the project. I will hold one information session for any of the children who are interested in joining in the project. Once the children have decided to take part, and have your permission to continue in the project, there will be three further times to meet with the children. The second meeting will just be to give further information, to meet and let the children get to know me and my Indonesian assistant. You are welcome to come along with your children to this meeting to share your thoughts on this project and to answer any questions you have.

There are then two further meetings with the children each of which will last for about two hours. The first will be in the dry season (August/September 2009) and the second one during the wet season (January/February 2010) when I return to Solo. The dates for these group discussions will be set at times that are suitable for you and your children, will fit in with the children's schedules and will not be during school hours.

All of the meetings and group discussions will be held in community buildings, such as a school classroom. They will be close to where you live, so the children can walk or ride a bike. We can arrange for transportation for your child if necessary.

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 09/24. If you have any concerns about the conduct of this research, please contact Dr Karl Pajo, Chair, Massey University Human Ethics Committee: Southern B, telephone 04 801 5799 x 6929, email [humanethicsouthb@massey.ac.nz](mailto:humanethicsouthb@massey.ac.nz)

## **What'll Happen After?**

- After my two visits to Solo and the time spent with the children, hearing their stories, I will bring all of my thinking and the children's ideas together into a 'report' and a short video. I will invite you and any family and friends to come to see the video and hear me talking about what we found out. I hope that many of the children will help in that talk. At the end of my stay in Indonesia, I will arrange for a copy of this report, with any photographs and pictures that you and the children agree we can include, to be put on to a website. Each child who has participated will get to keep a copy of the video.
- The information that I gather will also be used to write my university thesis report, which is a much longer document. I may use information collected during this research to write articles for publications in journals or magazines that will help share the ideas your children have around the world. I will also give presentations about this research at various conferences in the next few years.
- All the information collected will be taken care of. Only photographs and video material that you have given permission for will be kept and stored safely at the university. Any other audio or visual material will be destroyed, complying with a code of ethics set by Massey University.

## **Important Things to Know**

- In order for a child to participate in this project they need your consent as a parent or caregiver. They also need to give their own consent. Without the consent of both parties, the children will not be able to participate.
- I need your permission, and your child's permission, to use any of the photos or video material taken during the research in any reports or presentations that I make. These pictures and videos will only be used in the context of explaining children's experiences of flooding or other natural disasters.
- You children's own names will not be used in any of the reports or presentations. All the children will be given another name, a fake name, which will be used.
- There may be some things that have happened to you or your family during a flood that means that this topic is upsetting for you and your family. I am aware of this and will make every effort to put you at ease so that you do not feel uncomfortable or distressed. The children will only be asked to what they want to talk about. Anything they say to me will be kept confidential.
- If you think your child might be uncomfortable participating in this project, or that it would not be appropriate, it is better that they do not participate. If they do decide to join in, and being involved in this project brings up memories or experiences, that they, or you, would like to talk about more with someone, UGM has offered to provide counseling support, to anyone if it is needed. Any costs (ie. transportation) for this would be covered by this project.
- Please remember that you are under no obligation to accept this invitation. If you decide to allow your child to participate, they have the right to:
  - not to answer any particular question;
  - withdraw from the study at any point during the study
  - ask any questions about the study at any time
  - provide information on the understanding that their name will not be used unless they and their parent give permission to me
  - be given access to a summary of the project findings and the edited video when the research is concluded.

**There will be an information meeting for anyone interested in participating on information meeting on [date] at [location].**

If this time does not suit, please contact me and we can try to arrange another time to discuss the project. And if you have any questions about the project at any time please contact me, my colleague from UGM (Indonesian) or my supervisor in New Zealand:

Heather Taylor  
email: htaylor.uni.massey@gmail.com  
ph: [REDACTED]

Rahmat Hidayat  
Professor Psikologi, UGM  
email: r.hidayat@ugm.ac.id  
ph: [REDACTED]

Dr. David Johnston  
Massey University, New Zealand  
email: David.Johnston@gns.cri.nz  
ph: +64 4 8015799, ext62168

## ***Pengalaman Anak-anak yang mengalami bencana banjir di Surakarta, Indonesia***

### **LEMBAR INFORMASI ORANG TUA**

**Salam**, nama saya Heather Taylor, saya mahasiswi salah satu perguruan tinggi di Selandia Baru yang sedang menyelesaikan studi dalam jenjang S-3 (PhD) dalam bidang pengelolaan bencana di Massey University, Selandia Baru. Saya sedang belajar mengenai sejauh mana bencana alam (banjir, gempa, tanah longsor dll) berdampak pada kelangsungan hidup masyarakat, terutama anak-anak. Dalam studi ini, saya memilih topik mengenai bencana banjir yang mungkin terjadi di Solo pada waktu musim penghujan

Untuk belajar mengenai pengalaman anak-anak dan pengetahuan mereka mengenai bencana alam banjir, saya akan berkomunikasi langsung dengan mereka, untuk mendengar dan belajar dari pengalaman mereka mengenai apa-apa yang di pikirkan oleh anak-anak dalam menghadapi bencana alam banjir serta saran dan ide mereka ke depan. Saya mengundang anak anda, jika yang bersangkutan berminat untuk berbagi pengalaman dengan saya mengenai banjir di kota Solo.

Mohon informasi kegiatan berikut di baca dengan seksama, dan dipertimbangkan apakah anak anda akan ikut berpartisipasi dalam kegiatan ini. Silahkan untuk bertanya, jika ada hal-hal yang kurang jelas dan ingin informasi lebih lanjut mengenai kegiatan ini.

**Banjir di Solo** berdampak pada kehidupan masyarakat di Solo, seperti penduduk yang bermukim di daerah yang dekat dengan Sungai/kali atau orang-orang yang kegiatan sehari-harinya terganggu akibat banjir. Saya tertarik untuk mengetahui apa yang anak-anak pikirkan mengenai bencana bencana banjir yang dapat terjadi di Solo - bagaimana pengaruhnya terhadap kegiatan hidup mereka sehari-hari, termasuk keluarga dan komunitas sekelilingnya. Jika kita mengetahui apa yang anak-anak pikirkan dan apa-apa yang bisa mereka lakukan untuk menolong, maka kita bisa melibatkan mereka di dalam persiapan menghadapi bencana banjir dan mengajari hal-hal penting yang perlu diketahui dan di perhatikan ketika bencana banjir terjadi. Informasi dari anak-anak ini juga dapat di distribusikan kepada organisasi masyarakat/pemerintah dan badan-badan internasional yang banyak menawarkan bantuan ketika terjadi bencana alam banjir, sehingga mereka memperoleh kesempatan yang lebih baik untuk membuat program yang lebih tepat sesuai dengan yang dibutuhkan oleh anak-anak.

### **Rincian Kegiatan**

Saya bermaksud untuk melakukan studi terhadap anak-anak dengan jangkauan umur 10 - 12 tahun dalam satu kelompok yang terdiri dari 3-4 anak, yang memungkinkan anak-anak untuk dapat berbagi pengalaman dengan leluasa dalam suasana yang menyenangkan, dalam berbagai aktivitas yang akan dilakukan seperti menggambar dan bermain. Karena saya tidak fasih berbahasa Indonesia, maka saya akan merekam semua kegiatan melalui pita kaset rekaman maupun gambar (video). Untuk itu saya memerlukan ijin tertulis dari anda untuk kegiatan ini.

Ada dua pertemuan dengan anak-anak yang masing-masing akan berlangsung selama kurang lebih dua jam. Pertemuan pertama akan dilakukan pada saat musim kemarau (Agustus/September 2009) dan pertemuan kedua pada waktu musim hujan (Januari/Februari 2010). Adapun tanggal dan tempat pelaksanaannya akan disesuaikan dengan waktu dan tempat dimana anak-anak dapat melaksanakannya dengan leluasa dan dalam suasana yang menyenangkan serta tidak mengganggu jadwal kegiatan rutin anak-anak (di luar jam sekolah).

Pertemuan akan diadakan di tempat-tempat yang mudah terjangkau (Rumah RT setempat).

## **Kegiatan Selanjutnya**

- Setelah dua pertemuan (kelompok diskusi), mendengarkan secara langsung pengalaman mereka dan interaksi bersama anak-anak dalam aktivitas studi ini, saya akan menulis hasil kegiatan ini dalam sebuah laporan dan video. Saya akan mengundang orang tua/wali dan handai taulan lainnya untuk menyaksikan video dan mendengarkan penjelasan mengenai hasil studi ini. Saya berharap juga keterlibatan anak-anak dalam presentasi saya dan menyiapkan copy dari laporan dan video dengan foto-foto aktivitas dan gambar-gambar dengan persetujuan orang tua/wali dan anak-anak untuk di tempatkan pada website. Setiap anak yang ikut berpartisipasi akan memperoleh satu copy.
- Informasi yang saya kumpulkan juga akan di gunakan sebagai bahan tulisan disertasi S-3 saya, publikasi di Jurnal dan majalah yang sangat membantu di dalam mendiseminasikan informasi mengenai hal ini kepada khalayak yang lebih luas, serta presentasi ilmiah pada seminar atau konferensi nasional dan internasional.
- Semua informasi yang di peroleh akan di simpan dengan baik dan hati-hati. Hanya foto dan video yang telah memperoleh ijin dari orang tua/wali dan anak-anak yang akan di gunakan dan disimpan dengan aman di University, selebihnya akan di hancurkan sesuai dengan kode etik yang telah di tetapkan oleh Massey University.

## **Hal penting untuk di ketahui**

- Sehubungan dengan keikutsertaan anak anda dalam kegiatan ini, maka anak-anak tersebut harus memperoleh ijin tertulis dari orang tua/wali. Anak-anak ini juga diharuskan untuk mengisi formulir keikutsertaannya. Tanpa adanya kedua pernyataan tersebut, anak-anak tidak dapat mengikuti kegiatan ini.
- Saya memerlukan ijin anda sebagai orang tua/wali serta ijin anak anda untuk menggunakan foto-foto dan video yang di ambil pada saat studi ini untuk keperluan publikasi, laporan atau presentasi yang saya buat. Foto-foto ini hanya di gunakan di dalam konteks untuk menjelaskan pengalaman anak-anak di dalam menghadapi bencana alam banjir atau bencana alam lainnya.
- Nama asli anak anda tidak akan digunakan dalam laporan atau presentasi. Semua anak-anak yang ikut berpartisipasi akan diberikan nama lain.
- Tentunya ada hal-hal yang menyedihkan yang terjadi ketika bencana melanda. Oleh karena itu, kami akan mengupayakan bahwa kegiatan ini tidak menyebabkan anda, keluarga dan handai taulan menjadi sedih atau susah. Anak-anak hanya akan di tanya atau diminta bercerita kalau mereka bersedia bercerita. Apapun yang mereka ceritakan akan dijaga kerahasiannya.
- Jika anda berpikir bahwa anak anda tidak akan menyukai kegiatan ini, maka sebaiknya anak anda tidak mengikuti kegiatan ini. Dan jika anda atau anak anda memutuskan untuk mengikuti kegiatan ini, maka anak anda dan anda bisa menceritakan semua pengalaman anda mengenai hal ini, dan jika anda membutuhkan seseorang sehingga anak anda dan anda bisa bercerita lebih leluasa, Universitas Gajah Mada akan memberi bantuan konseling kepada yang membutuhkan. Kegiatan ini akan mengganti biaya yang mungkin timbul seperti biaya transportasi.
- Mohon untuk diingat bahwa anda tidak wajib mengikuti kegiatan ini. Jika anda memberi ijin anak anda untuk mengikuti kegiatan maka, anak-anak tersebut berhak untuk:
  - untuk tidak menjawab pertanyaan yang di tanyakan;
  - boleh meninggalkan kelompok kegiatan kapan saja
  - bertanya tentang apa yang akan dilakukan pada saat studi kapan saja
  - memberikan pengertian bahwa nama mereka tidak akan digunakan , kecuali mendapat ijin dari orang tua/wali.
  - memperoleh akses terhadap hasil kegiatan dan video ketika studi ini berakhir.

**Jika anak anda tertarik dan bersedia mengikuti diskusi kelompok ini, mohon mendaftarkan diri dan membawa formulir ijin orang tua & anak yang sudah/akan diberikan dan diserahkan kepada Bp RT setempat.**

Jika ada pertanyaan mengenai kegiatan ini, silahkan menghubungi saya, atau kolega saya dari Universitas Gadjah Mada (UGM) atau supervisor saya di Selandia Baru:

Heather Taylor  
Massey University  
email: htaylor.uni.massey@gmail.com  
ph: [REDACTED]

[REDACTED] [Jo, field assistant]  
[REDACTED], Ngemplak - Solo  
email: [REDACTED]  
ph: [REDACTED]

Rahmat Hidiyat  
Professor Psikologi, UGM  
email: [REDACTED]  
ph: [REDACTED]

Dr. David Johnston  
Massey University, New Zealand  
email: David.Johnston@gns.cri.nz  
ph: +64 4 8015799, ext 62168

*Kegiatan ini telah dikaji dan mendapat persetujuan dari Komite Kode Etik Kemanusiaan Universitas Massey Selandia Baru (Massey University): Southern B, Aplikasi 09/24. Jika ada yang ingin anda ketahui lebih jauh dari pelaksanaan kegiatan ini, silahkan menghubungi Dr. Karl Pajo, Ketua, Komite Kode Etik Kemanusiaan Universitas Massey Selandia Baru (Massey University): Southern B, Telepon: 04 801 5799 x 6929*

# Children's Experiences of Flooding in Surakarta Indonesia

## KEY INFORMANT INFORMATION SHEET

**Selamat**, my name is Heather Taylor. I am a university student from New Zealand completing a doctorate (PhD) degree at Massey University in disaster management. I am studying how large natural events (floods, earthquakes, landslides, etc.) affect people's lives, particularly children. For this project, I will be looking at the flooding that can happen in Solo during the wet season.

I would like to invite you to participate in this project. I wish to understand the perspective of NGOs, government departments, those involved in flood relief or similar roles, and influential people in children lives, such as teachers and youth/community leaders. I am interested to hear how you see flooding affecting children; the role of children in preparing and responding to flooding; what your involvement is during flooding, and what impact any programmes that you run have on children.

Please take time to read the following information carefully, and consider whether you would be willing to be interviewed for this project. Please ask if there is anything that is not clear or if you would like more information. Thank you for reading this.

### Project Information:

Flooding in Solo has an impact on many people in the area, those living directly near the river, and also those whose livelihoods are affected by the flooding. I am interested to know about how children respond to floods: - how flooding affects their daily lives, their families and their communities. An understanding of what children know about flooding and what abilities they have to help and be helped during flood events can be used to inform communities, organizations or agencies (non-governmental agencies (NGOs), government departments or flood relief teams) who offer assistance when there is flooding. This information can give these organizations the opportunity to evaluate and focus their assistance so that it more closely matches the specific needs of children.

### Interview Details:

The interview will be face to face at location and time that is convenient for you. We may need between 30 minutes to an hour, depending on how much you want to share. Before we begin, you will need to sign a consent form saying you understand what the project is and that you are willing to participate. You may remain anonymous if you desire; any information that can identify you will not be used. As I am still learning Bahasa, there may be a translator present for the interview. The interview will be recorded, transcribed and translated. Following transcription, I will return your transcripts to you to confirm that what is said in the transcripts is correct.

### Research Findings

I will be giving a presentation at the end of my stay in Indonesia for any organizations in Solo and the surrounding areas who may have an interest in the research findings. The data gathered will be used to in my university thesis and may be used for publications in journals or magazines. I will also give presentations of the research findings at various conferences in the next few years. A short report of what is learned will be available to you on the university's website following the completion of the research.

Please remember you are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study at any time before the results are sent for publication;
- ask any questions about the study at any time during participation;

- provide information on the understanding that your name will not be used unless you give
- permission to the researcher;
- ask for the audio tape to be turned off at any time during the interview;
- be given access to a summary of the project findings when it is concluded.

If you have any questions about the project at any time please contact me, my colleague from UGM (Indonesian) or my supervisor in New Zealand:

Heather Taylor  
Massey University  
email: htaylor.uni.massey@gmail.com  
ph: [REDACTED]

Rahmat Hidayat  
Professor Psikologi, UGM  
email: r.hidayat@ugm.ac.id  
ph: [REDACTED]

Dr. David Johnston  
Massey University, New Zealand  
email: David.Johnston@gns.cri.nz  
ph: +64 4 8015799, ext 62168

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 09/24. If you have any concerns about the conduct of this research, please contact Dr Karl Pajo, Chair, Massey University Human Ethics Committee: Southern B, telephone 04 801 5799 x 6929, email humanethicsouthb@massey.ac.nz.

# ***Pengalaman Anak-anak yang mengalami bencana banjir di Surakarta, Indonesia***

## **LEMBAR INFORMASI NARA SUMBER**

**Salam**, nama saya Heather Taylor, saya mahasiswa salah satu perguruan tinggi di Selandia Baru yang sedang menyelesaikan studi S-3 (PhD) dalam bidang pengelolaan bencana di Massey University, Selandia Baru. Saya belajar mengenai sejauh mana bencana alam (banjir, gempa, tanah longsor dll) berdampak pada kelangsungan hidup masyarakat, terutama anak-anak. Dalam studi ini, saya memilih topik mengenai bencana banjir yang mungkin terjadi di Solo pada waktu musim penghujan..

Saya bermaksud untuk mengundang anda berpartisipasi dalam kegiatan ini. Saya berharap untuk bisa memahami perspektif dari masing-masing pihak yang terlibat dalam penanganan bencana banjir dan bencana alam lainnya seperti lembaga swadaya masyarakat, pemerintah dan institusi formal lainnya serta memahami peran individu-individu yang berpengaruh terhadap kehidupan sehari-hari anak-anak seperti guru dan pemuka masyarakat. Saya tertarik untuk mengetahui bagaimana anda melihat bencana banjir mempengaruhi kehidupan anak-anak; peran anak-anak didalam menghadapi bencana banjir; keterlibatan anda pada saat terjadinya banjir; serta dampak program yang anda lakukan terhadap anak-anak.

Mohon informasi berikut di baca dengan seksama, dan pertimbangkan apakah anda berminat untuk di wawancarai dalam kegiatan ini. Silahkan untuk bertanya jika ada hal-hal yang dianggap kurang jelas atau anda berkeinginan untuk mengetahui informasi lebih lanjut. Terimakasih atas kesediaan anda membaca lembar informasi ini.

### **Informasi Kegiatan:**

Bencana banjir di Solo dapat berdampak pada masyarakat di daerah ini pada umumnya, seperti penduduk di sekitar aliran sungai atau yang kehidupan sehari-harinya terganggu akibat banjir. Saya tertarik untuk mengetahui bagaimana anak-anak bereaksi ketika terjadi banjir: - bagaimana banjir mempengaruhi kehidupan sehari-hari anak-anak, keluarga dan komunitas dimana si anak tinggal. Memahami apa yang diketahui oleh anak-anak mengenai banjir dan kemampuan yang dimiliki oleh anak-anak untuk menolong dan di tolong pada saat terjadinya banjir akan sangat membantu masyarakat, organisasi pemerintah dan non-pemerintah atau tim pertolongan bencana banjir yang akan memberi bantuan mengenai apa-apa yang semestinya harus dilakukan. Informasi ini akan memberi kesempatan pada organisasi-organisasi tersebut untuk mengevaluasi dan menfokuskan bantuan mereka sehingga mendekati apa yang diharapkan oleh anak-anak.

### **Rincian Wawancara (Interview):**

Wawancara akan dilaksanakan di lokasi pada waktu yang tidak mengganggu kegiatan rutinitas anda. Kami membutuhkan sekitar 30 menit sampai satu jam, tergantung dari seberapa banyak informasi yang akan anda berikan. Sebelum wawancara di mulai, anda kami mohon untuk menanda tangani formulir kesepakatan yang menyatakan bahwa anda memahami kegiatan ini dan berkeinginan untuk ikut berpartisipasi. Nama anda dimungkinkan untuk tidak dicantumkan jika anda menghendaki, dan semua informasi yang dapat mengidentifikasi anda tidak akan digunakan. Kami mungkin akan menggunakan penterjemah dalam wawancara ini. Karena saya dalam kondisi masih belajar bahasa Indonesia, maka saya juga akan merekam wawancara untuk memastikan bahwa semua pembicaraan terdata dan tidak ada yang hilang. Hasil wawancara akan ditulis dan diterjemahkan. Tulisan wawancara akan kami konfirmasi kembali kepada anda untuk melihat kembali apakah apa yang tertulis sesuai dengan wawancara yang telah dilakukan.

### **Hasil Studi**

Saya akan memberikan presentasi pada akhir studi ini di Indonesia kepada pihak-pihak yang telah berpartisipasi di Solo dan daerah sekitarnya yang mungkin tertarik akan hasil studi ini. Data-data yang berhasil dikumpulkan juga akan digunakan sebagai bahan disertasi saya di Universitas dan juga untuk

publikasi di jurnal dan majalah. saya juga akan mempresentasikan hasil studi ini di seminar dan konferensi dalam beberapa tahun mendatang. Laporan singkat tentang apa-apa yang sudah dipelajari akan tersedia bagi anda melalui website (portal internet) university setelah studi ini selesai.

Mohon untuk diingat bahwa anda tidak harus menerima atau bersedia untuk ikut berpartisipasi dalam kegiatan ini. Jika anda memutuskan untuk berpartisipasi, maka anda berhak untuk:

- Menolak untuk menjawab pertanyaan tertentu;
- Mengundurkan diri dari studi ini setiap saat sebelum hasil studi ini dipublikasikan;
- Bertanya apa saja mengenai studi ini setiap saat selama kegiatan;
- memberi informasi dengan memahami bahawa nama anda tidak akan digunakan kecuali anda memberi ijin pada peneliti untuk digunakan;
- meminta untuk mematikan rekaman kapan saja selama interview/wawancara berlangsung;
- diberi akses terhadap ringkasan hasil studi.

Jika anda memiliki pertanyaan mengenai kegiatan ini, anda dapat menghubungi saya setiap saat, atau kolega saya dari Universitas Gadjah Mada (UGM - Indonesia) atau supervisor saya di Selandia Baru:

Heather Taylor  
Massey University  
email: htaylor.uni.massey@gmail.com  
ph: [REDACTED]

Rahmat Hidayat  
Professor Psikologi, UGM  
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Massey University, New Zealand  
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ph: +64 4 8015799, ext 62168

Kegiatan ini telah dikaji dan mendapat persetujuan dari Komite Kode Etik Kemanusiaan Universitas Massey Selandia Baru (Massey University): Southern B, Aplikasi 09/24 Jika ada yang ingin anda ketahui lebih jauh dari pelaksanaan kegiatan ini, silahkan menghubungi Dr. Karl Pajo, Ketua, Komite Kode Etik Kemanusiaan Universitas Massey Selandia Baru (Massey University): Southern B, Telepon: 04 801 5799 x 6929

# ***Children's Experiences of Flooding in Surakarta, Indonesia***

## **PARTICIPANT CONSENT FORM**

**This consent form will be held for a period of five (5) years**

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I      wish      /      do not wish      to have the video and photos returned to me.

I agree to not share anything discussed in the discussion group      Yes     

I agree to participate in this study as it is described in the Information Sheet.      Yes     

**Signature:** ..... **Date:** .....

**Full Name - printed** .....

## ***Pengalaman Anak-anak yang mengalami bencana banjir di Surakarta, Indonesia***

### **FORMULIR KE-IKUT SERTA-AN**

Formulir ke-ikut serta-an ini berlaku untuk 5 tahun

Saya telah membaca dan memperoleh penjelasan secara terinci semua informasi yang menyangkut penelitian ini. Semua pertanyaan saya menyangkut penelitian ini telah di jawab dengan memuaskan, dan dengan senang hati untuk memberi penjelasan lebih lanjut di kemudian hari apabila di perlukan.

Saya      ingin / tidak ingin                      hasil rekaman video dan photo dikembalikan pada saya setelah selesai digunakan.

Saya setuju untuk tidak mendistribusikan semua yang didiskusikan dalam

kelompok diskusi kepada pihak di luar kelompok diskusi

Ya     

Saya setuju ikut serta dalam kegiatan ini seperti yang di jelaskan dalam

lembar informasi.

Ya     

**Tanda Tangan:**

**Tanggal:**

**Nama Lengkap –  
Huruf Cetak**

## ***Children's Experiences of Flooding in Surakarta, Indonesia***

### **PARENTAL CONSENT FORM FOR CHILD PARTICIPANTS**

**This consent form will be held for a period of five (5) years**

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree / do not agree to have my child participate in the discussion group

I wish / do not wish to have the video and photos returned to me.

I agree to allow my child to participate in this study as it is described in the Information Sheet.

**Signature:** ..... **Date:** .....

**Full Name - printed** .....

## ***Pengalaman Anak-anak yang mengalami bencana banjir di Surakarta, Indonesia***

### **FORMULIR PERIZINAN ORANG TUA/WALI ANAK**

Formulir per-izin-an ini berlaku untuk 5 tahun

Saya selaku orang tua/wali anak, telah membaca dan memperoleh penjelasan secara terinci semua informasi yang menyangkut penelitian ini. Semua pertanyaan saya menyangkut penelitian ini telah di jawab dengan memuaskan, dan dengan senang hati untuk memberi penjelasan lebih lanjut di kemudian hari apabila di perlukan.

Saya setuju / tidak setuju anak saya ikut berpartisipasi dalam kelompok diskusi  
Saya ingin / tidak ingin hasil rekaman video dan photo di kembalikan pada saya setelah selesai digunakan.

Saya menyetujui keikutsertaan anak saya dalam kegiatan ini seperti yang dijelaskan dalam lembar informasi.

**Tanda Tangan:** ..... **Tanggal:** .....

**Nama Lengkap – Huruf cetak** .....

## ***Children's Experiences of Flooding in Surakarta, Indonesia***

### **KEY INFORMANT CONSENT FORM**

**This consent form will be held for a period of five (5) years**

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree / do not agree to the interview being audio taped.

I wish / do not wish to have my tapes and/or transcript returned to me

I agree to participate in this study under the conditions set out in the Information Sheet.

**Signature:** ..... **Date:** .....

**Full Name - printed** .....



## ***Children's Experiences of Flooding in Surakarta, Indonesia***

### **AUTHORITY FOR THE RELEASE OF TRANSCRIPTS**

**This form will be held for a period of five (5) years**

I confirm that I have had the opportunity to read and amend **my contributions** to the transcript of the interview/s conducted with me.

I agree that the edited transcript and extracts from this may be used by the researcher, Heather Taylor, in reports and publications arising from the research.

**Signature:**

**Date:**

**Full Name - printed**

## ***Pengalaman Anak-anak yang mengalami bencana banjir di Surakarta, Indonesia***

### **SURAT PERNYATAAN PERSETUJUAN PENGGUNAAN HASIL WAWANCARA**

**Formulir ini berlaku untuk 5 tahun**

Degan ini, saya nyatakan bahwa saya telah membaca semua transkrip **saya** hasil wawancara yang dilakukan terhadap saya.

Saya setuju hasil wawancara saya ini untuk digunakan oleh peneliti, Heather Taylor, di dalam laporan dan publikasi hasil risetnya.

**Tanda Tangan:**

**Tanggal:**

**Nama Lengkap –  
Huruf Cetak**

## ***Children's Experiences of Flooding in Surakarta, Indonesia***

### **CONFIDENTIALITY AGREEMENT**

I ..... (Full Name - printed)

agree to keep confidential all information concerning the project: *Children's Experiences of Flooding in Surakarta, Indonesia.*

I will not retain or copy any information involving the project.

**Signature:**

.....

**Date:**

.....

## ***Pengalaman Anak-anak yang mengalami bencana banjir di Surakarta, Indonesia***

### **PERSETUJUAN UNTUK MENJAGA KERAHASIAN INFORMASI**

Saya ..... (Nama Lengkap – huruf cetak ),

setuju untuk menjaga kerahasiaan semua informasi yang menyangkut studi : Pengalaman anak-anak yang mengalami bencana banjir di Surakarta (*Children's Experiences of Flooding in Surakarta, Indonesia*).

Saya tidak akan menyimpan atau meng-copy- informasi apapun yang menyangkut kegiatan ini.

**Tandatangan:** .....

**Tanggal:** .....

## ***Children's Experiences of Flooding in Surakarta, Indonesia***

### **TRANSCRIBER'S CONFIDENTIALITY AGREEMENT**

I ..... (Full Name - printed) agree to transcribe the recordings provided to me.

I agree to keep confidential all the information provided to me.

I will not make any copies of the transcripts or keep any record of them, other than those required for the project.

**Signature:**

.....

**Date:**

.....

## ***Pengalaman Anak-anak yang mengalami bencana banjir di Surakarta, Indonesia***

### **PERSETUJUAN PENULIS UNTUK MENJAGA KERAHASIAN ISI WAWANCARA**

Saya ..... (Nama Lengkap – huruf cetak ), bersedia untuk menuliskan is

Saya berjanji untuk merahasiakan semua informasi yang diberikan pada saya

Saya tidak akan menyimpan atau meng-copy- informasi apapun yang menyangkut kegiatan ini.

**Tandatangan:**

.....

**Tanggal:**

.....

## ***Children's Experiences of Flooding in Surakarta, Indonesia***

### **TRANSLATOR'S CONFIDENTIALITY AGREEMENT**

I ..... (Full Name - printed) agree to  
translate the recordings and/or transcripts provided to me.

I agree to keep confidential all the information provided to me.

I will not make any copies of the translated transcripts or keep any record of them, other  
than those required for the project.

**Signature:**

.....

**Date:**

.....

## ***Pengalaman Anak-anak yang mengalami bencana banjir di Surakarta, Indonesia***

### **PERSETUJUAN PENTERJEMAH MENJAGA KERAHASIAN ISI WAWANCARA**

Saya ..... (Nama Lengkap – huruf cetak ), bersedia untuk menerjemah

Saya berjanji untuk merahasiakan semua informasi yang diberikan pada saya

Saya tidak akan menyimpan atau meng-copy- informasi apapun yang menyangkut kegiatan ini.

**Tandatangan:**

.....

**Tanggal:**

.....

## Appendix B

## Appendix B: Data Collection Tools

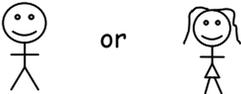
This appendix contains the data collections tools that were used in this research. The questionnaires (MD-i, ii), questions used during the interviews (MA-i, ii, iii), the agendas used to conduct the group interviews (MB-i, ii) and the questions used in these interviews.

Questionnaire 1 (MD-i)	B3
Questionnaire 1 (Bahasa Indonesian) (MD-i)	B5
Questionnaire 2 (MD-ii)	B7
Questionnaire 2 (Bahasa Indonesian) (MD-ii)	B9
Community Leader Interview questions (MA-i)	B11
Teacher/Principal Interview questions (MA-ii)	B13
Parent Interview questions (MA-iii)	B15
Phase 1 Group Interview Agenda (MB-i)	B17
Phase 1 Group Interview Questions (MB-i)	B21
Phase 2 Group Interview Session 1 Agenda (MB-ii)	B23
Phase 2 Group Interview Session 2 Agenda (MB-ii)	B25

**Information Sheet**

Date: \_\_\_\_\_.  
Time: \_\_\_\_\_.  
Group: \_\_\_\_\_.  
\_\_\_\_\_.

Name: \_\_\_\_\_.  
Age: \_\_\_\_\_.  
Religion: \_\_\_\_\_.

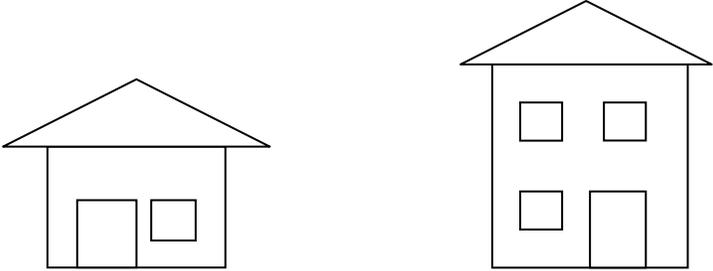


Address (RW, RT): \_\_\_\_\_.  
Year: \_\_\_\_\_.  
School Name: \_\_\_\_\_.

How many people live in your house? \_\_\_\_\_.  
Who? \_\_\_\_\_.  
\_\_\_\_\_.

What do your parents do for work?  
\_\_\_\_\_.

How high was the water in your house?



Did you stay in your house during the flood? If not, where?  
\_\_\_\_\_.

Fake name you want to have in Heather's report  
\_\_\_\_\_.

**Peserta Informasi**

Tanggal: \_\_\_\_\_  
Waktu: \_\_\_\_\_  
Kelompok: \_\_\_\_\_  
\_\_\_\_\_

Nama: \_\_\_\_\_

Umur: \_\_\_\_\_

Agama: \_\_\_\_\_



Alamat (RW, RT): \_\_\_\_\_

Kelas: \_\_\_\_\_

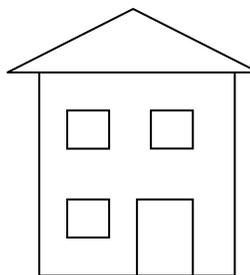
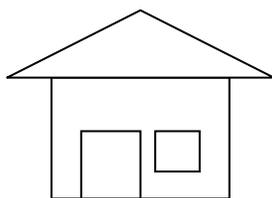
Nama sekolah: \_\_\_\_\_

Berapa orang tinggal di rumahmu? \_\_\_\_\_

Siapa saja? \_\_\_\_\_  
\_\_\_\_\_

Orang tua bekerja sebagai apa?  
\_\_\_\_\_

Berapa tinggi air di rumahmu?



Apakah kamu tinggal di rumah selama banjir? Kalau tidak, tinggal di mana?  
\_\_\_\_\_

Nama khusus mau pakai untuk laporan Heather  
\_\_\_\_\_

**Session 2 Information Sheet**

Date: \_\_\_\_\_.

Group: \_\_\_\_\_.

**Interview:**

Interview 2

Who & how do you know them?: \_\_\_\_\_.

Why did you choose that person?: \_\_\_\_\_.

\_\_\_\_\_.

What did you like about doing the interviews?

\_\_\_\_\_.

\_\_\_\_\_.

What did you not like?

\_\_\_\_\_.

\_\_\_\_\_.

What questions did you ask?

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

Why did you ask those questions?

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

What did you learn from your interviews:

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

**Plan Presentation:**

What parts of your plan can you do in daily life?

---

---

---

---

What problems would you come across in carrying out your plan?

1. \_\_\_\_\_.
2. \_\_\_\_\_.
3. \_\_\_\_\_.

What could you do to overcome these problems?

1. \_\_\_\_\_.
2. \_\_\_\_\_.
3. \_\_\_\_\_.

**The role of children (according to you)**

a. What are expectations of the children?

---

---

---

b. According to adults, what can children do?

---

---

---

c. What do you think?

---

---

---

---

**Sessi 2 Informasi**

Tanggal: \_\_\_\_\_.

Kelompok: \_\_\_\_\_.

**Wawancara:**

Wawancara 2

Siapa & kenal darimana: \_\_\_\_\_.

Mengapa memilih orang itu?: \_\_\_\_\_.

\_\_\_\_\_.

Apa yang kamu suka dari kegiatan wawancara yang telah kamu lakukan?

\_\_\_\_\_.

\_\_\_\_\_.

Apa yang kamu tidak suka?

\_\_\_\_\_.

\_\_\_\_\_.

Hal apa saja yang kamu tanyakan?

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

Kenapa kamu menanyakan pertanyaan itu?

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

Apa yang kamu pelajari dari wawancara tersebut:

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

**Presentasi Rencana:**

Apa yang bisa benar-benar kamu lakukan di dalam kehidupan sehari-hari untuk melakukan rencanamu?

---

---

---

---

Kesulitan apa yang kamu hadapi dalam melakukan rencana itu?

1. \_\_\_\_\_.
2. \_\_\_\_\_.
3. \_\_\_\_\_.

Apa yang mungkin bisa dilakukan untuk mengatasi kesulitan tersebut?

1. \_\_\_\_\_.
2. \_\_\_\_\_.
3. \_\_\_\_\_.

**Pandangan Terhadap peran anak-anak (dari sisi anak-anak sendiri)**

a. Harapan apa yang diinginkan dari anak-anak?

---

---

---

b. Menurut orang-orang dewasa, apa saja yang bisa dilakukan anak-anak?

---

---

---

c. Bagaimana menurutmu?

---

---

---

---

## **Key Informants (Community Leaders) Interviews**

### **Starter Questions:**

- When?
- How long did it last?
- How long was the clean-up?
- Where did it flood?
- Where did people live?
- Could they move home right away?
- Who got flooded?
- Who got hit the worst?
- Who helped during the flood?
  - Was it always helpful?
  - Any special stuff for children?
- Did you have any warning?
- What was the reaction of the children at that time?
- How did the community respond?
  - Who did what activities?
- What did children do during and after the flood?
- Did they seem afraid or excited; think it was fun, or a bad thing?
- What role do children play in the community? Did the flooding change that?
- Do you think they will be flooding in the future?
  - What plans do you have, if any?
  - What would you do different from last time?
- How do you see children involved in flood prevention, response and recovery activities?

**Teacher/Principal Personnel Interviews:**

**Starter Questions**

- What is your role at the school?
- How did the children react to the flood?
- Did the flood affected the children?
  - in their school achievements?
  - in their interactions at school?
- The children who were affected, how did they get better?
  
- What was the effect to the school?
  - the buildings, supplies?
  - the studying process?
- How long was it until the school started again?
- Who did the clean ups?
- What about the damaged things?
  
- Do the children learn about flooding at school? Are there lessons?
  - Why it happens?
  - How to prevent it?
- Is there any plan from the school just in case the flood happens again?

**Parent Interviews:**

**Starter Questions**

- How long have you been living there?
- How many of you in one family?
- Can you tell us what happened during the flood?
- How high was it?
- How long was it?
  
- How was the children's reaction during the flood?
- What were the children doing?
- During the flood, did they only stay at home or?
  
- How about the family here ... how did they deal with the flood?
- Where did you put the belongings?
- Any belongings were missing?
- Was there water in this house?
- where did you stay?
- Could you work during the flood? Could you still go to work?
- Where did the help come from?
- Any problems between those who helped or not?
- 
- Has it ever flooded before here before the big flood?
- Do you have any concern of being hit by the flood or not?
- Any community plan? Let's say if the flood comes again?
- Anything else you want to talk about?
- When is the relocation process?

**September (Phase 1) Group Interview Agenda:**

- 1) Welcome & intro team
- 2) Introduce point of it (2-3min)
- 3) Go over 'rules' and confirm everyone does agree to what's going to happen (3-5min)
- 4) Fill in the form
- 5) Ice breaker (5-10min)
- 6) Introduce drawing and storytelling when finished drawing, and say we'll chat as we go (1hr)
  - a. Indah/Jo prompt kids with questions
- 7) Start telling stories (~1h15min)
  - a. each kids tells about their picture(s) and why they drew it.
  - b. one memory that's most important to them
  - c. what would they do if it was to happen again.
- 8) Thank you and gifts

1) Welcome

- Hello, thanks for coming. Me, Jo, Indah.

2) Why doing this research

- I am studying how large natural events (floods, earthquakes, landslides, etc.) affect people's lives, particularly children and youth. I choose to look at the flooding in Solo for various reasons.
- Flooding affects a lot of people and there are a lot of people that try to help - like your own family, your communities, community or international organizations, and government.
- Lot of people have done research about flooding, but not many people look at how it affects children and youth. And if they do, very few ask kids themselves - they might ask parents or teachers. And if they do ask kids, usually it's about specific questions.
- What I wanted to do is just listen to what you have to say, see what you think is important. So I decided what I would do is just hear about your experiences of flooding. Any thoughts and ideas of how you can help during a flood; which is why we're here today.
- If people knew what you think and can help do, they will know better how to help you and your family. They will also learn about the ways you can help them
- It doesn't mean things will necessarily be different if there's another flood, but by sharing thoughts and ideas with each other and with your community it can help to try to make things better.
- Your experiences can teach people who help other kids during floods how they can do their jobs better

### 3) Rules and plan for discussion

- Go over the consent form (Give them the sheets and read it over together – confirm whose parent sheets are whose)

- 1) Do you want any photos or videos given to you at the end?
- 2) Agreed not share what's said in the group with others. What is said in the group stays in the group.
- 3) Agree to do the activities today as explained AND to participate in February in the second discussion.

- Rules:

- 1) relax and have fun. It's your time to talk about things. Share whatever you want to share, anything related to the flood or things that happened after it.
- 2) Only answer any questions you want to. If you feel uncomfortable at any point, you don't need to talk. And if you need to, you are free to leave at any point.
- 3) **MOST IMPORTANT** - respect what other people say; no laughing at or mocking people. What people are sharing is personal. This needs to be a safe place to do that in. Everyone's experience is different and what someone may say is not to be treated lightly
- 4) as mentioned,- what is said in the group, stays in the group

- Plan:

- 1) Short ice-breaker game
- 2) Draw a picture(s) about the flood and chat as we draw. Have about an hour to do this, so can do more than one picture if you want
- 3) When everyone is done (at least 1 picture), each person is going to talk about their picture and why they drew it.
- 4) If we have time, talk about what you'd do if it flooded again, or what someone else should do if there is a flood

4) Fill in the form – for basic facts

5) Ice breaker – Jo or Indah (5-10mins)

6) Explain drawing and storytelling, and say we'll chat as we go (1hr)

- Everyone has paper, choose a pencil and an eraser, which you're welcome to take home at the end.
- There are drawing pencils, crayons and pencil crayons for everyone to use
- I want you to draw a picture of anything that comes to mind about the flood. It can be of anything-family, house, friends, the river, an event that happened during the flood, something that reminds you of it, etc. But remember at the end you'll have about 5mins to say why you chose to draw that so it has to be related to the flood in some way.
- Doesn't have to be a masterpiece so don't worry. It's your drawing. And if you finish one and want to do another, silaka

- I want to take a picture of your drawings before you go home today, so I can remember what you drew

7) Start story-telling

- go around in a circle and each person explains their drawing and why they drew it
- you can ask a question of the person, but it needs to be a nice one
- If we have time.....ask what would they do (differently) if it was to happen again
- REMEMBER to take a picture of the drawings at the end.

-

8) Thank you for coming. Hope you had fun.

- Remind we have another session in February

THINGS TO TAKE:

- video camera
- voice recorder (remember to change setting)
- extra batteries (AAA and video, charger too)
- pencil crayons
- crayons
- pencils and erasers
- gifts
- paper
- drawing pencils
- info form for kids (20 copies)
- consent forms
- camera
- tripod
- all info sheets
- question sheet (x2)
- agenda (x2)
- pencil sharper, scissors, glue(?)
- dictionary

- THINGS NEED TO HAVE BY THE END

- photo of each drawing
- video
- audio recording
- info sheet from each kid
- have given out gifts

**Questions used in Phase 1 Group Interviews**

Flood

- What happened?
- How long did it last?
- What happened during that time?
- How high was the water?
- How did people clean up after? Who cleaned up?
  
- Had it ever flooded before?
- Did you know it could flood here?
- Why do you think it flooded? What caused it?
- What did you know about flooding before it happened? Who told you/taught you?
- What did you learn that you didn't know before?

Housing

- Could you still live in your house during the flood?
- Did you have to live something else? Where? For how long?
- What was your house like when you came back after the flood?
- How long did it take until it was back to normal?
- Did anything change? Good or bad?

Food

- Where did you eat? Where did the food come from
- Was your family able to cook during the flood?
- What did you eat? Was it different than normal?

Family

- Did everyone in your family live in the same spot during the flood?
- What did your dad or mom do during the flood? Brothers or sisters?
- Did they help with anything in the community?
- Could they still work?
- Who took care of you during the day/night? Parents, kakak/adik, nenek?
- Did you help take care of your brothers or sisters?
- Did you talk about the flood with your parents? How you felt?
- What did your parents tell you about the flood – What was happening, why it happened?
- Did anything big change in your family, during or after the flood?

Friends

- Where most of your friends flooded as well?
- Did any of them have to move away? Do you still see them?
- Did you talk to them about the flood after it happened?
- Do you still talk about occasionally?

School

- Could you go to school during the flood?
- How long did it take until you could go back?
- Was the school flooded too?

- Was everyone in your class affected by the flood?
- Did you talk about the flood at school during class?

#### Things, Possessions

- Did you take anything with you if you had to leave your house?
- What did you take? Why that?
- What did you have to leave behind?
- Did things get ruined because of the water?
- After the flood, were you able to replace them?
- Did people help replace them?

#### Feelings, etc

- Were you scared or worried? About what?
- What surprised you about the flood? Something you didn't expect?
- What are some good things that happened because of the flood?
- What are some bad things that happened?

#### Activities

- What did you do during the day?
- Did you play in the water?
- Could you visit people? Was it hard to get to places?
- How did you move around? Could you use a bike or motor? Or a boat?
- Could you go to mesjid atau gereja?
- If you go to an after school program, did it still run? When did it start up again?

#### Assistance

- Did anyone help you or your family?
- Who? Where were they from?
- What did you do to help your family? Before, during, and after?
- What are things you think people should help you with?
- What are the most important things have, or what did you need, during a flood? Did you have/receive them?

#### Future

- Do you think it could flood again?
- What advice would you give other children who could have a flood where they live?
- If you could go back in time, what would you change? Would you do anything differently?
- What things would you have like to have happened?
- What would you do differently if there was another flood?

#### Safety & Health

- How were you taught to keep yourself safe?
- Did you get hurt at all?
- Do you know anyone who got sick/hurt because of the flood?
- How did you shower? Where did you get the water from?
- Were there enough toilets for everyone?

## Session 1 – Agenda

- 1) Welcome everyone to meeting and introduce [Dimas, field Assistant]
- 2) Ice breaker game – pointing finger one
- 3) clear up any missing pieces from the children’s info from the last session
- 4) See what the kids remember from the last session, and how this wet season has been
  - Ask questions about they remember the things they talked about most and thought were important, and ones that they thought were important this wet season
  - See how it compares with the list I’ve got (from their Sept session)
  - Make a list between the two cats (new and old)
  - write them on cards and get them to rank them individually (record their answers), leave cards lying out so when kids working can take note of it)
- 5) Introduce day’s activities
  - going to have a two day session
    - o one on Monday (for 1hr)
    - o and do some work in btwn (take home voice recorders to interview their parents (2days)
    - o 2<sup>nd</sup> session next Tuesday
  - Monday’s session is to be them designing how to make their community flood proof.
- 5) Start the flood proof community
  - Given what you think is important (things you just ranked, etc) come up with a plan to reduce the effect of flooding on your community.
  - start by introducing what risk, vulnerability and capacity is
    - o **hazards** - “what would happen if there was a flood and no one lived here, would it be a bad thing?”
    - o **vulnerable** “but do have people. And would it be bad if people didn’t live so close to the river or maybe built houses up high (i.e. two storeys). So people and things vulnerable if in bad spots
    - o **risk** - “happens when you have a flood and there’s people that can be affected by it”
    - o **Mitigation/Risk reduction** “Have two things that you could change –
      1. “*how much it flood*: not as much control, but could plant trees so water is soaked up, less pavement, less garbage to clog drains, make the river deeper.”
      2. “people being affected: build in different spots, good plans when it does flood (ask them about things they know people did the last flood)

- “your task is to come up with a plan to make the effects of flooding less”
    - in a group together, have to work with each other to, come up a plan
    - could make a map of community, write lists, or a action plan
    - Things to think about
      - what are the risks (i.e. where flood meets people) & identify them
      - think up ideas of what could be done to manage the risk
      - come up with questions to ask your parents and interviewers
    - have the rest of the hour to do it and then have two days to interview
- 6) Explain what/how they need to interview (**Do this about 5mins to end of hour**)
- Use voice recorder to interview your parents and 1 other person you think would be helpful to talk to.
  - Need to ask about what they think is important about flooding and what ideas they would want to do
  - Need to make notes as well, so you remember the important points for Tues (cause you’ll have to give the recordings to me)
  - Show them how to work the recorders and give them the times for drop off (and pick up if need be)

**Session 2 – Agenda**

- 1) Say hello
- 2) Ask how interview was
  - a. Was it easy to do?
  - b. What did you like about doing it?
  - c. What didn't you like?
  - d. Who did you interview as your 2<sup>nd</sup> person, and why? (ask all kids!)
- 3) Present their plan
  - a. we ask:
    1. why did they do what they did?
    2. did interviews help? what information did it give you?
    3. what did you think of after the interview?
    4. what did you learn that is new?
- 4) Ask what kids liked about the activities and future:
  - a. What do they think they could do about them?
  - b. What are barriers that prevent them from doing things?
  - c. What could be done to take the barriers out of the way?
- 5) How do people (and their parents) see children and their role in life?
  - a. what are expectations of children?
  - b. what do they think children capable of?
  - c. Are they right?
  - d. other interesting comments.....?
- 6) CLEAR UP ALL MISSING PIECES!!!!!!**

## Appendix C

## Appendix C: Statistical Analysis

This appendix contains the input and output of the statistical analysis of the priority lists (ME-i).

Priority List Input Data (ME-i)	C3
Descriptive Statistical Analysis Results	C5

**Priority List Input Data (1 of 2)**

Part List #	blanket	clean house	clean water	clothes	cooking utensils	cupboard	drink	electricity	evacuate car / motorbike	food	food & drink	grocery	help parents	helping flood victims	lights	mattress
1	11	11	4	7	8	11	11	5	11	3	11	11	11	11	6	11
2	11	11	3	4	8	11	11	6	11	9	11	11	11	11	7	11
3	11	11	4	10	9	11	11	5	11	3	11	11	11	11	6	11
4	11	11	5	4	9	11	11	7	11	3	11	11	11	11	8	11
5	11	11	7	6	9	11	11	2	11	3	11	11	11	11	11	11
6	7	11	11	11	11	11	11	11	11	3	11	11	11	6	11	10
8	5	11	11	11	11	11	11	11	11	4	11	11	1	11	11	9
11	11	11	5	3	9	11	11	6	11	4	11	11	11	11	11	11
13	11	11	2	5	8	11	11	3	11	4	11	11	11	11	11	11
14	11	9	11	3	8	11	11	11	6	11	4	11	11	11	11	11
15	11	9	11	3	6	11	11	11	5	11	2	11	11	11	11	11
16	11	11	11	4	11	11	11	11	11	6	11	11	11	11	11	11
17	11	11	11	3	11	8	2	11	11	1	11	11	4	11	11	5
18	11	11	11	6	11	11	11	11	11	3	11	2	11	11	11	9
19	11	11	4	1	11	11	11	5	11	3	11	11	11	11	11	6
20	11	11	11	5	11	3	6	11	11	7	11	11	2	11	11	8
21	11	11	10	1	11	11	11	4	11	6	11	11	11	11	11	7
22	11	11	11	3	11	11	11	11	11	1	11	5	11	11	11	8
23	11	11	11	7	11	11	11	11	11	4	11	3	11	11	11	1
24	11	11	3	8	11	11	11	5	11	2	11	11	11	11	11	6
25	11	11	11	9	11	11	11	11	11	3	11	2	11	11	11	5
27	11	11	4	1	11	11	11	5	11	3	11	11	11	11	11	7
28	11	11	11	3	11	11	11	11	11	1	11	6	11	11	11	10
32	11	9	7	8	6	11	11	3	11	11	11	11	11	11	11	11
16 (2nd)	11	11	9	3	6	11	11	11	5	11	4	11	11	11	11	11
28 (2nd)	11	11	6	1	11	11	11	2	11	5	11	11	11	11	11	4

**Priority List Input Data (2 of 2)**

Part List #	medicine	money	paramedics	place to stay	playing	praying	raft/fire	save belongings	school	(school) books	school supplies	school uniform	shoes	table	tent
1	11	11	11	1	10	9	11	11	2	11	11	11	11	11	11
2	11	11	11	1	10	5	11	11	2	11	11	11	11	11	11
3	11	11	11	1	7	8	11	11	2	11	11	11	11	11	11
4	11	11	11	1	10	6	11	11	2	11	11	11	11	11	11
5	11	11	11	1	10	8	11	11	11	11	4	11	11	11	11
6	1	11	2	5	11	11	11	11	11	8	4	11	11	11	11
8	2	11	3	10	11	11	11	11	11	6	8	11	11	11	11
11	11	11	11	2	10	1	11	11	11	7	8	11	11	11	11
13	11	11	11	1	10	9	11	11	11	6	7	11	11	11	11
14	11	11	11	11	10	11	11	1	11	11	5	11	7	11	2
15	11	11	11	11	10	11	11	1	11	11	7	11	8	11	4
16	11	11	11	2	10	11	11	1	8	11	3	11	9	11	7
17	11	11	11	11	11	11	11	11	11	6	11	7	9	10	11
18	5	1	11	4	11	11	10	11	11	11	7	11	11	11	8
19	11	7	11	11	11	11	9	11	11	11	2	11	8	11	10
20	11	11	11	11	11	11	11	11	11	9	11	1	10	4	11
21	11	9	11	11	11	11	5	11	11	11	2	11	3	11	8
22	4	6	11	2	11	11	10	11	11	11	7	11	11	11	9
23	5	8	11	6	11	11	10	11	11	11	2	11	11	11	9
24	11	4	11	11	11	11	7	11	11	11	9	11	10	11	1
25	8	1	11	6	11	11	10	11	11	11	7	11	11	11	4
27	11	6	11	11	11	11	10	11	11	11	2	11	8	11	9
28	2	5	11	7	11	11	4	11	11	11	8	11	11	11	9
32	11	11	11	2	10	1	11	11	11	4	5	11	11	11	11
16 (2nd)	11	11	11	11	10	11	11	1	11	11	2	11	8	11	7
28 (2nd)	11	3	11	11	11	11	10	11	11	11	9	11	8	11	7

**Descriptive Statistical Analysis Results**

<b>Ranking</b>	<b>Item</b>	<b>Mean</b>	<b>Median</b>	<b>Mode</b>	<b>Standard Deviation</b>	<b>Range</b>	<b>Minimum</b>	<b>Maximum</b>
1	food	4.81	3.5	3	3.24	10	1	11
2	clothes	5.00	4.0	3	3.07	10	1	11
3	place to stay	6.23	6.0	11	4.40	10	1	11
4	school supplies	6.73	7.0	11	3.27	9	2	11
5	electricity	7.73	9.0	11	3.50	9	2	11
6	clean water	7.88	9.5	11	3.39	9	2	11
7	money	8.69	11.0	11	3.40	10	1	11
8	tent	8.69	9.50	11	2.99	10	1	11
9	mattress	8.73	10.0	11	2.81	10	1	11
10	medicine	9.08	11.0	11	3.44	10	1	11
11	praying	9.42	11.0	11	2.98	10	1	11
12	save the belongings	9.46	11.0	11	3.68	10	1	11
13	school	9.50	11.0	11	3.31	9	2	11
14	(school) books	9.54	11.0	11	2.42	7	4	11
15	grocery	9.58	11.0	11	3.06	9	2	11
16	cooking utensils	9.65	11.0	11	1.79	5	6	11
17	shoes	9.73	11.0	11	1.93	8	3	11
18	help parents	10.00	11.0	11	2.86	10	1	11
19	raft/tire	10.04	11.0	11	1.87	7	4	11
20	food and drink	10.12	11.0	11	2.52	9	2	11
21	drink	10.23	11.0	11	2.25	9	2	11
22	evacuate car/motorbike	10.35	11.0	11	1.85	6	5	11
23	lights	10.35	11.0	11	1.60	5	6	11
24	paramedics	10.35	11.0	11	2.31	9	2	11
25	playing	10.42	11.0	11	0.86	4	7	11
26	school uniform	10.46	11.0	11	2.08	10	1	11
27	cupboard	10.58	11.0	11	1.65	8	3	11
28	blanket	10.62	11.0	11	1.39	6	5	11
29	table	10.69	11.0	11	1.38	7	4	11
30	clean house	10.77	11.0	11	0.65	2	9	11
31	school bag	10.77	11.0	11	0.86	4	7	11
32	helping flood victims	10.81	11.0	11	0.98	5	6	11