

EXPERIENCES OF PEOPLE AFFECTED

MERAPI ERUPTION IN 2010

A QUALITATIVE STUDY CONDUCTED IN KRINJING VILLAGE INDONESIA



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Table of Contents

Abstract	4
Acknowledgement	6
Dedication.....	7
Abbreviations	8
1. Introduction	9
2. Profile of Indonesia	13
2.1. Geography	13
2.2. Population.....	14
2.3. Economy	14
2.4. Ethnicity and Religion	15
2.5. History of Disaster in Indonesia	16
2.6. Disaster Management System in Indonesia	17
3. Rational For The Study	21
4. Literature Review	22
4.1. Previous Research on Disaster and Effect of Disaster	22
4.2. Knowledge Gap	29
4.3. Purpose of Study	34
4.4. Aim and Objectives	34
4.5. Research Question	34
5. Methodology	35
5.1. Study Area	35
5.2. Reasons for Selection of Study Area	36
5.3. Study Design	37
5.4. Study Population.....	38
5.5. Sampling and Sampling Size	39
5.6. Ethical Consideration	40
5.7. Data Collection Tools and Techniques	40
5.8. Data Collection Procedure	41
5.9. Data Handling	42
5.10. Reliability and Validity	42
5.11. Reflexivity	43
5.12. Data Analysis.....	45

6. Findings and Analysis	47
6.1. Understanding of Merapi Eruption	47
6.2. Emotional response to disaster situation.....	50
6.3. Living in Evacuation Camp	53
6.4. Impacts of Disaster	56
6.5. Relocation to other area	62
6.6. Perception of their own situation now	65
6.7. Finding meaning and explanation through defining the causes of disaster.....	66
6.8. Traditional Belief and Philosophy about Merapi Eruption	70
6.9. Modern and Scientific Knowledge about Merapi Eruption	73
6.10. Self, Community and Merapi Volcano Integration	76
7. Discussion	81
8. Conclusion.....	91
9. References	93
10. Appendixes	96 - 99

Abstract

AIM AND OBJECTIVES – Objective of this research is to explore experiences of people affected disaster in Indonesia and process of growth and recovery after disaster. Result of this study is expected to be the basis for further research in disaster area in Indonesia and development of guideline in disaster intervention in Indonesia, which adapt the local cultural context. Intervention program that develop with appropriate cultural context is expected to improve community well-being, especially the affected and the Indonesian people in general.

METHODS – A qualitative research with purposeful sampling was conducted. 16 participants with various backgrounds in age, level of education, occupation, religion and social economic status were interviewed. Four focus group discussions in groups of five were conducted: group of male, female, older people and adolescents. All informants were between the ages of 15 – 72 years old. Interview and Focus Group Discussion were conducted in participant's residence in Krinjing Village, Magelang District, Central Java Province, Indonesia.

RESULTS – This study found that people identify Merapi eruption as both disaster and blessing event. This understanding was based on their experience living with disaster, and level of severity. Despite any difficulties they face after disaster, villagers still perceive the eruption in positive manner regarding the benefit they will gain after the eruption. Perceiving situation after disaster in more positive manner made them have positive way to cope and handle difficulties after eruption. Another result suggested that emotional responses reported by informants are fear, panic and trauma. People experienced living in evacuation camp for more than 30 days and they keep returning home even as the eruption continues to feed their livestock. Villagers should make any adjustment when living in evacuation camp, regarding adjusting to new life situation, activity and with people from different background they shared their life with. In addition, they feel that sharing feelings as survivor made them respect, care and help each other.

Villagers also reported the experience of both positive and negative impact of disaster. The negative impact was feeling traumatized, poor economic condition and destruction of village facilities. Meanwhile, improvement in religiosity, fast development program in the village, sense of togetherness, working spirit, future planning, sense of gratitude are the positive impact of eruption that reported by the informants.

Relocation to other area was rejected by most of informants in this study. This is related to the strong connection between the historical, population and environment of Merapi as a place to live. This research also found that Merapi erupted as consequences of people's destructive behavior towards the environment. Some viewed the eruption as natural phenomenon, while others explained the events in terms of will of God and the power beyond human capacities. The last source explained casualties from eruption related to a person's guilt and sins that violate their faith on religion and God. Villagers of Krinjing were influenced by traditional and modern knowledge that shapes the understanding about Merapi and its eruption. This research also found strong connectivity between individual, community, environment and Merapi itself. This linkage is important to understand the relatedness between individuals, communities and environments in explaining or giving meaning to experiences.

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Dedication

This academic work is dedicated to my father Muchlis Muchtar and my mother Gusnella Muchlis, for their continuous love and care that irreplaceable by anything. My sister and brother (Nanda Miranda and Mieki Muliawan) for always support and take care of our parents while I'm away from home. It has been difficult moment for me to miss my physical absence from home during my study time, thank you for all of your support. To Oky Setiarso, thank your for your love and patience that comfort me every time I need it. To Efriyani Djuwita, Patricia Adam, Aulia Chairani, Dian Aprillia, Gita Maharani, Rain Mulyanto, Windarti, and Agustinus Dino Febrianta, my darling best friends, thank you for all of your support during my study time, and always being there and make me feel grateful to have you as my circle of friends.

Abbreviations

- PTSD : Post Traumatic Stress Disorder
- SR : Sex Ratio
- GDP : Gross Domestic Product
- BNPB : National Agency of Disaster Management
- Basarnas : National SAR
- PMI : Indonesia Red Cross
- Bakorsutanal : National Mapping Agency
- BMKG : Meteorological Climatological and Geophysical Agency
- LAPAN : Institute of Aeronautics and Space Agency
- BPPT : Agency For The Assessment And Application Of
Technology
- LIPI : Indonesian Institute of Science
- BPBD : Local Agency of Disaster Management
- PPK : Ministry of Health Crisis Centre
- PTG : Post Traumatic Growth
- PTGI : Post Traumatic Growth Inventory

1. Introduction

Disaster is potentially traumatic event that is collectively experienced, has an acute onset, and is time-delimited; disasters may be attributed to natural, technological or human causes (Societies, 2011). Based on the World Disaster Report 2011, since 2001 the number of disasters is likely to increase, although it decreased in 2006 and increased again until 2010 (Societies, 2011). The report also shows that during 2001 to 2010, Asia is the most frequent continent that stroked by disasters and the frequency tended to increase from year to year (39 per cent of all disasters). Although the number of disasters in 2010 was lower than 2006, but the number of casualties was higher. In 2010 the number of people killed in disaster was by far the highest of the decade. In 2010, there was an earthquake in Haiti, which killed 222,570 people, and a heat wave in Russia that killed 555,736 people. Other facts in this report show that since 2004 there were an increasing number of people affected by disasters. This number includes indirect effects of disaster that occurs after some period of time (delay onset), which consequently the number of persons affected was likely greater than reported. The report also mentioned that since 2001 the number of natural disasters is higher than technological disasters, where floods (47 per cent) as the most frequent natural disasters, and traffic accidents as the most frequent technological disasters. In terms of the number of casualties, natural disasters cause more casualties than technological disasters. Even though flood is the most frequent natural disaster, but it did not kill as much people as earthquake and tsunami that rarely happened. Losses caused by disasters are clearly very large, if calculated in terms of economic value. During 2001 to 2010 catastrophic losses valued at approximately 1,072,000 million U.S. dollars worldwide, where the value of damage of natural disasters is greater than technological disasters (Societies, 2011).

Based on the data above the disaster itself is an inevitable phenomenon, which can occur more in some part of the world and in unpredictable time. This applies to disasters caused by natural changes or due to technological development. The process of disaster itself is very complex. For example,

one of the causes of floods are clogged drains because a pile of garbage. Piles of trash are also caused by waste disposal system that does not work well, because people do not obey the rules of landfills, or landfills capacity is not able to accommodate the amount of garbage. There are some associated factors that contribute to the occurrence of disasters, and then there will be vulnerability factors related to one area that makes the area more likely to experience disasters than other areas. People who live in disaster prone area however not only response to and affected by disaster, but also develop mechanism living with risk of new disaster. These people have to be prepared for another disaster that may happen in the future. Nevertheless, disaster can also be predicted by looking at the patterns of natural activity and the weather (Reyes & Jacobs, 2006).

According to data about disasters mentioned above, it appears that losses resulting from the disaster is substantial and could have implications on various aspects of human life, for example in social structural, economic, and health, which ultimately affect individual's well being and happiness. Implications on health, specifically mental health, became one of the important topics that become focus of the various parties at the time of the disaster. Mental health condition of people affected by disaster, for example trauma and acute stress disorder, is a psychological disorder that usually appears after the disaster, besides the process of adjustment to life after the disaster. Individual's well-being and happiness will be disrupted not only because of the psychological impact, but also the impact on other areas, such as social and cultural, economic, and physical facilities. The more severe the disaster is, the more like is it that the mental health condition of the people will be affected.

The high frequency of disasters requires a comprehensive intervention. Intervention program is not only the response during and after disasters occur, but also as prevention to minimize risk and fatalities. This comprehensive treatment requires collaboration of many disciplines, to fulfill different aspects of disaster impact that not only influence people that directly

affected by the disaster but also to the wider public sphere. Advances in technology allow everyone all over the world to witness the catastrophic events that occurred elsewhere, and constant exposure to the disaster situation will indirectly affect the people who saw it (Kirmayer, Kienzler, Hamid Afana, & Pedersen, 2010).

To be able to design appropriate treatment and intervention programs that fit the needs of people affected by disaster, many measures could be considered. One of them is to learn from what people experience in previous disasters. Doing research on the impact of disaster will help to do this. In general, researches on the impact of disasters tend to explore negative impacts of disasters, such as physical damages, economic barriers, social and structural changes in society or the value of material loss caused by disasters. In particular, researches in the health field generally carried out to identify the diseases that affected people post-disaster, particularly those caused by unsanitary environment post-disaster, unavailability of adequate clean water sources, or short supply of healthy and nutritious food. While in the field of mental health, research topics were aimed at to identification of psychological disorders such as PTSD and Acute Stress Disorder, or other adjustment problems due to post-disaster conditions.

Topics of research on mental health post-disaster have been done in attempt to gather information on the impact of disaster on group of people that experience the negative impact of disaster. Based on the literature review conducted by researcher, it is found that only few studies have attempted to study the affected communities who can adapt well and continues to live in a more constructive way (Almedom, 2005). This group is more numerous than the group that had negative impacts. Fieldwork on the positive impact of disaster becomes important to explore ways of constructive adaptation of the survivor, in purpose to be applied to other disaster-affected communities.

Literature review also found that research on post-disaster mental health need to consider the cultural context. It is considered to be important because the

understanding of different mental conditions, particularly related to the sign and symptoms, are different in each culture. In addition, most of the concepts that are used as a research variable are derived mainly from the western culture, which characterized as individualistic society, and then applied to other cultures, such as eastern cultures that characterized as collectivist society. This condition of course will have an impact on the process and results of research conducted. Another factor to consider in post-disaster mental health research is the use of a qualitative approach that would complement the quantitative approach that has been more widely applied. Qualitative research allows the exploration of the data obtained and the depth that cannot be gathered by a quantitative approach. Understanding social context of post-disaster mental health can be used in designing mitigation intervention programs post-disaster, by utilizing the knowledge of local social culture and their understanding of the disaster.

2. Profile of Indonesia

2.1. Geography

Indonesia is located in South-East Asia, an archipelago of 17,508 islands (6,000 inhabited), along Indian Ocean and Pacific Ocean, and between Asia Continent and Australia Continent. It is bordered by Timor Leste, Malaysia and Papua New Guinea. The country covers an area of 1,904,569 square kilometers in total, which include 1,811,569 square kilometers of land area and 93,000 square kilometers of water area. Indonesia experiences tropical, hot and humid climate, with dry season from March to August and rainy season from September to February. Indonesia has the most volcanoes compared to any country in the world - some 76 are historically active; significant volcanic activity occurs in Java, Western Sumatra, the Sunda Islands, Halmahera Island, Sulawesi Island, Sangihe Island, and in the Banda Sea. Merapi (elev. 2,968 m), Indonesia's most active volcano and in eruption since 2010, has been deemed a "Decade Volcano" by the International Association of Volcanology and Chemistry of the Earth's Interior, worthy of study due to its explosive history and close proximity to human populations. Other notable historically active volcanoes include Agung, Awu, Karangetang, Krakatau (Krakatoa), Makian, Raung, and Tambora.

MAP OF INDONESIA



2.2. Population

According to 2010 census report, the population of Indonesia is around 237 641 326 people, including those residing in urban areas as many as 118 320 256 people (49,79 percent) and in rural areas as many as 119 321 070 people (50,21 percent). Among the countries with the largest population in the world, Indonesia ranks fourth after China, India, and the United States. Population distribution according to the larger islands are: Sumatra island which covers 25.2 percent of the entire Indonesian territory is inhabited by 21.3 percent of the population, Java which covers 6.8 percent is inhabited by 57.5 percent of the population and Papua which covers 21.8 percent is inhabited by 1.5 percent of the population.

Male population of Indonesia is 119 630 913 and women is 118 010 413. The sex ratio (SR) is 101, meaning there are 101 males for every 100 women. SR by province, the lowest is 94 in West Nusa Tenggara Province and the highest is 113 in the province of Papua. SR in national level for age group 0-4 is 106, ages 5-9 are 106, and five-year age groups from 10 to 64 ranges from 93 to 109, and age 65+ are 81.

Each citizen aged 7 to 15 years obliged to have basic education (The Law Article 6 Number 20 in 2003). Population Census 2010 result shows there were 2.51 percent of population aged 7 to 15 years old that never been to school and 6.04 percent has left school. The indicators to describe the quality of human resources related to education are educational attainment and literacy rate. The data shows the percentage of population aged 5 years and over who completed junior high school and over was 40.93 percent. This indicates that the quality of human resources by formal education was relatively low. The literacy rate of population aged 15 years and over was 92.37 percent means that over 100 population aged 15 years and over there were 92 literate people. People who can read and write any characters are categorized as literate.

2.3. Economy

According to the 2011 United Nation Human Development Index report, Indonesia ranked 124 of 187 countries, and categorized as medium human development ((UNDP), 2011). The Gross National Income per capita in 2011 estimated around US\$ 4,668, and GDP registered at 6.1% in 2010. Indonesia has natural resources that contribute to 11.2% of GDP in 2010 from Oil and gas, bauxite, silver, tin, copper, gold, and coal. Agriculture contributes 15.3% of GDP in 2010 with the product for example timber, rubber, rice, palm oil, and coffee.

In 2010, 13.33% of Indonesian population lives below poverty line. The unemployment rate was 7.9% in 2009 and estimated would decrease to 7.1% in 2010. Based on the results of SP 2010, the working age population (15 years and over) amounted to 169.0 million, comprising of 84.3 million men and 84.7 million women. Of these number, the number of labor force, which is the population 15 years and over who are economically active or working, seeking work, or willing to work amounted to 107.7 million, comprising 68.2 million men and 39.5 million women. Viewed by region, the number of labor force living in urban areas is 50.7 million people and living in rural areas is 57.0 million people. Of the total labor force, the number of working population is 104.9 million and 2.8 million people are looking for jobs.

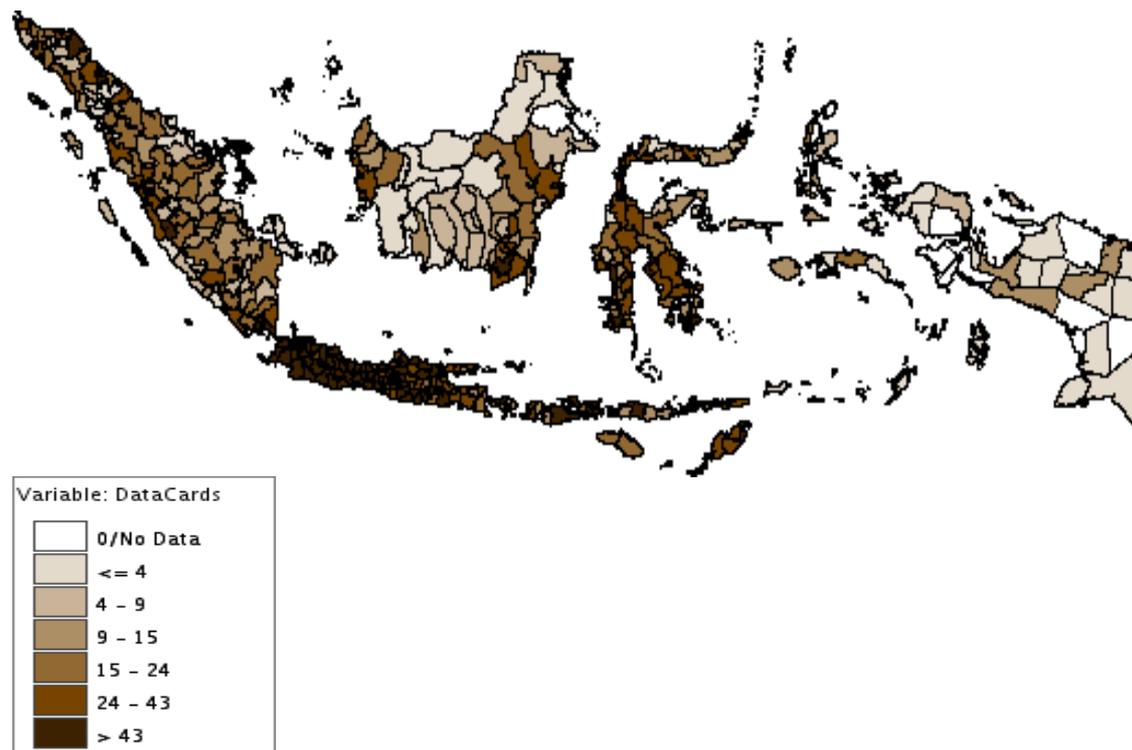
2.4. Ethnicity and Religion

According to census in 2000, Indonesia consist of hundreds of ethnicity with biggest ethnic is Javanese 40.6%, Sundanese 15%, Madurese 3.3%, Minangkabau 2.7%, Betawi 2.4%, Bugis 2.4%, Banten 2%, Banjar 1.7%, other or unspecified 29.9%. These ethnics are spread in thousands of islands in the Indonesia, with Java as the most populated island. Based on the census report Indonesia is predominantly Muslim practicing country with 87.81% Muslim, 6.96% Protestant, 2.91%, Roman Catholic, 1.69% Hindu, 0.72% Buddhist, 0.05% Kong Hu Cu, and 0,13% other or unspecified. The official language is Bahasa Indonesia; in addition to that different traditional language is also spoken by different ethnicity.

2.5. History of Disaster in Indonesia

Located between two continents, Asia and Australia and two oceans, Indian and Pacific oceans, Indonesia is the biggest archipelago country, which has 17,508 islands. Indonesia lies in three major earth plates, namely Indo Australia Plate, Eurasia and the Pacific, consequently potential to cause earthquake when plates collide. Moreover, Indonesia has 129 active volcanoes which 80 of them are dangerous. Other natural disasters that often happen in Indonesia are tsunami, hurricanes, floods, landslides, drought and man-made disasters such as the failure of technology, social conflict, and forest and land fires. These conditions make Indonesia has high vulnerability to disasters.

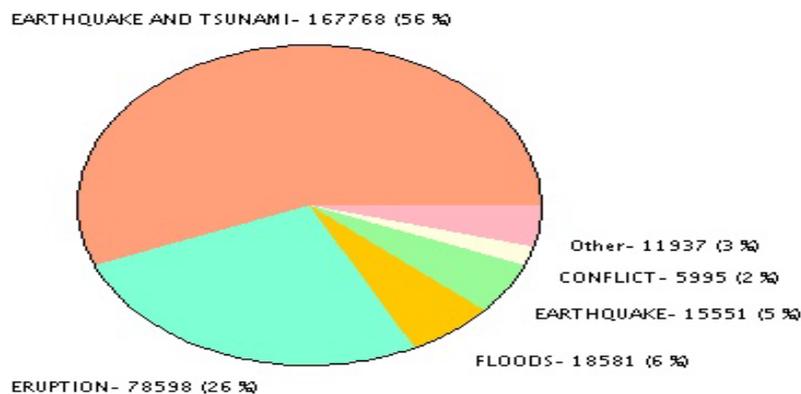
Map of Disaster in Indonesia



Based on information gathered from Indonesia's National Agency of Disaster Management (BNPB), the numbers of registered disasters in Indonesia tend to increase every year. The map above shows that Java Island has the highest experience of disaster, followed by Sumatra Island. Central Java is the province that has the highest number of disaster from 1815-2012. Even

though flood is the most frequent disaster in Indonesia, however number of people reportedly killed by flood is below the casualties from tsunami and earthquake, which has lower frequency of occurrence. For more details we can see from the table below.

Table number of people reported killed in disaster in Indonesia (1815-2012)



In 2004, Indonesia experienced Indian Ocean earthquake and tsunami as one of major disaster in decades, which affected not only Indonesia but also other country, including Srilangka, India and Thailand. More than 200.000 people reported killed and more than 3 million people affected by it. The latest major disaster in Indonesia is eruption of Mount Merapi in province of Central Java in October 26th 2010 that reportedly killed 386 people.

2.6. Disaster Management System in Indonesia

National Agency of Disaster Management in Indonesia have been developed National Disaster Management Plan 2010 – 2014. These plans, describe the function and action of every institution in different phases of disaster, including in prevention and mitigation program ((BNPB), 2010).

In implementing disaster management, National Agency of Disaster Management (BNPB) does not work alone but in cooperation with the other Ministries, Agencies and other institutions. For search and rescue of

disaster victims, BNPB works closely with the national armed forces, the national police, Basarnas (the national SAR) and PMI (Indonesian Red Cross). BNPB works with the Ministry of Social Affairs in dealing with displaced people. For mapping of hazard prone areas, the agency works with Bakosurtanal (national mapping agency) and Ministries/Agencies assigned to deal with specific hazards. In developing disaster early warning system, BNPB works with the Ministry of Energy and Mineral Resources and BMKG for geological hazards, with the Ministry of Public Works, Ministry of Agriculture, Ministry of Forestry, Institute of Aeronautics and Space Agency (LAPAN), and BMKG for hydro meteorological hazards, and supported by research done by the Ministry of Research and Technology, Agency For The Assessment And Application Of Technology (BPPT), Indonesian Institute of Science (LIPI) and universities. For disasters related to the environment, BNPB works with the Ministry of the Environment, Ministry of Marine Affairs and Fishery and BMKG. Related to biological aspects such as pandemics and extraordinary events, BNPB works with the Ministry of Health and the Ministry of Agriculture. BNPB works with the Ministry of National Education, the Ministry of Religious Affairs and the media for disaster education. For research in the field of disaster, besides working with technical ministries, the Ministry of Research and Technology, BPPT, LIPI and universities throughout Indonesia particularly support BNPB.

In the regions the agency responsible for conducting disaster management is the local Disaster Management agency (Badan Penanggulangan Bencana Daerah/BPBD). BPBD is established both at the provincial and district/city levels. As BNPB at the central level, at the local level BPBD is responsible for the formulation of policies related to disaster and displaced people. The body is also tasked with the coordination of disaster management related activities. The creation of BPBD is based on the Decree of BNPB Head Number 3 year 2008 on the Guidelines for the Establishment of Local Disaster Management Agency and Minister of Home Affairs' Regulation Number 46 year 2008 on the Guidelines for the Organization and Management of the Local Disaster Management Agencies.

Article 5 Law Number 24 Year 2007 on Disaster Management stipulates that the Government and local governments are responsible for the conduct of disaster management. This responsibility, in line with the stipulation of Article 6, includes disaster risk reduction and mainstreaming of disaster risk reduction into development programs; protection of community from the adverse impacts of disaster; fulfillment of the rights of the community and people displaced by disaster in a fair manner and complying to the minimum service standards; recovery from disaster impacts; allocation of budget for disaster management in the State Revenue and Expenditure Budget; allocation of on-call disaster management budget; and maintenance of authentic and credible archives/documents from the threats and impacts of disaster.

In a normal situation or at times where there is no disaster, the relevant Ministries/Agencies in line with their respective tasks and responsibilities will implement disaster risk reduction programs and activities at the central level. Structural mitigation activities such as the building of flood embankment and evacuation routes, for instance, become the responsibility of the Ministry of Public Works. Preparation of logistics to meet the needs of potential displaced population during an emergency situation becomes the responsibility of the Ministry of Social Affairs. In a normal situation, BNPB and BPBD at the local level perform the function of coordination and implements activities related to prevention, mitigation and preparedness. Several disaster risk reduction actions will require the collaboration of cross-agencies such as in the provision of volcanic eruption early warning system that will involve the Ministry of Energy and Mineral Resources through the Geology Agency and local governments through BPBD. The socialization of the early warning system and the mock drills to use it will involve the education office, universities and NGOs, with BNPB/BPBD as coordinator.

In an emergency situation BNPB and BPBD performs the function of

command, coordination as well as implementing emergency response activities. In this situation BNPB and BPBD could coordinate sectoral agencies in emergency response operations. In a post disaster situation BNPB and BPBD will again perform their coordination function and implement recovery activities, while the functions that belong specifically to sectoral agencies will be performed by each sectoral agency. The conduct of disaster management at the central and local levels will require coordination with all sectors and elements of the society. The distribution of roles among disaster risk reduction stakeholders will also be arranged through the National DM Plan.

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3. Rational For The Study

Indonesia is located between the continents, Asia and Australia, and flanked by two oceans, Indian and Oceania, making Indonesia particular vulnerable to disasters. Indonesia's Ministry of Health Crisis Centre (PPK) states there is an increase in the frequency of catastrophic events in Indonesia since 2005. In addition, Indonesia's Disaster Management Agency (BNPB) noted that most of area in Indonesia vulnerable to disaster, which most of them are earthquakes, tsunamis, floods and volcanoes eruption. The disasters were not only in large scale but also in smaller scale with high frequencies, which makes the people in Indonesia “live” with the disaster and the threats of new ones.

As mentioned above, every disaster that happened in a community will influence people’s perception about life and the world, which then implied in their coping strategy and growth after disaster. There are some factors that contribute to that condition, regarding the characteristic of the events itself, for example frequency, magnitude, type of infrastructure, or other factors such as psychological factor of individual and community affected by disaster and also type of responds from community, government and international community. Cultural and social context are another important factors that should be carefully considered in the impact influence of disaster. Research about people in Indonesia affected by disaster will be valuable, since there will be different experiences and meaning of the event from this population. Universality and specific cultural factor of posttraumatic growth after disaster will be explored regarding their influence in developing and implementing intervention and preparation to disaster program. The wellbeing and improved health among those affected by disaster are the underlying objective to achieve.

4. Literature Review

4.1. Previous Research on Disaster and Effect of Disaster

Disaster is an unpredictable, life threatening event and capable of changing stable condition of the affected people. Frequency and numbers of people affected by disaster have increased noticeably over the last 100 years Kirmayer, Kienzler, Hamid Afana, and Pedersen (2010). However, the proportion of people surviving a disaster has also risen, which suggest there are many survivors who may be affected psychologically by traumatic events.

There were different definitions of disaster that conceptualized by variations of approach. These definitions might be difficult to define apparent meaning of disaster since it is not easy to define the term precisely. Disaster is events that typically sudden, unexpected, overwhelming in intensity, devastating in destructive power and threatening to survival (Reyes & Jacobs, 2006). In this situation, the most obvious effects are determined through disruption of political, social and economic condition but also changed in religious and cultural systems that reformed our point of view in understanding the world. Despite of the shock of sudden and vicious of the phenomena, disaster itself nevertheless has predictable aspect that can be examined the pattern of nature and climatic activities(Reyes & Jacobs, 2006)

Another definition of disaster explained by Norris, et al (2006) defines disaster as *potentially traumatic event that is collectively experienced, has an acute onset, and is time-delimited; disasters may be attributed to natural, technological or human causes*. Disaster as potentially traumatic events means that it is acknowledged that while not every disaster will cause death or injury to self or others, certainly all disasters have the potential to do so. This definition possibly tried to assess event of disaster necessarily not only for event that actually cause death or injury but also for other event that cause feelings that have the same impact to that, for example threatened to death, intense fear or horror.

Furthermore, a disaster as collectively experienced events means that it has massive collective stress, it create stress for many people simultaneously (Norris, 2006). This definition clearly supported by definition from International Federation of Red Cross and Red Crescent Societies in World Disaster Report, where definition of disaster also emphasizes the physical and social impacts of collective crises. In this report, events are considered disaster if (1) 10 or more people are reported killed, (2) 100 or more people are reported affected, (3) appeal for international assistance is issued, and (4) a state of emergency is declared (Cross, Societies, & Disasters, 2000). This definition based on severity of impact with little attention to the onset/duration of impact (Norris, 2006). In defining disaster, we cannot disregard political declarations in addition to severity of impact alone. Political definitions of disaster distinguish between large-scale accidents, emergency, and disasters, a determination that is often made by the civil domain of government (Norris, 2006). This declaration is very important regarding response that provided by government in disaster relief program. The declaration might have implication that disasters not only affect people that directly experience it, but also other element of community, including social and cultural values. Disaster declarations evoke certain instrumental powers that allow temporary suspension of normal civic administration and the rapid coordination of protective and relief efforts (Norris, 2006). Moreover, according to Quarantelli (Quarantelli, 1986, in Norris, 2006) defined disaster as a consensus-type crisis occasion in which demand exceed capabilities. These capabilities can be explain as individual, community or government resources in facing disaster situation.

Disaster can be distinguished in term of perceived possibility of future harm or loss (Norris, 2006). Herewith we differentiate between *chronic*, *escalating* and *acute* threats as they describe collectively experienced events or mass trauma. Disaster can be described as chronic events when the event connotes a continuing, constant, unremitting threat of harm or loss (Norris, 2006). Many toxic hazards, ongoing community violence and threat of terrorism might be examples of chronically threatening, collectively

experienced, and potentially traumatic events. Furthermore, disaster can be categorized as an escalating event when there was a point at which the threat was absent, but it emerges and then grows over time (Norris, 2006). Some of public health epidemics, political conflicts and refugee crises are examples of this escalating disaster event. The last category of disaster event is acute event, whereas short or sharp but severe course (Norris, 2006). Many events for examples, earthquake, tsunamis, mountain eruption, storms, and shooting are following the pattern of this event.

Traditionally, there are two general type of disaster based on causes that have been proposed, natural and human caused (Norris, 2006). Human caused disaster can be further subdivided into technological accidents and mass violence. Technological accidents are disasters caused by neglect, carelessness, or failures of technology, such as mass transportation accidents or dam collapses; whereas mass violence refers to disasters caused by intent or malevolence, such as shooting sprees or peacetime terrorist attacks (Norris, 2006).

Technological disasters may be more difficult for individuals to tolerate than are natural disasters because of the meanings imparted to the events. Natural disasters possibly are able to dismiss as acts of God (Norris, 2006). Technological accidents, on the other hand represent callousness, carelessness and insensitivity (Bolin, 1986 in Norris, 2006). However, the notion that, in general, technological accidents have greater mental impact than do natural disasters has not withstood empirical test. A meta-analysis of the relationship between disasters and psychopathology in controlled studies (Rubonis & Brickman, 1991 in Norris, 2006) came to opposite conclusion, namely, that the natural disasters resulted in greater rates of disorder. Despite of natural disasters as well as technological accidents are frequently politicized because of issues surrounding the availability and distribution of resources both within and between communities.

Other elements that should be discussed when studying the impact of disasters on mental health are characteristic of exposure severity at both the population and individual levels. At the population level, important characteristics are the impact ratio and the proportion of the population affected directly by the disaster. These characteristics emphasize the proportion of individuals directly affected rather than the absolute number of these individuals, because the former may have more to do with the ability of the community to respond effectively (Norris, 2006).

Bereavement, losing family and friends, losing house, jobless, poverty, malnutrition, health risk behavior and psychological disorder are some of the negative impact of disaster that influence overall mental health condition of the victim. The effect of disaster may be rekindled by new experiences that reminds the person of the past traumatic event (Ursano, Fullerton, & Weisaeth, 2007). The impact of disaster is not only to individual or the community that exposed to disaster. Disaster have health impacts at multi layer, individual (physiological and psychological), family, community societal, international and global (Kirmayer et al., 2010). The social impacts of disaster depend on the magnitude, the level of pre-existing infrastructure, the nature of events (human caused or not), response of government, larger society and international response. The impacts of disaster are usually more severe in developing countries, consequently from the lack of resources and facilities to respond adequately.

Nevertheless, majority of people exposed to disasters do well. Despite all the negative effects, we can see that victims of disaster are trying to cope and come to terms that life still continues for them. At times, disaster may also have unexpected beneficial effects by serving as organizing events and providing a sense of purpose and an opportunity for positive growth experience (Ursano et al., 2007).

Responses that given by many organizations and individuals basically try to fulfill basic needs of the victims, which include the concern about mental

health condition of the survivor (Souza, Bernatsky, Reyes, & de, 2007). To understand how to response to disaster, it is very important to consider differentiation of phases and identified the primary goals, behaviors, roles of helpers, and roles of mental health professionals that are corresponded to each phase (Norris, 2006), which are pre-incident, impact (0 – 48 hours), rescue (0 – 1 week), recovery (1 – 4 weeks), and return to life phase (2 weeks – 2 years).

Mostly, mental health program that provided for disaster victims focused on the negative effect of disaster, i.e. posttraumatic stress disorder (PTSD), which have been widely studied following both natural and human-made disaster (Frankenberg et al., 2008; Irmansyah, Dharmono, Maramis, & Minas, 2010; Kun, Han, Chen, & Yao, 2009; Souza et al., 2007). Study among survivors of the Wenchuan 2008 earthquake in China show that prevalence of PTSD was 45.5% (Kun et al., 2009). Estimation of PTSD following disaster range from 30% to 40% among those who directly exposed, to 20% of rescue workers and 5% to 10% of general population (Kirmayer et al., 2010). Despite of that, we can conclude that there are more people without PTSD symptoms and can adapt to their condition as survivor. This group is a group that sometimes viewed less as the focus of the intervention because it was overshadowed by groups that are considered more problematic.

Intervention that provides to survivor of disaster is depending on approaches to the impact of trauma and disaster on mental health outcomes. Focusing on effects of trauma in causing psychopathological conditions like Posttraumatic Stress Disorder (PTSD), depression and other potentially disabling conditions is the clinical psychiatric approach (Kirmayer et al., 2010). This is due to the medical model point of view that emphasize on psychopathology, categorization of psychopathology, clinical issues and day-to-day problems as special populations outside the general population, explanation of psychological problems as well as medical illnesses and the role of clinical psychologists focused on the diagnosis and treatment with curative as main objective (Joseph & Linley, 2008).

Development in the world of psychology that leads to positive psychology, give rise to research and practice on stress and traumatic event that not only focuses on negative impacts but also on the positive impact. It is well known that exposure to stressful and traumatic events can lead to severe psychological consequences.

Throughout human history, the positive effect and personal gain in difficult conditions have been much discussed in various literature and philosophies. This idea is a central theme in existential-humanistic tradition in psychology. The motive of the value that can be found through suffering permeates many religions of both the East (Buddhism) and West (Christianity) (Joseph & Linley, 2008). Based on this point of view, there is second approach that focuses on individual resources and resilience (Kirmayer et al., 2010). Concept of hardiness, sense of coherence, resilience and posttraumatic growth developed and introduce by research that focuses on survivor of disaster in particular relevance to intervention program (Almedom, 2005; R. G. Tedeschi & L. G. Calhoun, 2004). Studies on the positive impact of a traumatic event is in fact not a new paradigm, and is increasingly becoming important to do because it can broaden our understanding on stress and traumatic phenomenon from various points of view.

One of the theoretical concepts that try to assess the positive impact of traumatic event is the concept of posttraumatic growth, which is described further in the psychosocial framework (Joseph & Linley, 2008). These frameworks try to integrate medical perspective on posttraumatic stress and positive psychology on posttraumatic growth. It is not possible to fully understand recovery from posttraumatic stress without awareness that for some people this involves positive changes beyond their previous levels of functioning and well-being; and vice versa, it is not possible to understand fully understand growth following adversity without knowledge of the traumatic distress that serves as the trigger for such change (Joseph & Linley, 2008). The psychosocial framework emphasizes the role of social context, social support and social capital in influencing how the person moves through

the cycle of appraisals, emotional states and coping (Joseph & Linley, 2008). Individual response to traumatic events and its impact cannot be separated from socio-cultural influences and the environment in which one lives. Culture influences individual and collective experience of trauma at many levels: the perception and interpretation of events as threatening or traumatic; modes of expressing and explaining distress; coping responses and adaptation; pattern of help-seeking and treatment response (Kirmayer et al., 2010). Therefore the social and cultural setting gives meaning to traumatic event itself that influence how individuals, families and communities make sense of their experiences.

Research on posttraumatic growth have been found in people who experienced bereavement, rheumatoid arthritis, HIV infection, cancer, bone marrow transplantation, heart attacks, coping with medical problem of children transportation accidents, house fires, sexual abuse, combat, refugee experiences and being taken hostage; however research on area of disaster is still very little and unreported (R. G. Tedeschi & L. Calhoun, 2004). To date, very small number of research has been undertake to investigate PTG in Asian survivors of natural disaster (Tang, 2007). The research on posttraumatic growth in setting of disaster will be very useful regarding knowledge from other research about importance to understand individual, community and social context of people affected by disaster. We need a body of research from psychosocial framework and clinical approaches that address the focus of individuals, families and communities responding to the range of challenges brought by trauma and disaster in all their forms (Kirmayer et al., 2010). Thus based on above explanation it is important to have more research on PTG particularly in disaster setting.

Two main conclusion from previous researches found that positive impact of disaster regarding posttraumatic growth has both universal and culture specific characteristic (Weiss & Berger, 2010). Posttraumatic growth is a complex concept, which has universality of the experience across the globe. Although, the concept was developed from western framework and different

cultures may have different specific characteristics. Thus in different cultures, growth may include different aspects and general experience of growth and the specific features vary, as do related conditions (Weiss & Berger, 2010). Qualitative research in the field has been useful in identifying aspects of posttraumatic growth that are unique to particular cultures (Splevins, Cohen, Bowley, & Joseph, 2010; Weiss & Berger, 2010). Research on this field will benefit not only at the individual level but also for the community exposed to disaster and the general population in terms of intervention and preparation for the future.

4.2. Knowledge Gap

Before we discuss the knowledge gap in the mental health aspect of disaster research, we should explore some considerations in research about disaster-related topics (Raphael, Lundin, & McFarlane, 1989, pp. 2-3):

- In an ideal situation, certain background assessments or data should be available from the period prior to the disaster. The data can be obtained from Health Registers. Whenever objective pre-disaster data are available, they should be utilized, as it seems likely that perception and recall of past events and attribution effects may be significant (McFarlane, 1984 in Raphael, Lundin, & McFarlane, 1989). When such background data are explored in studies commenced after the disaster has occurred, possible retrospective perception and attribution effects should be noted.
- Defining the population affected and to be assessed may often be difficult (Green, 1982 in Raphael, Lundin, & McFarlane, 1989). She suggested that the dimensions of the disaster itself (such as suddenness of impact) might affect actual rates of psychological impairment, while methodological dimensions such as sampling may affect estimates of impairment rates. The former, i.e. dimensions of the disaster, may be more objectively determined. Selection of the group of victims to be studied, the definition of affected populations, the level or levels of data assessment, the methods and criteria of case identification and the time of follow up may all influence estimates of impairment to a great degree.

- Problem regarding the choice of controls for the group studied, i.e. whether to choose controls that are totally unaffected or even unaware of the catastrophe, or to compare lesser affected as compared to severely exposed groups.
- Deciding what to measure, when, why and how. This means researcher should consider the instruments (questionnaire, checklist, screening, behavior schedules, live event list, interview), methods (quantitative or qualitative) that can answer the research question and fulfill the objective of the research.
- Problems of any naturalistic experiments as disaster research often turns out to be un-idealistic situation. In any disaster situation, uncertainty and difficulties are normal situation that is not easy to handle. These conditions may influence the research process and its result. Researcher should realize this type of situation and make some preparation to overcome uncontrollable problem in the research field.
- Ethical issues about research on acutely stressed populations, such as disaster victims.

Research related to the experience after a disaster, especially posttraumatic growth, largely conducted quantitatively by using Posttraumatic Growth Questionnaire (PTGI) developed by Richard G. Tedeschi and Lawrence G. Calhoun (Tedeschi & Calhoun, 1996). PTGI usage in different cultures must be adapted to the local cultural context, in terms of translating to the local language, which can be understood by study participants as structural and technical progress, especially in terms of the questionnaire (Splevins, Cohen, Bowley, & Joseph 2010).

Quantitative measurement in general is a form of top-down measurement, and attempts to apply the concept of posttraumatic growth in a variety of different cultural contexts (Splevins, Cohen, Bowley, & Joseph, 2010). Theoretical concept derived from a particular culture, especially individualistic western culture, and then tried to be applied in different cultures, with various adaptations made. The tendency of cultural bias is compelling, not only in

terms of differences in language used, but also in terms of defining and implementing the concept in different daily behaviors (Splevins, Cohen, Bowley, & Joseph, 2010; Weiss & Berger, 2010).

As discussed previously, processes of posttraumatic growth occurs in every culture (Weiss & Berger, 2010); although there are some factors that are occur specifically in a particular culture. These factors are likely not covered in PTGI, which has been used in many previous studies. Using PTGI as the main measurement tool of posttraumatic growth might not explore the concept in the broader realm of behavior. Qualitative analysis of PTG in Japanese adolescent identified four additional contributor characteristics of PTG (Taku, in Weiss & Berger, 2010). The first characteristic was gaining stronger patience or self-control, which may reflect the personal domain strength consistently found in PTG measurement. A second potentially unique characteristic of Japanese is an increased self-awareness of one's weaknesses or limitations. The third characteristic unique examples identified in Japanese case relates to a sense of connection to community and mankind. Losing a sense of desire for belonging or possessing unique characteristic was the fourth unique characteristic identified in the studies.

Furthermore, based on previous quantitative researches it is concluded that the other problem that may arise is the representativeness of sample used. Quantitative research is not enough to provide more comprehensive experiences exposed by the survivors of disaster. As we know the complexity of the concept of posttraumatic growth allows individual to have different experiences depends on the appreciation and meaning of experienced events and other factors that influence it. These experiences may not be captured in the quantitative research that emphasizes general conclusion. For example, researches about posttraumatic growth in Israel (Punamäki, in Weiss & Berger, 2010) conclude that in addition to individual level, growth may also occur in groups or even in a nation following a traumatic event. Examining the consequence of how communities or nations cope with wide-scale traumatic events such as Holocaust, mass terror attacks and natural disaster, will

contribute to the understanding of what helps humans to rise from the ashes, reconstructs their lives and address the effect of trauma. Second, the studies failed to reflect the diversity of Israel's population. Finally despite their importance to PTG and the central role they play in Israeli society; religion and social support were the resources persons included only in two of the seven studies and should explore more.

To solve some knowledge gaps that arise from quantitative research topic of disaster, it is important to implement qualitative method in this topic as discussed by Norris (2006, pp158-1620). Qualitative methods have been used to accomplish several distinct aims or objectives. First, they are ideal for obtaining “thick description” (Geertz, 1973 in Norris, 2006) of phenomena. In turn each research used this thick description as the foundation for understanding specific elements of psychosocial impacts of the disaster on the survivor. Second reason for the use of qualitative methods in understanding mental health effects of disasters is to place such effect within their social and cultural context. Third, qualitative research is used to clarify the values, language and meaning attributed to people who play different roles in disaster (Oliver-Smith, 1996, in Norris, 2006). Fourth, because of its value in conducting exploratory research, qualitative methods have often been used during the initial stages of a project to enable the investigator to acquire background and understanding of the issues; to obtain ‘pilot data’ in the form of case studies, case series, or focus groups; and to provide guidance in the development of theories and the formulation of the hypotheses when little or no previous research has been conducted on the phenomena of interest (Norris, 2006).

In general, the universality of the concept of posttraumatic growth following adversity is acceptable despite the development of PTG concepts coming from the individualistic western culture, which can lead to cultural bias when applied to the collectivist eastern culture. One of the cultural biases can be seen from the development PTGI as measuring instrument, used in research on the various cultural (Splevins, Cohen, & Stephen Bowley, 2010). As

mentioned previously, research on posttraumatic more use of quantitative methods by relying on PTGI as a measurement tool. Those studies are top down approach, when the use of PTGI in various cultural settings is trying to adjust with each culture but there is still a possibility of cultural insensitivity. In this case there are possibilities that PTGI may not reflect the overall experiences of PTG in different cultures (Splevins, Cohen, Stephen, & Bowley, 2010).

At this stage, where the development and implementation of theoretical concepts of PTG, research with a qualitative approach will be very important to do (Splevins, Cohen, & Stephen Bowley, 2010; Weiss & Bergen, 2010). Qualitative research allows the bottom-up study approach, where the exploration of subjective experiences of participants in the PTG formed the basis for the development of a complex concept PTG, specific yet universal. Furthermore, we can develop profound PTG measurement method based on the basic concept that not only general in nature, but also specific and can overcome the problem of cultural bias. Use of qualitative studies has been helpful in identifying aspects of PTG that are unique to particular cultures (Weiss & Berger, 2010).

Based on literature review that has been done by researcher, there are some topics that should be considered in conducting research on mental health aspect of disaster. These include how people understand and define events of disaster, typology and severity of disaster, positive and negative impacts of disaster, social and cultural context of people affected disaster, methods of research and different concepts of disaster aspect that choose as focus of the research. Along with the purpose of the research, the result obtained can be utilized as the basis of designing future disaster response or prevention program. This program can be implemented in different type of disaster whether in large or smaller scale.

4.3. Purpose of Study

Result of this study is expected to be the basis for the development of guideline in disaster intervention in a local community Indonesia, which adapts the local cultural context. Intervention program that develop with appropriate cultural context is expected to improve community well being, especially the affected and the Indonesian people in general.

4.4. Aim and Objectives

Objective of this research is to explore experiences of people affected by disaster in Indonesia and the process of growth and recovery after disaster.

4.5. Research Question

- a. How are the experiences of people and community-affected disaster in Indonesia?
- b. How is people and community affected disaster in Indonesia experience their recovery and growth after disaster?
- c. What are the factors that support and restrain process of recovery and growth in individual and community level?

5. Methodology

This chapter will describe in detail the research methodology that has been conducted in this research. This research was conducted from August 2011 as preliminary phase and continues to September – November 2011 to collect the data.

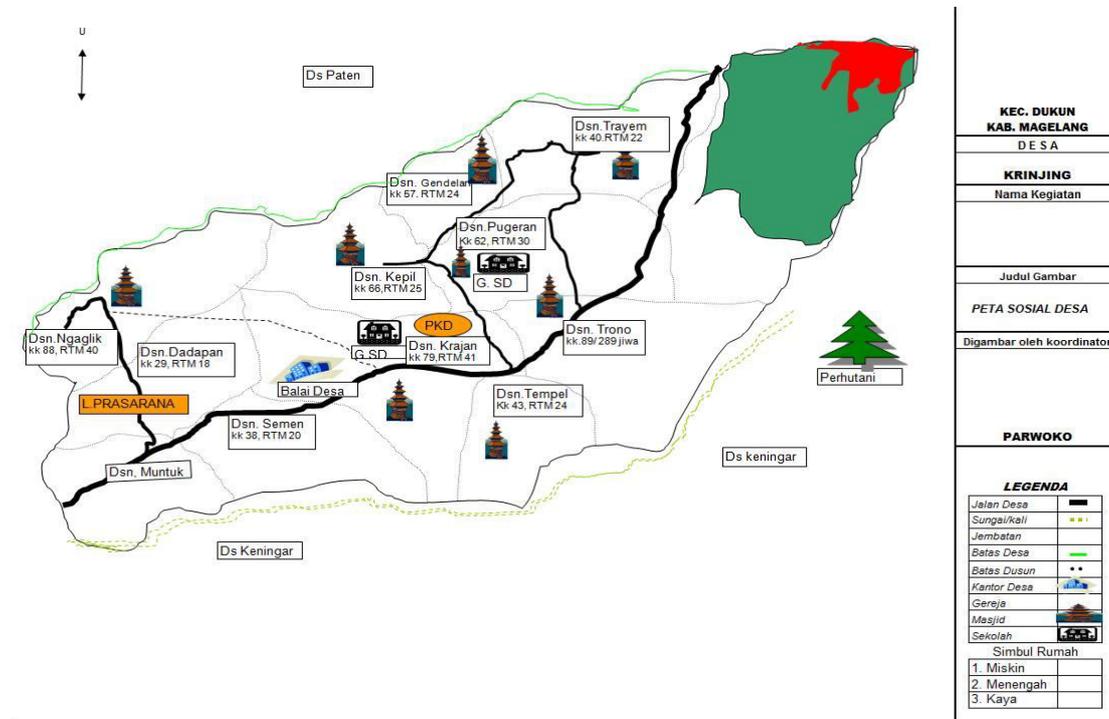
5.1. Study Area

This research was conducted in Krinjing Village, in Magelang District, Central Java Province, Indonesia. Krinjing Village is one of the villages that directly affected by volcanic eruption of mount Merapi in October – November 2010. This village is located in the western part of Merapi, 5.2 kilometers from the summit. Based on data that collected from government office, the population of Krinjing Village is more than 2000 people spread in 7 *dusun* (smaller villages). More than 60% of the population are in productive age (15-64 years old) and have life expectancy rate at 74 years old (male) and 71 (female). Agriculture is the main livelihood of people in Krinjing Village along with raising livestock, sand mining and trading. In term of education, 75% of villagers finished their 6 years elementary school, and the rest continue their education to higher education level (junior high school, senior high school and diploma degree). The people of Krinjing Village are predominantly Muslim; with the statistics of 90% Muslim and 10% Catholic. However, there is also traditional religion that still practiced by villagers, even though they already practice Muslim or Catholic. Most of villagers can speak Bahasa Indonesia, even though they use Javanese language as their main language in daily life.

Merapi last eruption was on 2010. At that time, the eruption began in late October and continued until November 2010. The eruption was simultaneous with volcanic earthquake that increased since September forward, with repeated explosions of lava and ashes. Information gathered from the authorities showed that the 2010 eruption is the largest since 1870s. Based on data form Indonesia National Agency of Disaster Management, over 350,000 people were evacuated from the affected area. However, many

people persisted to stay or returned to their home while the eruption still continues. The death toll reached 386 in this eruption.

Map of Krinjing Village



There is one Merapi observation post located in Babadan, approximately 10 minutes from Krinjing village by car. This post is government facilitation in purpose to observe seismographic and volcanic activity of Merapi. The observation post equipped by modern facility that can record any seismic activity in Merapi. As part of Indonesia’s National Agency of Disaster Management, this post report daily activity of Merapi as part of preparedness and mitigation program of Merapi eruption.

5.2. Reasons for Selection of Study Area

There were several considerations to select Krinjing Village in Magelang District Central Java Province as study area; first, this village was one of the areas that affected directly by the eruption. However they did not directly affected by other disaster following Merapi eruption (cold lava flood), which experienced by other village. Second, when the Merapi erupted, most of villagers were evacuated to evacuation camp prepared by district

government. Most of them stayed at the camp between 35 – 42 days, and after that they return to the village. Moreover at the time of research, Krinjing villagers are in rehabilitation phase of disaster, which means they are trying to build their life again after being affected by disaster. This condition is very different compares to other village that still lives in the evacuation camp. To achieve the objective of this research, the study area should be done in the area that the people are already staying in their village. Third, Krinjing villagers appear to have complete experience of Merapi eruption as survivor and refugees. Fourth, for practical reason, Krinjing Village was easy to access and save for conducting research.

5.3. Study Design

This study employed qualitative research method with a phenomenology approach. This methods is chosen to gain knowledge and explore the people and community's experience related to their field of phenomena or context of their life (Atkinson & Coffey, 2003). A phenomenological approach will be interested in charting how human subjects experience life world phenomena, focus on consciousness and the life world an openness to experience of the subjects and a search for invariant essential meanings in description (Kvale & Brinkmann, 2009). Through this method research, researcher attempted to understand people live world through description of their experience and interpret its meaning. By using a semi structured interview guide, qualitative interview method will allow probing and letting the direction of each interview be taken by topics and perspectives brought up by respondents.

In this research, individual and community reflect their experience in disaster situation and the process of recovery will be explored. This exploration will give knowledge and understanding about the variables and also process within individual. In this study, extensive literature review found that there are more researches on negative impact of disaster rather than the positive impact. Moreover, there is insufficient information about this topic in Indonesia. Qualitative methods can be a method that helps to explore specific factors related to cultural context of Post-traumatic Growth (PTG) concept

and then implement it in quantitative methods that will measure prevalence of PTG. A qualitative research also covers both factual and meaning level, even though it is more difficult to gain meaning level in interview (Kvale & Brinkmann, 2009). It is important to focus on explicit description and to interpret the meaning behind this description that might be implicit message. Qualitative research also able to give people liberation to express their ideas and opinion without any restriction as required in quantitative research. Semi structured interview and focus group discussion were conducted with specific guidelines to explore themes in people experience.

5.4. Study Population

The study population included men and women who were affected by Mount Merapi Eruption in 2010. Male and female with different background in age, education and religion were selected in order to provide the opportunity to share different experiences and reflection in the eruption situation. The focus group discussions were conducted to develop interview content, inclusion criteria for interview participant and in ongoing discussions in analyzing the result. These discussions also facilitated to explore and understand the social and cultural context of targeted community, to explore community perspective on the concept of disaster, recovery and growth after disaster. Moreover, focus groups also function as the entry process to build rapport with community members before starting the data collection. The focus group discussion engaged reference group or stake holder in community. Interviews were conducted to explore individual experiences and their reflection on disaster and the process of recovery and growth after disaster. The interviews and focus group discussions were conducted in participants' residence by appointment and flexible according to availability of the participant.

5.5. Sampling and Sampling Size

This research use non-randomized purposive sampling, which based on assumption in qualitative research, to use the purposeful selection of “information-rich” participants for in-depth study. Patton (2002) listed 16 different purposeful nonrandom strategies used in qualitative research. These include extreme or deviant case sample, used to learn unusual manifestations of the phenomenon of interest; maximum variation of sampling, used to select participants from a wide variety of groups or segments of a population to get variation on dimensions of interest; critical case sampling, used to permit logical generalization and maximum allocation of information to other cases because if it is true in one case, it is likely to be true in other cases; snowball sampling, used to identify cases of interest from sampling individuals who knows other individuals with detailed knowledge of cases that are information-rich, that serves as good example for study and likely to be good interview participants (Patton, 2002).

A purposive sampling of 5 females and 11 males were interviewed. All participants were between the ages of 18 – 72 years. There were no rules in determining number of participants in qualitative method. Most of literature mentioned that researcher should consider research question, the objective of research, the use of the data, and availability of time and resources. Despite that, Lincoln and Guba (1985, in Norris 2006) provided some elaboration on these criteria in the form of a principle “saturation” or redundancy, when the purpose is to maximize information. Under these conditions, “the sampling is terminated when no new information is forthcoming from newly sample units” (p. 202). The table on the following page will show descriptions of semi structure interview informants.

Four focus group discussions were conducted in groups of 5: group of elderly people, group of adult male, group of adult female, and group of young people; with the total participation of 21 people. Participants along with their various background and experiences were purposively selected based on

information that gathered from the head of village, community leaders, focus group discussion and other participants.

5.6. Ethical Consideration

Norwegian Research Ethics Committee (REK), Faculty of Psychology University of Indonesia Research Ethics Committee and Government of Magelang District approved this study. The objective and purpose of this study were explained to the participants and all participants were given the opportunity to make an independent decision to participate voluntarily without intimidation. All participants signed form of informs consent, and the researcher collects all forms.

5.7. Data Collection Tools and Techniques

Interview guide were designed and developed by the researcher, and in data collection researcher used tape recorder to record conversation in the interview and focus group discussion. All participants were informed and approved utilization of tape recorder in interview and focus group discussion. Interviewed were privately conducted in the participants residence. Nevertheless, according to Norris (2006) semi structured interviews reflect a “middle ground” of a continuum of techniques for conducting extended interviews. At one end of this continuum is the unstructured interview, to be applied when few, if any, issues related to the phenomenon of interest have been identified and when the primary intent is to obtain the informant’s perception of what issues are important or relevant (LeCompte & Schensul, 1999, in Norris, 2006). At the other end of continuum is the structured interview. In general, these techniques are utilized when the universe of issues related to a phenomenon of interest identified a priori and when the intention is to validate or confirm the hypothesis or perspective of the investigator (Bernard, 2002, in Norris, 2006).

Focus group discussions were conducted in one of the available participants’ residences. This approach was important because it acquired group

interaction that could generate data and insights on more restricted (focused) range of issues or topics. Moreover, it is also intended to generate insight on part of both investigator and group members gained through the exchange of information that does not typically occur in the context of individual interviews (Cross et al., 2000; Norris, 2006).

The interviews were semi structure and the guides were not strictly followed regarding the participants' answers that required probing for further explanation.

5.8. Data Collection Procedure

The researcher contacted the head of the village and community leaders to inform about the study and ask for permission to recruit their fellow villagers to be participants in interview and focus group discussion. Variation in personal background, for example age, education, religion and distance from Merapi was important as a consideration to choose participants. Moreover, personal circumstances at the time of eruption also become interesting topic in considering a participant, for example whether they evacuate or stay in the village and pregnant during the eruption. After received some names, the researcher visited targeted participants to explain objective and purpose of study, to ask them whether they would like to participate, to explain informed consent form and to make appointment for interview.

Interviews were conducted mainly in participant's residences and conducted mainly by researcher, but supported by research assistant who was a local resident. The research assistant was a local resident that working as kindergarten teacher in the village. She also actively participates in psychosocial program that implemented in the village by Plan International as facilitator. Most of participants speak Bahasa Indonesia, even though they used Javanese language as their main language. Sometimes it was difficult for people to express their ideas or opinions if they have to use other language that they were not used in daily conversation. To solve that difficulty, researcher gave them opportunity to answer questions in their traditional

Javanese language while research assistant acts as the interpreter. These interaction enabled participants to share their experience and reflection about the eruption they experienced in 2010. Researcher translated the transcript to English when making citation in the thesis.

The FGD's were mainly facilitated by researcher and supported by research assistant.

5.9. Data Handling

All tape-recorded data were uploaded into computer in MP3 files and labeled with reference numbers to different interviewees in purpose of protected their anonymity. Only researcher has direct access to these data and use of these data by any party as courtesy of researcher. Hand written information was kept confidential in specific note file and locked in cupboard when not in used. Uploaded interview files were carefully listened and transcribed verbatim by researcher and researcher assistant. There was special training for research assistant before starting to transcribe, since she did not have any experience to do this. All the verbatim re-checked by the researcher to make sure the quality of verbatim compatible with the tape-recorded data.

5.10. Reliability and Validity

Variation of informants' background in this study in terms of age, education background, occupation, and religion, were the triangulation of data source. This allowed the possibility to explore variation of opinions and experiences, which consequently forms reliability of data collection. Another problem with reliability is related to consistency of informants' answer in the interview. There might be some possibility that the answer was not the real condition that they experience. At the same time all participants were likely to have a rather clear understanding of the topic of the study, and probably also why a study about their experiences could be useful. A challenge, however, could be language both in terms of how concrete they express themselves and how used they eventually were in expressing emotions. Moreover, there were

some possibilities that the answer tend to fulfill researcher expectation. These problems might be due to the researcher's background and position that influence the informants. In reflexivity chapter this issue will be describe more in detail. Focus group discussion as other method of data collection also functions as a form of triangulation in terms of method.

Regarding sampling techniques that used in this research, the nature and extend of data will ascertain which conclusions can be drawn about what, that relate to concept of internal validity (Malterud, 2001). Consequently it is difficult to make generalization of the result of this research. In qualitative research, the concept of external validity, is sometimes defined as transferability, which mean how far research produce information that can be shared and applied beyond the study setting (Malterud, 1993). To solve the generalization challenge, Malterud (1993) suggested using purposeful or theoretical sampling that are commonly done to obtain qualitative material.

Moreover, by presenting contextual background material, such as demographic and study setting, readers will get help to understand the setting where the data basis on the findings were obtained. In addition to fulfill the validity of the research, researcher involved research assistant and participants in analyzing data in order to provide compatible interpretation of the data that might strengthen validity of this study.

5.11. Reflexivity

In qualitative research the concept of reflexivity describes the researcher reflection about her background and position that will influence the research itself. Preconception that researcher have developed along her life will affect choice of research topics, methods of research, analyzing the data and communicate the result. Comparing to quantitative research that use research instrument, for example questionnaire, as data collection material, in qualitative research, the researcher itself is the research instrument. Therefore, quality of data gathered in the research will depend on the skill of researcher and it will also affect the process and result of the research.

In qualitative research, reflexivity will provide researcher reflection about the objectivity of research. This means that researcher recognize the influence of knowledge and position in the research process. During the research process, the effect of researcher should be evaluated and shared.

Being a researcher in specific situation such as area-affected disaster as I did was a challenging experience. In that position I became aware of the changing role within me. I am a student from Indonesia who was studying abroad, come to conducted research in the disaster area in one remote village, in one of provinces in Indonesia. I have a background as a lecturer, a psychologist, lives and works in Jakarta, capital city of Indonesia. My arrival as a student who was doing a research provides two different power positions; as stranger who comes with certain interests in conducting a research which make me have a lower power than the local community. On the other hand, my background can also give me a higher power than the local community. As stranger who comes to a new area, I became aware of the inherited stereotype of myself, viewed from the perspective of local communities. Their stereotype of me possibly about my social economic status, that as people that came from big city I have higher social and economic status which can affect my behavior towards them. They might feel that I degrade them, consider them as lower than me. I realize I also have a stereotype of the local community; for example, I assume they will not open enough in answering my question or not telling the truth. This could affect my interaction with them and also influenced my research activity there.

To blend and make rapport with my participants, I lived in the village for 3 months and stayed with one family. It was not easy for me to do this, since they have different life situation compare to mine. I tried to adapt to their life condition and learn their culture. I was involved in their daily activities, for example in village's gathering; help them in the farm or visit the neighbor to have small conversation. However, my stay with them makes me known by the community and it facilitated my research.

Even though most of villagers can speak Bahasa Indonesia, but in daily life they communicate in traditional Javanese language. I myself can only speak Bahasa Indonesia. To solve this problem, I supported by my research assistant that help me in conducting my research, including in recruiting participants, translating participants answer, and also in analyzing the result. However I realized that the language barrier potentially could affect my research result, regarding different understanding of question and in expressing the answers.

I am aware of all the factors above, is a reflection for me to understand myself better. As a human being, gender and age, scientific background and personality are directly or indirectly affect the behavior of myself personally. However, as a researcher, I tried to have self-awareness, assessing how to position myself in the new environment or culture. To be open to new experiences, without judging and keep the respect for others are things I have to do while staying in the field. I wanted to make the process that occur in the field of research as a means not only to obtain research data, but also my as a form of my contribution to society and the process of maturing and developing myself personally.

5.12. Data Analysis

A qualitative data software Nvivo was permitted to download and installed. Data analysis process in this study generally following process that explained by Miller and Crabtree, which tried to use editing (data based) analyzing style, which researcher identifies units in the text, forming the basis for data-developed categories, which are used to reorganize the text so that its meaning can be clearly seen (Malterud, 2001). This process perhaps the most commonly used of all qualitative analytic approaches, template strategies are distinguished by a process in which data are coded, and themes are elicited from the meaning and consistencies embedded in these codes. This process is initiated when the empirical material contained in the interviews and the project investigators at a very general level independently code field notes, in

order to condense the data into analyzable units. Segments of interviews, ranging from a phrase to several paragraphs, are assigned codes based on a priori (i.e., based on questions in the interview guide) or emergent (i.e., based on the data themselves) themes. In many instances, the same text segment is assigned more than one code (Norris, 2006).

Transcribed data was read several times before coded and categorized using this software. All participants' data were labeled with reference number in order protected their anonymity. All transcribed interviews were read carefully in statements, comprehended and derived codes. Categories were produced based on the codes. Thematic content analysis followed the process to generate themes for presentation of findings. These themes also represent answers of research questions of the study.

6. Findings and Analysis

In this section we will present our findings in this research, which try to answer research questions. This research has three main research questions. First, how is the experience of people in Krinjing Village in Indonesia after being affected by Merapi eruption in 2010 (section 6.1 – 6.6). Second, how people in Krinjing village in Indonesia experienced their recovery and growth after this disaster (section 6.7). And third, what factors that support and restrain process of recovery and growth in individual and community level (section 6.8 – 6.10).

6.1. Understanding of Merapi Eruption

All of the informants mentioned that the last disaster that they experienced was in October of 2010, when the Merapi volcano erupted. According to them an event can be define as disaster because it usually occurs unexpectedly, irregular situation and lead to losses both material and non-material, including fatalities. The volcanic eruption in 2010 was not the first time experienced by the informants. These are several opinion about the the frequency of eruption experience and severity of eruption throughout years.

...94, 97, 98...but that was in small scale..we didn't have to evacuate, just one day and finished. Then 2001, but still not as hard as the last time.(informant 16, M, 32)

Informant explanation above is a young adult that have experience eruption since 1994, and feel that 2010 eruption was the most severe eruption he have ever experienced. Below is an opinion from one of the oldest informants, and already had experience eruptions since 1957.

since 1957, we had to evacuate to Sawangan. But didn't as terrible as this. As I remember I have experience since '57, then '63, '68, '72, '76, yeah every 4 years, 5 years or 6 years, that for sure. But the most terrible was last year. (informant 11, M, 61)

Having been experiencing eruption since 1957, informant 11 realized the 2010 was the hardest eruption, and the eruption cycle are around 4, 5 or 6 years. From 1957, this man never leave his village to evacuation camp in each eruption. Both informants above shows that even though they had experienced eruption more than twice during their lives in Krinjing, the last eruption in 2010 was perceived as the most severe that they ever experienced. From their statements we can see how villagers never imagine that the eruption was as severe as 2010. They rely on their previous experiences, thus they feel shocked and perceive this eruption as unexpected event. Different experience of eruption also mentioned by participant below, especially in the timing of different stage of eruption. Below, the informant shows us that based on his experience with Merapi eruption, it usually has long periode of time for different stage of eruption.

There was a month until two months for aware phase, and then it erupted. But yesterday, the aware phase was only two days, and then the mountain erupted. It was very quick. So that's why people kind of shocked, (informant 9, M, 33)

The informant's statement above shows that previous experience with eruption give him preparedness periode since the sign of eruption took longer time before eruption. However, this situation was very different in 2010, when the aware periode for eruption only took for some days. He never had such experience before and it shows how unprepared people at that time.

Most of informants stated that their previous experience with Merapi eruption never as devastating and overwhelming as 2010 eruption, in terms of the effect and their sense of security. This definition is almost similar to definition by Jacobs and Reyes (2006) that define disaster as events that typically sudden, unexpected, overwhelming in intensity, devastating in destructive power, and threatening to survival.

Almost all informants in the study were born and grew up in the village of Krinjing, thus from the beginning they were aware of the consequences living

near mount Merapi, the most active volcano in Indonesia. They are accustomed with the four years cycle of Merapi eruption, hence the emergence of eruption is something that can be predicted. Despite that, they still feel the eruption as unexpected event in terms of the severity that affects their lives. The eruption in 2010 perceived as the most severe eruption in the last 100 years, as the villagers have to evacuate to other areas that are safe from the effects of eruption.

In 2010 eruption, there were no fatalities and most of physical losses were in houses and farmlands. Thus there were slightly possible influence of different understanding about disaster. In the beginning they said the Merapi eruption was a disaster; because it results in loss of material, but in the end they reveal that the eruption did not categorize as disaster. They feel benefited by the end result of eruption which fertilized their farm soil. This is important for the harvest of their farm which in turns will increase their income. In addition, people could go back to their house after the eruption, even though they had to rebuild and reconstruct their damaged property. Below, a statement from an informant that mentioned about the benefit that he got from the eruption.

I didn't feel afraid or disadvantaged. Because Merapi eruption was like returning the soil fertility, so after eruption it was like giving fertilizer to the soil so that people can work on it again. But at first it was difficult because mixtures of sand, soil and ashes, but I feel happy because it will be more fertile. (Informant 12, M, 33)

This understanding might be different if there were high number of people reported killed as victim of the event, for example compared to Ocean Pasific Tsunami in 2004. At that time more than 200.000 people are killed along with severe physical losses.

As we see from this chapter that informants understand Merapi eruption in 2010 as disaster in terms of different experience in severity. Shorter time in eruption process made them unprepare to response, and for the first time all of the villagers were asked to evacuate to safety area. However, villagers still

perceive the eruption in positive manner, regarding benefit that they will gain after the eruption. It will give them advantage in their farmland and consequently increase their family income. This explanation also imply that for people of the village even though they lose some material, but they feel safe enough and gain benefit from the eruption. This idea of defining the situation in more positive manner made them have positive way to cope and to handle difficulties after eruption.

6.2. Emotional response to disaster situation

Emotional responses that reported by most informants were confusion and panic, especially relating to the evacuation and living in refugee camps. Some participants explain their emotional response when Merapi erupted.

The officers already came from the observation station, and most of villagers were in panic. But there was earthquake during the eruption. The earthquake was quite big, so we can say there was trauma, even though not that severe. Maybe more to uncomfortable feeling... (informant 10, F, 55)

I was still in panic at 6 o'clock, all the villagers were ready in the car, but I still didn't get any explanation where we should evacuate whether to Kemuning or Tanjung. In the beginning they said we have to go to Tanjung (informant 12, M, 33)

I felt panicked, because I was pregnant, my husband was not at home, and then I should took care of my children and my mother. I felt very down, small, maybe because it was disaster situation and my husband was not with me. (Informant 1, F, 31)

Emotional responses that reported by the informants in this research appear as common responses that showed by people who affected by disaster, even though some of them have already some experiences of disaster. The emotional response is normal experienced by individuals who affected by disaster (Weiss and Berger, 2010). It also emerged traumatic responses, which slowly began to decrease, particularly after sometimes of the event. Feeling of panic and confused experienced by most of informants caused by loose of control through their situation related to unexpected situation of disaster.

Some anxiety and panic also related with property that people have that might be loss in disaster situation, including their family. Some informants below explain their situation in eruption of Merapi and the importance of being together with family.

I have family in Njati, and I brought my mother to that place. Maybe because she felt comfortable, my mother can urinate since the afternoon. All of my family, my sister and my children were already there too. We all were gathered together. I felt relieved. (informant 10, F, 55)

I took my children, my parents, but didn't bring anything. The important things were I was with my children and my parents. I feel blessed because we were safe and didn't think about anything else. Well, actually we also didn't have anything else at home (Informant 1, F, 31)

Family shouldn't be separated with each other...like my wife and me; we were separated for some days, also with the kids. It was so uncomfortable (informant 5, M, 39)

For most informants, staying together with family in a catastrophic event is important, and became main consideration when they were evacuated to other places. Loss of property and possessions can be overcome by staying with family. Togetherness with family however give some emotional comfort for people especially in difficult situation.

Emotional response that explained above can be categorized as short term response regarding the disaster event. Long term emotional response might be related to adaptation to daily living changes, for example difficulty in finding jobs, difficulty in working in farmland, and damages of village facilities. Below three informants explain about these difficulties.

Now is difficult to look for a job. Before eruption, my son worked in sand mining. But after eruption, it is impossible to work there again, and also in the farm, because everyone still struggling with the ashes in the soil. (Informant 1, F, 31)

Economic condition and live condition are two things that affected by 2010 eruption. Water supply was disturbed because of eruption. Can you imagine how our life without water is? (informant 16, M, 32)

Water reservoir was damaged, and it influence water supply to our farm and for daily using. (Informant 7, M, 38)

Damage to agricultural land has clearly had an effect on people's lives after the eruption, since agriculture is the main source of rural livelihoods in Krinjing. Although they realize that the difficulties of soil fertilization process are in fact only temporary, rural agricultural in Krinjing still not return to the previous condition after almost a year since the eruption. Some post-disaster aid program seeks to provide alternative activities that can deliver improved economic conditions, for example growing live stocks as well as the processing of organic fertilizer. The new alternative economic activities are not convenient and have not given immediate results. It depends on natural conditions and human resource skills to run it. Natural conditions are still in post-disaster recovery and knowledge of local communities who are not familiar with these activities affect the results obtained.

We can see that villagers of Krinjing main concerns were related to their living condition, especially their economic situation to support their live. Eruption of Merapi particularly affected their economic situation, as it disrupted their farmland and other economic activity. Adjusting to some changes and new situation however will give some uncomfortable feeling. This explained by theory that is mentioned by Reyes and Jacobs (2006) about the impact of disaster. According to them, daily life consists mainly of predictable routines, but it is not without its challenges and upsets. Successful living becomes a matter of matching behaviors to immediate conditions in ways that will achieve expectations. This works well when environments are stable and people have time to learn adaptive lessons in relative safety. Community can then develop collective wisdom over time and pass this wisdom along to successive generations. Such security and continuity, however, is disturbed and sometimes ruptured by disasters, which have the power to violate personal and collective expectations to a degree that terrifies people and

leads them to reorganize their lives in countless way. A consistent goal across these events is to return as nearly as possible to what was previously normal, especially in regard to the establishment of physical safety and access to sufficient resources to survival. Once conditions become relatively stable, the rebuilding of lives and communities can proceed and accelerate. Losses will be surveyed and remaining resources salvaged. Prior values, expectations, designs, skills and institutions are often reconsidered and reconstituted in more adaptive forms. This describes the essential nature of coping. Behaviors that meet regularly with success tend to be retained and refined and to undergo major modifications only when uncommon or unexpected obstacles arise. In other words, the wheel is not as often reinvented as it is modified to suit a changing terrain. Thus, coping whether individually or collectively, requires responses that are well matched to the challenges or obstacles encountered and results in changes favoring the success and survival of those concerned (Reyes and Jacobs, 2006, pp. 4-5)

Based on the explanation in this chapter, we can summarize the emotional responses that reported by informants in this research are fear, panic and trauma. These responses related to situation of eruption and the changes of situation and daily living after eruption. These responses were an ordinary response that reported by people affected by disaster when they experience extra ordinary situation.

6.3. Living in Evacuation Camp

Most of the informants stated that they evacuate to refugee camps that have been designated by the village and district government. Nevertheless, some informants evacuate to their relatives who lives in a secure area from Merapi eruption. Feeling comfortable with the family is one of the main reasons from the informants who evacuate to their relatives' place. Herewith are some description about situation in the evacuation camp.

*I feel happy because I have some friends. We only sleep, eat, that's all. But I feel there's no freedom, it was different then when we were at home. At home I feel free to do everything, but not in the camp
(Informant 1, F, 31)*

In the beginning there were no activities in the camp. It looked that everyone didn't prepare to accept us, as refugees.. The district government also seemed confused to take care of us. It was unexpected. But we all should realize, to respect other people, have solidarity and good relationship. Maybe we didn't know our neighbor before, but in the camp we become to know each other. We become very close with one another. (informant 7, M, 38)

I feel bored. We didn't have any activity at that time. We only eat and sleep, we keep thinking about our house. We have livestock, that we can't feed them, and also the condition of our house. It was very stressful, under pressure. We were there for almost 40 days. We didn't have any food problem, everything was available. But still, we feel terrible because left our house in those conditions. (informant 9, M, 33)

Based on the explanations above, most of informants describe the condition in evacuation camp were not as comfortable like in their own home. They feel alienated, bored and have no freedom, eventhough their basic needs in evacuation camp are fulfilled by the government.

In 2010 eruption, Krinjing villagers live in camp for 30 – 42 days. While living in camps, some informants stated that they keep coming back to the village to feed their livestock. They started to come to their village since the second day of eruption and continued to do so until the last day of evacuation time. This is one of the activities they do during the evacuation. Besides that other activity was to help volunteers preparing food for the refugees, or engage in activities that are provided by agencies which worked in camps (for example, skills training). Below, one informant explain her activity during her days in evacuation camp.

Well, most of the time we only sit around. Sometimes I help the volunteers preparing lunch and dinner. And then we have some training, for example making accessories and making cake (informant 6, F, 18)

Moreover, some informants continued engaging their work activity while they were still living in evacuation camp.

Every morning I still went to school, because students have to go to school. After school I went home, and cleaned it. It was very dirty, full of ashes. (informant 10, F, 55)

Sometimes I feel anxious, but then happy again. But I still have spirit. Since I came back from evacuation camp, I took care of my villagers, and my farmland. And I saw most of other villagers also have those spirit to work on the farm and harvest some plant. (informant 12, M, 33)

I lived for one month in the evacuation camp. I stayed 1 day and 1 night at camp and the other day I went to observation station as usual. So I keep working even though living in the camp. (informant 14, M, 40)

From explanation above seems most of the informants tried to do their daily activity as usual even though they live in evacuation camp. Return to daily activities like the day before the disaster is a form of recovery for the survivors (Reyes and Gerard, 2006).

Most of the other informants felt that living in refugee camps made them uncomfortable because the absence of regular activities. Most informants felt that in general Krinjing villagers are active people, not only actively working on the farm, but also active in community activities. Thus when they lived in barracks, they can not carry out their usual social activities in the community.

Different customs and way of life among villagers in the evacuation camp also describe as one situation that they have to adapt. Below some explanations from informants about their feeling living with other people in evacuation camp.

In the camp we can introspect ourselves. There was no difference between people we are the same. So it is very insightful to live in the camp. It was very valuable for villagers; we learn something from this condition. (informant 14, M, 40)

We respect each other; we live together for 38 to 41 days. We really live in minimal condition for everyone, eating the same food and sleeping in the same room, whether he was rich or poor. There was solidarity that grow in the camp (informant 7, M, 38)

From explanation above, most of informant feel that living in evacuation camp need some adjustment, not only about the living condition but also to understand other people that they lived together with. Eventhough they have diiferent social classes, it seems that they were trying to diminish it and feel as one as survivor of the eruption. In the process, people became more respectful towards each other and help one another as form of solidarity. Different social classes exhibit different lifestyles that in some sense reflect their position in society due to differing levels of social, economic, and cultural capital (Bourdieu, 1984). Thus there are slighly possibility that social class differences also raised the uncomfortable feeling for some people. Adjustments to life in the camps as well as catastrophie events that are experienced, made living in the camps are becoming increasingly difficult.

This chapter explain about the living condition of Krinjing villagers in evacuation camp. Most of people who were evacuated stayed in evacuation camp for more than 30 days. However, they kept returning home as the eruption continued to feed their livestock. Villagers should make any adjustment when living in evacuation camp, regarding life situation, activity and different background of people that they shared life with. In addition, they felt that shared feeling as survivor make them respect, concern and help each other.

6.4. Impacts of Disaster

Informants in the study stated that they feel both the positive and negative impacts after Merapi eruption. The impacts were felt in many areas of life, including the social and emotional consequences, thinking process, economy, facilities in the village, and future planning.

Below, informants explain their experience dealing with trauma, poor economic condition and destruction of village facilities as the negative impact of eruption.

But after the eruption yesterday, we were finished by the ashes. We were going to harvest our farm, but it failed. The price was quite high, well...it's all because of Merapi... (informant 16, M, 32)

I was more concern about the facilities. What if the road was damaged and the government didn't care about that? That road was the primary access to our village that connects us with other area. It is very important to sell our harvest product. Well it's important for our economic life. (informant 12, M, 33)

More or less, it was around 45 days... we kept thinking about the trauma, what we can do when we come back to our home, what we are going to eat, because we can't work in the farm. There's nothing we can expect from the farm. (informant 5, M, 39)

Negative impacts, particularly associated with emotions and trauma are almost experienced by each individual in every disaster. These negative consequences are the focus of research on post-disaster mental health, and tend to disregard the positive consequences (Ursano, 2007, Joseph and Linley, 2008, Kirmayer, 2010). Negative impacts in terms of emotion and trauma are generally associated with individual responses to catastrophic events, which are generally perceived at the time of emergency. Emotional response is still a reasonable response in the face of extraordinary circumstances (Reyes and Jacobs, 2006). Nevertheless, these negative consequences will continue to the next stage if not handled professionally.

While negative impacts generally associated with social and emotional aspects, the positive consequences perceived by the informants also revolve around the behavior, activity or situation that leads to positive social and emotional conditions. Almost all informants admit that there were improvements in the religious activity. Frequency of religious activities increase and they feel closer to God. Religious activities and emotional closeness provide emotional comfort and reduce anxiety and fear.

This religiosity is the impact of explanatory models of disasters as a reprimand or a warning of God's will and bad behavior by human as form of infringement of religion.

I observe that in this village that people who usually never go to mosque or pray, now they become very religious. They always go to the mosque to pray together with us. (informant 11, M, 61)

Now, villagers looked more close to their God. Some people who still not pray regularly (for Moslem) and not going to church (for Catholic), they have changed now. So sometimes I give advice to villagers to be grateful, we have so many changes. We should pray to God, to give us safety, [pray] for his blessings (informant 14, M, 40)

From description above, we also can see that changes in religiosity as a way of coping with situation after disaster. Religious coping is one of style of coping in order to lower emotional distress (Caltabiano, Sarafino, & Byrne, 2008). This finding also have same result with PTG research in Japan that found there is potentially unique characteristic of Japanese that increased self-awareness of one's weaknesses or limitations (Weiss & Berger, 2010). In this research people realized their sin as their weakness and try to compensate it by changing their religiosity and behavior.

In addition to the positive impact of the social aspects of emotion, the Merapi eruption also give benefits for Krinjing village in terms of development of the village. This condition explained by three informants below.

The support and aid programs from outside was very different compare to previous eruption. The support program came from local and international NGOs. People have more concern to us; if we don't have them I am not sure that our government can handle the situation, they failed to take care thousand of refugees. This was very different. Those were the most incredible things that happened to us. It changed everything. (informant 16, M, 32)

After eruption, I realize there were some programs implemented in our village. Such programs motivate us to continue our lives. They said Merapi is my nature. Merapi is my bestfriend. (informant 13, F, 20)

Based on my experience, the programs come to our village now. People become more caring and have more concern about us, especially from the richer. If we only expect the government, I think it was impossible... (informant 14, M, 40)

Aid programs from the government and institutions or individuals shows the amount of attention to the events experienced by villagers. The programs were still kept coming even after a year of eruption. Such aid and assistance in the early days were in form of material assistance to meet basic needs such as food and clothing. There were also physical aid to improve facilities in Krinjing, such as roads, bridges, water tanks, water channels for agricultural land, people houses and health facilities in the village. Assistance in the form of educational programs, community livelihood and psychosocial recovery for children is another form of assistance given to the village of Krinjing. Aid and assistance given to the village of Krinjing improve facilities and welfare.

Throughout the years, Krinjing is categorized as one of underdeveloped village in Magelang district. This condition have changed since 2010 eruption, as Krinjing is more noticed by the government to improve the construction of public facilities and the welfare of villagers.

Other positive consequences expressed by most informants is the community working spirit and in continuing their lives after the disaster.

Sometimes I feel nervous but sometimes also happy and full of spirit. When we came from evacuation camp, we still work on our farm, and it also happened to other fellow villagers. So we can still manage to harvest our farm... (informant 12, M, 33)

I can see there is spirit from the eye of the villagers, eventhough there were some difficulties working on the farm, for example the problems of water supply to the farm. But they kept in high spirit, because all of them were people with full of spirit since many years ago. Now they work together to build water reservoir. (informant 4, F, 31)

Based on explanation above, this condition might be related to consciousness to bounce back from adverse conditions and does not remain trapped in a difficult situation. In addition, one of the principles in Javanese society is to

be independent and not depending on other people except their family, especially in difficult times. Javanese community also believe that life is like a turning wheel, sometimes people can be placed changeable in bottom or at the top of the wheel. This view makes Javanese community easier to accept and adjust to any circumstances in their lives, including being happy in a difficult situation.

Passion for work is particularly important in reworking damaged agricultural land affected by eruption ashes. Agriculture was the main livelihood in the village of Krinjing, therefore re-processing agricultural land is one of the things should be done by Krinjing villagers.

Furthermore, Merapi eruption in 2010, according to most informants gave positive consequences in social life of Krinjing. Value of unity and mutual assistance are the values that are already in the community, grew stronger and help the community in addressing post-disaster situation. Krinjing villagers worked together with each other in repairing damaged facilities including houses and agricultural land.

One of topic that was discussed in focus group with female informants is how living in evacuation camp makes them become more concerned about other people. In this group, to fulfill their spare time during the evacuation they worked in the kitchen along with other volunteers from various humanitarian organizations at the camp. Their sense of caring for others grew because they felt the difficulty of life in exile and wanted to contribute to others according to their ability.

Sense of community and care for others by the majority of informants are also felt stronger. Sense of kinship at the time of eruption made villagers understand how to deal with this difficult situation together. It was increasingly felt during the time in evacuation camps where they experience life together and being treated as refugees. No difference in treatment between fellow refugees make a person more respectful for others because they felt there

were no difference due to social and economic status.

Future planning that had probably never been thought by villagers according to some informants became their concern of its importance after 2010 Merapi eruption. This was related to the anticipation of possible increasing severity in future eruption.

Before, we never discuss about our plan in the future. But now, my family and I start to talk about this. We usually discuss about our plan in the next 6 months or 1 year ahead. We talk more about what we need and have to prepare for the future. (informant 12, M, 33)

In my family, we become stricter in spending money for daily living. It will be better if we have savings for the future, especially for 4 years cycle of eruption. Maybe fellow villagers and I should have prepared some savings, not only in form of money, but also livestock, we can grow them, and so it also likes a saving. (informant 7, M, 38)

Preparation about the future and levels of readiness or anticipation of an event, especially in crisis or disaster situation that might be happened unexpectedly, is very important as consideration factor in responding and influence how people are being affected by disaster (Reyes and Jacobs, 2006, Weiss and Berger, 2010).

Regardless of what happens in rural communities of Krinjing, either positive or negative consequences, all informants stated that they felt grateful for what they experienced. The informants felt grateful that they still survived after 2010 Merapi eruption, although many of them suffer material losses. They felt grateful for the events of the eruption because it provides an opportunity to improve them to become a better person, closer to God and be religious person. The informants are also grateful for the close relationship with the family and the villagers, in helping and caring for each other during a difficult situation.

Alhamdulillah, when we arrived we were very tired. Under pressure. But the villagers already prepared to welcome us, they give us dinner and some drinks. We were very grateful for their help... (informant 10, F, 55)

There are some changes in the community. After eruption people are more helpful, and take care each other. We help each other, especially in the farm. Working together. (informant 12, M, 33)

We don't have anything,, so if my children, parents and friends still together with us, then we feel very happy for that. I don't want to think about anything else. Everything will be alright (Informant 1, F, 31)

Gratitude is a form of positive consequences set out in the research on the impact of disasters in several different cultures (Weis and Berger, 2010). Gratitude is related to religiosity and spirituality emerging as one aspect of posttraumatic growth. Cultural background and rural communities that tend to the religious related to religion and traditional beliefs that are believed, makes one feel grateful for their life.

In this chapter we can see that villagers of Krinjing mentioned that they experience both positive and negative impact of disaster. The negative impact was feeling of trauma, poor economic condition and destruction of village facilities. Meanwhile, improvement in religiosity, fast development program in the village, sense of togetherness, working spirit, future planning, sense of gratitude are positive impact of eruption that are reported by the informants.

6.5. Relocation to other area

All the informants stated that the government's idea of relocating Krinjing villagers to another area is not a new idea. Since several decades ago, this idea has been put forward, but met with resistance from villagers. The reasons are this village is the land of their birth, and they already have land and houses handed down from ancestors.

They are used to live in areas prone to volcanic eruptions and already have ways to deal with it.

I don't want to move. This is my homeland I was born in here. Then if my homeland and other villagers are being relocated, and then who have this land? (informant 10, F, 55)

But from my opinion, it is more comfortable to stay at home even though I live near Merapi, which is very active. It has been like that since so many years before (Informant 1, F, 31)

Me and other fellow villagers realize that we live in area that is vulnerable to disaster. We live in ring 3 of vulnerable disaster area, the most dangerous part. And then based on information from national agency of disaster management those area should not be inhabited by people. But, we have our own reason that Merapi already with us since our ancestors and we already experience his eruption hundred times. (informant 7, M, 38)

Relationship between villagers and the environment of Mount Merapi has been developed since the very beginning of development of Krinjing as a village. This relationship is common in agriculture village that emphasize the important of relatedness between people who lives in the field and their farmland and surrounding environment. This strong relationship might explain the reason people who were born and lives in Krinjing very resistant about relocation to other area even though they live in an area vulnerable to disaster.

In addition, another reason is the lack of guarantee of a better life in a new place. Fertility of agricultural land is one of the considerations for some informants, considering agriculture as the main livelihood of this village. Farmland soil fertility, which was influenced by post-eruption of Merapi volcano activity, may not necessarily found in a new area.

Hmmm...relocation...well most of us didn't agree with this idea and refused to be relocated by government. Because it will not give us any guarantee that our life will be the same as here. But we want to thank the government about this, that they already give us opportunity and have some concern about us. (informant 13, F, 20)

My concern about relocation is whether government can built us a house like what we had in Krinjing. Second, whether the soil in the new place will be as fertile as here? (informant 5, M, 39)

For me, if government want to relocate, than it should be done to all places that categorize as vulnerable to disaster area, Because this idea is to save people from disaster. But, if it's only for certain areas then we will not agree with this policy because everything seem still not clear. The future area still not settled and the information changes all the time. (informant 16, M, 32)

Based on explanation above we can assume that people of Krinjing seem only see one opportunity that they are being provided by their own land in the village. For their whole life, villagers have inherited land from their parents and decent generations. Farming is the only methods of livelihood that they are familiar with, and it is difficult to change into other means, including trying to live in the other area. They are terrified if they have to relocate to other area, which means they have to make some adjustment to new place, new land and new community. These changes were not something simple to do for people who never try other opportunity before.

Some informants mentioned that the planned relocation would separate Krinjing villagers, who had been living together for several years, even since they were born. These informants discuss about this below.

It is impossible that government will fulfill all the villagers' wish. We might not locate in one area; we will be separated into different area. And it's difficult for us.... (informant 12, M, 33)

We will loose our family...that's the hardest part. We have family, our neighbour. But if we have to relocate? We will be separated from each other, and it's difficult. I can't imagine it. Then we also have to start everything from the beginning, new life, new work, new people. And here we leave our ancestor in Krinjing... (informant 9, M, 33)

From discussion above we might assume that among villagers there are close relationship that have been created since many years before. This relationship have turned neighbors to be as close as family. This discussion also shows that sense of togetherness with fellow villagers expressed as being an important consideration when they will be relocated to another area.

Despite some rejection about relocation, people who live near Merapi have tried to follow government policy that relocate them other area. This previous experience was described by Masri Singarimbun, in his article on Prima Magazine, Tanah Seberang Tak Menarik: Studi Kasus Daerah Krasak, 1980. Merapi eruption in 1961 destroyed 3 villages and killed 5 people. Meanwhile in the same time 29 people from the neighboring village that were relocated to

Lampung killed because of malaria. From this event, people of Krasak learn that living near Merapi is not dangerous as living in other area. They learn that disaster can happen anywhere in this world.

From this chapter we get the explanation that the idea of relocation as a way to solve the problem for people living in disaster vulnerable area such as Krinjing village, is complex and difficult to be done. This was related to the strong connection between the historical, population and environment of Mount Merapi as a place to live.

6.6. Perception of their own situation now

One year after Merapi eruption, most of informants felt their lives are disrupted especially in the areas of the economy. Agriculture is the main livelihood Krinjing village community, even though they have another job as teachers, village officials, or traders. Agricultural land that affected by Merapi eruption has not fully recover and as a result the crops do not deliver maximum results. Below are some of informants statements about their living condition after eruption, especially about their economic situation.

Previously we feel save, there was no disruption especially in economic situation. But after eruption, people were like finished by the ashes. We just started to harvest our farms, and the price was high. We will get high income. But then it was finished . (informant 16, M, 32)

After we went back home from evacuation camp, we didn't have any income. Most of people in Krinjing village are farmer. We still can't work on our farm regarding the ashes. But after 6 months, Alhamdulillah, we can work again. (informant 13, F, 20)

Informants explanation above conclude that they perceive life after eruption as more difficult compare to previous situation before the eruption. This difficulty usually related to their daily living condition; for example economic, livelihood and social activities. Changes in their daily living condition after the eruption make them have to make some adaptation to integrate with the situation. These adaptation sometimes difficult to do, but they have to do it as a form of recovery process (Reyes and Jacobs, 2006).

Despite any economic problems, some informants also reported still feel some trauma even though not as serious as in the early stage of eruption. Most of the informants are unafraid to live nearby mount Merapi and face the periodic eruption. They seem to feel more distressed about the possibility of relocation to another area, which actually are safer from eruption. Relocation is one of the solution proposed by government to minimize devastations from the possibility of increasing magnitude of Merapi eruption in the coming year that may threat the villagers safety.

These two informants explain their feeling of trauma after eruption.

It's still hard for me, especially if I heard loud sound then I remember everything when we were running away from our village, saving our lives. (informant 9, M, 33)

I didn't feel panic when the eruption was happening. But I felt panicked when government asked us to relocate to other area. It was not the first time...every time Merapi erupts, this issue always arise.(informant 11, M, 61)

The explanation above concludes that eventhough the eruption happened one year ago, some people still feel the trauma and distress related to their condition after eruption. This condition is found in most people who are being affected by disaster. However, the condition might be different in each person depending on various factors, for example, personality trait, social support, and experience with previous disaster (Reyes and Jacobs, 2006).

6.7. Finding meaning and explanation through defining the causes of disaster

There are various opinions about the cause Merapi eruption in this study. Most of the informants still perceive the cause of eruption based on traditional beliefs that developed in the community. The eruption is considered as a celebration event that usually done by the ruler of mount Merapi. Some informants believe the eruption, which occurs commonly, as though family members are visiting each other; as describe by two informants below.

Based on what people believe, the last eruption was because Merapi built a house or celebrating something. Maybe he built a palace. Because everything in village, for example, vegetable, rice, everything that usually eat by human, at that time we cannot eat anymore. We failed to harvest our farm. And for villagers, it was because it's taken out by the Merapi. (Informant 1, F, 31)

The traditional belief about Merapi is like beyond our rational thinking. Because, for people of Krinjing it is taboo to say that Merapi erupts without any particular reason. To softening the term we said that our grandparent just has hajatan (in Javanese: celebration or party). (informant 7, M, 38)

Based on explanation above, informants conclude that Merapi eruption as celebration event in life (in Indonesian: *Hajatan*). These events have cultural and spiritual meaning for Javenese people, as a ritual to show gratitude toward stages of life or any achievement in a person's life, for example birthday, marriage, blessing and fortune. Regarding Merapi, people believe the eruption has similar condition as human in terms of celebration in its life. The eruption perceived as an event of birthday or wedding celebration. Related to that event, people who live near Merapi feels the mountain needs some things necessary for the event, for example, fruit, vegetables and livestock. People perceive that as Merapi erupts, their farmland and livestock are being borrowed by it and will be returned in form of fertile soil in the future.

Another explanation about Merapi eruption expressed by most informants is due to natural phenomenon.

The eruption was because of changes in nature. And it will happen every four years. In 2010 was bigger than usual eruption and it all because the changes of nature. There was something inside Merapi that need to be taken out. (informant 16, M, 32)

Well, every 4 or 6 years, Merapi should erupt, because he is very active. Sometimes every year he has very small eruption... (informant 5, M, 39)

As we understand, Merapi is the most active volcano in the world. And people who lived near Merapi already understood that and get used to his eruption every 4-5 years, eventhough we didn't know how big the eruption will be. (informant 6, F, 18)

Sometimes I feel scared, scared that it will happen again. I didn't feel any surprises because we live in disaster vulnerable area. It's kind of lesson learned. At least you have to be familiar with Merapi, because like a proverb said if we don't know each other, we won't love each other (informant 7, M, 28)

Explanation from some of informants above shows their understanding of causes of eruption due to natural phenomenon is common to happen. They also realize the Merapi eruption cycle that usually around every 3-6 years. Understanding that a disaster is caused by natural phenomenon will make the disaster is more readily accepted, compared to other causes such as human-caused disasters (Ursano, et al, 2007). This was supported by the local's self-belief that puts the relationship with the environment as one form of relationships that should be nurtured properly. Thus the presence of human behavior that is inappropriate to nature will bring natural disaster for the person itself.

In addition, there is other explanation of disaster that relates to God, human behavior and nature. Below we can see some informant's explanation about the connection.

It was more than just reminder. The reminder was every 4 year. I can call it as warning. And villagers should realize it. That it means we can't dig the mountain anymore because it will ruin the street and the eruption will be more severe. (informant 11, M, 61)

Yes, it was like warning, that we should love our nature. The love like He give to us. But sometimes people didn't think like that, we tend to destroy our beautiful nature. Merapi is God's creature, so maybe that's why He wanted to warn human through Merapi eruption. (informant 12, M, 33)

It's all because corruption and riot due to government's failure in taking care of their citizens (Informant 2, M, 72)

Disaster can happen everywhere, everywhere there is a disaster...the important thing is to be aware and always ask God for our safety. (Informant 2, M, 72)

Descriptions mentioned by some of informants seems that natural disaster especially as a form of warning from God to human, to make them realized their behavior that might be inappropriate in relation to other human or to nature. As consequences, people might have some insights to change their behavior to be more acceptable and well mannered in the future.

Another explanation cited by the majority of informants is related to human morality, in other words the events experienced by a person is a consequence of his behavior. In this case human behavior is viewed from the perspective of conformity with the religion wisdom. Those whose behavior is not in accordance with the wisdom of religion would receive a reprimand or punishment from God, as a consequence of such behavior. This punishment could be in form of any difficult situation, including disaster. Description about this can be shown by statement from some of informants below.

I feel like I'm full of sins. So I realize that Allah remind me. I have to pray regularly, and do other things that make me close to Him. Actually it was not only for me, but also for most of villagers in Krinjing. (informant 10, F, 55)

For me it was like a warning for all of us who live in the hillside of Merapi (informant 11, M, 61)

Regarding meaning of eruption as moral and religious value of the people, human mistakes or sins perceived as the cause of disaster that happened to people who sinned. Thus as consequences, informants gain some insights to become more religious, by praising God and performing religion rituals. This becomes one coping mechanism that people usually choose to relieve emotional distress. It also reflects the importance of religion and moral values in Javanese community.

Explanations about the cause of Merapi eruption above, shows that informants' general knowledge was influenced by traditional beliefs and philosophy of life. Those beliefs emphasize relationship between human, nature and a greater force, in this case God, in the form of religion and morality. These themes are the model of explanation, which is understood by

the local community about all events that took place in accordance with reality. Understanding the causes of an event will determine the way a person responds or solve problems in his life. In this study the relationship between the understanding of causes of disaster and the social responses will be describe in the next section. This condition is consistent with the theory that put forward by posttraumatic concept that mentioned Eastern people tend to seek answer or meaning in the context of event. In contrast, Western people tend to focus the attention on personal qualities when searching for a way to understand the event (Weiss and Berger, 2010).

This chapter describes the explanation of causes of Merapi eruption understood by research informants. Merapi erupted as consequences of people destructive behavior towards the environment. Another explanation viewed the eruption as natural phenomenon, while other explained it in terms of would of God and power beyond human capacities. The last source of eruption casualties relate to human's guilt and sins that violate their faith on religion and God.

6.8. Traditional Belief and Philosophy about Merapi Eruption

According to the informants in this study, traditional beliefs about Merapi eruption are inherited and passed down from their parents to younger generations since the founding of Krinjing village. These beliefs were still believed by people of Krinjing, eventhough some of them questioning it now. Traditional beliefs about Merapi including connection between villagers and the mountain, natural signs of Merapi eruption and what should be done when Merapi erupts. These traditional beliefs has a role as guidance for rural communities to manage their life in Krinjing, an area in close proximity of Merapi summit.

Nevertheless there are some factors that influence people to trust traditional belief, including age, educational background and experiences regarding Merapi eruption. Most of the young informants aware of these beliefs, and in contrast only some of them who still believe it. They get this knowledge from

their parents and community leaders in the village. Additionally they have never experienced supernatural events that reinforce the truth of that beliefs. This is in contrast to older informants who has stronger faith because most of them have more experience with the eruption and the supernatural events. Their lower educational background appears to affects the faith in those beliefs, in terms of their knowledge about volcanic eruption. This informant below is a middle aged man that stated his opinion about the belief of mount Merapi. He is aware about these belief, especially about the cycle and severity of Merapi eruption, but he did not have faith on the mystical belief of Merapi.

[...] because of our grandparents in Merapi have some celebration, sometimes I believe sometimes doesn't. I believe it because there were some stories that spread in community about this, some people have dream about it, or receive wangsit (Javanese: some insight or revelation) But I never had those experience. That's why I didn't believe it. (informant 16, M, 32)

This informant is slightly older than previous informant and his statement show how older generation have faith on mystical belief of Merapi.

The traditional belief about Merapi is like beyond our rational thinking. Because, for people of Krinjing it is taboo to say that Merapi erupts without any particular reason. To soften the term we said that our grandparents just have hajatan (in Javanese: celebration or party). That is a form of friendship between people and the mountain. Before, I never believe about this, but I asked our elders, who know more about history of Merapi. Then I realized, I feel I didn't have any knowledge about this out of our rational thinking knowledge. (informant 7, M, 38)

His statement shows that eventhough this belief is beyond human logic, but sometimes it is important for villagers to have faith in these belief, to lessen the effect of what happened to them. Some terms such as eruption or disaster have negative meaning and it is forbidden to use in terms of Mount Merapi. Thus it needs to be altered into more positive and sophisticated language which shows how strong villagers connection with Mount Merapi.

Based on the experiences of previous eruption, there are signs of nature believed by Krinjing villagers. These signs appeared before Merapi erupted.

The signs are usually experienced by a person in a dream, the arrival of a mysterious figure and other forms of sign. These signs makes the Krinjing communities have better preparation and aware with the possibility eruption. These statements below come from informants that discuss about how their traditional belief about signs of eruption.

From our older people, we should be calm and stay quiet. It was prohibited to use kentongan (Javanese: small slit-drum). Don't use lamp, but make torch. So we should prepare torch. In previous years, when there were no electricity, no communication devices, I feel more comfortable, there was no fear. Then we should not use big microphone to make announcement or spread the news. It is more person to person communication. (informant 5, M, 39)

So if Merapi in the active phase, means he didn't want to be disturbed. Our grandparents said that if he active, we should be calm, people should be calm. Then we will be safe.

Based on their statements above, it is important to stay calm and steady while Merapi erupt. Consequently, in spreading the news they utilize people to people communication rather than electronic or any devices that may raise panic and fear. This belief is somehow very suitable in the crisis situation where people usually response in panic and confusion, and any news or behavior can be a trigger for them to become more anxious about the situation.

There were no natural signs as they usually appear before the 2010 eruption. Those absence made people feel unprepared, and considered the eruption in 2010 as extraordinary events. This assumption affected their response to the events, including when they were asked to evacuate to a safer place. In the previous eruptions Krinjing villagers never leave their village when an eruption happened.

This chapter describes traditional belief and philosophy about mount Merapi and the eruption. This traditional belief were related to position of mount Merapi and its relation to people who lives in the proximity, signs and symbol before eruption and other guidelines to live with mount Merapi. However,

there were different levels of trustworthiness on these beliefs between the younger and older informants regarding its mystical value. Level of education might be one of the factors that influence these differences.

6.9. Modern and Scientific Knowledge about Merapi Eruption

Living for many years in Krinjing thus make villagers repeatedly faced Merapi eruption. Based on this experience, villagers feel they should prepare themselves with any information related to eruption. This preparation show how modern and scientific knowledge influence people of Krinjing.

One activity that implemented modern knowledge of eruption were the preparation before eruption happened. Most of the informants stated that on 2010 eruption they have prepared themselves by doing shift duties in the village hall to observe the state of Merapi, forming a group to coordinate disaster relief and to evacuate people if necessary. Below are some explanation from the informants about their preparedness on Merapi eruption.

From normal to aware status, we always stand by in the observation station. After a month of aware status, then it changed to become alert status for one month. Nights and days we never sleep, because we have responsibility to observe Merapi's activity. (informant 14, M, 40)

We asked them to make a map that explained safe area. It was for preparation, at least they have guidelines. They are prepared if the eruption will happen again. (informant 7, M, 28)

When Merapi erupted, I was member of FPRB. I have schedule to stand by in village hall, and I was on duty when Merapi erupted. It's important to socialize knowledge about disaster to villagers, things that should and should not do when they experience disaster, it can minimize the risk. (informant 15, M, 26)

Experience with frequent Merapi eruption make Krinjing villagers realizes the importance of eruption preparedness to reduce disaster risk. Villagers were informed about disaster knowledge through disaster forum that established by the government. They also understand that they need to make coordination

among themselves and other people outside the village as well, for example the district government, police, Mount Merapi Observation Post and National Disaster Management Agency. Moreover, they also need to make coordination and collaboration with other villagers, especially people from village that are safe from eruption, as a future evacuation camp if they need to be evacuated. Herewith one informant explain his knowledge of disaster.

The Merapi eruption is still predictable. But tsunami and some other disasters that happened near the sea are difficult to predict. So that's why I feel calm if living near the mountain. Fortunately, we are also actively communicating with the mountain observation station. It is more accurate and more convenient to give us such information (informant 7, M, 38).

Above explanation shows that how having information make the informant more comfortable and convenient to live with Merapi. This also supported by the collaboration and communication with other people that might be important when eruption happens.

Although informants have experienced many eruption and technical preparations have been done, feeling of panic and lack of coordination is still perceived and felt by most informants. Below are some descriptions from informants that has a role as village leader about the lack of coordination.

As village officer we can't explain to villagers regarding this evacuation camp. District government only asked us to empty the village. We didn't know about the condition of evacuation camp. (informant 5, M, 39)

Honestly I feel stressed, because I have to find the solution by myself. When we arrived in evacuation camp, they looked unprepared; they were not ready to admit thousands of people who evacuated. So I think the district government also felt confused in handling the refugees. It was unexpected. (informant 7, M, 38)

Lack of coordination led to confusion made it difficult to take decisions that are needed is mainly felt by the informants who have responsibility as leaders in community. Lack of coordination between the village and district levels, especially in determining the evacuation, is one of the problems that they

experienced. This situation consequently influence the evacuation process as villager become scattered and separated from family or other community members.

Experiencing 2010 Merapi eruption made villagers realized that they have to make better preparation for further disaster situation, especially regarding the evacuation place and mental health readiness.

We need to socialize to villagers about how to prepare themselves if Merapi erupt again in the future, including the phases, and then asked them to follow any direction from village office to evacuate. (informant 16, M, 32)

To give villagers assurance that our government has concerns about their safety, so if Merapi erupt please follow the instruction. After everything is ok, then they can go home.(informant 11, M, 61)

We need to be cautious. Besides that, [we] also need to asked [pray] to God, because disaster can happen unexpectedly. (informant 1, F, 31)

Villagers should be prepared, aware about the status of Merapi. And the government should also be prepared for the next eruption that may be bigger than the last time. Some volunteers offer us to help to find better location of evacuation camp, so it will be more comfortable and give villagers feeling of safety. (informant 5, M, 39)

From informants explanation above we might have some conclusion that mental preparedness is one preparation that people need in dealing with unpredictable situation, such as a disaster. Mental preparedness including sense of control of the events, can be obtain by giving knowledge about eruption stages, procedures of evacuation, and assurance from local government about security in evacuation camp.

Based on this chapter explanation we can see that modern science have influenced the live of Krinjing villagers, particularly related to mount Merapi. Previously they only depend on traditional beliefs regarding Merapi eruption. However to be accordance with modern era development, villagers tried to learn new knowledge about volcanic mountain, which might be useful in

preparing themselves when Merapi erupts again in the future. This condition was part of the government effort in assisting Krinjing villagers as a result of implementation disaster management program.

6.10. Self, Community and Merapi Volcano Integration

This research shows the sense of togetherness is very pronounced in comparison with individuality. Responses explain that sense of togetherness was particularly apparent from the public response to disasters; the consequences of the disaster and how social support from the community probably becomes supporting factor for the recovery process after a disaster. Based on our discussion on previous section, the majority of informants stated that being with family is important at the time of disaster. Some informants chose to evacuate to a location where their relatives lives safely from Merapi eruption, despite the available refugee camps provided by the government. It shows that family has important role as one of social support that help people handle disaster situation and cope with its effect. When situation of disaster was unpredictable and beyond human control, being together with family give people sense of security and power, that make people continue living and have hope for the future.

Solidarity expressed by the informants not only related to the family, but also with other fellow villagers. According to some informants, during the period of preparation before the eruption, the community held a joint activity such as prayer, or even patrolling to monitor the activities of Mount Merapi. This is done since a few years ago and people already familiar with this activity. In addition, people also form a forum for disaster relief as a preparation for the Merapi eruption.

It was very common for us to experience Merapi eruption like 2010...we already got warning, to be prepared since a week before. Every villager is very cautious and we have groups of people taking turns every night to observe the mountain. Beside that we also have gathering to pray together every night. (informant 12, M, 33)

Since the aware status, we always stand by in the observation station. Because we feel responsible to observe the Merapi. (informant 14, M, 40)

We establish a forum, to socialize knowledge about volcano and eruption for villagers, also to inform them about things that they have to do if eruption happened, and also have collaboration with district government. The purpose was to minimize the risk of disaster. (informant 15, M, 26)

Description above shows that villagers realize as people who live in proximity of volcanic mountain, they have possibilities to experience volcanic eruption. As people understand their responsibilities, collaboration and togetherness are very important to prepare them handle complex situation. Generally, collective culture creates togetherness with other people in the community as one important factor that support people in coping and recovering from disaster situation (Weiss and Berger, 2010). Previous studies in Japan identified in Japanese case relates to a sense of connection to community and mankind (Weiss and Berger, 2010).

Response to disasters and catastrophic impact on the informants in this study were largely led to the community rather than individual level. Most informants' perceived stronger sense of togetherness in the community, especially when they were together, back in the village and rebuild lives after eruption.

Cooperation, one of the value that already exist in society, is more strongly felt; in addition to increasing care of others and the spirit of mutual help.

For now people living more in peaceful. We share everything. Now it is easier to ask people to gather and working to help other people. (Informant 2, M, 72)

Well, togetherness is more comfortable. We share same food, we have same status, [and] everyone is just the same. We become friendlier towards other people. (informant 4, F, 31)

Yes, it helped...rather than just stayed at home doing nothing, so it is better if we gather together, shared our problems, discussed it and found the solution. (informant 5, M, 39)

Sense of togetherness is one of the community values that already held by community for some years. After Merapi eruption this value becomes stronger since people feel the importance of being together as survivor of eruption. They have same experience by living in the evacuation camp, eating and sleeping in the same condition. Solidarity is created in difficult situation by helping each other in the process of recovery after disaster. Furthermore, togetherness also gives people some chances to share their problems and discuss how to solve it. Togetherness gives them therapeutic condition that benefited them as member of community.

Almost all the informants showed their relatedness with mount Merapi in the form of personification (a term or a specific name), the belief of Merapi as part of the "family", and the belief that human behavior towards the environment around Merapi will result in an impact on their lives. Those beliefs describe in some informants opinion below.

The sounds that came from the mountain were melodious. I heard and saw the mountain, and then I feel something strange. I am not afraid of the mountain, because I knew him since I was born. But I always afraid of Allah (informant 11, M, 61)

We should respect the mountain. If he asked us to go, then we should go. We can comeback afterward. He will feel free, nothing disturbed him. We should not make any noise. If he is active, we should be calm, then you will be safe. It's already in the culture. Villagers also already aware of the government's regulation. If they asked us to evacuate, then we should follow it. If Merapi is not in active phase, he is our best friend. But if he was like yesterday, then we should avoid him (informant 14, M, 40)

I am not afraid of the mountain. The mountain is beautiful. If the mountain is a girl, she must be very beautiful. Can't you see it? (informant 4, F, 31)

We think Merapi is not our enemy, but more as our best friend. Because the ashes he produce can be fertilizer for our soil. It really helps our farm. If the farm is good, then it will benefit us. So It's more like a cycle. It was very incredible.... (informant 7, M, 38)

This chapter describe about how connectivity between individual, community, environment and mount Merapi. This linkage is important to understand the relatedness between individuals, communities and environments in explaining or giving meaning to experiences.

As summary of the chapter findings, we can see that people identify Merapi eruption as both disaster and blessing event. This understanding was based on their experience living with disaster, and level of severity. Despite any difficulties they face after disaster, villagers still perceive the eruption in positive manner regarding the benefit they will gain after the eruption. Perceiving situation after disaster in more positive manner made them have positive way to cope and handle difficulties after eruption. Another result suggested that emotional responses reported by informants are fear, panic and trauma. People experienced living in evacuation camp for more than 30 days and they keep returning home even as the eruption continues to feed their livestock. Villagers should make any adjustment when living in evacuation camp, regarding adjusting to new life situation, activity and with people from different background they shared their life with. In addition, they feel that sharing feelings as survivor made them respect, care and help each other.

Villagers also reported the experience of both positive and negative impact of disaster. The negative impact was feeling traumatized, poor economic condition and destruction of village facilities. Meanwhile, improvement in religiosity, fast development program in the village, sense of togetherness, working spirit, future planning, sense of gratitude are the positive impact of eruption that reported by the informants.

Relocation to other area was rejected by most of informants in this study. This is related to the strong connection between the historical, population and environment of Merapi as a place to live. This research also found that Merapi erupted as consequences of people's destructive behavior towards the environment. Some viewed the eruption as natural phenomenon, while others explained the events in terms of will of God and the power beyond human capacities. The last source explained casualties from eruption related to a person's guilt and sins that violate their faith on religion and God. Villagers of Krinjing were influenced by traditional and modern knowledge that shapes the understanding about Merapi and its eruption. This research also found strong

connectivity between individual, community, environment and Merapi itself. This linkage is important to understand the relatedness between individuals, communities and environments in explaining or giving meaning to experiences.

7. Discussion

For the informants of the study, the 2010 Merapi eruption is not their first time experience of eruption. Therefore it can be said the inhabitants of Krinjing Village are quite familiar with both eruptions as well as living with the threats of new eruptions. The eruption itself has had a 4-year cycle that makes it rather predictable, even if the severity of each eruption varies. Similar as the other Krinjing villagers, informants rely on past experience in dealing with an eruption, assuming the events occurred will not be much different from previous events. The 2010 eruption was considered as the most severe compared with previous years because Krinjing villagers had to evacuate to a safer place. They stayed in an evacuation camp for 42 days and they were allowed to go home after the condition is considered safe. Nonetheless this study found that the Merapi eruption is still considered as disaster, particularly related to the severity of the event. An understanding of this definition is not very different from the definition of disaster mentioned in several literature (Norris, 2006; Reyes & Jacobs, 2006; Ursano et al., 2007), which emphasizes the sudden, unexpected, overwhelming in intensity, devastating in destructive power and threatening the survival. But most of the participants also viewed the eruption not only as catastrophic as other natural disasters, but also as an event with an element of blessing. This is because they could gain some benefits from Merapi eruption. The benefit is mainly related to soil fertility of the agriculture land due to ashes released in the eruption. Soil fertility in the future will give them an abundant harvest, which consequently will increase their income.

This understanding that seems to be more positive may differ when compared to more severe disaster, in terms of material losses and casualties, such as the 2004 Aceh tsunami. According to data released by the Indonesia National Agency of Disaster Management, the death toll in 2010 Merapi eruption reached more than 300 people, while the death toll in the 2004 tsunami reached more than 150 thousand people. There were also significant differences, which observed from the physical damage of the tsunami in 2004, which is much larger than the 2010 Merapi eruption. In addition, the

residents can return to their home after the condition is safe after being evacuated and living in camps for more than 30 days. The findings in this study may therefore be influenced by the severity of the 2010 Merapi eruption, the experience of previous disasters and the post-disaster implications. An understanding of these disasters affects the recovery and adjustment to post-disaster (Reyes & Jacobs, 2006; Ursano et al., 2007). This is also supported by a study conducted after the 2004 tsunami, which found the understanding of the disaster and its impact on mental health is influenced by different factors in each area; for example in Thailand and India, the loss of jobs is one factors that affect mental health survivor (Frankenberg et al., 2008). Data from BNPB mentioned that from 1815-2012 the most frequent disaster in Indonesia was flood, but tsunami and earthquake has the highest mortality and highest housing damage.

In this study, participants' emotional response in general related to Merapi eruption is fear, panic and trauma. This is a normal response to abnormal situations, and in accordance with theory of emotional response to disasters (Reyes & Jacobs, 2006; Ursano et al., 2007). Other emotional responses also arise due to changes in post-disaster life, especially life in evacuation camp. Adjustment should be made to changes occurred after the disaster which cause discomfort and affects a person's psychological condition. According to Reyes and Jacobs (2006), post-disaster adjustment will occur in terms of values and beliefs, including the perspective of the world, to adapt to the changes made and to what extent they are consistent with the new conditions. Thus the principle of human coping made of the condition of life. Adjustment made at the time in evacuation camp not only relating to daily life but also living in intense atmosphere as refugee with a variety of different social class backgrounds. Differences in social background affect one's lifestyle, which also reflects its position in society (Bourdieu, 1984). The informants in this study revealed that social class differences are perceived, although it was later placed by a sense of equality as they are in the same situation as victims of Merapi eruption. They would be respectful to one another, fostering care and helping each other. In this case, characterization of eastern culture as a

collective society may influence the transformation. The growing strength of togetherness as a community is one of the positive impact felt by the participants in this study. This finding also found in PTG research in Japan that mentioned about the important of social network and family togetherness (Weiss & Berger, 2010). In this study the sense of togetherness also relates community with their nature and Merapi Mountain.

The findings in this study show how informants felt the positive and negative effects concurrently. Negative impact was mainly felt in terms of emotion, such as stress and being traumatized as well as material damages. These psychological conditions associated with post-disaster situation, as consequences of damage to homes, loss of family members or property, and life changes in post-disaster situations (Reyes & Jacobs, 2006; Ursano et al., 2007). Meanwhile the positive effects experienced by the informants is the construction of village facilities, increasing religiosity in the community, a sense of gratitude, stronger bond of togetherness among village residents, the increasing care for others and thinking and planning for the future. The result of this study indicates process of growth or referred in the literature as posttraumatic growth (Calhoun & Tedeschi, 2006; RG Tedeschi & L. Calhoun, 2004; Weiss & Berger, 2010). Posttraumatic Growth (PTG) is experience of positive changes that resulted from the struggle against crisis of life (RG Tedeschi and LG Calhoun, 2004). There are five domains of PTG: personal strength, new possibilities, Relating to others, appreciation of life, and spiritual changes (Calhoun & Tedeschi, 2006). In this study, four dimensions of PTG are found. Those dimensions are new possibilities, relating to others, appreciation of life and spiritual changes.

The dimension of possibilities can be seen from the openness of new possibilities in terms of the economy. Before 2010 Merapi eruption, Krinjing villagers depend on agriculture as the main livelihood. After the eruption, with the help of community organizations and non-local institutions they started to do other activities that can provide extra income. The eruption seemed to be a kind of momentum for the community members to reflect on what income,e

activities they wanted to be involved in. For example, one of the existing programs is a group that sought to raise livestock, such as cows and goats, as business. Assistance is provided in the form of capital to purchase livestock and share knowledge about how to raise the livestock. This group also made use of livestock manure to be used as organic fertilizer. The fertilizer is not only used for their own agricultural land, but also for sale. Although this alternative business is not something easy to do, but it appears that rural communities now are open to alternative economic activities.

Increased sense of togetherness among the villagers and concern for others is a form of dimension relating to others. Value of unity and mutual assistance is essentially the value that is already owned by the village community since the beginning of Krinjing village. But after the Merapi eruption, these values are more strongly felt and reflected in their daily behavior. The values of togetherness and mutual help are seen at the time they returned from the evacuation camp and started to rearrange their life. Krinjing village community members help each other to repair houses and villages facilities damaged by the eruption. They also help each other on farming activities, including planting and harvesting. Sense of caring for each other seemed to be felt more strongly. This was concluded by informants in a focus group discussion when even though they were living in evacuation camps, sense of concern and caring for each other increase among victims of the eruption. An informant even volunteered at the camp's kitchen that provides food for people in the evacuation camps.

Respect for life expressed by informants' sense of gratitude, related for being alive after the eruption. Moreover, gratitude is also associated with a dimension of spirituality. In this study it was found that there is an increasing religiosity of Krinjing village. Based on the interviews, most of the informants stated there was an increased religiosity that might be seen from the activity of religious routines. Before the eruption, some villagers even did not know how to pray, but now they begin to learn how to worship according to religious affiliation. Although religiosity is not necessarily the same as spirituality, but

sense of gratitude and having faith in God, show an increase in spirituality after disaster. The relationship between appreciation of life dimensions and spirituality is also found in PTG research in Japan (Weiss & Berger, 2010), which showed the perception of gratefulness, is embodied in spirituality or religiosity (Weiss & Berger, 2010). According to a study by Kusaka et al (1997) about the positive impact of Great Hanshin earthquake in Japan, it is concluded that there were positive changes, especially regarding the importance of the relationship between people (Weiss & Berger, 2010). Based on explanation above we can conclude that the results of this study illustrate the evidence of PTG dimensions.

However, the concept of growth is very general that might be applied in different form depend on the situational context General concept of PTG might be not captured in some domains that appear in specific culture. In this research one domain of PG that is not that might be not capture by PTG is feeling of guilty (because of sins that people did). Despite this guilty feeling very related to changes of religious activity as a coping way through difficult situation. Another thing that possibly did not explained by the concept of PTG in this research was about feeling of *pasrah*, a term in Bahasa Indonesia that might be translated as acceptance. But this acceptance was after people put some effort to fight for their problem. This term usually also related to sense of gratitude shown after people try to solve their problems but their capabilities might not meet the solution. In this situation sense of acceptance and gratitude of every situation will be shown by this people.

One implication of Merapi eruption is the government's plan to move the village of Krinjing to safer area. This is because the eruption was happening following a cycle and possibly worsening eruptions may occur in the future. Nevertheless, the idea of relocation is not the first time proposed to the villagers. Since Krinjing experienced frequent Merapi eruption, the idea of relocation has been introduced but always gets a challenge from the villager. Various reasons are put forward relating to the relationship between society, environment and mount Merapi itself. Several informants mentioned that the

difficulty in leaving the village is because the village is their homeland. Other reasons to refuse the relocation are welfare reasons and concerns that the new place is not as fertile as Krinjing and does not have the same natural resources as Krinjing. Strong inter-community relations are also one reason for the refusal. Transfer to other regions cannot guarantee the same placement area for all villagers. This condition is in accordance with the characteristics of Krinjing village as agriculture society that has strong bond with the land, water and environment, as the supporting medium for community agriculture activities. This attachment has been nurtured since hundred years ago, so it is strongly rooted in the community.

Asking Krinjing villagers to move from the land where they were born and always live is not something easy to do. Based on the study conducted previously, the village relocation had been done but it did not improve community life. At that time another disaster befall the people who moved to a new location and caused death. Since then people have the idea that Merapi eruption did not cause casualties. But by the time they moved, they would be strike by a deadly disaster. This is what makes people feel comfortable to stay in an area vulnerable to volcanic disaster, rather than having to live elsewhere.

The process of recovery and growth experienced by the participants in this study can be seen from the explanation of their experience of Merapi eruption. This description is one way to understand the world, besides through the sense of personal control and stability over time (Weiss & Berger, 2010), which is a process that occurs in the realm of human cognition. In literature about PTG, it is mentioned that Westerners tend to believe that they have the potential to exert personal control over events compares to Easterners who tend to believe that they should adjust themselves to the situations they encounter (Weiss & Berger, 2010). So in the event of a traumatic event, Westerners tends to feel personal responsibility for what happened, and feel the need to explain the traumatic experiences based on their own behavior. In contrast, Easterners tends to try to find ways to adjust to events that

occurred and not feel responsible for the incident.

Informants in this study also suggests that the cause of Merapi eruption can be seen from the viewpoint of natural phenomena, the impact of human activity on nature, the impact of bad deeds that has been done (sin) and God (faith). These themes emerged and influenced by important cultural values in the community. Divine values, the relationship between human beings and nature are some key values that exist in the community and passed down from generation to generation. The disaster was the result of the violation of those values. In addition, the disaster is also considered as a way to maintain the balance of nature. Thus the disaster is necessary to restore natural conditions that are considered "damaged" for the better. This is reflected in previously discussed post-disaster impact, where there are improvements in human relationships, spirituality, soil fertility, and development in the village.

As Easterners are characterized by collectivism, source of causation is not only on individual but also on collective level. For example, disaster as a result of bad human behavior can be seen as an individual effect (sin), while disaster as a result of the nature of human behavior is a form of collective impact.

Krinjing villagers themselves have traditional understandings and values related to the perspectives on mount Merapi. In this sense, traditional beliefs are guidelines for their lives including guidance in facing an eruption. They can be distinguished between those that are related at an individual level (moral corrections of sins), and those at a community level. These values affect their understanding of the eruption and the source of causation of Merapi eruption and thereby also their processes of coping with disasters and accepting and living with threats of future disasters. Moreover, since the Merapi eruption is not a catastrophic event that happened only once, Krinjing village increasingly open to the disaster management programs that are not only given in the event of a disaster. Parallel to the traditional beliefs, there are elements of a more science-based understanding present among the

Krinjing villagers. The observation post and evacuation routines appear to be trusted and accepted, even if few villagers referred to more scientific knowledge on the causes of eruptions. The preparation programs that are available for Krinjing villagers to minimize disaster risk and casualties are based on form of modern knowledge and science.

There were some limitations in this study regarding qualitative methods that have been used as research approach. It has been understand one of limitation of qualitative approach was related sample representation that consequently difficult to make generalization. The disaster that have been choose as subject in this study was volcanic eruption that might be categorize as 'light disaster' compare to other type like tsunami or earthquake. This type of disaster might be influence the severity of impact that experienced by affected people. The other limitation in this study was samples that have been selected as participants in this study might be not the most affected by the eruption itself.

As a summary, the table below summarizes Krinjing villagers' way of coping to Merapi eruption and how it relates to their understanding of the eruption related to traditional beliefs, scientific knowledge, individual and community level.

	Traditional Belief	Modern and Science Knowledge
Individual Level	<ul style="list-style-type: none"> ✓ Spiritual changes as response to source of causation that view disaster caused by human sin ✓ Moral correction from God 	<ul style="list-style-type: none"> ✓ Knowledge on causes of eruption ✓ Changes in nature
Community Level	<ul style="list-style-type: none"> ✓ Sense of gratitude towards God's will beyond human capacities ✓ Important to maintain relationship between humans and nature ✓ A meaning behind each eruption ✓ Warning on too much exploitation ✓ Ancestors are celebrating ✓ Togetherness between villagers ✓ Sense of belonging to the village and the mountain 	<ul style="list-style-type: none"> ✓ Volcano observation post ✓ Evacuation routines and guidelines ✓ Disaster management law ✓ Plan for move village to a safer area

In the table above, we can see the relation between how people cope with their understanding of the causes of Merapi eruption. For example, the eruption as consequence of the will of God (Faith) is an explanation of collective and traditional value because the disaster is a form of God's warning (faith) through Merapi as one of His creations and power that exceed human capacities (collective). Since people view themselves as God creation, they will develop sense of gratitude regarding any events that they experience as God's will.

As mentioned earlier, people of Krinjing lives with mount Merapi for many years and have experienced its eruption more than one time. This condition affects their understanding of eruption and it influence way of response and coping with the difficult situation. Level of trauma and stress might be not as high as other people who are not living along disaster and rarely experience it. One limitations of this research is regarding the sampling selection. Informants selected in this research were not having different variation in

trauma and stress level due to their many experience of Merapi eruption. However this will influence their way of coping to situation after disaster. Another limitation is the assumption that informants might not report their real situation or condition. According to Javanese culture, there is a risk of telling other person, particularly stranger, about their condition. Other people should not see them in difficulties because it is important for their own self-respect.

8. Conclusion

This study concluded that the experience of Merapi eruption related to people understanding to the eruption, emotional response, living in evacuation camp, positive and negative impact of disaster, and relocation plan as implication of Merapi eruption to people affected by it. In understanding Merapi eruption people perceive it as disaster and a blessing event. This understanding was based on their experience living with disaster, and level of severity. Despite any difficulties that they face after disaster, villagers still perceive the eruption in positive manner regarding the benefit that they will gain after the eruption. Perceiving situation after disaster in more positive manner made them have positive way of coping and able to handle difficulties after eruption. Another result suggested that emotional responses reported by informants in this research are fear, panic and trauma. People experienced living in evacuation camp for more than 30 days and they keep returning home while the eruption continues to feed their livestock. Villagers should make any adjustment when living in evacuation camp, regarding life situation, activity and different background of people that they shared life with. In addition, they feel that share feeling as survivor make them respect, care and help each other. Villagers also reported that they experience both positive and negative impact of disaster. The negative impact was feeling traumatized, poor economic condition and destruction of village facilities. Meanwhile, improvement in religiosity, fast development program in the village, sense of togetherness, working spirit, future planning, sense of gratitude are the positive impact of eruption reported by the informants. Relocation to other area was rejected by most of informants in this study. This is related to the strong connection between the historical, population and environment of mount Merapi as a place to live. In relation to coping behavior and adjustment to situation after disaster, this research found the importance of finding meaning and explanation through defining the causes of disaster. This was one of the steps in the process of recovery and growth after eruption. This research found there are different explanations for the causes of Merapi eruption perceived by the participants. One of the explanations is the eruption as consequences of people destructive behavior to the environment. Another explanation

viewed the eruption as natural phenomenon, while other explained in terms of God's will and a power beyond human capacities. The last source of eruption casualties related to human's wrongdoing and sins that violate their faith on religion and God. In this research, it seems that knowledge about mountain and eruption, either based on traditional value or scientific knowledge was related to how people understands their living situation with Merapi and the eruption. This research also found there were strong connectivity between individual, community, environment and mount Merapi. This bond is important to understand the relation between individuals, communities and environments in explaining or giving meaning to experiences.

9. References

- Almedom, A. M. (2005). Resilience, hardiness, sense of coherence, and posttraumatic growth: all paths leading to "light at the end of the tunnel"? *Journal of Loss and Trauma, 10*(3), 253-265.
- Atkinson, P., & Coffey, A. (2003). Revisiting the relationship between participant observation and interviewing. *Inside interviewing: New lenses, new concerns, 415-429.*
- Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*: Boston: Harvard Univ Press.
- Caltabiano, M., Sarafino, E., & Byrne, D. (2008). *Health psychology: Australia*: John Wiley & Sons.
- Frankenberg, E., Friedman, J., Gillespie, T., Ingwersen, N., Pynoos, R., Rifai, et al (2008). Mental health in Sumatra after the tsunami. [AJPH.2007.120915 pii ;10.2105/AJPH.2007.120915 doi]. *Am.J.Public Health, 98*(9), 1671-1677.
- International Federation of Red Cross and Red Crescent Societies (2000). *World disasters report: A focus on public health*. Dondrecht, The Netherlands: Martinus Nijhoff.
- International Federation of Red Cross and Red Crescent Societies (2011). *World Disaster Report 2011: Focus on hunger and malnutrition*. In L. Knight (Ed.). Lyons, France: International Federation of Red Cross and Red Crescent Societies.
- Irmansyah, I., Dharmono, S., Maramis, A., & Minas, H. (2010). Determinants of psychological morbidity in survivors of the earthquake and tsunami in Aceh and Nias. *International Journal of Mental Health Systems, 4*(1), 1-10.
- Joseph, S., & Linley, P. A. (2008). *Trauma, recovery, and growth: Positive psychological perspectives on posttraumatic stress*: John Wiley & Sons Inc.
- Kirmayer, L. J., Kienzler, H., Hamid Afana, A., & Pedersen, D. (2010). *Trauma and disasters in social and cultural context*.

- Kun, P., Han, S., Chen, X., & Yao, L. (2009). Prevalence and risk factors for posttraumatic stress disorder: a cross sectional study among survivors of the Wenchuan 2008 earthquake in China. *Depression and anxiety*, 26(12), 1134-1140.
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing*: SAGE Publications, Inc.
- Malterud, K. (1993). Shared understanding of the qualitative research process. Guidelines for the medical researcher. *Family Practice*, 10(2), 201.
- Malterud, K. (2001). Qualitative research: standards, challenges, and guidelines. *The Lancet*, 358(9280), 483-488.
- National Agency of Disaster Management (2010). *National Disaster Management Plan 2010-2014*. Jakarta.
- Norris, F. H., Galea, S., Friedman, M. J., Watson, P.J. (2006). *Methods for disaster mental health research*. New York: Guildford Press
- Patton, M. Q. (2002). *Qualitative research & evaluation methods*. (3rd ed.), XXIV, 598, [565] s. California: Sage Publication
- Raphael, B., Lundin, T., & McFarlane, C. (1989). A research method for the study of psychological and psychiatric aspects of disaster. *Acta psychiatrica scandinavica*, 80(S353), 1-75.
- Reyes, G., & Jacobs, G. A. (2006). *Handbook of international disaster psychology: fundamentals and overview*. Wesport: Praeger Perspectives
- Souza, R., Bernatsky, S., Reyes, R., & de, J. K. (2007). Mental health status of vulnerable tsunami-affected communities: a survey in Aceh Province, Indonesia. [10.1002/jts.20207 doi]. *J.Trauma Stress*, 20(3), 263-269.
- Splevins, K., Cohen, K., Bowley, J., & Joseph, S. (2010). Theories of posttraumatic growth: Cross-cultural perspectives. [References]. [<http://dx.doi.org/10.1080/15325020903382111%5D>]. *Journal of Loss and Trauma*(3), 259-277.
- Tang, C. (2007). Posttraumatic growth of southeast Asian survivors with physical injuries: Six months after the 2004 southeast Asian

- earthquake-tsunami. *Australasian Journal of Disaster and Trauma Studies*, 2, 2007-2001.
- Tedeschi, R. G., & Calhoun, L. (2004). Posttraumatic growth: A new perspective on psychotraumatology. *Psychiatric Times*, 21(4), 58-60.
- Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9(3), 455-471.
- Tedeschi, R. G., & Calhoun, L. G. (2004). " Posttraumatic Growth: Conceptual Foundations and Empirical Evidence". *Psychological Inquiry*, 15(1), 1-18.
- United Nations Of Development Program (2011). *Human Development Report 2011: Sustainability and Equality A Better Future For All*. New York: United Nations Development Program (UNDP).
- Ursano, R. J., Fullerton, C. S., & Weisaeth, L. (2007). *Textbook of disaster psychiatry*: Cambridge Univ Pr.
- Weiss, T., & Berger, R. (2010). Posttraumatic growth around the globe: Research findings and practice implications. New Jersey: John Wiley and Sons.

10. Appendixes



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2012 Psychology Student Research Ethical Review Application Form

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Degree Program/Status : M.Phil International Community Health

Supervisor's Name: Arnfinn Helleve

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Working title of research: Experience of People Affected Disaster in Indonesia

Checklist attached? X yes no

ETHICAL DECLARATION: I, the undersigned research student and supervisor, have considered the ethical issues relevant to this research project. It is my judgement that this research adheres to our own ethical standards, those of the discipline, and the Indonesian Psychological Association Ethical Conduct in Human Research

Student Signature

Date: February 20, 2012

OFFICE USE ONLY

Date Received in Course Centre: Desember 19, 2011

Reviewed by: 1. Prof. Dr. M. Enoch Markum
2. Dr. Bagus Takwin, M.Hum.



Psychology Ethical Review Officer

Date: February 20, 2012

Clearance Number: 001/KE-Fpsi-UI/2012

Student/Supervisor advised via email: bagus-t@ui.ac.id

Clearance Conditions:

This research adheres to ethical standards of the discipline of psychology and the Indonesian Psychological Association *Ethical Conduct in Human Research*.

Interview Guidelines

No	Themes	Sample of Questions	Probing
	Definition of disaster	When did the last time disaster happen to you?	People Understanding of Disaster
		What happen at that time to you?	
		What did you feel when it happen?	
		How this event affect you as individual/community	
		What is the cause of the disaster?	
	Community/Individual life experience	Could you tell me your life story before the disaster?	Positive or negative experience
		Could you describe your life experience after disaster?	Change that happened after disaster (in farming, school, work, life in general)
		What are your experiences when disaster happened?	
	Individual response to disaster	What did you do when disaster happen?	
		What did help you at that time?	Supporting factors (individual and social cultural factors)
		What didn't help you at that time?	Obstacle factor (individual and social cultural factors)
		What are your experiences in evacuation camp?	
	Lesson learned from the disaster	What did you learn from what happen to you?	
		What is your plan in life for the future?	
		What are your plans if disaster happens again?	
		Are you afraid for the next disaster?	

FGD Guidelines

No	Themes	Sample of Questions	Probing
	Definition of Disaster	When did the last time disaster happen to you?	Community understanding of disaster
		What happen at that time to you?	
		What did you feel when it happen?	
		How this event affect you as individual/community	
		When disaster happened, what did you expect would happen?	
	Community/Individual experience	Could you describe your community before disaster?	
		Could you describe your community after disaster?	Positive/Negative experience, Defining recovery, who is people who recover/have positive experience
		What is the difference that you see in your community?	
		How is change in community affect member of community?	
	Community response to disaster	What did community do when disaster happen?	
		What make community recover from disaster?	
		When disaster happened, what kind of support/help that you think community need?	

Request for participation in a research project
“Experience of People Affected Disaster in Indonesia”

Background and purpose

People experience and their recovery after situation of disaster is influence by cultural and social values in the affected area. As country that vulnerable to disaster, it is importance to explore experience of people affected disaster in Indonesia. Objective of this research is to explore experiences of people affected disaster in Indonesia and process of growth and recovery after disaster. Qualitative methods with focus group discussion and in-depth interview will be the methods to explore individual and community experience disaster and posttraumatic growth after disaster. Result of this study is expected to be the basis for further research in disaster area in Indonesia and development of guideline in disaster intervention in Indonesia, which adapt the local cultural context. Intervention program that develop with appropriate cultural context is expected to improve community well-being, especially the affected and the Indonesian people in general.

What does the study entail?

By accepting to participate in semi-structured interview, you accept to be interviewed about your opinion and experience related to your experience in disaster situation.

By accepting to participate in focus group discussion, you accept to be discussed topics disaster experience to other member of the group.

Potential advantages and disadvantages

The potential advantage can be that the information from the interviews and discussions could be sharing the experience with other people and express your ideas in more constructive manner. The potential disadvantage can be identification of you by yourself or others. The experience that you share might be give uncomfortable feeling, and regarding that situation you can tell me if the process should stop if you feel that way.

What will happen to the information about you?

You will be anonymized and I never write down names or other information, which could easily be identified at a later stage, however, there may still be possibility to be identified because interview and focus group discussion collect large amount of information, which are from many aspects of your life and contain multiple clues to your identity.

The information that is registered about you will only be used in accordance with the purpose of the study as described above. All the information will be processed without name, ID number or other directly recognisable type of information.

Voluntary participation

Participation in the study is voluntary. You can withdraw your consent to participate in the study at any time and without stating any particular reason. If you wish to participate, sign the declaration of consent on the final page. If you agree to participate at this time, you may later on withdraw your consent.

Consent for participation in the study

I am willing to participate in the study.

(Signed by the project participant, date)

I confirm that I have given information about the study.

(Signed, role in the study, date)