

**VULNERABILITY, SOCIAL SUFFERING, AND SUBJECTIVITY
OF FLOOD-AFFECTED PEOPLE**

LTC. JIRAPORN CHOMSRI

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Thesis
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**VULNERABILITY, SOCIAL SUFFERING, AND SUBJECTIVITY
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.....
LTC. Jiraporn Chomsri
Candidate

.....
Assit. Prof. Penchan Sherer, Ph.D.
Major advisor

.....
Assoc. Prof. Mullika Muttiko, Ph.D.
Co-advisor

.....
Lect. Kanokwan Tharawan, Ph.D.
Co-advisor

.....
Prof. Banchong Mahaisavariya,
M.D. Dip Thai Board of Orthopedics
Dean
Faculty of Graduate Studies
Mahidol University

.....
Assoc.Prof.Pimpawun Boonmongkol, Ph.D.
Program Director
Doctor of Philosophy Program in
Medical and Health Social Sciences
Faculty of Social Sciences and Humanities
Mahidol University

Thesis
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**VULNERABILITY, SOCIAL SUFFERING, AND SUBJECTIVITY
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For the degree of Doctor of Philosophy (Medical and Health Social Sciences)
on
October 19, 2012

.....
LTC. Jiraporn Chomsri
Candidate

.....
Assoc.Prof. Pimpawun Boonmongkol
Ph.D.
Chair

.....
Assoc. Prof. Mullika Muttiko,
Ph.D.
Member

.....
Assit. Prof. Penchan Sherer,
Ph.D.
Member

.....
Prof. Surichai Wungeao,
Ph.D.
Member

.....
Lect. Kanokwan Tharawan,
Ph.D.
Member

.....
Prof. Banchong Mahaisavariya,
M.D. Dip Thai Board of Orthopedics
Dean
Faculty of Graduate Studies
Mahidol University

.....
Assoc. Prof. Wariya Chinwanno, Ph.D.
Dean
Faculty of Social Sciences and Humanities
Mahidol University

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I am glad that I was a part of flood relief operations. In order to make the world a bit better, I would love to minimize the gap in relief operations. I am pleased to study this topic. I would like to express my extreme gratitude and thanks to flood-affected people in Wang Noi for being a part of the research. I am in debt to all the flood-affected people who participated in the study and provided informative data. I would like to thank the Royal Thai Army for giving me a chance to study this valuable subject as well as Mahidol University for providing me with financial support throughout my course.

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Jiraporn Chomsri

VULNERABILITY, SOCIAL SUFFERING, AND SUBJECTIVITY OF FLOOD-AFFECTED PEOPLE.

LIEUTENANT COLONEL JIRAPORN CHOMSRI 5236919 SHMS/D

Ph.D. (MEDICAL AND HEALTH SOCIAL SCIENCES)

THESIS ADVISORY COMMITTEE: PENCHAN SHERER, Ph.D.,
MULLIKA MUTTIKO, Ph.D., KANOKWAN THARAWAN, Ph.D.

ABSTRACT

This study is qualitative research that implements the Critical Medical Anthropology concept to disclose suffering experiences and subjectivity of flood-affected people in Wang Noi, Phra Nakhon Si Ayutthaya. The approach used narrative interviews, observation and focus group discussions with ten informants.

Visible effects from physical deteriorations are collective suffering experiences. Moreover, invisible sufferings are embedded in everyday life before a flood crisis occurs. The inequality of economic development is a significant factor for geographical transformation. Many have to live in high flood risk exposure areas inevitably. Life becomes vulnerable to hazards from the structural vulnerability. Local people, who are living with low socio-economic status, are incapable of coping with disaster impacts. The consequences of disaster impacts make flood-affected people live in a more difficult condition. Their daily earnings disappear with the flood water. They face the uncertainty of life, emotional instability, and mental trauma that affects their health condition. The individual vulnerability affects the capability of coping. In addition, suffering experiences also derive from discrimination during disaster assistance. The delayed help and unequal aid, which is connected to the patronage system, brings about another form of suffering. The social arrangement caused by capitalist ideology is fundamentally tied to economic value. Therefore, flood protection focuses on industrial zones, but neglects people in the vicinity. It causes multiple forms of flood suffering. The ignorance of both structural and individual vulnerability produce ineffective flood management.

The results of the study have come up with significant suggestions that could be applied to minimize both structural vulnerability and individual vulnerability. The flood phenomenon is a social process. The reduction of risk and hazard conditions is the best way to decrease the occurrence of disasters. The social arrangement should realize the social perspective together with the physical perspective. The empowerment of knowledge and implementation of local knowledge should be used in order to increase the capability of coping with floods.

**KEY WORDS: FLOOD-AFFECTED PEOPLE/ VULNERABILITY/
SUFFERING**

171 pages

ความเปราะบาง ความทุกข์ทางสังคม และ อัตวิสัยของผู้ประสบภัยพิบัติน้ำท่วม

VULNERABILITY, SOCIAL SUFFERING, AND SUBJECTIVITY OF FLOOD-AFFECTED PEOPLE

พันโทหญิงจิราภรณ์ ชมศรี 5236916 SHMS/D

ปร.ด. (สังคมศาสตร์การแพทย์และสาธารณสุข)

คณะกรรมการที่ปรึกษาวิทยานิพนธ์ : เพ็ญจันทร์ เซอร์เรอร์, Ph.D., มัลลิกา มัติโก, Ph.D., กนกวรรณ ธารารณ, Ph.D.

บทคัดย่อ

การศึกษานี้เป็นการวิจัยเชิงคุณภาพที่ใช้แนวคิดมานุษยวิทยาการแพทย์เชิงวิพากษ์ที่เผยให้เห็นประสบการณ์ความทุกข์ และอัตวิสัยของผู้ประสบภัยพิบัติน้ำท่วมในอำเภอวังน้อยจังหวัดพระนครศรีอยุธยา ใช้การสัมภาษณ์ การสังเกต และการสนทนากลุ่ม กับผู้ให้ข้อมูล 10 ราย

ความทุกข์จากลักษณะทางกายภาพที่เสียหายเป็นประสบการณ์ความทุกข์ร่วม ส่วนความทุกข์ที่มองไม่เห็นแฝงฝังในชีวิตประจำวันเกิดขึ้นก่อนเกิดวิกฤติน้ำท่วม การพัฒนาทางเศรษฐกิจที่ไม่เท่าเทียมเป็นปัจจัยสำคัญทำให้เกิดการเปลี่ยนแปลงพื้นที่ ต้องอาศัยอยู่ในพื้นที่ที่มีความเสี่ยงสูงอย่างหลีกเลี่ยงไม่ได้ ชีวิตกลายเป็นชีวิตที่เปราะบางจากเชิงโครงสร้าง ชาวบ้านในท้องถิ่นที่มีสถานะทางสังคมต่ำและไม่สามารถรับมือกับผลกระทบจากน้ำท่วมได้ ผลที่เกิดขึ้นตามมาทำให้ผู้ประสบภัยพิบัติอาศัยอยู่ในสภาพที่ยากลำบาก รายได้ประจำวันหายไปเผชิญกับชีวิตที่ไม่แน่นอน อารมณ์ที่ไม่มั่นคง จิตใจบอบช้ำ และส่งผลต่อสุขภาพ ความเปราะบางระดับบุคคลส่งผลถึงความสามารถในการเผชิญกับปัญหา นอกจากนี้ประสบการณ์ความทุกข์ยังเกิดจากการรูปแบบของการเลือกปฏิบัติ การให้ความช่วยเหลือที่ล่าช้า ไม่เท่าเทียมซึ่งเชื่อมโยงกับระบบอุปถัมภ์ ทำให้เกิดความทุกข์ในรูปแบบใหม่ ดังนั้น การปกป้องพื้นที่อุตสาหกรรมแต่ละเลยชีวิตของคนที่อยู่บริเวณใกล้เคียง ทำให้เกิดความทุกข์ซ้ำทุกข์ซ้อน การไม่คำนึงถึงความเปราะบางทั้งระดับโครงสร้าง และ ระดับบุคคลทำให้การจัดการภัยพิบัติน้ำท่วมด้อยประสิทธิภาพ

ข้อเสนอแนะที่สำคัญจากการศึกษานี้คือ การลดความเปราะบางทั้งในเชิงโครงสร้าง และ ความเปราะบางระดับบุคคลลง เพราะน้ำท่วมเป็นขั้นตอนทางสังคม การลดเงื่อนไขที่มีความเสี่ยงและอันตรายจะเป็นการลดโอกาสของการเกิดภัยพิบัติ การจัดการทางสังคมควรคำนึงใช้มิติทางสังคมควบคู่กับการแก้ปัญหาทางกายภาพ การเสริมสร้างความรู้และนำความรู้ในชุมชนเข้าร่วมแก้ปัญหา จะทำให้เพิ่มขีดความสามารถในการรับมือกับภัยพิบัติน้ำท่วม

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CHAPTER I

INTRODUCTION

1.1 Justification of the study

“We cannot pursue our long-term strategies of health for all without paying attention to the global problem of disasters.” (Nakajima, 1991)

Hiroshi Nakajima, M.D., Ph.D.

Director of the World Health Organization

Disasters present threats to health that can be both clearly seen and hidden in many different forms. Severe and intensive disasters occur regularly throughout the world, impacting health and inducing high mortality rates. Evidence indicates high numbers of deaths and great amounts of damage follow disasters in less developed countries. The mortality rate due to disasters in less developed countries is higher than that in more developed countries (Wisner, et.al, 2004). Disasters are often viewed as natural processes, but can also be considered as man-made. Global development has brought about growing economic imbalances, socioeconomic inequity, and has significantly affected the environment (Alexander, 2006). As a result, people in less developed countries are threatened by political and economic systems, violence, natural resource degradation, as well as exploitation (Morgan, 1987). The deterioration of ecological systems create hazardous conditions which can lead to the development of disasters. Therefore, disasters are negative outcomes of development processes (Wisner & Gaillard, 2009). The unsafe conditions in which many people in less developed countries live make them susceptible to disasters.

There are complexities of disasters that instigated by external variations and internal complexities. The external variations are caused by social vulnerability,

which is related to human activities, and cause humans to live in hazardous environments. Unequal development generates risky conditions and affects the human condition (Oliver-Smith, 1996, O'Brien, et.al., 2010). Vulnerability is a web of causation that intensifies disaster impacts. Internal complexity is a social construction that relies on subjectivity (Spiro, 1996) and is related to the knowledge, ideology, and belief systems embodied in everyday life. The perception of hazard depends upon the subjective interpretation of a particular phenomenon. The differences depend on the individual (Hoffman & Oliver-Smith, 2002). Both internal complexity and external variations induce disaster complexities that generate different causes and impacts. Moreover, subjectivity influences the perception, interpretation and meaning of disasters.

Disasters are social constructions. Defining disasters is difficult because of the complexity of the phenomenon. There is a lack of consensus on the definition of a disaster (Hooke & Rogers, 2002, Oliver-Smith, 1996, Lettieri, Masella, & Radaelli, 2009). When attempting to define a disaster, multiple issues such as deteriorated infrastructure, injured people, property loss, and unexpected and rapid change must be considered. Therefore, disasters are not only a natural phenomenon but a social phenomenon as well. Usually, government and relief organizations define disasters in terms of physical destruction. The anthropological perspective defines a disaster in different comprehensive dimensions (Oliver-Smith, 1999) beyond physical impacts. This perspective considers social effects and social constructions because there can be impacts without physical deterioration. Disasters are social constructions of crisis phenomenon. Disasters are defined and interpreted, depending on personal experiences and this is affected by people's subjectivity. Therefore, the responses of affected people to disasters have different patterns (Oliver-Smith, 1996). The variations in definitions of disasters cause a diverse range of disaster management approaches in different social contexts.

The Asian region has been affected by the highest number of natural disasters of any global region (ADRC, 2006, CRED, 2010) due to its geography and the presence of many developing countries. Forty percent of all natural disasters occur in Asia, followed by 28% in Africa, 15% in America, 14% in Europe, and 4% in

Oceanic countries, as shown in figure 1.1 (ADRC, 2006). The most common type of disaster that occurs is flood, as shown in figure 1.2 (ADRC, 2006).

Number of Disasters (World/Region) 2006

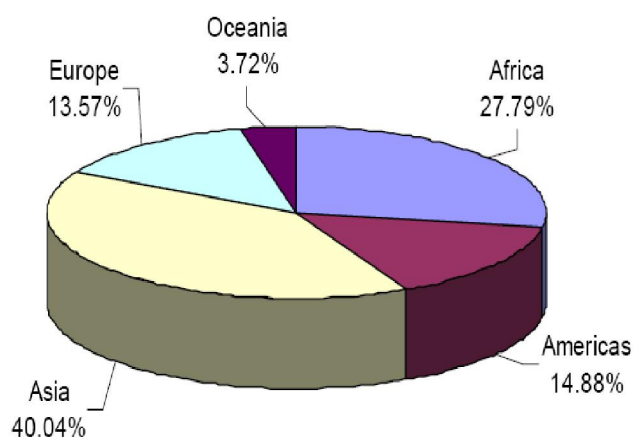


Figure 1.1 Number of disasters in different regions (ADRC, 2006)

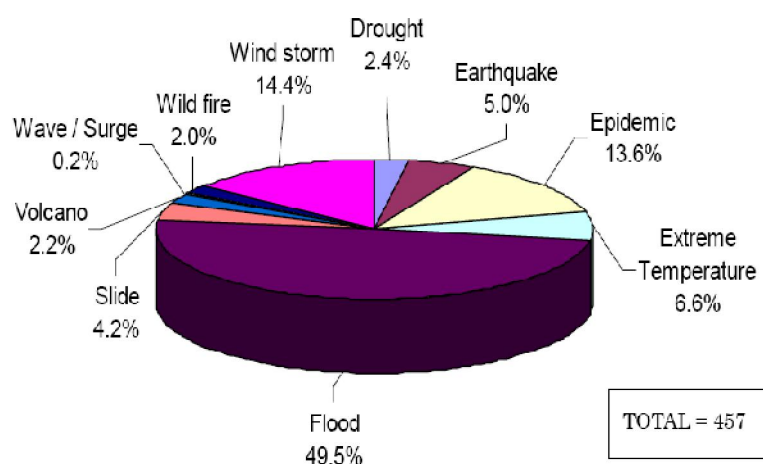


Figure 1.2 Types of Disasters (ADRC, 2006)

More than 135 million Asian people have been affected by disasters. This is a high percentage and accounts for 88.85 % of all flood-affected people worldwide, as exhibited in figure 1.3 (ADRC, 2006). The above data demonstrates that Asians are the group most affected by disaster impacts.

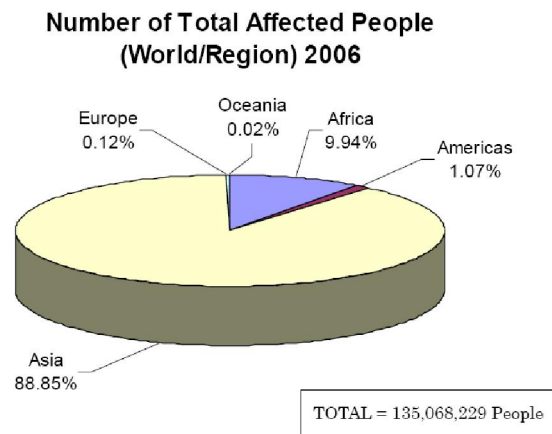


Figure 1.3 The number of affected people

Disasters cause social and cultural changes (Doughty, 1999, Hoffman & Oliver-Smith, 2002, Gaillard, 2007), economic loss, political instability (Torry, 1979, Oliver-Smith, 1996), threaten health (Hooke & Rogers, 2002:5, Albala-Bertrand, 2003), and increase mortality rates (Alexander, 2006). Disaster impacts are generally evaluated by their economic value. However, this perspective is inadequate because it does not consider the suffering of affected people. Evaluation should be based on an insider or emic view. Unfortunately, affected people are often voiceless and no one pays attention to their subjectivities.

The discipline of anthropology commonly uses the emic view and considers social vulnerability and socio-cultural changes, especially changes that create social suffering (Oliver –Smith, 1996, Gaillard, 2007). Disasters are crucial issues that cause social suffering, which is connected to structural violence, unequal development, and world capitalism. The emic views of affected people reflect the suffering experience from disaster impacts that are produced from structural vulnerability. A study from the emic viewpoint would be helpful for exploring suffering from vulnerability.

Anthropology emphasizes cultural adaptations. The different adaptations between developed and developing countries are not only locational but also cultural adaptations. Adaptations depend on biological conditions and rely on unequal accessibility to resources. Limited resources and inaccessibility of resources in developing countries intensify the impacts. As a result, this shows that impacts of

disasters are associated with social, political, and economic forces, which depend on structural inequality or structural vulnerability. However, suffering experiences are also shaped by individual vulnerability, which has never been addressed in a study. The emic perspective is helpful for eliciting comprehensive vulnerability; moreover, it helps to explain the suffering of affected people.

Vulnerability relates to disasters because it is determined by the physical and social economy and economic and environmental factors. It increases the susceptibility of communities to the impact of hazards (Alexander, 2006:6). Vulnerability is associated with susceptibility to disasters and the incapability to cope (Dow, 1992). Its consequences depend on structural inequality, which creates ineffective disaster management. Vulnerability is not only a determinant of disasters, but also exacerbates their impacts. In addition, vulnerability could be accounted for at the individual level. Suffering experiences from disasters reflect both structural vulnerability and individual vulnerability. However, there are few articles concerning the connection of individual vulnerability with structural vulnerability. This study unfolds the relationship of vulnerability in different perspectives.

The Critical Medical Anthropology (CMA) concept explains disasters in terms of economic and political power relations (Singer & Baer, 2007). There are four levels of explanation. The macro level explains that economic development and globalization bring both advantages and disadvantages. The advantages are growing economies, convenient transportation, and prompt communication; on the other hand, the disadvantages are imbalanced economic development, exploitation of urbanization, resource degradation, and climate change (Wisner, et.al, 2004, Baer & Singer, 2009). The intermediate level establishes that policy formulation for flood disasters is not agreed upon and doesn't address all issues and all affected people. The micro-social level illustrates the power relations present in disaster relief. It reflects on discrimination and the patronage system. The individual level shows the experience, the self, and resistance of flood-affected people. It reveals suffering in all dimensions which is both visible and invisible. To apply the CMA concept to disaster issues, the power relations at each level must be explored. Usually, study at the macro level is widely articulated, but there are fewer studies of experiences of the individual.

Nevertheless, the linkage between micro and macro levels is necessary for study because a critical perspective is necessary to elaborate on the disaster phenomenon.

Flooding is the most common disaster in the South East Asian region. Moreover, the fatality rate in Asia due to disasters is the highest of all global regions. Asian countries have faced extreme and frequent floods conditions. Thailand has recently been affected by disasters at an increasing rate. Floods are the most common disaster in Thailand and cause the highest economic losses. Flooding is perceived as a natural process as well as a social process. Seasonal floods have positive impacts as normal process; it is good for replenishment of agriculture, so annual floods are desirable in the case of a country like Bangladesh which regularly experiences floods (Haque & Zaman, 1993, Zaman, 1999). Only when there are destructive properties is a flood called abnormal. In the past, flooding in Bangladesh has been caused by massive rainfall but now deforestation, which decreases water absorption and allows water to rapidly flow to low-lying areas, and construction of drainage basins and structures that obstruct the free flow of water are causes as well. Economic developments involving urbanization can cause flooding. Flooding is related to the urbanization that is occurring all over the world in flood-prone countries such as Argentina, Mexico, China, Pakistan, Philippines, Indonesia, and Vietnam (Pening-Rowell, 1996, Eakin, Lerner & Murtinho, 2010, Smith & Petley, 2009, Mustafa, 1998, Bankoff, 2003 Akmalah, 2010, Hung, Shaw, & Kobayashi, 2010). Therefore, flooding is a natural process and also a social process because social forces induce flood circumstances.

The researcher has reviewed articles about disasters in Thailand and found that there are few publications concerning disasters that consider structural vulnerability. Moreover, structural vulnerability connects to individual vulnerability, which reflects something beyond physical damages. Individual vulnerability conveys hidden suffering. Therefore, the study of individual vulnerability reflects on flood-affected subjectivity. Application of a critical approach is appropriate technique because it illustrates the micro-macro linkage. Subjectivities of flood-affected people relate to suffering. It is manifested in structural and individual vulnerability because subjectivity is shaped by embraced contexts (Biehl, Good, & Kleinman, 2010). The concept of subjectivity is included in this study to complement other methods used in

the research. Subjectivity is a concept that emphasizes the human mind and individual experiences, and also implies a kind of affective domination, in which feelings, thoughts, concerns, and perceptions are considered. Subjectivity illustrates interactions of flood-affected people and their contexts. Nevertheless, the study of subjectivity in this context has been neglected. This study is different from previous studies because the researcher uses an anthropological perspective. The researcher discusses the suffering of flood-affected people who are faced with flood circumstances. The research explores the vulnerabilities that link the subjectivity of flood-affected people at each level to the CMA concept.

1.2 Research questions

1.2.1 How do flood-affected people experience flood circumstances?

What is the meaning of a flood?

1.2.2 How do flood-affected people experience suffering from flood disasters? What is the pattern of the suffering?

1.2.3 How is social suffering caused by vulnerability?

1.3 Objectives of the study

1.3.1 To study the meaning and interpretation of both visible and invisible experiences within the cultural system.

1.3.2 To examine the self, resistance, and suffering experiences of flood-affected people.

1.3.3 To study the collective suffering of flood-affected people and the power relations of the suffering experience of the 2011 mega-flood in Thailand .

1.4 The scope of the study

This study is qualitative research that studies subjectivity of flood-affected people within the complex context of vulnerability. Vulnerability induces flood crises. Flooding was selected for the study because it is the most common disaster in Thailand and of all types of disasters; it causes the greatest impacts in the country. The area studied is in the central region because this area is a flood plain and basin area. The study area is in Wang Noi District, Phra Nakhon Si Ayutthaya province which is an important industrial and agricultural area. The district has agricultural areas with nearby industrial parks. It is in the central floodplain topography. Phra Nakhon Si Ayutthaya province is a water reservoir used to protect Bangkok from flooding. Therefore, people in this region have to inevitably live with seasonal floodwaters. The selection of the site in Wang Noi is appropriate to reflect on suffering experiences. The research is an ethnographic study and uses purposive sampling. Data was collected by in-depth interviews in which adaptation to flood impacts and the inevitable transformation of informants' lives due to those impacts were discussed. In addition, other methods were used to collect data such as focus group discussions, observation, photographs, and field notes. The research was conducted over a nine month period from October 2011 to June 2012.

1.5 The benefits of the study

1.5.1 This study unfolds the subjectivity of flood-affected people. It demonstrates flood experiences that are connected to emotion, beliefs, local knowledge, definitions of disaster, interpretation, and social construction of flood crises.

1.5.2 This study illustrates the social relationships of structural vulnerability; it shapes and reshapes subjectivity of flood-affected people. The subject is the self of flood-affected people. They resist the flooding situation, especially adaptation because of individual vulnerability.

1.5.3 The obtained data illustrate social processes related to flood crises. Understanding of the flood process will bring about guidelines for effective flood management in the future.

CHAPTER II

THEORETICAL CONCEPTS AND LITERATURE REVIEW

The literature review is divided into two sections. The first section reviews theoretical concepts and the second section reviews articles related to disasters. In the first section, the theoretical concepts reviewed relate to social processes of flood phenomena as well as flood responses. This study implements four concepts. The first concept, the Critical Medical Anthropology concept, consists of four levels. At the macro level is global capitalism, reflected by economic development. Economic development consumes massive resources throughout the world and causes both positive and negative impacts. The negative impacts generate risky conditions which can lead to the occurrence of disasters. The intermediate level elaborates the institutions that embrace expert opinions and use rational approaches to controls human beings in everyday life. Disaster management policy represents professional knowledge, which emphasizes the objectification of, but neglects the subjectivity of affected people. At the micro-social level is the relationship between helpers and affected people. This power relationship induces discrimination in relief operations and hegemony of injustices. The individual level reflects on lived experiences, the self, and resistance to flood phenomena.

The second concept, social suffering, is determined by economic, political and social forces. Suffering caused by floods is not only the physical impact of the flood, but also the embodied suffering in society which is invisible.

The third concept, vulnerability, makes human susceptible to risk; moreover, it is related to the capability of humans to cope with disasters. There are two levels of vulnerability, structural vulnerability and individual vulnerability.

The fourth concept, subjectivity, presents emotion, thoughts, and actions of flood-affected people. Subjectivity is determined by social structure and belief systems which lead to actions.

The second section reviews disaster situations and consequences. Moreover, the researcher reviews previous studies that discuss the definition of disasters and disaster management. From literature review, considerations of disasters have moved from the act of god to the natural phenomenon. Nowadays, human actions involve with disaster processes. The disaster situations are intensifying. Flooding is the most common disasters in Asia, especially South East Asia. Asian people are the most affected. In addition, there are many definitions of disasters which depend on the professional discipline. It influence to the variety of disaster management.

2.1 Theoretical concepts

2.1.1 The Critical Medical Anthropology (CMA) concept

The CMA concept places an emphasis on health conditions, which are related to economic order and social forces in global capitalism. The CMA concept underscores the power structure and inequality in health systems. The origin of illness is found in social structures such as poverty, discrimination, violence, and conflict (Singer & Baer, 2007). Medical anthropologists analyze the power relationships in biomedicine and how these are controlled and expressed.

Therefore, biomedicine is the starting point of the CMA concept. Biomedicine is based on a mechanical approach that separates the physical from the mind. It emphasizes only diseases, which is different from the holistic viewpoint imparted in the CMA concept, which has an outlook beyond diseases only. This viewpoint is broader and connected to social structure. In addition, the CMA concept encompasses political and economic forces on global and local scales. Human health conditions are shaped by all of these structures. The CMA concept combines many concepts such as world system theory, critical theory, hegemony, feminist political economy, post structuralism, interpretation, and cultural construction. The CMA concept has used the political economy of health to consider cultural sensitivity and

study it at the local level. It emphasizes class, ethnicity, and gender. The objective of the CMA concept is to emancipate humans from oppression

Several medical anthropologists developed the CMA concept. Soheir A. Morsy, an Egyptian-American anthropologist, proposed idea of the political economy of health. In 1979 she presented an article that stated the missing link in medical anthropology is the political economy of health. In 1990 she called the CMA concept instead of the political economy of health. The CMA concept fills the gap in the political economy that ignores the individual level. She emphasized the connection between human actions and interactions of political and economic power relations. Hans Baer proposed in his book *Agency and Resistance* that humans are not passive and objective, but are instead active and creative. Baer linked suffering experiences to social and economic forces. Suffering experiences are social productions, which are constructed and deconstructed all the time. Political and economic power forms human life. Baer developed the CMA concept with Singer, and they proposed that medical ecology is tightly bound to the biomedical model, which is a myth of western society. Medical ecology emphasizes adaptation and behavioral and biological change. Illness is caused by the incapability to adapt (Singer, 1989). However, Singer proposed that medical ecology neglects social relationships and that this is the origin of illness.

Singer and Baer articulated the term Critical Medical Anthropology to describe their particular theories (Baer, Singer & Susser, 1997). They implemented the dependency theory to explain inequality in health services systems and proposed that inequality of society is the origin of illness.

The CMA concept can explain disaster circumstances at four levels; the macro level considers world capitalism, the intermediate level analyzes hospitals, the micro-social level considers physician-patient relationships, and the individual level is concerned with experiences, resistance, and subjectivity (Baer, Singer & Susser, 1997, Singer & Baer, 2007).

At the macro level, world capitalism shapes and reshapes social life (Singer & Baer, 2007). The CMA concept explains the capitalism that develops and expands the global economic system. The global economic system causes both advantageous and disadvantageous social and economic transformations which are

imbalanced exchanges (Alexander, 2006). Development is a transformational process of capitalism that produces contradictory consequences (Anan Kanchanaphun, 2006). On one hand, it conveys life style advantages, but on the other hand, there are negative consequences. Development causes negative impacts such as an increase of hazardous conditions, degradation from urbanization, and climate change. All of the above bring about conditions that are dangerous to human beings. In addition, structural vulnerability increases susceptibility to disasters. Disasters are negative loops of the development processes (Wisner & Gaillard, 2009). Disasters cause high mortality rates, especially in less developed countries (Wisner, et.al, 2004, Stromberg, 2007, Pelling, Ozerdem & Barakat, 2002), where there are lots of poor people who experience more impacts than other groups (McMahon, 2007). This is a result of the relationship of development to power relationships. Vulnerable groups who are of low socioeconomic status are susceptible to intensified disaster impacts.

Moreover, the CMA concept emphasizes that health is related to economic and social forces. The concept views the power relationships of economic expansion at the global level, which can be called globalization. The development of globalization has brought both advantages and disadvantages. The advantages are growing economies, convenient transportation, and prompt communication; on the other hand, the disadvantages are imbalanced economic development, exploitation due to urbanization, resource degradation, and climate change. All these issues pose medical threats to humans and increase susceptibility and vulnerability to disaster circumstances (Wisner, et.al, 2004, Alexander, 2006).

Global economic development causes imbalanced exchanges (Alexander, 2006) between core, semi-peripheral, and peripheral countries. Core countries exploit semi-peripheral and peripheral countries (Morgan, 1987). Countries at the core of capitalist world system convey pollutants to semi-peripheral and peripheral countries, but prosperity flows to the core countries. Human health has been threatened by capitalism, especially because of the inequality of technology exchange between more developed countries and less developed countries (Baer & Singer, 2009). The populations in less developed countries have faced health problem from negative impacts.

The intermediate level emphasizes the role of institutions at the national level in disasters. Both government institutions and NGOs formulate policies and plans for disaster management. There are several discrepancies in disaster management. First, disasters are very difficult to define because the particular definition used depends on the discipline. This in turn influences management pattern and provision of resources. There is no single agreed upon definition of a disaster (Lettieri, Masella, & Radaelli, 2009). Moreover, the definitions of a disaster are perceived within space, time, and context (Jigyasu, 2005). Second, there is ineffective cooperation and a lack of unity. The integration of knowledge often does not occur during disaster management because different disciplines are not able to work well together (McEntire, et.al. 2002, Lettieri, Masella, & Radaelli, 2009). Third, vulnerability is ignored (Wisner, et.al, 2004). As a result, there are gaps in disaster management. Lastly, capitalism is dominated by economic development. The presentation of information is hegemonic controlled by capitalism, influencing the presented information (Kanjana Keawthep & Somsook Hinviman, 2008).

The micro-social level considers the physician-patient relationship. In disaster situations this level can explain the relationship between providers and recipients of relief operations. Providers use objective professional knowledge to make calculations and predict outcomes, which allows them to control the situation (Beck, 2007). Evaluation of a disaster at this level considers only physical losses while other factors such as psychological, social, and cultural impacts are excluded. There are several issues present in this power relationship. First, victimization is one pattern by which providers judge flood-affected people by professional knowledge and create otherness (Kormatra Cheungsathiensub & Malee Sithikreagkrai, 2004). The affected people surrender to the situation and feel selfless and powerless (Farmer, 2003). As a result, they become victims of disaster circumstances.

Second, disaster professionals exercise power by setting up various criteria. Relief processes build the rules of engagement and induce burdens for relief processes such as requirement of identification, which causes delays and denial of participation in relief processes. People who do not have ID cards are excluded from assistance. Disagreements between professionals cause indecision and delay help (Siriporn Scrobanek & Waranya Keunoon, 2550). There are conflicts of interest

among providers and recipients as well because of power relations. The inequality of distribution of help creates conflict (Bui, 2008).

Third, subjectivity is neglected and makes affected people lose their health and dignity during evacuation. Living conditions are bad in crowded shelters and this can induce psychological problems. Moreover, local knowledge is not integrated with provider knowledge and relief operations, causing a lack of conformation of disaster relief efforts to the normal way of life of local affected people.

Fourth, power relationships determine assistance and create discrimination. People who have connections with authorities gain priority of help (Mong Paisal Wisalo, Duanghathai Buranachareonkit and Nongluck Tronsilsut, 2007). The patronage system induces unfair distribution of aid and brings about conflict among affected people (Bui, 2008). The inequality of help is dehumanizing (Green, 1998).

The individual level takes into account the patient's response to his illness. The CMA concept considers experiences; not only thought but also actions and external reality. From this perspective, the physical world has been shaped by a history of inequality, dominant ideas, and social concepts through global processes (Singer & Baer, 2007). In disaster situations, the CMA concept refers to flood-affected people's responses to disasters. Flood-affected people interpret and construct disaster situations in different ways. Lived experiences of disasters reflect past experiences; moreover, resistance to the situation is expressed in diverse ways. A study of living with the increasing floods in the Philippine found that half of flood-affected people chose to evacuate to a relative's home or to the local chapel (Gaillard, et.al, 2008). People who remained at home placed their property and furniture on top of tables, chairs, or the second floor of their houses. That study found the same results in a study of natural disasters and development in Vietnam; it is most desirable for flood-affected people to remain at home. *"I was born here, grew up here and I would like to die here,"* said one participant in this study (Bui, 2008). Flood-affected people prefer to stay home and to force them from their accommodation may cause them to suffer.

To apply the CMA concept to disaster issues, the researcher explored power relations at all levels. In addition, social suffering and vulnerability were implemented to elaborate on the cause of disasters; moreover, the researcher used subjectivity to complement the explanation of flood-affected people's lives and their transformation. The researcher demonstrated that the lived experiences of flood-affected people reflect structural inequality.

2.1.2 Social suffering

Medical anthropologists focus on the meaning, cause, and process of suffering and link it to political, economic, and social structural dimensions (Kleinman, Das, & Lock, 1997). Kleinman views suffering as human experiences within contexts and he categorizes suffering into two dimensions. The first dimension postulates that social suffering is collective suffering that shapes perception and patterns of action. The second dimension suggests that social suffering is a social interaction connected to experiences of illness and suffering. Kleinman is concerned with victims' life transformations. He comments on the Disability Adjusted Life Year (DALY), which illustrates a number that is not reflected by social reality. However, DALY measures only the individual level, so it is not adequate to understand the suffering experience. He proposes using narratives, ethnography, and social history for studying social suffering.

Veena Das views social suffering as violence. Violence not only disturbs daily life but it is part of daily life, meaning violence is invisible (Das, 1997). Das' study in India showed a collective violence from discourse. The painful female body is objectified and violated. She disagrees with David Riches who sees violence only as symbolic and practical (Das, 1987). Riches emphasizes only violence toward the human body, but Das is concerned with invisible or silent violence. Das proposes using narrative study for the elicitation of victimization.

Margaret Lock reflects on the ideology of social suffering. She discusses the construction of truth. Lock's meaning connects to economic and political forces. Lock's study of organ transplant in North America and Japan discussed the construction of death (Lock, 2000) for the benefit of transplantation. The meaning of death is changed, and is dependent on medical technology. The medical technology of

organ transplants creates new forms of social suffering and leads to a public health crisis, but different cultures' relationships cause varied responses to suffering. Experiences in North America are different from those in Japan (Lock, 1997). Lock comments on the Cartesian plane that separates mind and body; she develops an explanation of how the mind interacts with the body. Moreover, the individual suffering experience is a social product that is constructed and deconstructed and is related to economic and political power.

Paul Farmer discusses structural violence in Haiti (Farmer, 1997). Poverty, gender discrimination, and ethnicity are factors that influence structural inequality and drives people into suffering.

Anthropologists define the concept of social suffering as a social context that causes pain, unhappiness, and human suffering. Bourdier (1993) stated that the suffering experience is related to contexts such as poverty and other social forces. Therefore, social suffering is an interaction between human experiences and social, political, and economic forces. It generates both individual and collective suffering. The characteristics of social suffering are categorized into three dimensions (Kleinman, Das & Lock, 1997). First, cultural representations involve tales, metaphors, and imagination in different cultures. Suffering is a political economy issue. Second, social experience is shaped from cultural representation. Experience is shared and learned from life transformation. Third, political and professional processes shape the suffering response. These involve power relationships and opposition between disciplines, leading to collective suffering experiences. This is the most severe kind of social suffering.

The final concept of social suffering is social forces that cause people pain and discomfort. Das is concerned with invisible violence, which is a result of religious hegemony and caste. Lock addresses ideology, especially medical hegemony that shows only the advantages of medical technology. Lock and Das have the same perspective of social suffering; they both theorize at the ideological level, but Kleinman's ideas are different. Kleinman explains cultural processes and structural violence. He addresses the structural level. Farmer is also concerned with structural inequality. To obtain a comprehensive understanding of social suffering, the relevant issues at all levels need to be analyzed.

The social suffering studied in disasters is useful to reflect on the suffering of flood-affected people's lives. The suffering is both visible and invisible. Suffering exists at the individual level but is also a collective experience. Studies of social suffering are appropriate to apply to the concept of CMA. The suffering is unfolded at all levels; the interaction between each level discloses the diversity of suffering and reveals invisible suffering.

Scheper-Hughes (2005) reflects on Hurricane Katrina that hit New Orleans on 20 September 2005. Many New Orleanians are black and poor; moreover, they are marginalized because of hunger and malnutrition. They were very slow in getting themselves out of harm's way before and during the disaster. They blamed themselves with cries of 'Why me.' 'Why us.' and 'Oh God.' On the other hand, a national shame was placed on the government because of the lack of attention paid them. The media reported that flood-affected people looted, shot people, raped, and killed. These reports contained bias because many residents of New Orleans are black and poor. Flood-affected people in New Orleans were not only neglected but were also blamed. For these reasons Scheper-Hughes titled his article "The disaster and its double." The people in New Orleans weren't just abandoned during the hurricane; they were abandoned a long time ago just because they are poor and black.

The Bhopal crisis due to leaking gas created suffering experiences due to social forces (Rajan, 2002). The suffering in the Bhopal community was due to medical discourse, judgment, and government organizations. They produced suffering and made affected people powerless. Social suffering was caused by professionals who defined illness. The inequality of help is a dehumanizing process (Green, 1998). It causes powerlessness and suffering.

2.1.3 Vulnerability

The concept of vulnerability is an analytical tool for describing susceptibility to harm (Adger, 2006). The basic definition of vulnerability comes from the Latin root *vulnerare* meaning 'to wound' and 'the capacity to be wounded' (Kates, 1985 cited in Dow, 1992). There are two main perspectives of vulnerability; the first is exposure to risk or hazard and the second is a measure of coping ability (Dow, 1992, Alexander, 2008). Environmental scientists link vulnerability to alterations of

the environment and society, and adaptation to these. Geographers view exposure and coping capability, in reference to resistance and resilience (Dow 2011, Adger, 2006). Dow and Adger use the political economy approach. They propose that socioeconomic status is an indicator of vulnerability.

Dow comments in more detail about the level of analysis; she classifies vulnerability into individual, community, and national levels. At the individual level, income and health status are considered; at the community level socioeconomic political status is deliberated; at the national level population growth, agriculture, economic concerns, infrastructure and social disorders are studied. Both quantitative and qualitative methods are used to measure the degree of vulnerability. Brook, Adger & Kelly (2005) classified vulnerability factors into four categories which depend on sphere and domain as shown in table 2.1.

Table 2.1 Vulnerability factors, (Modified from Brook, Adger & Kelly, 2005)

Sphere	Domain	
	Socioeconomic	Biophysical
Internal	Household income Social network Access to information	Topography Environmental conditions Land cover
External	National policies International aid Economic globalization	Disasters such as severe storms, earthquakes, sea level changes, floods etc.

The conceptual framework is simplified to describe a wide range of perspectives on the relationship between humans and the environment. It can be used to measure the degree of vulnerability because it is able to illustrate biophysical and socioeconomic structures, as well as elaborate on internal or external spheres. Moreover, it could be used to reflect on the social processes of disasters and disaster management. However, human subjectivity should be combined with the framework for analysis.

The sociologists Wisner et.al (2004) characterize persons, groups, or situation that influence affected people's capacity to cope with, resist, and recover from the impacts of natural hazard. They give different perspectives from scientific knowledge; they propose that time is a dimension of vulnerability and can be measured in the future. Moreover, sociologists are interested in the inequality of structures that make people vulnerable to hazards: high population densities in cities that make it easy for people to get diseases, settlements in unsafe places in urban areas, living in unsafe habitations, and working in unsafe conditions.

McLaughlin & Diets (2008), also sociologists, articulate theoretical perspectives on vulnerability. There are five perspectives; biophysical, human ecological, political economy, constructivist, and political ecology. The biophysical perspective focuses only on degradation of biophysical conditions and impacts on humans. This perspective is too narrow to explain vulnerability to disaster processes because it ignores social, economic, and political structures. The human ecological perspective attempts to integrate social factors into the analysis of vulnerability. The principle holds that environmental variations are factors that influence social change and vulnerability. This perspective is informed by evolutionary theory. However, this perspective neglects to address power relations and their inequality. The third perspective, political economy, postulates that vulnerability is a class phenomenon. This perspective underlines inequality and differentiates the political and economic power that increases vulnerability. Nevertheless, human agency and culture are dismissed.

The constructivist perspective addresses the role of human agency and culture (Buttel, 1996 cited in McLaughlin & Diets, 2008). Actors interpret their experiences within time and space. Differential vulnerability is transformed by human agents and their culture. However, this perspective is criticized because it fails to recognize the dynamics of social structures. The last perspective, political ecology, concerns cultural human ecology and the political economy framework.

Anthropologists also reflect on the inequality of power and its role in vulnerability. Zaman (1999) and Oliver-Smith & Hoffman (1999) articulate characteristics of social and economic vulnerability that make humans capable of coping. These factors are responsible for the presence of different recovery processes.

Human subjectivity perceives susceptibility and leads to coping behavior, so therefore, human actions depend on subjectivity. Wisner, et.al (2004) and Oliver-Smith & Hoffman (1999) state that disasters are caused by vulnerability, which consists of political, economic, and social forces. They are constructivists and reflect on the social and cultural construction of risk, vulnerability, and disasters. Constructivism analyzes risk differently from objective science (McLaughlin & Dietz, 2008). In this perspective, disasters are social processes and are linked to social, economic, and political structural vulnerability.

There is a historic context of disasters (Oliver-Smith & Hoffman, 1999, Garcia-Acosta, 2002, Wisner, et.al, 2004, Zaman, 1999, Stromberg, 2007). Disasters are interaction between human behavior and natural events (Gunewardena, 2008). Flood studies in Bangladesh emphasized on physical characteristic, social and economic processes, which determined vulnerability to flood (Zaman, 1999). Mustafa (1998) reports floods in Pakistan are induced by structural vulnerability that originates from the social environment. Floods in Argentina are caused by rapid urbanization and transformation of agricultural areas (Penning-Rowsell, 1996). Flooding in the Philippines is caused by urbanization (Bankoff, 2003), along with floods in Indonesia (Akmalah, 2010). Unregulated policy and structural measures are unable to control flooding, intensifying flood crises (Wisner, et.al, 2004, De Varies, 2011). Flooding in Mexico is due to unregulated patterns of land use and the conversion of agricultural areas to industrial uses (Eakin, Lerner & Murtinho, 2010). Vulnerability is a historical context related to flood crises. Vulnerability is generated through root causes embedded in the social and economic systems.

Vulnerability influences the recovery process. A study of Hurricane Andrew used political ecology to study human vulnerability. "Tell them that we are hurting," was the voice of minorities. These people did not receive direct assistance because the government pays less attention to people in areas with less economic production. The government paid more attention to affected people in Louisiana because they are important for a strong economy (Dyer & McGoodwin, 1999). Studies in the Philippines do not have guidelines for assistance to minorities (Gaillard, 2007). The vulnerable groups from a volcanic eruption in Peru have not been discussed because they were not evacuated (Tobin & Whiteford, 2002). Vulnerable

people in El Salvador did not gain any assistance (Hooke & Rogers, 2002). Poor people experience more disaster affects (Afedzie & McEntire, 2010, Texier, 2008, McMahon, 2007). The above demonstrates that vulnerability stems from being poor or a minority, and that these factors increase susceptibility to hazards. Simply put, there is less opportunity to access help. The study of flooding in Bangladesh underlines the physical, social, and economic processes that determine people's vulnerability to floods. Moreover, social factors such as presence of kin, friends, and community and social networks influence the capability to cope, but disaster management policy does not pay attention to these factors as part of vulnerability (Zaman, 1999). Therefore, the recovery process is different for each person.

In conclusion, vulnerability is sensitivity or exposure to harm and coping capacity. Several factors influence human actions in different ways, such as structural inequality and internal perceptions. Nowadays, geographers, environmental scientists, and social scientists study social, economic, and political structural inequality, which cause vulnerability. The anthropological point of view is the same as the sociological perspective. Nevertheless, the researcher thinks that there are different arguments with which anthropologists should be concerned. Subjectivity is shaped from structures and influences various reactions. Even though people may be exposed to the same situation, their coping activities, attitudes, and feelings are different because of different subjectivities.

2.1.4 Subjectivity

The concept of subjectivity was contributed from critical theory, and is an effort to reorient Marxist theory. The Hegelian roots of Marxist theory are the major source of interest in subjectivity (Ritzer, 2000). Marx focuses on the materialism of economic structure but critiques of Marx represent the subjective element of social life at both individual and cultural levels. The critical school has shifted their concern to the cultural superstructure rather than the economic base. Moreover, the critical school is concerned with actors and their consciousness.

Subjectivity is central to cultural experience and history. Moreover, it is fundamental to sociology and humanity (Giddens, 1984). Subjectivity is the inner human life and involves the feeling and meaning of emotion (Good, 1994).

Subjectivity is also central to poststructuralist theory and marks the humanist conception of the individual. Subjectivity is used to refer to conscious and unconscious thought and emotions of the individual (Weedon, 1998). Subjectivity studies perception, affection, thought, desire, fear, and action. It presents the self and action, which depend on the structure of thought and emotion and reflects on identity (Lock, 1993, Ortner, 2006). Subjectivity is the interaction of anthropologists and local people (Spiro, 1996). It is a practice in everyday life, which is culturally shaped. Its meaning is defined by local people and is very complex. Its meaning is connected to political and economic power, which then generates new meaning (Anan Kanchanaphun, 2006). Therefore, the construction of meaning is complex and dependent upon socio-cultural contexts.

The concept of subjectivity studies modes of perception, emotion, thought, desire, and fear, all of which animate acting subjects (Ortner, 2006). In addition, it studies the symbolism of the human body (Biehl, Good, & Kleinman, 2007). The study of subjectivity explores the inner complexity that reflects the experiences of everyday life. The complexity of life is transformed by structural inequality. The inside transformation connects to the changing of organization that depends on time, culture, and history. Ortner explores the cultural shaping of subjectivities within unequal power relations, and the complexities of subjectivities. Ortner studies subjectivity from the concepts of Geertz and Foucault. Geertz is a cognitive anthropologist; he addresses culture through study of thought, meaning, actions, and linguistics. This concept emphasizes enculturation and can be traced back to Boas and Benedict. Configurationism considers determinant behavior. Culture is the determinant factor that compels members to follow (Churairath Janthumrong & Yupa Klangsuwan, 1992). All of the above authors state that culture determines action. Geertz analyzes subjectivity in symbolic forms, words, images, and behaviors. The study of subjectivity begins with asking questions about hegemonic resistance and the normalizing process. There are several anthropologists who study subjectivity in these terms.

Kleinman & Fitz-Henry (2007) reviewed the concept of subjectivity since the 12th century; a 'subject' is one who is under the domination of a monarch, government, or ruling power. In the 15th century, "to be subjective" was to be a

political subject. In later centuries, subjectivity was altered and became distinct from beliefs. In the 19th century, subjectivity referred to an essential individuality; the consciousness that one perceives. The emphasis on the human mind or experience includes feelings, thoughts, concerns, and perceptions. The current understanding of subjectivity involves inner life processes and the effects of subjectivity. It is reshaped by the economy, political reforms, violence, and social suffering.

Biehl explored the Brazilian experience, especially that of marginalized people. He used the narrative method to elicit Catrina's illness experience. Catrina resisted medical power. She tried to say that medicine and time did not help at all, but nobody listened to her until she explained her memories of the past, present and what she expected in the future. After this, she was released from the hospital. Her story manifests the counter reactions of medical sciences, social life, and the subjective process.

Good, Subandi, and Good conducted ethnographic research in Yogyakarta. One of the case studies involved Yani, an Indonesian girl with mental illness. They analyzed the meaning of and the dominating powers that influence illness experiences. They determined that religion was the dominating power. Good Muslims have to pray, but Yani studied in university and did not pray regularly. She felt guilty inside which contributed to her mental illness. The story of Yani presents the texture of the world that reflects the subjectivity of those suffering from mental illness in Java as well as the ideology that is embodied in the subjectivity of everyday life (Good, Subandi & Good, 2007).

Scheper-Hughes studied apartheid during a period of political violence in South Africa using ethnographic methods. Victims and survivors, both black and white, suffered collective trauma. People expressed their painful experiences and asked the question, "Why me?" The anthropologist asked the question "Why did suffering happen?" to try to link suffering to social contexts.

The conclusions of Scheper-Hughes, Biehl, and Good et.al, find common ground in their ideology. Scheper-Hughes, Biehl and Good et.al explain political, medical, and religious ideology, respectively. All ideology embraces subjectivities. Ortner is concerned with structures that influence subjectivity and Kleinman emphasizes transformational processes. Geertz is interested in enculturation and

analyzes subjectivity in the mode of symbols, imagined words, and behavior. Subjectivity is constructed from meaning and interpretations. Moreover, it relates to power and reflects contextual position. The researcher uses the concept of subjectivity for eliciting the inner life and lived experiences of suffering people.

2.2 Disasters

2.2.1. The situation of disasters

In the past, disasters were seen as ‘Acts of God.’ This perspective views damaging events as a divine punishment for immoral behavior, rather than man-made events (Smith & Petley, 2009). Disasters are noticed as external events. Later, Gilbert White (1936, cited in Smith & Petley, 2009), an American geographer, described natural hazards as not purely physical phenomena outside society; natural hazards are connected and occur on hazard-prone land because of human actions. White blamed flooding on behavioral faults that led people to develop flood-prone land. Smith & Petley (2009) called this a behavioral approach that neglects environmental and vulnerability.

Wisner et.al (2004) view disasters as socioeconomic processes that create human vulnerability and natural processes that create geophysical hazards. Smith & Petley (2009) state that disasters are caused by human exploitation rather than natural or technological processes. Root causes of vulnerability are based on capitalism and have influence at the national and global levels.

Oliver-Smith (1999), who is an anthropologist, describes disasters as a social processes caused by structural vulnerability, just as sociologists describe them. Moreover, he characterizes disasters as consisting of external variability and internal complexity. External variability refers to objective phenomena in various kinds of physical impacts. Internal complexity is a social construction that depends on subjectivity of knowledge, ideologies, and beliefs, which are embedded in individuals (Hoffman & Oliver-Smith, 2002). Disasters are complex because of vulnerability. Vulnerability causes disasters and influences their many different impacts. The

perception, interpretation, and meaning of disasters are different and depend on subjectivity.

Floods are the most common natural hazard with over 3,000 disasters recorded by CRED since 1990. Floods affect almost 20 million people throughout the world (CRED, 2010). In addition, flood disasters often occur in Asia where over 90% of the population is impacted. The Asian region experiences the highest mortality rate from disasters (Adhikari, et.al, 2010) as shown in figure 2.1. The number of flood victims and amount and severity of flood impacts appears to be increasing on a global scale.

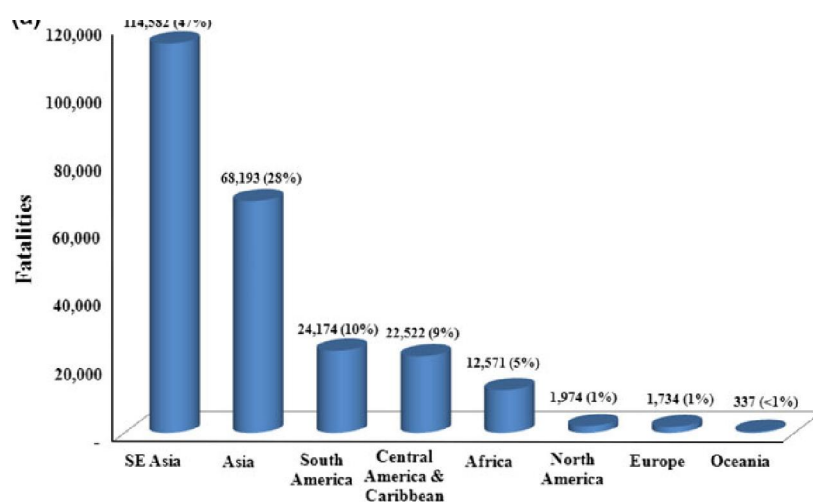


Figure 2.1 Disaster fatality rates reported by each region (Adhikari, et.al, 2010)

The US had the highest number of reported flood events between 1998-2008, followed by China and India. Thailand is number ten in the number of reported flood events. Data summarized in table 2.2 shows that Asian countries had the highest number of flood events during this period. China, India, Indonesia, Philippines, Vietnam, and Thailand together experienced a total of 664 flood events during this period.

Table 2.2 Countries with the most flood events 1998-2008 (Adhikari, et.al, 2010)

Rank	Countries	Number of events
1	United States	216
2	China	193
3	India	126
4	Indonesia	120
5	Philippines	92
6	Vietnam	80
7	Australia	79
8	Russia	76
9	Afghanistan	63
10	Thailand	53

Table 2.3 Monetary loss from disasters in Thailand from 1989-2007

Rank	Disasters	Cost (Baht)
1	Flood	1,687,865,582
2	Fire	875,791,793
3	Storm	234,547,154
4	Terrorism	76,079,000
5	Chemical hazard	51,073,908
6	Light strike	9,248,726
7	Accident	4,620,398
8	Hail storm	1,914,576

Between the years 1989 and 2007, Thailand faced heavy economic losses as a result of disasters, as shown in table 2.3. Over the past 20 years, Thailand has faced many different types of disasters. Floods have caused the greatest losses, followed by fires, storms and terrorism, respectively (National Disaster Warning

Center, 2007). Shook estimated that the highest disaster risk in Thailand is flooding. (Department of Disasters Prevention and Mitigation, 2009).

Flooding is classified as a hydrological disaster caused by deviations in the normal water cycle or overflow of bodies of water (CRED, 2010). From the environmental science and geographical perspectives, river flooding hazards result from a water level that overtops the natural or artificial banks of a river and threatens human life and property (Smith & Petley, 2009).

The physical causes of river floods are extreme atmospheric conditions, especially excessive rainfall, but the most common cause of flooding is due to technological hazards from dam failures. Bangladesh regularly experiences flooding. Floods in Bangladesh are generally caused by excessive rainfall, but human actions can affect engineering designs such as embankments and concrete walls that increase the frequency and depth of floods (Hague & Zaman, 1993). Flood situations in Argentina have a hydrological character and are caused by geomorphologic and climatological changes (Penning-Rowsell, 1996). The degree of flood severity depends on factors such as the depth and velocity of the water, the duration of the flood, and the load carried including sediment, sewage, chemical, etc.

Structures that influence flood processes can be determined by scientific considerations. However, scientific considerations can overlook invisible damages. Floods originate not only from physical causes, but also because of social processes. Floods can occur as seasonally excessive water, but also occur because of human action. In addition, floods are social processes that reach far into the social structure. Disasters are socially produced (Button & Oliver-Smith, 2008). Floods in Pakistan are caused by structural vulnerability (Mustafa, 1998). Similarly, analysis of flooding in Mexico illustrates interacting dynamics of livelihood, institutions, and the landscape that has been changed and creates exposure to risk and sensitivity to flooding (Eakin, Lerner & Murtinho, 2010). Peri-urbanization transforms agricultural landscapes into fragmented and unregulated rural/urban areas. In spite of this fact, flood situations in Argentina are observed not only as natural processes but also as man-made situations such as those that are economically induced or triggered by population movements. People move to floodplains or cheap land adjacent to growing

urban centers (Penning-Rowsell, 1996), and these people are vulnerable to flooding because of the unregulated use of land, similar to the situation in Mexico.

Several flood studies in Southeast Asia showed urban development causes extensive and severe floods, such as the extensive flooding that occurred in Manila in 1996 (Bankoff, 2003), flooding in Jakarta in 2007 (Akmalah, 2010), and Hanoi during 1975-2004 (Hung, Shaw, & Kobayashi, 2010). All those reports show urbanization is the leading cause of flooding.

Nowadays, vulnerability is involved in flood circumstances. This refers to structural vulnerability. Nevertheless, the anthropological approach presents a different viewpoint with the linkage of micro and macro levels of situations. Moreover, anthropology elaborates the social and cultural processes at various levels. For instance, anthropological studies of flooding in Bangladesh show the nature of physical, economic, and social processes that determine the vulnerability of populations. Moreover, Bangladesh reacts to disasters as 'Acts of God' and 'savagery of nature'. Human suffering caused by disasters is considered as misfortune and curses. The coping during the disaster crisis depends on socio-cultural factors that include kinship, community, and the presence of social networks for adaptation (Zaman, 1999, Gaillard, et.al, 2008).

Thailand, located in South East Asia, receives flooding every year. In the past 20 years, Thailand has faced many disasters, especially those caused by floods. Flood disasters have caused the most damage, followed by fires and windstorms (Department of Disaster Prevention and Mitigation, 2009). Out of all types of disasters, Thailand has the highest risk of flooding. Flooding in Bangkok is a normal process because the city is located on low lying land, or a basin. Therefore, in the past, Bangkok faced regular floods. At the present, Bangkok is rarely flooded because it is the economic center of the country and the normal process of flooding is prevented to protect the country's economic health. Therefore, floods do not depend only on geographic terrain, but are also related to economic interest. This reflects the structural vulnerability to flood in the vicinity of Bangkok.

The mega flood 2011 in Thailand were from nature and human activities. The first, natural flood was from climatology and geography. The early monsoon season and large amount of precipitation volume that was higher than the mean

volume 34% (www.thaiwater.net). Moreover, water in the river was massive volume. The geography of central region is floodplain, the natural drainage system is slower than Northern region, where is a high slope areas (Thongpleaw Kongjun, 2012). The second, man-made flood was from the land use and natural resources consumption. The transformation of land use, forest, and agricultural area became urban and industrial zones. The reservoir was decreased (Thongpleaw Kongjun, 2012). Thailand has developed the country with the national development plan. The consequences were massive production that caused lot of natural resources consumptions, the alteration the way of cultivation. Framers have changed cultivation twice a year to three times a year. They have to keep water and it causes the difficulty of water management. The agricultural areas were managed to industrial areas (Strategic Study Center, 2011). The promotion of advantage produced water obstructions, natural deterioration, and mega flood (Raphiphat Phasabutra, 2012). From statements above, flood phenomenon was not only the natural phenomenon that related to climate and geography but also it related to social that related to development and lead to flood condition.

2.2.2 The effects from flood disasters

Floods affect people worldwide. The destruction that can be distinctly noticed is physical damage to items such as property, livestock, and agricultural assets (Smith & Petley, 2009). Worldwide, flooding induces a high mortality rate of 1.29 per million people (Goklany, 2007). Flooding can cause deaths from epidemics when sanitation is not good; sewage systems are destroyed and produce water pollution (Wisner, et.al, 2004, Smith & Petley, 2009). Moreover, flooding causes drowning and electrocution as well. Nevertheless, there is invisible suffering that influences social activities and opportunities that are always neglected.

Disasters influence people in developing and developed countries. However, the impacts vary because of individual vulnerability. People in developing countries experience 100 times more effects than people in developed countries (Wisner, et.al, 2004). Social structures of developing countries increase susceptibility to exposure. In addition, there are fewer resources in developing countries to cope with disasters. Vulnerable groups have experienced the worst impacts. Black people

in the US received delayed assistance after Hurricane Katrina (Scheper-Hughes, 2005). After the tsunami in Thailand in 2004, assistance was inadequate. Vulnerable groups such as migrant laborers and those that were internally displaced did not receive help (Siriporn Scrobanek & Waranya Keunoon, 2007, Social Research Institution, Chulalongkorn University, 2008).

The recovery process after a disaster is very difficult, and often increases suffering. The studies mentioned above emphasize susceptibility to exposure and the impact of individual vulnerability. Vulnerable groups are unable to access help. However, these studies do not mention the linkages of social vulnerability that produce flood disasters. Only the study of Nareumol Arunothai and Usa Kortsriphet (2011) explains the social inequality of flood management.

Disaster impacts produce transformations such as physical, political, economic and socio-cultural changes; moreover, they affect health (Doughty, 1999, Oliver-Smith, 1996, Perrin, 1996, Hooke & Rogers, 2002, Smith & Petley, 2009). The political impacts are from delayed assistance. Affected people have resistance to delayed assistance and this leads to political transformation (Oliver-Smith, 1996). The economic mechanism is destroyed and this generates economic losses (Smith & Petley, 2009). There is insufficient production of goods (Garcia-Acosta, 2002). The socio-cultural impacts of disasters cause internal displacement and disturb normalcy in everyday life (Smith & Petley, 2009). Moreover, they cause crime and unemployment (Garcia-Acosta, 2002). Human health is at risk during disasters (Hooke & Rogers, 2002, Smith & Petley, 2009). Illnesses result from inappropriate conditions such as lack of purified water and clean food, and the spread of epidemic diseases (Garcia-Acosta, 2002). There are many diseases that occur during disaster events such as gastrointestinal tract infections (typhoid and diarrhea), upper respiratory tract infections (flu and pneumonia), and skin irritation (leptospirosis and fungal infection), along with mental health problems (Hooke & Rogers, 2002, Smith & Petley, 2009). The mental health issues are a consequence of loss. The fragility of life causes illness, especially mental suffering. However, the intensity of impacts depends on socioeconomic status (Pelling, Ozerdem, & Barakat, 2002). Invisible suffering is hidden in cultural systems. Therefore, study in this field is important to explore both visible and invisible suffering.

Mega flood 2011 caused huge damages. There were 884 killed people and millions affected people. The World Bank estimated the value of loss were THB 1.4 trillion (USD 45.7 Billion), which makes the floods one of the top five natural disasters event in modern history (Musulin, et.al, 2012). The major damage was in the industrial business. The Bank of Thailand evaluated losses of industrial park was high THB 2.4 thousand billion (www.bot.or.th). The consequences of mega flood 2011 have reached the global scale. There were lacks of material for industrial productions. Many industrial factories in Phar Nakhon Si Ayutthaya Province, which produced electronic parts, were flooded (www.dailynews.co.th). Toyota corporation is the biggest company that produce vehicle announced to stop producing in the US and Canada. After flood, the company lacked of equipment and vehicle part to produce. The flood crisis was not only affected to Thai people but also affected to Japanese people. Many Japanese workers had to go back home (www.thairath.co.th). There were others damages such as agricultural land damages, educational places, tourist business, public health, transportation, and the conflict among affected people. There were a lot of conflicts during the flood crisis because of the different flood level and flood protection measure. The protestation for flood management occurred in many areas (Raphiphat Phasabutra, 2012). Even though the mega flood 2011 caused many conflicts among communities disagreement but the flood crisis caused people get together and helped flood affected-people with kindnesses (Praveth Wasee, 2012).

2.2.3 Definition of disasters

Definitions of disasters are varied. There have been many attempts to define disasters but never has a consensus been reached. The diversity of definitions of disasters results from different perspectives, social constructions, external variety, and internal complexity. Disaster processes are connected to destructive agents, natural forces, the socioeconomic environment, and perception. Therefore, the definition is inseparable from hazards that may cause potential destruction of technology, infrastructure, and the environment. However, the hazard depends on perception of danger as well (Hoffman & Oliver-Smith, 2002).

Definitions of disasters are different because of the varied perspectives in different fields. The definition must consider environmental and infrastructural

damages (Hoffman & Oliver-Smith, 2002), loss of control of the current situation, high morbidity, high mortality, and unexpected events (Perrin, 1996:341-342). However, governments and organizations define disasters by the number of affected people and destroyed buildings. Nevertheless, definitions of disasters need to cover broader realms. The anthropological perspective goes beyond the physical impacts and is interested in fragmented socio-cultural changes (Oliver –Smith & Hoffman, 1999).

Definitions of disasters are social constructions that depend on professional expertise and objectivity (Perry, 2005). Sometimes, there is no physical destruction but there is a disaster. Disasters are constructed during crisis, so this is a form of interpretation. Disasters cause not only physical effects, but also mental and cultural consequences. Therefore, damaged infrastructure is not the most significant impact; it is merely the beginning of losses and socio-cultural changes. The anthropological perspective explores issues of social construction, interpretation, and context (Oliver-Smith, 1996). The construction of meaning is a significant factor in the definition of disasters, disaster management, and policy formulation.

The United Nations defines disasters as “A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.” (<http://www.unisdr.org>)

The Center for Research on the Epidemiology of Disasters (CRED) in Brussels, Belgium defines disasters as “a situation which overwhelms local capacity, necessitating a request for external assistance (<http://www.pitt.edu>).

Keith Smith, who is an environmental scientist, and David Petley, who is a geographer, define disasters are social phenomena that occur when a community suffers exceptional levels of disruption and loss due to natural processes or technological accidents. (Smith & Petley, 2009:13).

The Royal Thai Armed Forces defines disasters to mean fires, storms, floods, and others catastrophes. They can be natural processes or man-made and they affect life and property (Mitigation Center, Royal Thai Armed Forces, 2007).

The standpoints from those definitions are situations or processes which disturb or destroy the normal lives of people, communities, and society. Disaster impacts are extensive, requiring external assistance.

In spite of the fact that objective professionals create different definitions, they exercise power through objective knowledge. Sometimes definitions of disasters are politicized. CRED, an organization that performs disaster surveillance, defines disasters as “a situation or event, which overwhelms local capacity, necessitating a request to a national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction, and human suffering” (CRED, 2010). This definition focuses only on the necessity for external help when local communities are unable to handle the circumstances of a disaster. Disasters are defined only by the need for external assistance for physical recovery; on the other hand, the real catastrophe may be ignored because physical destruction is not seen. The destruction can be both visible and invisible, but the invisible damage is usually neglected. Hence, there are many discrepancies in the definition of disasters.

The definitions of disasters are determined by professional knowledge and depend on time, space, and power relations. Political and social processes determine professional knowledge. As can be clearly seen, the anthropological perspective scrutinizes all dimensions of disasters, which is a crucial difference from geography, engineering, environmental science, and sociology. Therefore, the anthropological approach can be used to thoroughly define disasters.

2.2.4 Disaster management

Flood management refers to methods to minimize flood impacts. Physical infrastructure is the most common method used to control flooding. The most common method to protect the land and property is levee construction. Levees involve simple construction methods and can be built with local materials (Hyndman & Hyndman, 2009). Moreover, they are inexpensive to construct. Additional methods include channel improvement, reservoirs, and an early warning system (Smith & Petley, 2009). Channel improvement increases the carrying capacity of a river. Flood channels can be used to divert water around urban development areas. Reservoirs for flood control are based on the principle of water storage. An early warning system can

minimize impacts because the monitoring system will provide a warning when the threshold of a flooding event is reached.

All of the above mentioned flood management methods are structural controls and are utilized in many countries. Flood management is under professional control. Professional knowledge is based on reductionist ideology, which separates human, nature, and environment. Reductionist ideology uses a mechanical approach that is widely implemented in flood management. Nevertheless, it is not enough to estimate and arrange; subjectivity, which encompasses feeling, emotion and inner desires must also be considered. When flood management neglects to address subjectivity and vulnerability, it creates gaps in flood management.

Disaster management requires objective knowledge, professional power, and an objective approach. Disasters are viewed as issues external from human society because of the domination of scientific knowledge. This knowledge is connected to government power (Fayerabend cited in Weera Somboon, 1998). Disaster management approaches depend on perspective. Usually, the etic view, which is based on scientific knowledge, evaluates disaster impacts in terms of physical destruction. This approach focuses on estimating, predicting, and controlling (Beck, 2007). This approach is implemented worldwide, but consideration of only physical impacts is insufficient because other dimensions which include thought, emotion, and beliefs of affected people are not considered. Disasters should be evaluated from an emic viewpoint (Wisner, et.al. 2004).

Disaster management by the etic perspective causes gaps in management. The negligence of subjectivity induces inappropriate policy. Usually, disaster management policies that ignore subjectivity produce unconfirmed assistance that is mismatched to local need. Moreover, it does not take into account local knowledge during policy implementation (O' Brien, et.al, 2010). The burden of language for communication is another difficulty encountered during disaster management. Misunderstanding of local needs causes inappropriate and unnecessary help. This happens repeatedly because local needs are ignored (Gaillard, 2007).

The negligence of vulnerability brings about inappropriate policy (Hooke & Rogers, 2002) and inappropriate and unnecessary assistance. Marginalized groups lack opportunities to receive help (Hooke & Rogers, 2002:5) because they are not

reported to organizations for assistance. During a volcanic eruption in Peru, marginalized groups were not evacuated because they were undocumented and relief agencies were not aware of their presence (Tobin & Whiteford, 2002). Moreover, the socioeconomic characteristics of low-income people mean that they are more likely to be seriously affected by disaster impacts (Pelling, et.al, 2002, Stromberg, 2007, Texier, 2008, Afedzie & McEntire, 2010). Anthropological study considers the social inequality and vulnerability that causes the inequality of disaster impacts (Haque & Zaman, 1993, McMahon, 2007). Minimizing vulnerability would help to reduce gaps in disaster management. The policy formulation process has already begun to include vulnerable groups such as women, elderly people, and disabled people (Fjord & Manderson, 2009).

A holistic approach is necessary because disaster management must implement interdisciplinary perspectives (Hooke & Rogers, 2002, McEntire, et.al, 2002, Afedzie & McEntire, 2010, O' Brien, et.al, 2010). The different themes of disaster management require effective coordination from the local to national levels. Moreover, integration at the horizontal level should also be considered. Private organizations should be integrated for competent disaster management (Hooke & Rogers, 2002, Afedzie & McEntire, 2010, Surichai, Wungeao, 2006). Poor coordination causes inadequate and ineffective management. There were information of water system in Thailand but it never been used for benefit. Nobody brought up for analyzing (Royon Chitradon, 2012). All units of water management were not integrated (Pollution Control Department, 2011). There was no unit for collecting water information (Strategic Study Center, 2011). Kampanath Pakdeekul (2012a) commented on water management that focused on water and rivers but ignored ecology system, resources and biology. In addition, Thailand has not had master plan for water management yet.

Thailand has implemented the Strategic National Action Plan on Disaster Risk Reduction 2010-2019 (Department of Disaster Prevention and Mitigation, 2009) for the integration of all parties from the local to national levels. The plan includes risk prevention systems as well as natural disaster warning systems administered by the Meteorological Department of Thailand at the Ministry of Information and Communication Technology, which is responsible for monitoring and forecasting the

weather. The Meteorological Department reports their findings to the Ministry of Interior, which disseminates information to the province, district, and sub-district levels. In addition, the Royal Irrigation Department manages water storage and drainage systems (Thailand Institution of Scientific and Technological Research, 1999). The Thai government separates organizations into unit, division, department, section and so on. The government established the Flood Relief Operations Center (FROC) for during the flood crisis of 2011 but it was a largely redundant operation. There was a lack of unity in terms of flood management, which produced redundancy in management and relief efforts (Seree, Supharathit, 2011, Kampanath, Pakdeekul, 2012b). Unorganized information about the flood caused delayed assistance (Mingsun, Khoasa-ard, 2012). The lack of cooperation and redundancy in assistance efforts caused ineffective management during the 2011 flood crisis in Thailand. The government has certainty structure and the chain of command but the content in the plan is vague. Therefore, the assistance was not ready to help flood-affected people and it caused double crisis (Paisal Suriyawongpaisal, 2011) such as the negligence of infrastructure protection, transportation, and chaotic during evacuations (Samchai Srisun, 2011). In addition, there was lack of the water management system. There was only solutions for problem solving when face problem such as the announcement of evacuation but there was no place to accommodate flood-affected people. They had no place to go (Thanawath Charupongsakul, 2011).

The actors responsible for disaster management often do not learn from past practice and do not improve their management of subsequent disasters (Afedzie & McEntire, 2010). Lack of documentation is another factor that can cause gaps in disaster management (Hooke & Rogers, 2002:5, Lettieri, Masella, & Radaelli, 2009). Preparedness should be ensured before disaster events occur by use of the holistic approach (O' Brien, 2010). For this reason, learning from past experiences is important to cope with disasters. Anthropological study emphasizes community problems in developing countries. Thailand uses a passive approach to community problems and addresses them in the recovery phase more often than embracing prevention and mitigation (Seree Supharathit, 2011). Currently, Thailand attempts to manage disaster impacts in advance and uses offensive operations that stress

mitigation to minimize problems (Office of the National Economic and Social Development Board, 2011).

A Disaster Relief Act was passed in 1979 and was replaced by another Disaster Relief Act that was implemented in 2007, which currently serves as the main law for disaster management (Office of The National Economic and Social Development Board, 2011). The law imposes a framework for disaster management. The Department of Disaster Prevention and Mitigation is the main disaster management organization in the country. Moreover, a strategic national action plans on disaster risk reduction for the years 2010-2019 was accepted by the Prime Minister's cabinet November 17, 2009 and has been in place since. Nevertheless, the Department of Disaster Prevention and Mitigation seems to only report on flooding situations and has registered donations in only a handful of floods. The department has insufficient manpower and resources to handle flood crises. The measures they take are ineffective because of lack of coordination between agencies.

The mega flood 2011 was from flood mismanagement that related to the storage water in a big dam. Government commanded to open the Bhumiphol Dam water gate but there was no plan to arrange people. Therefore, housing and people suffered from massive volume of water. The Bangrakhum model that promoted 2P2R was useless (www.reform.or.th) The flood flew in the west direction caused the worse scenario because canals and rivers in those areas were not appropriate for flood drainage (Theraporn Weerathaworn, 2011). Moreover, the water management passed through many boundaries (www.thaiwater.net). The opening water gate and levee construction for flood protection become burden of flood flow (Thongpleaw Kongjun, 2012). Thanawath Charupongsakul (2011) comment on the flood crisis that *"precipitation was similar to 1995 flood but this year was severe because of human. There was mismanagement and inadequate knowledge for flood management. To obstruct or slow down flood flow was appropriate for small volume. In case of massive volume was more dangerous if we obstructed flood flow. It would worse."* The poor flood management related to flood crisis.

Relief and control efforts during the 2011 flood crisis in Thailand were managed by two organizations. The first, the Strategic Committee for Reconstruction and Future Development (SCRF) is responsible for reassuring investors and

manufacturers and maintaining their confidence in the Thai economy through public investment to prevent effects from floods. Moreover, they strive to maintain Thailand's position as a leader in the production and service sectors and to develop a good foundation for investment that is based on prevention and disaster risk management.

The second committee is the Strategic Committee for Water Resources Management (SCWRM) which formulates the national master plan for water management. The objectives of the committee are to prevent and mitigate the impacts from large to medium-sized floods. Moreover, the committee sets up subcommittees to increase the effectiveness of operations in accordance with policies outlined in the master plan (Office of The National Economic and Social Development Board, 2012). However, several committees have the same responsibilities, causing a lack of unity and redundancy in operations. The literature review shows gaps from structure control. Mechanical controls only are not sufficient for flood management. All gaps from inappropriate assistance originate from delinquency of subjectivity and vulnerability. Further study is needed to find solutions to fill the gaps in flood relief.

SCRF has implemented three R that includes rescue, restore, and rebuild. SCRF nominated SCWRM to set up plans for flood management such as plan for the short period with twenty thousand million Baht, plan for the long period and sustainment in the Chao Phraya River with three hundred thousand that consist of recovery and restoration plan, surveillance system, information center, control room for contingency plan, solution for water pollution, etc. From these measures emphasizes on the structural approaches and lack of social perspectives. The disadvantage of development and over natural resources consumptions were neglected which was different from Japan that promoted three R that included reduce, reuse and recycle. It is a proactive vision.

To set up committee was redundancy and created the non-unity. The solution for flood relief was structural approach that emphasized on water drainage, levee construction, and increase channel capacity. The evidence base demonstrated that structural approach was not enough for flood management. There was nothing new in the flood 2011 solution. The structural approach was implemented such as protection system and levee construction (Chaiyuth Suksri, 2012). A huge budget was

used for levee construction. The construction was for economic area that demonstrated the inequality of resources mobilization.

“Levee construction and digging canal irregularly caused canal narrower. Canals could not drain water as it was (Apichart Anukulamphai, 2012).

The measure for flood management and relief operation reflected to inequality management. Bangkok was a major area of flood protection. The unequal distribution of goods and food reflected to the discrimination of help (Samchai Srisun, 2011).

The presentation of flood information was unequal. The presentation of mega flood 2011 reported an updated data but some media didn't report the truth (Raphiphat Phasabutra, 2012). Actually nobody could give the right information during the flood crisis (Paisal Suriyawongpaisal, 2011). People could not make the right decision from inadequate information. If people gain the right information, they could help themselves more or less (Seree Supharathit cite in Thanawath Jarupongsakul, 2011). Therefore, people should get clear information about flood situation for preparation.

The uncertainty and unrefined information or diverse information from different discipline caused people frustration. Sometimes, the conflict of information or presentation was over claim (Theraporn Weerathaworn, 2011). The disordered information made Thai people in chaotic circumstance. The communication didn't give message to people, most of them didn't understand so they were unable to prepare properly (Mingsun Khoasa-ard, 2011). The announcement that government was able to control (Aou Yu, เอาอยู่) flood, was wrong signal. There caused lots of damages (Narong Pethpraserth, 2011) and it caused multiple suffering. Moreover, communication ignored vulnerable groups such as disable people. Disable people didn't get information because the hand language didn't use during television presentation (Natda Hompikul cite in Thanawath Jarupongsakul, 2011). Therefore, the unequal presentation and inappropriate flood relief were from negligence of flood-affected people subjectivities. All the above are important issues to study for reducing relief gaps.

2.2.5 Previous studies of disasters

Research on disasters began with quantitative methods, with qualitative methods being used in later studies (Stallings, 2002). The quantitative approach uses theory to explain the phenomena and predict and control the negative impacts. The type of interpretation used generates different explanations. The differences in explanation within the same circumstances require multiple methods for thorough explanation; an elaborative approach is required.

Disaster research can be conducted during the prevention and preparation stages, as well as during and after the particular event (Garcia-Acosta, 2002). Most studies, however, are conducted after a disaster and investigate adaptation of affected people and other variables (Phillip, 2002). Various data collection methods are used including observations, narratives, focus group discussions, and interviews (Oliver-Smith & Hoffman, 1999). Methods of data analysis are textual analysis and discourse analysis (Quarantelli, 2005).

Anthropologists have been studying disasters since World War II. They study behavior, experiences, vulnerability, and impacts. Garcia-Acosta (2002) studied disaster histories in Mexico and found complex physical, biological, and sociological interactions. The flood in Mexico was not only caused by massive rainfall, a natural process, but can also be referred to in the context of social, economic, and cultural vulnerability, which lead to flooding. As soon as disasters are linked to socio-cultural contexts, the process of disasters can be investigated. Therefore, frequent disasters not only means intensification of disasters, but also a more vulnerable society (Oliver-Smith & Hoffman, 1999) The anthropological perspective leads us to minimize the gap between theory and practices that are fragmented among ecology, society, economy, and culture.

Anthropologists classify all studies into three domains. Oliver-Smith (1996) studied disasters from an anthropological perspective. He postulated that risk and environment are related to the sociological transformation during 1977-1996. The first domain is the response behavior approach. This approach stresses the behavior of individuals and groups and studies gender, age, and ethnicity. All these factors influence disaster impacts. Cultural ecology has been influenced by Julian Steward. He explains adaptation within environmental changes. Cultural ecology focuses on

adaptation and posits that environmental factors are significant social determinants (Yos Santasombat, 2003, Nityaphan Wanasiri, 2007). Environmental transformation affects human behavior (Benja Yoddumnean, Janya sethabutra and Kritiya Achawanichakul, 1926). This approach views the static and the transformation needed to go back the equilibrium condition.

The second approach emphasizes social change. Disasters can be a significant factor in social and cultural change. Anthropological study has demonstrated resilience and adaptation to hazards. Social change causes more vulnerability and is linked to power relations. The third approach stresses development and vulnerability. This perspective focuses on interactions between humans and the environment. Disasters are not only geographic events, but also involve relationships humans, society, and the environment. During the 20th century, approaches to disasters moved from individual factors to the underlying structure which includes physical vulnerability and economic, political, social, and cultural factors.

The anthropological perspective has been used to study many disasters. Many concepts are applied to their study such as political ecology, vulnerability, discourse, and interpretation. Dyer & McGoodwin (1999) used observation and interviews to study the flood-affected people from Andrew Hurricane. 'Tell that we're hurting' reflects the negligence of local government. Minority ethnic groups were ignored or assistance was delayed because they are poor. Moreover, the areas in which minority groups live contribute less to the GDP. Adaptation depends on power relations, which in this case are unequal.

Bangladesh is vulnerable because of its geography and climate. Zaman (1999) states that its social and economic vulnerability has determined its coping capacity. The kinship and patronage system play an important role for disaster management in Bangladesh. Nevertheless, disaster management policy rarely considers this. Vulnerability generates more problems in developing countries. The vulnerability approach shows that disasters are not only natural processes but also social, economic, and political processes.

The interpretative approach shows the experiences and interactions of humans and the environment. Hoffman (1999) discusses urban fires. She finds many

metaphors, meanings, and symbols in fires. They exist in the interpretation and belief system and their meaning is determined by a web of experiences. Meaning is the interaction of humans and the environment in this case, but power relations are never mentioned.

Discourse analysis is another method used to study disasters. Button (2002) studies narrative discourse and posits that there is a discrepancy among media and flood-affected people. For example, mass media may report an oil leakage as a natural process but affected people may perceive it as a human error. Mass media view the oil leakage as a risk to the environment and not a risk to humans. Mass media report it as a natural process, and therefore inevitable. The flood-affected people got nothing for compensation because of the ideology of inevitable natural processes.

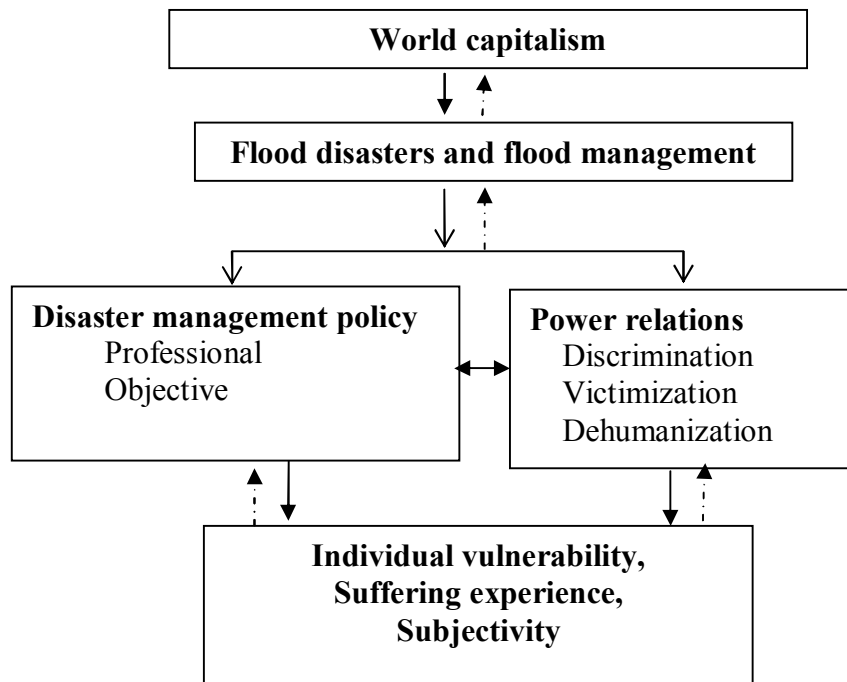
There are both quantitative and qualitative studies of disasters in Thailand. Quantitative research proposed structural solutions that emphasize a physical approach such as a drainage system for reducing flood levels (Mekhin Mano, 2007), and raising the street level. Non-structural solutions emphasize empowering communities through knowledge (Thavida Kamolvech, 2011). Some qualitative research studies the potential of self-care during flood impacts. Nathriya Lohapaiboonkul (2007) used the qualitative method to study flooding in Chainath province. She studied flood impacts and self-management in terms of health. She found that flood-affected people suffered from the flooding situation, as well as issues from flood assistance. Although she stressed self-management, it was found there was still a need for external assistance. Moreover, there was a gap in assistance during the flood crisis linked to structural contexts.

Siriporn Scrobanek & Waranya Keunoon (2007) studied vulnerability due to class and gender resulting from effects of the 2004 tsunami in Thailand. The study illustrates a lack of assistance because of vulnerability. Migrants whose names were not registered in the affected districts did not receive any compensation. The conditions of aid produced a worse scenario. Assistance was available but was only distributed to people with identification cards. This inappropriate policy was implemented because of the lack of consideration of vulnerability. While Siriporn & Waranya studied the impacts of vulnerability they did not link it to social forces.

There are several articles that consider disaster management in Thailand. Nareumol Arunothai and Usa Kortsriphet (2011) discussed lived flood experiences and structural inequality in flood management. Montri Chanthawong (2005) stated that because of the uncertainty of receiving adequate precipitation, water is stored for potential drought conditions. After intense rains come, water must be drained from reservoirs. For these reasons, Kampangpeth Province experienced severe flooding in 2003. Surichai Wungeao (2006) presented an article explaining disaster management policy in Thailand and emphasized integration of systemic processes. He stated that communities should participate in policy formulation. He proposed that organizations should study disasters and their impacts and improve the mechanism for policy formulation. Moreover, he stressed the relationship between processes, context, and social networks. Seree Supharathit (2011) discussed flood water arrangements in the future; he proposed reducing disaster impacts by minimizing vulnerability. He elaborated on structural vulnerability, which is involved with the development of infrastructure in Thailand. The advantages of development bring about prosperity for the country but there is a lack of surveillance of disaster processes. The lack of cooperation between organizations within the disaster cycle creates redundancy and a lack of unity in their efforts. Therefore, the solution must target the structural level. A systemic solution approach could minimize vulnerability and disaster impacts. The proposed solutions are different from past experiences that focus on each point and concern specific disciplines but lack an understanding of community contexts.

It was determined from the literature review that there are few studies on flood disasters. Moreover, qualitative studies of flood crises that consider the subjectivity of flood-affected people are even fewer in number. In this study, the researcher considers lived experiences, suffering experiences, and subjectivity. The researcher links all those experiences that include the self, resistance, meaning, and behavior in response to structural vulnerability that induce flood crises. Moreover, this study discloses individual and collective experiences, as well as social interaction and social contexts. Finally, the study unfolds the invisible sufferings that threaten daily life.

2.2.6 Conceptual framework



The Critical Medical Anthropology concept explores suffering in three levels. The first level considers the individual and examines subjectivity and lived experiences during the response phase of flooding. Visible suffering can be seen in terms of physical damages and invisible suffering is hidden in the meaning and interpretation of disaster, the self, and resistance to the disaster. The second level considers the interaction between relief workers and affected people. This relationship is based on a relationship of power that produces discrimination, victimization and dehumanization. The third level considers suffering caused by structural vulnerability, especially institutional ideology. The formulation of policy causes objectification. This study discloses both visible suffering that is demonstrated by physical destruction and invisible suffering that is embedded in the cultural system, the meaning and interpretation of disasters, and subjectivity of flood-affected people. Subjectivity is reflected in both individual and structural vulnerability.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research design

This study of the vulnerability, social suffering, and subjectivity of flood-affected people used qualitative research. The researcher's design was to conduct this study by using an ethnographic approach in Wang Noi District, Phra Nakhon Si Ayutthaya Province. Three main methods were used to collect data: narrative interviews, participant observation, and documentary review. Moreover, the researcher interviews key informants and conducts focus group discussions to complement information.

The research objectives were to understand the flood affected people's life. The researcher had to consider multiple factors of affecting flood phenomenon. An anthropological lens is the tool to understand the beliefs of the cultural system, the emotional, and the affective. The anthropological approach is a useful technique to answer the term of the meaning of people's actions, thoughts, and emotions that concern human beings as informants. The study places emphasis on thought, affect, and meaning. The appropriate, comprehensive approach understands that the natural disaster phenomenon is subjective, and focuses on viewing human interaction in the society. The natural transformation occurs during the interaction between human beings and society. Therefore, disasters are a part of daily life, and they inevitably occur. Human society and nature are inter-related to each other. The qualitative approach is the most suitable for reflection on affect, thought, emotions, and the interpretations by flood-affected people that are related to the social structure. This research was conducted during the response and recovery phases of the 2011 mega flood crisis.

3.2 Research setting

The qualitative research method used in this study was the ethnographic approach. The researcher explored the socio-cultural context in the ethnographic setting. The data collection represented the inter-subjectivity between the researcher and the informants, who were the flood-affected people who disclosed information about themselves and reflections on flood crisis. This method was the best approach for obtain a comprehensive understanding of their lives and culture.

The researcher collected, and then addressed the key social issues surrounding the 2011 megaflood. The analysis of social issues focused on the embodiment of everyday life, which leads to the relationship between lived experience and the social context. The study unfolded subjectivity, which includes the emotions, suffering and meaning experienced during the disaster; moreover, it disclosed and embraced all that shaped and reshaped the subjective experiences of the interviewees. The flood-affected people have gained experiences and given meaning to the flood crisis, such as direct impact of the flood and the web of causation, their life condition before the flood crisis, their suffering experiences, their losses, and life transformations, the self-help and the external help they received, etc. The flood-affected people have reflected on themselves as it related to the flood crisis. Therefore, the informants were not the only objective suppliers of facts during the study, but they were the co-researchers. The researcher and the informants related their experiences to each other. The study of the flood suffering demonstrated both individual suffering and collective suffering. Moreover, the study disclosed the power relationship between the helpers and the flood-affected people. The social arrangements implemented and informed the expert knowledge and opinion for policy formulation, mobilization, and the management of the flood-affected people's lives during the flood crisis.

3.3 The ethnographic site, informants, and the duration of the study

This research was conducted in the Nai Bung village community (a pseudonym for the village) that is located in Wang Noi District, Phra Nakhon Si Ayutthaya Province. This area is primarily agricultural land. The urbanization and industrialization caused by economic expansion has inevitably changed the area surrounding the village, so the agricultural area has been changed inevitably as well. In addition, during the flood crisis, the Wang Noi area was affected by the flood management, that was related to the social, political, and economic factors.

The researcher used purposive sampling in the study. The selection criteria was based on the feasibility of doing the study (Creswell, 1998) and it depended on having rich, informative, and active informants. The method used for obtaining the respondents for the research was the snowball technique. The snowball technique is based on peer networks. In this study, the researcher started by choosing two informants who had got flooded and had been evacuated to a shelter. These two people dedicated themselves to other flood-affected people. When the researcher would visit them in the morning, they came to me and informed me who was sick or who was not feeling well. They did other management tasks, such as cleaning ship, transferring food, etc. They were generous and easygoing people who were good at making opportunities to create relationships among others during the flood crisis.

The researcher had already established relationships with them during the time the researcher lived in the shelter. The researcher informed them of all purposes of talking. After that, the researcher asked for more information about the flood situation in the village. The researcher then let them introduce her to other flood-affected people. After they moved out from the shelter back to the village, the researcher kept in continuous contact with them in order to know how the situation was changing from time to time. This research studied a total of 10 informants, which was a sufficiently diverse and adequate sample for achieving all goals of the important data collection.

The duration of the study was nine months, from October 2011 to June 2012, during the rainy season and continuing into the winter and following summer. It

was an appropriate length of time to illustrate the response and recovery phase, which was the principal aim of the study. The researcher had begun the study in October 2011. The researcher used informal interviews, as well as non-participant and participant observation, in order to get familiar with respondents. In December the researcher had begun formal narrative interviews after getting approval for the study from the IRB at Mahidol University. The researcher collected data and analyzed it until June 2012.

The selection process began in the year before the study. The researcher had been on a long journey with the 2011 megaflood from the South to the North beginning in May 2011. First, the researcher went to Surat Thani to observe the flashing flooding. After that, the researcher moved to Phitsanulok to observe the annual flooding.

At that time, the government was promoting the Bang Ra Khum model (บางระกำโมเดล) as a flood solution. The Bang Ra Khum model is a plan for disaster management that implements four phases of management, which includes 1) the prevention phase, 2) the preparedness phase, 3) the response phase, and 4) the recovery phase. The prevention phase aims to reduce the risks and hazards from flooding to a minimal level. The plan is a long-term plan for sustainable flood management, such as the drainage system and the system of reservoirs. The preparedness phase prepares for facing the flooding problem. This phase works on keeping the information updated, which includes assessing risky areas and providing surveillance of the situation. The response phase happens when the flood disaster strikes. All available resources are mobilized to provide quick assistance. Finally, the recovery phase is getting back to normal life, which emphasizes the remedies and reconstruction of infrastructure after the crisis. The model 2P2R is just a new label for the same ideas; there is nothing new, interesting, or innovative. The researcher views it as the old liquor in the new bottle, so there is nothing new.

Finally, the researcher returned to the central region around Phra Nakhon Si Ayutthaya Province. In the initial stage of fieldwork, the researcher planned to perform the study at Bang Ban District, Phra Nakhon Si Ayutthaya Province. The researcher did survey around the site several times before the annual flooding occurred. However, the researcher found travel to Bang Ban District was with

hardship forms of transportation. The researcher found it was infeasible to do the research there.

In 2011 Thailand faced the worst flood that it has ever experienced. Consequently, the researcher did not hesitate to join the medical team from the Army Medical Department. The researcher's thought was that this was a wonderful opportunity to learn about the flood crisis, and the researcher would not let this chance flow away. The researcher came to Wang Noi during the second week of the flooding. However, the researcher subsequently learned that the flood relief operation phase in Wang Noi not proceeded beyond the flood response phase to the flood recovery phase. The researcher changed the site of the study from Bang Ban to the Wang Noi area because the study could be done with a more comprehensive understanding. Moreover, the researcher could participate in the very beginning phase of the flood and the flood relief operation.

Travelling from Bangkok to Wang Noi was very difficult because of the high water level on the road, and it was necessary to change to big wheel vehicles for passing through the flooded road conditions. There were many flood-affected people who asked for help along the side road, so it often took at least half a day to reach Wang Noi, with a soaked uniform. From personal observation, the researcher had seen small boats and cars on the road. The image was like a fairy tale scene, but it was the truth. More truth than the researcher could ever have imagined. The unlikely, bizarre scenario in front of the big-wheel truck reflected the reality of the high water flooding in that both vehicles (usually pickup trucks) and boat used the same route.

Travelling to Wang Noi was more convenient during the recovery phase. There are several ways to travel from Bangkok to Phra Nakhon Si Ayutthaya Province, which is about 70 kilometers away. The researcher usually traveled on Phaholyothin Highway. The researcher would depart from Victory Monument, which is located in the central of Bangkok. The researcher would then travel by car for an hour to get there. If the researcher took the elevated toll way, then it would be faster than usual. When the researcher passed through the Navanakhon industrial parks, the traffic would always be a bit slower because there were lots of vehicles on the road. Especially in the morning, many buses would be transferring workers to the factories.

In case of using a van or the bus service, it typically takes more time, about half an hour longer.

When the researcher reached Wang Noi market, the scene in front of Wang Noi Market was a bit chaotic, because there is always a lot of movement of crowded people and buses. There is an inspection point of the bus time table at Wang Noi market, so there are many commuters transferring right there. Market women vendors or market fruit and vegetable mongers are constantly calling for their customers, which make the Wang Noi market a bustling place. Wang Noi market is typically full of customers who are travelers as well as routine customers who are factory workers. They are noticed by their uniforms with the labels of the names of the companies they work for. The visitor can see a lot of uniforms there. This scenario reflects the reality of the industrial zone. The Phaholyothin Highway then passes through Wang Noi District. There is a checkpoint here for the bus service. Moreover, Wang Noi is the connection point for the vans and Song taws (สองแถว) taking the industrial workers to their employment. Wang Noi area is a good for an ethnographic study, because there are both agricultural and industrial lands. The transformation is occurring through the ongoing economic development.

3.4 Data Collection

Before entering the field to do data collection, the researcher established a good relationship among the flood-affected people. Trust had been built up before any information was collected. The rapport technique was used; it was therefore easy to get along with the flood-affected people. The researcher came to them with the flood assistance, which was the best way to make the data collection easier. At the same time, the researcher's role was established. The data collection was then begun starting in October 2011. Before collecting the data, the researcher had to ask for permission and consent from each informant to conduct the interviews.

In order to gain a diversity of information, the researcher implemented many methods. There were several data collection methods used, such as

documentary reviews, observation, and interviewing. Moreover, the research used focus group discussions and key informant interviews for complementation and triangulation.

3.4.1 Documentary reviews

The researcher primary used documentary reviews for evaluating the flood situation and flood assistance. The document sources were from newspapers, magazines, the internet, TV, and so on. The researcher did jotting and writing of the field notes, including reviewing the historical processes, then reflections on all of the data. Moreover, the researcher reviewed the historical processes because flood disasters occur as social processes. Not only did extensive precipitation produce the flooding, but also human-made did as well. Human activities are involved in the web of causation and have intensified the worse flood impacts. Moreover, others social forces also have influence during a flood crisis. The history of a community would illustrate the advantages and disadvantages of development especially economic expansions that produced the industrialization and urbanization. The documentary reviews have shown that the economic expansion has produced or exacerbated the flood situation in one way or another. Lastly, the researcher documented and reflected on the obtained documentary data.

3.4.2 Observations

The data collection phase for the study also required observation. The researcher used both non-participant and participant observation during the data collection. Non-participant observation was used to observe daily life, social life those meaningful categories during flood and after flood. To gain their feeling, thought, and appreciation of flood-affected people, participant observation was used during the relief process. Being a participant, the researcher performed as medical personnel who look after them during the flood crisis. After that, jotting, writing the field note, and then reflected to all information.

3.4.3 Narrative interviews

The narrative interview is one method of qualitative data collection. The narrative in social sciences offers insight about the people experiences (Elliott, 2005). Therefore, the narrative interview is implemented to obtain the lived experiences of flood-affected people. There are three phases of interview; first phase is the experiences during flood, second phase is the experiences during recovery phase, and the last is the reflection of the story. Moreover, the informal oral histories of the counter with flood-affected people are complementary, use for eliciting comprehensive lived experiences (Bernard, 2002) which are appropriate method for flood –affected people to narrate their stories. The consent form had been done before data collection for each one. The researcher met each informant many times in different periods of the study because of the researcher wished to know more about their life adjustment during both the flood response and flood recovery. During the interview, the researcher jotted down notes, recorded the interviews, and then transcribed the recordings. The researcher also wrote field notes and reflected on the information on an ongoing basis. Moreover, the researcher kept a log that helped the researcher plan to spend time with informants. The log is the key to doing systematic work in the ethnographic field. However, the qualitative research process is flexible to situation; it is an emerging and reemerging process.

3.4.4 Focus group discussions

To obtain collective experiences focus group discussions between the flood-affected people and their significant others were done. The informants might thereby feel more free to explain and share all or their good and bad experiences during flood crisis in a group setting. Moreover, sharing information might better help the recollection process and assist with reflecting on the suffering and other significant issues from the flood. Jotting down comments, taking notes, and tape recording conversations was done during the focus group discussions, and then the researcher transcribed, wrote up field notes, and reflected on the information herself.

3.4.5 Key informant interviews

The key informants were three villagers and two military officers who had been involved in the flood situation. Villagers were community leader, members of the local authority, and elderly people who knew the history of community. The two military officers were the unit's commander and company leader. Interviews followed the interview guidelines. The information from the key informants was used to understand the relief process. The researcher discussed with them and jotted down the main points, as well as used the tape recorder to record the entire interview. The log was done with all key informants as well, to gain a more comprehensive understanding of the flood relief process.

3.5 Tool for Data Collection

3.5.1 The researcher

The researcher is the most important tool for data collection in the qualitative research. Good preparation before entering the field is needed. The researcher should be prepared for any contingency during data collection. The data collection procedure used needed to be flexible to the situation. Moreover, the researcher combined the use of many tools for data collection, including narrative interview guidelines, interview guidelines, observation guidelines, field notes, the tape recorder, and photography.

3.5.2 The Rapport technique

The researcher used the rapport technique to build the trust among informants. During the flooding, the researcher had to adjust to daily life in an abnormal condition. To spend one's daily life in such a condition is made more difficult. Feelings had to be adjusted to adjust to the bad surroundings throughout the research process. The researcher lived with the informants for two months, and gained many experiences from living, eating, and spending life day by day with them. Moreover, the researcher could imagine how the flood-affected people's emotions were affected by their experiences when they felt anxiety because of the losses and

damages they suffered. Some of them cried with the interviewer during the interview. Even when they tried to stop crying, it was still difficult to carry on. Self-introduction was one part of the rapport technique. Then, the researcher told informants about her objectives when visiting. The researcher listened carefully and observed their performances. In addition to conducting the interviews, the researcher participated in the various other kinds of activities, such as providing some vocational training and playing games. The researcher put herself in the uncomfortable circumstances of her informants, sleeping in the shelter, eating the donated food meal boxes, and working with endurance necessary throughout the hardship.

3.5.3 Self-reflection

As a researcher, being self-reflexive is a crucial step to justify the empirical data. It is important to be self-reflective.; not only observing others feelings, but also the feelings of oneself. The feeling of occasional happiness and joy, and sadness for the flood victims must be jotted down, as well as feelings of appreciation for the relief process and the relief volunteers, and so on. The researcher could feel for their losses, such as jobs, property, and loved ones. As a human being, the researcher felt empathy for their fate. The researcher also would like to reduce their suffering in one way or another.

3.5.4 Inter-subjectivity

Inter-subjectivity is the interaction that occurs between researcher and respondents. The human being nature of the researcher makes the researcher feel grief for flood victims as well appreciated the big alterations that are occurring in their lives. The researcher worked as a medical provider during the flood crisis, and the researcher had questions and feelings, such as how we could improve the relief operations. The researcher had to ask herself for a long time how we could reduce the suffering from the flood. What could we do to reduce the gaps in the flood relief? Doing the research was one answer for reducing the gap. Hence, the cooperation between researcher and interviewee was one way to impact the flood relief.

3.6 Data analysis

The data analysis was done simultaneously with data collection. The researcher “emplotted,” that is, which means making sense of the flood stories while capturing the main ideas from the narrator. The researcher listened to the events and experiences, and then evaluated stories and brought up issues to discuss with the informants. As soon as the data reached a saturation point or it was obvious the information being gathered was redundant information, the researcher stopped collecting data. Next, all data from different sources was categorized. After that, data was coded by the concepts of vulnerability, social suffering, and subjectivities. Then, content analysis was used to analyze the categorized data. The researcher compared and contrasted the data to other literature, and made the arguments.

The content analysis process and interpretation method is modified from Creswell (1998), Komartra Cheugsatheinsub (2010), and Benja Yodumdeun & Kanchana Thancholathip (2009). The process for data analysis is as follows.

1. Review the data and find the main issue such as the objective issue, interesting issue, and unexpected issue
2. For the categorized issue, find the main word and match it to the issue
3. Codify
4. Combine and find the relationships in the data
5. Find meaning and explanation, link them up to the objectives of the study
6. Compare and contrast the data to other research
7. Create logic of thinking, connect the data to the interpretation, and meaning to the flood disasters in different perspectives

3.7 Trustworthiness of the data

This study used the triangulation technique, which is the method of inspecting in qualitative research (Suphang Chanthawanich, 2007). The data triangulation helped to validate the findings (Nisa Chuto, 2005, Chai Photisita, 2007, Denzin & Lincoln, 2005).

3.7.1 The data triangulation increased the reliability of data by using the same question in different times or with different key informants, such as the community leader, the volunteer, and elderly in the community.

3.7.2 The methodological triangulation used multiple methods for data collection, which this study already employed, such as documentary reviews, observations, narrative interviews, and focus group discussions.

The trustworthiness of data depends on explanation, interpretation and the meaning of the phenomenon (Silverman, 2000, Elliott, 2005, Chai Photisita, 2007).

3.8 Ethical considerations

Ethical considerations must exist in the research methodology. This study should be beneficial for the flood affected. All information, which reflects the truly feeling thinking and acting for the situation, will exist on the show. The hidden information will be reflected; no matter what, whether it is good or bad. The reflection of flood content is useful for the flood context, as well as it should be useful for flood-affected people in others flood areas and at other times.

Data collection did not do harm to any respondents or key informants. The researcher informed respondents in advance about the objectives of the study, and asked for permission prior to collecting the data. The consent could be either in oral or written form. Respondents and key informants had the right to decide what information to share.

Privacy and confidentiality was set up for respondents. The meeting place was set up at their accommodation or private places. The real names of any of the

flood-affected people were not disclosed in the presentation. All information will be kept between the researcher and respondents, and its use shall only be for the purpose of study. After the report of the study is presented, original data will be taken off from any computer.

3.9 Data display

The results of the research are presented in the next two 2 chapters. The first part is presented in chapter 4, which discloses experiences and perspectives of the informants to the 2011 megaflood crisis. The second part is presented in chapter 5, which demonstrates the suffering experiences, the reflections on self, and the resistance to flood disasters. Moreover, it presents the social arrangement that has caused other forms of suffering. The conclusion, discussion, and recommendations are presented in chapter 6.

CHAPTER IV

THE FLOOD CRISIS AND EXPERIENCES

Chapter 4 is divided into five issues. The first issue explains the megaflood crisis in the year 2011. The second issue demonstrates the meaning of the flood, which depends on the perceptions and thoughts of the flood-affected people. The third issue reflects on the live experiences of the flood-affected people. The fourth issue presents the emotions felt and displayed in various phases of the crisis, and the last issue discloses the self in the flood crisis that reflexive act in different ways to live with flood.

4.1 Flood situation in the year 2011

“The severe flood occurred during [the] 2011 monsoon season in Thailand” (www.wikipedia.org).

“Thailand faced the worst flood in 50 years. Floodwater has swamped more than 2/3 of the country” (www.google.co.th)

“Thailand may lose a quarter of its main rice crop in the nation’s worst flooding in decades.” (www.reuters.com)

“Humanitarian crisis looms in Thailand after the worst flood in decades.” (www.cnn.com)

Many reports from the mass media concerned the flood crisis in Thailand in 2011. It is believed that climate change had an influence on flooding during the 2011 monsoon season. The tropical Storm Haima hit Thailand in the end of June and caused massive flooding in four provinces: Chiang Rai, Tak, Phayao, and Nan (www.disaster.go.th). More than one hundred thousand people got displaced or

otherwise had to endure major suffering from the flash floods (www.thaiwater.net). After that, Tropical Storm Nock-Ten hit across Laos and into Northern Thailand. The intensified rain during the end of July especially caused large-scale flooding in the Northern part of the country. Many provinces had flooding, and Phitsanulok Province was one of worst hit. The government declared the flood disaster starting on the 5th of July 2011. After that, Thailand continually faced several storms, such as Tropical Storm Hating, which moved into the North and Northeast of Thailand on the 28th of September 2011. Tropical Storm Nesat moved from Vietnam to Thailand on the 30th of September 2011; it again caused heavy precipitation up in the North of Thailand. The precipitation level was 32% higher than normal. Next, Tropical Storm Nalgae moved from Vietnam to Thailand on October 5th, 2011, and it generated intensive rain in the North and Central regions of Thailand. At that time, the intensity of the flood situation was at its worst. The route to the Northern part of Thailand was cut off by high water, as is demonstrated in figure 4.1. The road was so full of water that transportation was difficult or sometimes impossible. From personal observation, the researcher could see both big-wheeled vehicles and small boats using the same route at the same time, which served as a benchmark for the high water level on the roadway.

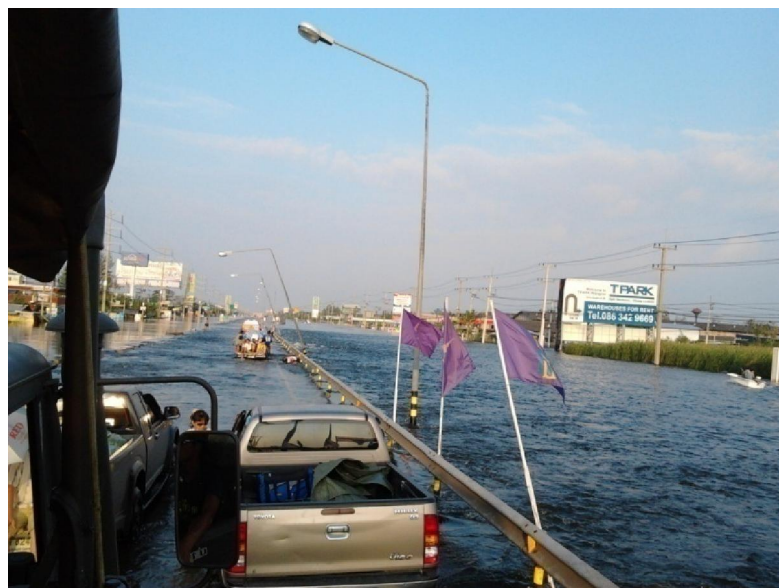


Figure 4.1 Flooding and hardship on Phaholyothin Highway

The Department of Disasters Prevention and Mitigation reported that Phra Nakhon Si Ayutthaya Province got flooding since early August. There are three main rivers that caused the flooding on the Ayutthaya flood plain, the Chao Phraya, the Lopburi, and the Pa-Sak Rivers. All 16 districts of the province had major flood impacts. One hundred thousand people experienced the flooding first hand. The chaos began in Phra Nakhon Si Ayutthaya Province in the beginning of October. At this time, the evacuation of flood-affected people became very difficult because of the rapidly flowing water. The water level rose 3 meters higher within an hour, and it became impossible to drive around in cars or even pickup trucks. Only the big-wheeled trucks, such as those used by the military, could be used.

The flood destroyed infrastructure, such as roads, bridges, electrical systems, tap water systems, irrigation systems, the ancient city and archaeological sites, hospitals, schools, etc. Moreover, the agricultural, livestock, and industrial areas also became effected. Five industrial parks had their walls breached and were completely inundated: the flooding overwhelmed the factories in the Rojana, Saharatana-Nakhon, High-Tech, Bang Pa-In, and Factory Land Wang Noi Industrial Parks. The high floodwaters covered large areas in the industrial zones. In addition to being put out of work, the flood-affected people could not stay in their houses. The researcher witnessed many people forced to leave their homes and float their possessions away with them as best they could.

Massive floodwaters flowed toward the South from Phra Nakhon Si Ayutthaya Province to Wang Noi District. The water flow had reached the Wang Noi market by the middle of October. At this stage the floodwaters became river and rainwater runoff that rapidly expanded over all of the flat countryside and covered an extensive area. All sub-districts in Wang Noi got flooded within two days. Small vehicles could not pass on the road; many of them became stranded in the floodwaters as well. The flood impact was similar to that throughout Phra Nakhon Si Ayutthaya Province. Housing, groceries supplies, rice crops, and the rice fields got damaged or destroyed. All rice fields were under water. All of the damage happened overnight. The stories of past floods by the elderly people explained that they have never seen such a massive amount of floodwater. The mega-flood in the year 2011 was worse

than that in the year 1995. They estimated that the flood water level in the year 2011 was higher than the year of 1995 by about a meter.

Wang Noi was the last district of the 16 districts in Phra Nakhon Si Ayutthaya Province that was affected by the flood. The chaotic flooding had begun at the same time that the Rojana industrial park got flooded. The massive volume of water flowed across Phaholyothin Highway where Wang Noi district is located. From personal observation, the lay of the land is about 50 cm below the roadway. The flood was caused by rapid runoff from the Rojana Industrial Park to Wang Noi, and it accelerated as it grew in size. It sounded like a waterfall when it came. The direction of flooding is shown in figure 4.2.

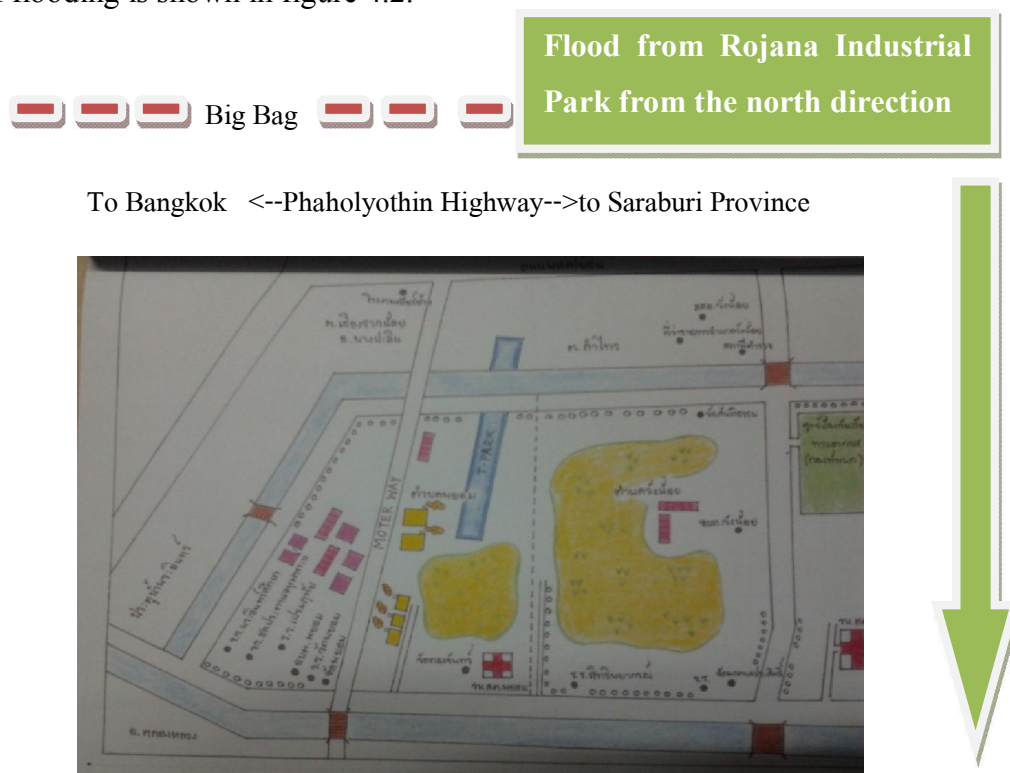


Figure 4.2 Showing Wang Noi location and flood direction

Flood protection used the “Big Bag”, which was a row of huge sand bags. It was used for a temporary levee. The Big Bag and a concrete wall were put along the Phaholyothin Highway in order to protect against massive floodwaters and decrease the velocity. On the other hand, the high flood level in Wang Noi already had created suffering from the destruction that had already occurred. The flood was not allowed to

drain to the Intara Racha water gate. The water gate was closed so additional floodwater could not flow through Pathumthani Province because of the flood protection plan for Bangkok. Bangkok is the capital city of Thailand; it is the most important economic center of the nation, and it was felt by the authorities to be of paramount importance to protect Bangkok. Figure 4.3 illustrates Wang Noi district and the direction of the flooding from North to South.

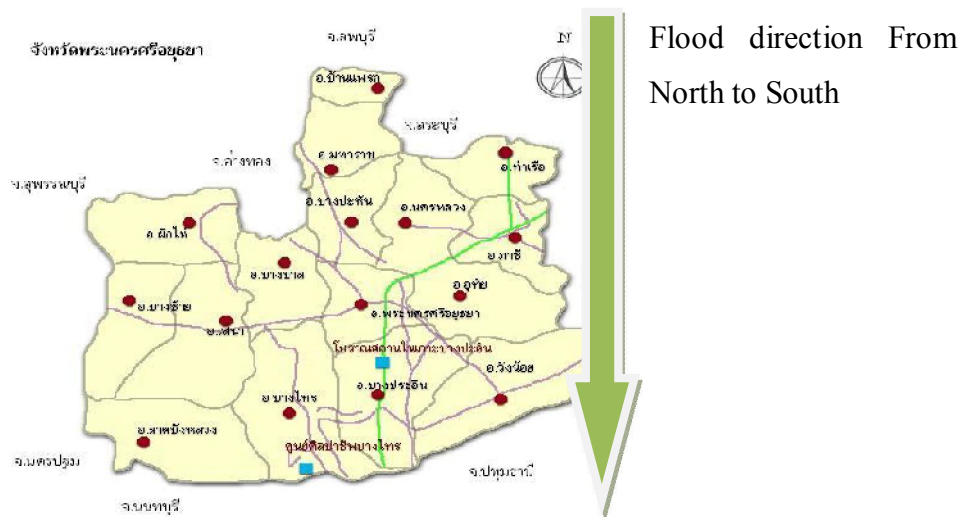
Phra Nakhon Si Ayutthaya Province (2009) (www.Ayuthaya.go.th)

Figure 4.3 Showing boundaries of Phra Nakhon Si Ayutthaya Province and flood direction

The drainage system did not function by itself because Intara Racha water gate was closed. The command and control of the water gate caused conflict to arise between people from both sides. People in Klong Luang, Pathumthani Province did not want to open the water gate, but the people in Wang Noi wanted the water gate to be opened. To decrease the flood, Wang Noi people should have been allowed to open the gate. However, the inequality of political power during the flood management produced a fragmented relationship and ineffective flood control management. The political power is connected to economic power. The protection of important economic interests demonstrates the inequality of the flood management system. The

economic value of the property downriver was a significant factor in determining the flood level and the flood direction.

Wang Noi, Phra Nakhon Si Ayutthaya Province and Klong Luang, Pathumthani Province are connected by the Raphiphat Canal. Klong Luang, Pathumthani Province had built a strong protective levee. It was so high and wide that it resisted the flooding current. On the other hand, the people in Wang Noi who stay on the northern side built a levee that was only at knee-level height along the canal. They had limited resources and they believed from their past flood experiences that the floodwater would only be as high as only knee level. Their protection was weak and unable to protect them from the flood stream. Moreover, the massive amounts of flood water from the Rojana Industrial Park continued to flow rapidly. They had no choice but to live with the flood. The floodwater was from both the Raphiphat Canal and the influx of water from the Rojana Industrial Park. The levees became a burden during the evacuation by boat and car.

The flood crisis caused the conflict among the effected people because of conflict of interest. After they had got flooded for awhile, they then tried to find their own flood solutions. They would break the road just to try to release the floodwaters from Wang Noi. To decrease the height of the flooding might have mitigated suffering of Wang Noi people. Nevertheless, people from the other side got angry at them for breaking the road, because they were afraid of the increased flood flow. People on the opposite sides got into conflict once again, and they threatened each other with weapons. It became so tense that the local authority was unable to handle the situation.

The mega-flood situation produced other forms of suffering as well. The flooding is not just a natural event, but it is an event related to political power. The flood did not depend on the geographic terrain so much as it depended on who held political and economic power. The power issue is a significant issue that played a role in determining the flood level for each community. Those with inferior amounts of economic and political power received the highest levels of flooding and suffering.

There were quite literally limited amounts of space that weren't inundated with water during the flood crisis. Wang Noi people looked for any dry area they could find. From personal observation, the researcher saw many cars desperately parked illegally on the crossing bridge, which became the de facto parking lot.

Nobody cared about the regulations, and the police turned a blind eye to such violations. Chaotic events were not controlled. The bridges were chock full of cars on the crossing bridge, as exhibited in figure 4.4. People who had no way to leave, they stayed over there. This situation reflects upon the weakness of social the social fabric or social arrangement. The ambiguous information and unpreparedness created for poor trust of people. They did not believe in the power or fairness of the flood management, so they did what they wanted. The government did not stop them; it did not regulate the rule of law. Therefore, the road for transportation became the shelter of last resort, which reflects on the ineffective management exhibited during the crisis.



Figure 4.4 Showing many evacuated cars on the crossing bridge at Wang Noi District

Wang Noi market, usually full of industrial workers and travelers, became a parking lot. There were many cars and motorcycles on the side roads, as is exhibited in figure 4.5. Phaholyothin Highway became a parking area and public shelter. Some of Wang Noi people did not move to the shelter, instead they chose to stay on the side of the road because it was easier for them to go back home.



Figure 4.5 Demonstrates evacuated cars and people beside Phaholyothin Highway

Wang Noi market became a floating market. The flood phenomenon was truly unbelievable, because the researcher saw small boats and big land vehicles that used the same route. The researcher had the impression that the water was overabundant and everywhere. Flood-affected people constructed shelters and temporary groceries were opened on tailgates of pickup trucks for sale of whatever goods could be found. All goods or products offered for sale were canned or packaged, as well as bottle water. The researcher did not see any fresh vegetables or meat. The transportation to Wang Noi was completely cut by the overflowing water for a couple of days.



Figure 4.6 Showing flooded Wang Noi market, and showing both transportation by boat and car

The site of study is Nai Bung village, which is on a flood plain. There are two canals in the north and west side of the village. The Cholprathan 26 Canal is on the north; it is for the irrigation system. The Raphiphat Canal is located on the west side; it is a part of water drainage system from the central region to the ocean. In the past, these areas were agriculture areas. The expansion of industrialization brought in new dormitory buildings, factories, and accommodations. There are many migrant people in the village. This village has become a big community, not just one for local residents.

The flood crisis was the significant factor of change. There were few people living in Nai Bung village, because most people were unable to stay home. The flood level was very high. The one-storey house style was inundated by the deep floodwaters, often with either waist high or chest high water, as is shown in figure 4.7. Nai Bung villagers evacuated to many others places. Some moved to the home of relatives, but some who were unable to leave moved to the public shelter in the vicinity, such as the school, the temple, or the military camp. Traveling during the flood crisis required the use of the small boat, because the small vehicle or motorcycle could not drive on the flooded road. Therefore, it took a long period to travel during

the flood. The researcher moved with the medical team in this area, and usually took about 45 minutes to get there. It was different from the normal traveling which takes only 10 minutes for driving. During the flood situation, spending life in the house was very difficult. They had to walk in the floodwater. They took all day long to go back and forth. Even if there were two small boats in the village but only leader community member can use them. Villagers were inaccessible to use the boat so the fragmented relationship between leader and villagers had begun.



Figure 4.7 show the flooded house, unable to live

This research focused on studying 10 flood-affected people. There were six native Wang Noi people, and their names are Aoun, Nual, Wee, Aun, Noa, and Korn. The other four were immigrants from others places and their names are Thid, So, Pong and Weaw. All native Wang Noi people had prior flood experiences, but the immigrant people had had other disaster experiences. Thid had faced the annual flooding in Chainath Province. Pong also became used to floods in Nan. So had experienced different past disasters; he faced the big storm in Nakhon Srithamarat Province. Weaw was the only one in this research study who had never been in any disasters.

Aoun is a 51-year-old market women vendor. She is the first daughter of three sisters. She graduated primary school at Prathom 4. She began her occupation when she graduated from primary school many years ago. Now, she lives in a one-storey house. Her house was painted with nice blue color. Her grocery shop is a small part in the front of the house. Her house is located in a good location because it is at the center of the village. She inherited this land from her family. In the area next to her home is the home of her aunt and uncle. Therefore, she has a kinship network. There are 4 members in the family. Her husband, Pat, is 53 years old, and he works in one of the factories in the industrial parks. He had good luck in that he was not laid off from employment. Aoun has 2 daughters, Gaye and Goy. Both of them have work in Bangkok. These days, Aoun is free from any burden and debt. Even though her life is comfortable, she still prefers to work as market vendor. She loves to work even though her daughters want her to quit this job. Right now, she still goes to the market everyday as market vendor woman.

Aoun begins her market women's life at 2 a.m. every day. She gets up and prepares all the stuffs for sale the soup and the noodles. An hour later she leaves home to set up all of her gear in the market. Customers within Wang Noi area visit to her place, as well as customers from different places. Wang Noi district is the main transportation route. Moreover, students and homemakers usually come to buy her soup. Therefore, Aoun knows many people in the Wang Noi area. Aoun sells food until 10:00 a.m., and then she buys raw materials for the next day. After that, she comes back to her house and does other grocery things.

Aoun is a health volunteer and informs the villagers about all health. In addition, Aoun is community committee member and she is involved with many activities that are related to the community, such as budget planning, etc. Whenever there is any event, both public and private issues, Aoun informs all villagers about the relevant information. She is a well-known person. The researcher had been with her for a funeral at night, and during the funeral she talked to people along the road even when the car passed by very fast. She has participated in many social community networks. People who live close to her place know and accept her. Aoun has a high socio-economic status in the community.

The researcher has known Aoun since the beginning phase of the flood. She knew me as a medical professional who took care of health issues. Aoun is easygoing and willing to compromise. The researcher met her almost every time while going to the shelter. She came to escort me and inform me about the sicknesses of people. Moreover, she coordinated for donations between the shelter and others places, such as the temple and the school. Medical team provided medical treatments and medical evacuation in the shelter.

Nual is Aoun's younger sister. She is 41 years old. She has been divorced since her daughter was 2 years old. She graduated from high school at grade 6. She lives in her own two-storey house. Her house has a Cleary boundary. There is space in front of the house for recreation. There are five members in her family: Nual herself, Nung her daughter, Lek her younger sister, Sak her brother in law, and Pa her father. Nual grew up in Wang Noi. She supports her daughter's education with her earnings as a market vendor woman. In addition, she provides support for her 72-year-old father.

She typically wakes up at 3 o'clock every day. She prepares her stuff to begin her work as a market vendor woman in Wang Noi market. Her stall is next to Aoun's. She works until 10:00 a.m., and she has both temporary and routine customers. Sometimes she gets orders from a company to prepare a large breakfast or lunch. In addition, she brings Thai deserts as additional items for sale. After the morning market, she comes back home and takes care of her father. She does her housework and prepares all her gear for the next day. She works on Mondays, Wednesdays, and Sunday afternoons. Her daughter comes to help her especially on the weekend.

Nual is not a health volunteer as is Aoun, but she is vigilant person. She is alert to every activity within the community and always participates in all activities. On the other hand, she is an assistant for Aoun. She is involved in her sister Aoun's responsible activities. She has met many people in the Wang Noi area and others places. Nual has the same social network as Aoun does. However, Nual socio-economic status is different from Aoun's. Nual takes care of herself alone; moreover, she is responsible for her daughter's education.

The researcher has known Nual and Aoun at the same time. When the researcher visits to shelter, the researcher meets both of them. Nual is a nice and hospital person. She helps with several issues in the shelter. She manages cleaning shifts, and burning garbage. In addition, she coordinates with the medical officers whenever flood-affected people are sick.

The researcher got to know both of them gradually. The researcher has spent time talking to them about the flood situation and informed them about her research purposes. The researcher has asked them about their past experiences. The researcher let them introduce her to others among the flood-affected people. Both of them are the primary, original source for the data collection.

Aoun introduced So to the researcher for the data collection interviews. He is from Nakhon Sithamarat Province, in the South of Thailand. The relationship of both families is good, even though they do not share a kinship relationship.

So is 40 years old. He is a strong, dark-skinned man. He is married to Noi who is from Chaiyaphum Province, from the Northeastern region of Thailand. Noi has worked in Star Fiber Company for many years. Therefore, he takes care of all the business at home, including keeping an eye on their 7-year-old daughter. So graduated Mathayom grade six from the high school in Nakhon Sithamarath. He came to Phra Nakhon Si Ayutthaya for employment. Then he fell in love with Noi and they began a new family together. He worked in a factory for several years, but he just realized that he was wasting a lot of opportunities and time. Therefore, he quit from employment there two years ago, and he started agricultural life by cultivating mushrooms and others plants.

He has lived in the one storey house for 10 years. The house is a simple design; it only has one bedroom and one big living room. This land belongs to Boonsong who is a rich man. Boonsong let So build his accommodation on his land. There are several families' who have built houses on this place. In the front there is a place created for recreation areas, and there are rice fields in the backside.

So drives his wife and daughter to the factory, school every day in the morning, and brings them home in the evening. He drives Noi to factory at 5 a.m. and after that he drives his daughter to school at 7 a.m. He picks up his daughter and

brings her back home in the evening and lets Noi get a ride back home by herself. During the day, he does the housework and cultivates mushrooms. So and Noi get extra money from loan money in Noi's factory. Most of employees, who borrow money are from the Northeast of Thailand. There is no problem because Noi can handle all the extra business. So and Noi have balance for spending their life.

After the major flooding in 2011, his mushroom houses were damaged. He had no work to do with the mushrooms during the day. However, he got a part time job for extra money as a driver in the early morning. He drives Aoun to Wang Noi market at 3 a.m. every day, so he has some extra money.

The researcher has talked to So and Noi many times. We have trusted each other. After that, the researcher asked their help for contacting other flood-affected people to interview. So introduced the researcher to Noa, his relative, who lives near So's accommodation.

Nao is 45 years old. She is married to Somchai who is 46 years old. She was born in Wang Noi. She is a housewife and her husband Somchai is a Tuk Tuk driver. They have one son, 23 years old, and one daughter, 10 years old. Nowadays, Nao also raises her nephew who is 8 years old. She is also a member of Missteen Company. She hopes to gain insurance benefits for working with the company.

Noa's house is located in the flat flood plain area. The house is constructed in a simple way. There is one big room and one bathroom inside the house. All members in the family sleep together in one big room, except his son and daughter-in-law live outside. Nao built a small room, a separate space, for her son and daughter-in-law to give them some privacy. There are fewer things inside the house. There is only one cabinet, and a cradle that hangs in the middle of the house. From my observation, this house reflects a low socio-economic status family.

Noa has health problems from several illnesses such as a tumor in her uterus, high blood pressure, and migraine headaches. Her health affects her economic status, because she has had to get operations at Ratchathani Hospital that cost about 40,000 Baht. She borrowed money from her sister to pay for it. After that, she had to borrow money from a capitalist. She has to be responsible for the debt that has increased month by month. The economic problem has made her life worse.

Noa used to work as a housekeeper in the factory. When she got pregnant, she quit her job and now works as a housewife. She spends her time with her nephew and takes care of the house. The economic problem seems to be a big problem for her family. Nevertheless, her husband has one income from driving the Tuk Tuk, which is enough for taking care of the family. They live close to their relatives, but they are helpless due to the economic problem. Their kind is not rich; they are in the middle class.

Nual introduced Thid to the researcher. The researcher was interested in interviewing him because he was laid off from work. However, the researcher knew that he was sad and depressed from his unemployment. The researcher had to wait for a suitable time to interview him. The researcher met him one day he was cleaning his house and his mother in law's house. He did not stay in the shelter, but he evacuated to Maha Sarakham Province during the major flooding. He just came back to clean his house after the flood had gone.

Thid is 48 years old. He is from the upper Chao Phraya River Valley. His hometown is Chainath Province. He is married to a Wang Noi woman, named Ann, and has settled his life here. His wife Ann passed away 6 years ago with Systemic Lupus Erythematosus. Even though his wife passed away a long time ago, he has never been interested in another woman.

Now, he is responsible for his son; moreover, he takes care of his mother in law named Cheun. Cheun lives in the same area as his house, which they can see each other from. He bought a one-storey house, and he has already paid off the entire price. He graduated with a Bachelors degree from a university. He was paid 40,000 Baht a month for a supervisor position. He had worked in this position for 12 years.

Before the flood situation, he usually went to work by his truck. He would start his job at 7 a.m. and finish it at 5 p.m.; he got only one day off a week, on Sunday. His life was too easy before facing the flood situation. After the flood occurred, there was a big change in his life. His factory was hugely affected by the flood, as well as himself. The factory had to shut down its production process entirely because it was full of water. Thid was paid in October, but he was not paid in November; finally he was laid off from his factory in December. He sought and

registered for new job in several places. He thinks that he might not get the same salary. Now, he still spends his life in Wang Noi to take care of his son and mother in law. The relative of his wife thinks that he is a member in the family.

The researcher has known Aun because she visited at the medical clinic many times during the flood. The researcher had talked to her many times about her illness and her tough life during the flood.

Aun is 63 years old. She was born in Wang Noi. She is the last one living among three sisters. She is illiterate. She is sick with Diabetes Mellitus and high blood pressure. She just separated from her second husband before the flood situation. She has 4 sons and 3 daughters. Two of them have died, however, and Aun does not want to talk about them. She is concerned for only one daughter who works in Bangkok and gives her money monthly. I was informed from her neighborhood that several of her sons and daughters are in jail. They were charged with drug addiction. Now she lives with her 9-year-old nephew named Pae. Pae's parent was also charged with drug addiction. Pae has become Aun's responsibility.

She has built her house close to the Cholprathan 26 Canal. She was among the first generation that came to settle in this area. She grew many plants and trees. People from different places asked to take over her land. It costs about 3,000-5,000 Baht for taking over. Most of the people who come to stay there are from Northeastern Thailand. Therefore, there are full houses along the Cholprathan 26 Canal. Aun reflected upon the transformation of the area. More of the houses have walls that are attached to each other. It is different from the past, when the walls were separated.

Aun opened a small grocery shop next to the canal. Military personnel are her customers; they come to drink and relax in the evening. Those people have become her network. Even though she was born in Wang Noi and has two sisters who live there, she does not have a good relationship with them.

She admitted to having a stressful part of her daily life. She admitted she never visits her son or daughter in jail. She told me that she never knows where they are. Moreover, she is unable to travel because of her illnesses. Flood impacts seem to be a small issue in her life.

Korn is 52 years old. She is a widow because her husband died since her daughter was one month old. Now her daughter, named Ben, is 21 years old. She works as a laborer in the barbershop. She goes to work in the morning and comes back home in the evening. Her daily wage is 200 Baht, but if she works extra hours, she gets more money, about 50 Baht.

The researcher met Korn many times and we had nice talks. The researcher asked her about her illness as well as flood experiences. The researcher was interested in Korn's life. She told the interesting story about evacuation herself from home to several places before she got into the shelter.

Korn stays in her own house, but does not own her own land. She hires this land for 250 Baht per month. She has lived there for 20 years. Her house is one storey, which is raised up high. When I visited and talked to her, I felt the heat inside the house. The whole house is made from galvanized iron. It feels just like an oven inside during the daytime. Even if two fans were used during the interviewing, the researcher was sweating all the time. When the researcher moved or changed position during the interview, the researcher heard a creaking of the wooden floor. Korn told her that the rain was falling through tiny holes from the roof. The researcher noticed that this house was built with unstable construction.

Korn was born in Wang Noi; she told me that there were few houses in the past. She has known everyone in the area. Nowadays, many people come in and settle their accommodations. Most of them come from the Northeastern region. Some of them took over the land from Aun. Right now, it is a crowded area; she knows only some of them.

Korn has a medical history with high blood pressure or hypertension, lipidemia and migraine headaches. She visits to Wang Noi and Phra Nakhon Si Ayutthaya Hospital regularly.

Wee is easygoing and a hospitable person. She always greets the medical military team when they went to visit the flood-affected people in the shelter with comments like, "Are you tired?" "You are so generous". Those couple of statements are examples of how she used to talk. As she likes to talk and greet, the researcher preferred to talk to her. Moreover, she was born in Wang Noi, so she could tell me many interesting Wang Noi stories. The researcher was getting to know Wang Noi

gradually. The researcher usually has lunch at her shop, and she never took money from me. However, the researcher always came and visited her with small things and gifts for her hospitality.

Wee is 67 years old; she lives in Chaiwath Land Community. She lives in a one-storey house, which is painted with a pink color. She owns this house and lives there with her 2 sons. She lost one son and got the insurance compensation of 200,000 Baht just before the major flooding. She told me that her two sons are not responsible people. She has to be responsible for their financial affairs. One is single and the other one is in an informal marriage. However, she takes responsible for their children. She has a medical history, she suffers from asthma. Her health is only fair.

Wee is a market vendor woman in Wang Noi. She has her own small business. There are several things in her shop, such as coffee, tea, and so on. She used to wake up in early morning and set up her stuff for customers. She has a good location in the market near a bus transfer point. There are many people who pass through that area. Even though, she does not know how much money she earns in a day, it is enough for a living. When she gets back from Wang Noi market, she opens her small grocery shop in front of the house. She would then prepare her stuff for the next day. She would go to bed early in the evening and prepare herself for the next morning.

She has a good relationship with the other people. She told me that if she is not there, other people might think she is sick. She is stressed with the elderly age; moreover, she has responsibility for several people in the house. She told me that stress is a normal event in her daily life.

Wee is on the community's committee. She usually participates in community activities. She has a social network from being on the committee. She has one friend who takes care of providing her medication during the flood. She has had no problem caused by drug deprivation.

The researcher used to meet Weaw in the afternoon. She always likes to sit and chat with her friend in front of the building. From my observation, she is not a joyful person like her mother in law, but she is out-spoken person. She used to fight with her two sons and husband. She rarely participates in activities in the shelter.

However, Weaw was an interesting person because she has a low economic status. At that time she rented a house. The researcher proposed to pick up several people who rented a house. The researcher just would like to see how they were suffering. Her life and emotions seemed unstable. She is a hot-tempered person. The researcher had to wait until the right time to talk to her.

Weaw is 33 years old. She is from Supan Buri Province. She is married to aunt Wee's son. She has two sons, 16 years old and 10 years old. At the time of the flooding she stayed in a rented house with her husband and two sons. She paid 1,500 Baht a month rent. She also is a market vendor woman in Wang Noi market. Even though she worked close to her mother in law, she would seem to keep her distance from her mother in law. After the flood, she left Wang Noi and now works with her aunt in Krabi Province. Her two sons and her husband live with her mother in law in Wang Noi.

Weaw has a limited social network. She relied on Singha who is a leader in the community. Because she is from another places she had no ideas and experiences about what to do during the flood. Instead, she followed Singha's decisions.

The researcher had met Pong in the same period with Weaw. He used to sit in the same location; they chatted and shared their experiences. His house is close to Weaw. Both of them rent houses in the village. Even though they both rented houses, Pong has a higher socio economic status.

Pong is 46 years old. He is from Phitsanulok Province. His wife is Fha, a lady from the South region, Sura Thani Province. They have one son whose age is 26. All of them work in the Rojana Industrial Park. They are settling their life here in Wang Noi. Pong graduated at Prathom 6 from primary school.

Pong reflected on the transformation of topography in Wang Noi. He told me the capitalist from Bangkok bought such a huge amount of land and buildings. Many Northeastern or Esan people come and live here just as for the same reasons as his family. Therefore, there were fewer people during the long Songkran festival

weekend because they went back to their hometown. It was hard to find a restaurant or a place to eat on the long weekend.

Pong usually goes to work in the factory, which is 15 kilometers away. He got paid a good salary from the company. Sometimes he had to drive a trailer truck to a rural area and he got extra money. He is satisfied with his job. He has a plan to buy his own house. Sunday is his day off, and Pong usually comes to Erb's house for chatting and relaxing during the weekend. The researcher sometimes would join them on the weekend for improving social relations. We talked about general issues as well as flood experiences.

Pong has had flood experience from Phitsanulok Province. In his opinion, the flooding is a normal phenomenon that occurs in the rainy season. He used to live with seasonally flooding. Even though was he faced with the worst flood in Wang Noi in 2011, he was lucky because he got paid 75% of his salary.

This study interviewed five key informants to obtain the history of community and more information of relief process. The key informants were three villagers and two military officers.

Erb is a 70-year-old man. He graduated primary school at Prathom 4. He has one daughter who works in factory. He is an elderly person who has seen lots of changing in Wang Noi area. His house is a one storey, which is raise up high. The floor is made of wood. The roof is made of galvanized iron. He used to live underneath of the house in the daytime. This style is the old fashion. The water stream could flow underneath during rainy season. He cultivates many kinds of vegetable around his house.

Cheun is a 75-year-old woman. She graduated primary school at Prathom 4. She has two daughters and one son. The first daughter lives in Phra Nakhon Si Ayutthaya Province and another daughter passed a way six year ago. Her son lives in Maha Sarakham Province. Now she takes care herself. Her house is a one storey house, which is raise up high. She lives with one nephew. She is elderly who have seen lots of changing in Wang Noi area as the same as Erb.

Singha is a 50-year-old man. He graduated Bachelor degree of Education. He teaches in the school at Phra Nakhon Si Ayutthaya Province. His wife opens a

small grocery store in Nai Bung village. At the present, he is the community's leader. He is a native Wang Noi people. His information is useful for elaborating the flood assistance from outside community. Moreover, his information is helpful to clarify the coordination between helpers.

Chai is a 52-year-old man. He is a soldier; moreover, he is a commander officer. He graduated Bachelor degree from cadet school. He is key informant who gives significant data. He managed the shelter. Moreover, he coordinated with civilian organization for flood relief; especially he coordinated to local politician. He reflected to flood relief policy in the national level.

Sak is 42-year-old man. He graduated Mastered of Art. He had brought military personnel to help flood-affected people. He reflected the flood relief. Moreover, he drew the relation between military officers and villagers during the mega-flood 2011. He said that the relationship after flood is better than it was.

4.2 Flood meaning and the interpretation of flood affected people

The given meaning and interpretation of flood phenomenon is important to reflect the logic of thinking, experiences and arrangement. The study found that flood-affected people gave meaning to flood crisis into word such as the rapidly runoff flood water, and “Nam Kern (น้ำเกิน)”.

4.2.1 The rapidly runoff flood water

The maga-flood situation in the year 2011 was severely. It was strong current with the high velocity. It passed from Phra Nakhon Si Ayutthaya Province side to Wang Noi area. It looked like the waterfall when it passed to the different lying on the Phaholyothin highway. The researcher heard the strong current like a waterfall. Somebody felt fear of the extremely strong water current, on the other hand, somebody enjoy playing water on the side road. The researcher saw children enjoy playing the waterfall from the Phaholyothin Highway.

However, most of informants told that they were frightened from the excessive water. They underestimated the flood situation. They did not prepare themselves for the excessive water. Moreover, their accumulation knowledge was inadequate to handle in this flood circumstance.

Nual and Aoun have spent their life with water that comes seasonally. They know dynamics of seasonal change. Nual told me that water came in August and it would be gone by December. Aoun did not prepare herself for such massive water. They faced with the excessive flood than they ever have seen. This is the first time in their life to face such intensive flood crisis. They underestimated flood 2011, so they were frightened.

“I grew up within water surrounding but I never ever seen terribly flood. Flood had come early July it was different. Normally it came in September. Moreover, the water flew was speedy. The level of water rises up 5 centimeters per hours. Water came from Rojana industrial park; it came in the late morning. Water level was still until 6 p.m. in the evening. Then, water level was high and high. It was increased very fast.” Nual, 41-year-old woman, market women

“It was terrible. It came very fast and water level rise up very quickly. It frightens me. Only two days, water level rose up high and I could not prepare myself. It was different from Ayutthaya that it came gradually. My house was one storey house; I could not keep anything or move anything out of my home.” Aoun, 51-year-old woman, market women

Wee, Noa Aun and Korn is native Wang Noi. They have lived here for a long time. They have seen natural dynamic. It was not terrible event, which it was different from flood event in the year 1995. This time, they could not fight with the strong current. They controlled nothing; moreover, they could not live at home.

“When I was teenager, the whole area was flooded. The floodwater was clear and it came gradually. It was not extensive like this time. This year was terrible.

It attacked very hard. I made blockages but it penetrated. It was worse situation, when levee at Rojana industrial park collapsed.” Wee, 67-year-old woman, market women

“Water came very fast. Water level was rising up very quickly within a day. I had to find others places to stay in 12 October. I moved to my mom’s house. I stayed there just one day. I noticed for insecurity then I moved to shelter. My mom moved to my sister’s accommodation where located next to public health station. I have my cousin who is soldier. He told me to move to shelter. I was the first group in shelter. My house was in the low-lying land that got affected from flood firstly. After that, flood-affected people in housing estate moved in the afternoon.” Noa, 45-year-old woman, housewife

“... Water flow was extremely strong. It came from the Wang Noi market. It came very fast. It was high at knee level in the evening....” Aun, 63-year-old woman, unemployment

“I never ever had seen the fierce flood. I have been lived with the normal flood in rainy season. It was normal event in my life. This year it was not the same. I never ever thought that I would have got the intensive flood.” Korn, 52-year-old woman, labor

The rest informants, So, Thid, Weaw and Pong are from different region. They had no experiences with flood in this region. However, they had prepared themselves as others native Wang Noi people. So and Pong had some relative in the region. They have brought their stuffs with their kin so they did not lose their property in the flood. Thid had flooded experience from Chainath his hometown. He did not keep anything in tidy so he lost some properties. Weaw also had no flooded experience at all; she followed the leader of community for escaping out. However, she lost almost her belonging in the floodwater because she rented one storey house. She kept her property in the house and it was still got flood. She was the most suffered from losing property.

4.2.2 “Nam Kern (น้ำเกิน)”

The mega-flood in the year 2011 is the most extensive flood in Thailand. Flood-affected people call “Nam Kern” which means too excessive floodwater. Moreover, it infers to others perspectives such as speedy velocity, strong current water stream, early rainy season, large volume and so on. The floodwater covers board areas. The researcher see only water surface so it makes me felt like saw a big lake. Flood-affected people want to stay at home but they could not because floodwater is too high level. Therefore, they could not spend their normal life at home.

“Nam Kern” reflects meaning of itself that refer to inadequate internal resources. Flood-affected people are incapable to cope with flood. They face with unexpectedly flood process; moreover, their daily life is changed rapidly. Most of them are not prepare themselves for such chaotic event. “Nam Kern” or the excessive water phenomenon relate to individual vulnerability.

4.2.2.1 Flood crisis beyond the expectation

The mega-flood situation in the year 2011 is the most excessive floodwater crisis. Moreover, it is a long duration. Villagers expect the flood situation but they do not expect the excessive floodwater. They expect only a week of flood. Wang Noi is the last district where has got flood. They thought it should have not severed. However, situation was worse than they even estimated. There are different in characteristic, duration, velocity, and volume.

Nao, Aoun, and Wee are native Wang Noi people. They have seen water situation. They reflect to the large amount of flood that it is too excessive. Immigrant people also reflect the same thing.

“Wang Noi was the last district in Ayutthaya. I thought that flood should not have come a lot. It should have been only small volume. I had never been in this situation. I just prepared myself as I did in the year 1995. At that time, I still did one living and staying at home. This year, it was very different. I saw nothing. I saw only water white surface. I stayed at my mom’s house only one day and I moved to shelter. My husband and I moved necessary items as well as Tuk Tuk to shelter. Unfortunately, Tuk Tuk was sunk in the water. Nobody expected such a large amount

of water. My mom told me that I should have not been stressed. I could not do it. I had to take medication for stress relief. I bought some extra medication just before flood situation. If I had known that it was like this, I would have bought more medication.”

Noa, 45-year-old woman, housewife

“It was more than I expected. In the past time, flood was normal situation. This time it was more than I expected. I was too old person I just have met this situation. I saw flood situation from television. I thought that flooded people were poor. I felt empathy. At that time, I never thought that my place would get flooded. I could not move out for my stuff. It was chaotic time.” Aoun, 51-year-old woman, market women.

“ I never ever thought that it was like this. I expected water level only knee level but it was higher. I almost did not believe that it was flood. I just moved from place to places. If I had known flood like this I would have kept my things better than I did.” Wee, 67-year-old woman, market women

“I thought that flood would be only one month. I never thought that it happened for 2 months long.” Pong, 46- year old man, labor

4.2.2.2 The incapable to fight

The flood in the year 2011 is fervidly event. It has come with the large amount of water. The mass volume of water is more than villagers have ever seen. Not only they are unable to stay at home but also they are incapable to do one living during flood. Moreover, it is more than their estimation. Villagers use their local knowledge for handle flood situation. However, the year 2011, flood is different from their experiences. Absolutely, they could not manage flood situation as well as their life. They have prepared themselves for living with flood for one week but flood situation occurred for 2 months. It is longer than their expectation. This is the longest time that they are away from home.

Aoun and Nual always compare the event to her experiences.

They compare the flood in the year 2011 to flood in the year 1995. They use the experiences as her accumulated knowledge and decisive information. She told me that she had prepared herself several ways for staying home for a week.

“Flood was terrible. It came very fast and water level rise up very quickly. I could not prepare myself for moving out. I just kept thing on the table. I thought that would enough from flood and I thought it might be similar to the year 1995. Flood was only a week and then it dry. Therefore, this time, I bought food for a week. This year, I could not stay at home because the water level was very high”

Aoun, 51-year-old woman, market women

“Flood was horrible but it was not severe as Tsunami. My house was two storey house so I still able to live upstairs. I lived in the house for two days then I had to move out. It was difficult to live in the house. I paddled back and forth for two days, it was too tired.” Nual, 41-year-old woman, market women

Location of housing is one major significant factor to face flood. The low layer land easily got flood. However, even if they have known that they have lived in the vulnerable area but they have to stay. Some of them admitted their vulnerable location to flood.

‘I have lived in the low level of land. I was the first group who got flood in this community. My location was on the rice field. I bought this land with my sisters. We accumulated money and take over this land. We put many soil on the rice field and then we built our houses but ours place was still lowered than others.’ Noa, 45-year-old woman, housewife

“I lived home until floodwater had reached the knee level. Then my customer who was military took me to the camp. They told me that shortly massive water would come. I left home and took only fewer things with me.”

Aun, 63-year-old woman, unemployment

"I was unable to sleep in the house because water was high. Water level was about chest level." Korn, 52-year-old woman, labor

4.3 Local knowledge and past experiences

The flood experience in the year 1995 is the lesson learned. The knowledge is accumulated and it is embedded in daily life. Villagers have learned the natural flood and use it as a normative. They use to compare between those two events in different perspectives such as characteristics, flowing, and ability to stay home and so on. This circumstance is worse. It looks terrible severe more than it ever happened before.

The experience is local knowledge of villagers. They have brought experiences and memory as decisive information. However, the flood situation is transformed by climate change inevitably. Therefore, the local knowledge is inadequate knowledge. It is not enough for handle flood crisis. It becomes a vulnerability of knowledge.

Aoun, Nual, Korn, Aun, Wee are native Wang Noi people and familiar to the seasonally flood. They have remembered to flood that come slowly and friendly. It was not aggressive flow as if it happened in the year 2011. Moreover, they spent their life as usual, they still make one's living and staying home.



Figure 4.8 demonstrate flood road in the year 1995

“I could stay at home in the flood 1995 but I cannot in the flood 2011. I could not be home at all.” Aoun, 51-year-old woman, market women

“I used to live with flood, Floodwater flew slowly. Moreover, it was here just short period. I could stay at home. The factory was dry so people could work. The road was dry and all cars could pass it. This year was a big different. It looked terrible.” Nual, 41-year-old woman, market women

She spoke promptly shaking her head. She seemed not to believe the flood circumstance.

“I met flood situation in the year 1995. I built levee from sandbags. My family could be home at that time. We could use the rest room. No water was leakage into our house. The water level was at knee level. Unfortunately, this year we could not stay home at all. I never ever have seen this kind of flood. My mom, who almost 60 year old never met such a bad flood circumstance”, Noa, 45-year-old woman, housewife

Korn and Aun live close to Cholprathan 26 Canal. They have seen flood as natural phenomenon. They called the seasonally flood or “Na Nam”. The flood or drought is natural annually process. They compare the 2011 flood to their experiences. Korn told me with the worried face, she still felt depressed from flood.

“I had faced flood when I was 17 year old in 1977. I called “Na Nam” which means to seasonally flood. We went to Loi Kra Thong festival then water would have gone by then. I stayed at home and I still have a chance to go to market. It was not like this year. It was flashy water. It’s too aggressive.” Korn, 52 -year-old woman, labor

“There was flood in the year 1995. My son lived in this house. I came to see him from Bangkok. I got off the bus, and I hire the boat. I remembered to 1995 flood. It was just short period and the water level was not that high.” Aun, 63-year-old woman, unemployment

Cheun is an elderly person, who has chronological memory. Cheun told to me that Wang Noi had flood. The different issues were coming period, water current, and duration of flood. She remembered living among seasonal flood. She spent her life normally such as living in the house, traveling by boat and so on. At that time, the main transportation was boat, which was different from present time. Moreover, there are different issues such as the horrendous water current, water management, levee constructions. All of the above the researcher just mentioned referred to differences from past scenery. It was not naturally, as it was. The researcher asked her to elaborate flood situation in the past time. She screamed and hit her chest. She shake her head as if she would not believe what circumstances were going during flood the year 2011.

“(Screamed voice)...there was full of water everywhere in the year 1942. I opened the roof and lived in the house. I had to bring buffalo to live on the street. I felt like living on islands. The water current was not horrible as this year. It came slowly and seasonally. It passed through this area and it had gone very quickly. It was natural event. There was no levee construction. Each family had their own boats which were at least three boats.” Cheun, 75-year-old woman, housewife

Immigrant people who settle their life in Wang Noi has their memory and experiences from other disasters. Those memory and experiences were accumulation of knowledge. They use them as local knowledge. They were used to comparing flood between the years 2011 to the year 1995. Their experience was made anything-different preparation. However, this flood event created new-flooded experience in Wang Noi.

Thid, Pong and So have moved to live in Wang Noi for a long time. However, they never been in flood situation in this area. This is their first time to live with flood. They reflected to manage their life in recently year. Moreover, they also explained their lived experiences in their hometown. Weaw also moved into this area but she never been in any disasters.

Thid is from Chainath Province, the north region of Thailand. He explained the life a long Chao Phraya river. He perceived that flood was natural seasonal event. He also compared flood 2011 to others flood in Chainath. He saw several differences such as water volume, water level, and duration.

“Water had come seasonally in Chainath. Villagers could live with flood. It was controllable. This was the worst flood experience in my life. It was terrible. I never had been in this circumstance.” Thid, 48-year-old man, unemployment

Pong is from Phitsanuloke Province, the north region. He talked about natural flood that came seasonally on the Nan River. He thought that flood in Wang Noi was not natural event; it could be politic of water. He also thought that flood related to human-made.

“Flood on Nan river was natural event in Phitsanuloke Province. This flood was different. It could be seen as both natural and political.” Pong, 46-year-old man, Labor

So is from Nakhonsithamarat Province, the south region. He had different experiences. He faced to storm. He had ever been in the region where often face heavy storms. It was natural in his life. He was hit by Gay storm in the year 1987. He

compared between two different experiences. He thought that flood 2011 was more severe than Gay storm 1987 because it was longer period. Moreover, it was broader extent. It suffered.

“At that time, it was windy storm. It caused flood for a week. Then, I was dry very quick. I was able to prepare myself. At the present, flood was worse than storm. It was longer. Moreover, property was damaged a lot.” So, 40-year-old man, agriculturalist

Thid, Pong and So who are from different regions reflected to flood 2011 in the same way. They perceived flood or storm as natural events that were acceptable. Moreover, all of them said that flood 2011 was more severe than they had met from their experiences. The water level was very high moreover; it was flood long period of time. Flood-affected people had to live with flood for a long time. In addition, they perceived flood 2011 was not natural process but it was political process. Moreover, it related to human-made.

4.4 Emotion affection to flood disasters

4.4.1 Feeling ignorant and being careless

Most of villagers who are native people were careless because of they thought that flood was the same scenario. They expect the same as flood 1995 so they are feeling ignorant to flood circumstances. Most of them are not prepare themselves properly.

They are unconcerned even if they have heard several announcements. They use past experiences as local knowledge to resist flood situation. As a result, the vulnerability is inadequate knowledge. It is not useful for such a vicious flood circumstance. The unconcerned is part of suffering.

Aun and Korn live close to canal area. They are familiar to water situation that come seasonally. They listen to announcements and they feel at ease. They do not expect to vicious flood.

“ I felt nothing. When I was young, it was flood but I still continue my daily life. I could find fish and vegetable in water. I was not fear of flood. It came gradually. This year, many people told me to leave but I did not pay attention. I thought that water should have reached only on the road. I usually stress every day. Flood did not make me more stressful. I adjusted my life and way of thinking. My health was not so good. I would not ask for any help. I feel unconcerned.” Aun, 63-year-old woman, unemployment

“ I listened to announcement that told us to keep all gears. I felt it would not happen at that time. Even if it really come it should have reach only on the floor. I did not concern. I had not moved anything out. I went to district office and helped them packed. I was careless because of levees were constructed. However, water had come in different way that we did not block them. It came from Wang Noi market; it was not from Cholprathan 26 Canal.” Korn, 52-year-old woman, labor

Aoun, Nual, Wee, and Noa also have flood 1995 experience. They think flood might not come to the community.

“I listened to flood information from friend at Lamtasao. It is up north and close to Ayutthaya. She called me and told me to keep my gear. However, I did not believe. I did not get flood impact in flood 1995.” Aoun, 51-year-old woman, market women

“I watched television and listened to my customers who were soldiers. I thought that soldiers would have rich information. They told me that flood would be high 2 meters. Oh! I thought that Bangkok was going sunk into floodwater. Therefore, I did not believe. Huh!... Finally, it was.” Nual, 41-year-old woman, market women

“Several people had talked, they said flood would come. I did not believe. I thought that if flood had come, it might have been occurred the same. I did not keep my things in containers.” Wee, 67-year-old woman, market women

“I watched television but I thought that it might not reach to Wang Noi. I did not think that we would get flood. I kept all property in the house when flood was about to come.” Nao, 45-year-old woman, housewife

4.4.2 Keeping an eye on situation

The situation is changed in every hour. Flood-affected people know how to manage their life in this flood situation. Several announcements are going on at that time. Some of them continue their job in working place. They do not prepare to leave. However, they are listened to announcement from time to time. Everybody listen to television and have got some extra information from their network. Both native people and immigrant people are keep an eye on flood situation. However, immigrant people do not have any ideas about flood scenario. However, they use their experience to manage themselves. On the other hand, native Wang Noi people are careless to flood situation.

Thid, So, Pong and Weaw is not native Wang Noi people. However, they have prepared themselves as much as they could have done. Nevertheless, the preparation level depends on personal resources. Pong has his own vehicle. He has prepared himself by packing and driving to his cousin accommodation. So is similar to Pong. He has kept his stuff in the cousin house. Thid is different because he does not prepare anything even if he has live next to the relative place. Weaw prepares herself but it is not good enough for coping with flood. She lost some properties in flood.

Thid, So, Pong and Weaw do not have flood experiences in Wang Noi. They wish they could be able to stay at home. They feel like staying home as native Wang Noi people do. This is natural human being, especially Thai way of life. Most of them worry about their job and they need to listen to employer. Some of them want to escape but they could not because they are concern to the income.

Pong faces the first flood in Wang Noi. He has talked to other friends about flood 1995 situation. He thought flood might be only 2 blockages height or about 30 inches. He kept an eye on flood situation. As soon as, he heard Rojana Industrial Park collapsed, he packed everything and brought them to his cousin house. This also faced the first flood in Wang Noi. He did not prepare anything because he was working at the factory. So was home all the time. He listened to news closely. Moreover, he rode motorcycle to see floodwater at Rojana Industrial Park. He estimated that flood would reach at their house. He came back, packed all stuff, and kept in his relative house.

“ I listened to news closely. I was unconcerned. When I heard that Rojana Industrial Park was collapsed, I moved my dog and my things to my cousin house. Then, I came back home until I could not stay there.” Pong, 46-year-old man, labor

“I was not worried about flood. I never had been in this situation. I listened to news on television. When I heard that Rojana Industrial Park was collapsed, I prepared to leave. At that time, I was working at the factory. Nobody made the decision during the uncertainty flood situation. The Government informed us that they were able to control flood situation “Aou Yoo”. I felt at ease. I listened to news continually. When Rojana Industrial Park collapsed, then Hi tech Industrial Park and Bang Pa In Industrial Park collapsed, I prepared to move.” Thid, 48-year-old man, unemployment.

“ Noi is Son’s wife. She was working at factory in Bang Pa In Industrial Park. The factory announce at noon to shut down all production processes. Water level had reached to Phaholyothin road. There was no any vehicle on the road. There were no shuttle buses. I called my husband to pick me up at Bang Pa In. I had been waiting for a long time. I had seen two groups of people yelled. They were quarrel with opening the water gate. One wanted to open the gateway but another one wanted to close the gateway.” Noi, 40-year-old woman, So’s wife, Labor

“We came back to home. We still lived in the house. If any

worse situation we would have moved to rural area on 12 October. However, we could not move to anywhere because of our working places had not announced the day off yet. Therefore, we had to wait until they made a final decision. Flood had come the day after, it moved back and forth. We noticed an unusual event, and then we moved out from home. We had to walk from home because the road was full of water. We had several thoughts, where was the best location at that time. Many places were under flood situation. We decided to move into shelter where was located near our house on 15th October.” So, 40-year-old man, agriculturist

“ I kept an eye on the water level at the sewage pipe. I was afraid. I could not swim. I was frightened. I did not know how much water would come.” Weaw, 33-year-old woman, market women

4.4.3 Feeling restless with anxiety

Feeling ignorant and being careless became feeling restless with anxiety. Villagers use accumulation of knowledge as normative preparations. They feel at ease and ignorant to announced. They do not prepare themselves for leaving. They have bought canned, packed and extra food for living in the house. They wish they have stayed at home. They wait until flood has come to their community. They are in a hurry for keeping and moving out. Therefore, they escape from flash flood within disordered.

The hasty decision is made during uncontrolled situation. There are just fewer choices among disordered situation. Many routes are under water so all vehicle could not drive on those roads. Thid, Aoun, Wee and Aun mention the situation on the day flood has come. It is chaos.

“ I knew that flood definitely come but I still thought that it would come normally. When flood had come, I could not move out anything. I kept all my stuff to the higher level. I kept it on table because I thought that would be enough. I could not transfer to other places because the road got flooded already.” Aoun, 51-year-old woman, market women

“Flood had come to Wang Noi market. Somebody told me that flood was coming. Then, I told my son to take a look. He ran to the bridge to see the flood from Ayutthaya. He saw the white water that mean to broad flooded areas. I never ever thought large amount of water. I had not kept anything in my shop. I left them. I was in a hurry and I had not taken anything with me. I forgot all important things.” Wee, 67-year-old woman, market women

“I never thought that I would get flood here. I did not prepare myself for leaving. I took only couple of cloths with me. Flood was rise up very quickly. My custom told me to hurry up. I moved to the camp with them.” Aun, 63-year-old woman, unemployment

“I was working in the factory. As soon as I knew that Bang Pa In collapsed, I began to move out. During escaping, it was chaotic. I went home in a hurry. However, I could not move anything out. I had a quick thought to go back hometown at Chainath Province. I could not drive to my hometown because the road got flood. Singburi Province got flood so Chainath, where closely located got flood too.” Thid, 48-year-old man, unemployment

4.5 The self among flood situation

4.5.1 The preparation to live with flood

The memory from the experience is local knowledge of Nai Bung villager. They use local knowledge for preparation. They could stay at home every time of flood situation. Therefore, all announcement or news has not changed his or her attitude and actions. They have moved themselves with their experiences. They have prepared themselves for living with flood in several ways. Firstly, buying food and essential items, they have bought food, gas and all essential items for living with flood. Secondly, levee construction, they expect only one feet height or at knee level. Sandbags are used to construct small levee. Thirdly, keeping all stuff, they keep all stuff in houses; they think that flood would be only one week.

4.5.1.1 Buying food and essential items

Villagers have bought food gas and essential items for living with flood. They estimate floods situation is controlled. Therefore, they have prepared themselves to live at home. However, the preparation depends on limited budget. Some of them do not have much money to buy food because of they have gained insufficient income. The preparation is ready at somewhat level.

“I had bought some eggs, rice and one tank of gas. I thought that I could stay at home surely.” Aoun, 51-year-old woman, market women

“I thought that I could stay at home. I bought things from Wang Noi market. I bought meat, eggs rice, tamarind, fish sauce, chilly, garlic onion and so on. However, I could buy fewer amounts because of the limitation of the budget. I had brought all those things with me to the shelter but I did not bring any utensil.”
Nao, 45-year-old woman, housewife

“I kept extra food and I bought rice and other things. I thought that flood would be only one month. The second day of flood I moved out because of I could not stay at home anymore.” So, 40-year-old man, gardener

4.5.1.2 Constructing levee

The collective protection is not occurring. This community is open community that there is no clear boundary. They do not protect community together. However, the local authority has bought sand for them. Villagers have to bring their own bag and packed by themselves. They have used sandbags to construct small levee. They are independent. Most of villagers at Nai Bung village have constructed levee for protection. They expect water level only one feet height or at knee level.

“I built only two blocks of brick. I thought that flood was controlled as it was. I prepared food and other things. I thought that I could stay home as I did.” Nual, 41-year-old woman, market women

“I used only two layers of sandbags. In the past, I stayed at home. This year, local authority brought sand for us but we had to pack by ourselves. We had ourselves no body help for construction. Only two truck of sand. It was not enough for levee construction.” Noa, 45-year-old woman, housewife

“ The protection was independent. Villagers did only in front of their places. This community could do only built brick or sandbags. There was no collective protection for Nai Bung village.” Thid, 48-year-old man, unemployment

Data collection from my observation, I saw no community's boundary. Nai Bung village was an opened community because there was no wall. Moreover, houses were built in ordered in different locations. It was hard to protect community from flood.

4.5.1.3 Keeping property

Villagers keep their stuffs and left in houses or move them to other places. People who live in the one-storey houses are risk to flood. They do not have good places to keep their property. Moreover, people who have no social network and low economic status are more vulnerable. They have limited choices.

So and Nao are lucky to have relative who live nearby them. They could keep their things in the relative houses. Pong has vehicle and move all stuff to the safe place. Weaw is poor girl because she is low economic status and she has no sibling or kin in Nai Bung. She keep things in rented house. Nevertheless, she lives in one storey rented house that locate in low area. Most of her property is sunk in the water.

“ I took my things to the relative house. I kept something inside my house. I kept cloths in the high place. When flood situation was worse, I moved out.” So, 40-year-old man, agriculturalist

“I had prepared myself. I was quarreled to my husband while

I was packing things. He did not believe that flood would come. He yelled to me that I was to alert. I kept my gear into big bags and kept it in the high place.” Noa, 45-year-old woman, housewife

Pong and Weaw are from other places. They have rented the one storey house. They have lived in opposite site to each other. However, they are differences in the economic status. Pong’s status is better than Weaw. Moreover, Pong’s network is also better than Weaw too. Therefore, he manage his life better than Weaw does.

“Wang Noi district was the last district where got flood in Ayutthaya. I was driving on October, 14. I had talked to my friends we thought that flood would be only one bottle height or two block of brick. I came back and used vehicle transfer some stuff to my relative house. I moved out in the afternoon. I had not known that military camp was the shelter. However, I thought that I have to escape for surviving. I brought my family with me so I did not feel worried.” Pong, 46- year old man, labor

“I kept my gear in the higher place. I did not move anything out because I had no car. I lived in the low-lying land. Even if I kept in the high place but my gear were sunk into the water. I was continuing kept my gear for several days. However, it still sunk.” Weaw, 33-year-old woman, labor

4.5.2 The incapable to stay home

Villagers wished they could have stayed at home. They had prepared themselves and lived with flood until they were unable to stay. There are several concerned factors to move out. When they move out, they have to make decision for temporary shelter. The distance is one crucial factor. Most of them concern to stay at the closest shelter, In order to go back and forth. They even stay on the side road which they are easily to come back home. Another significant factor is social network. Social network play important role for moving out. The relative would persuade staying together in their accommodation. The temple is a popular place for staying.

Temple is used to be the place for shelter. Moreover, temple relates to Thai way. In addition, the government offices are other places. Villagers think that government officer have to take care of people.

4.5.2.1 Staying on the side road

Thai people would love to stay close to their own place. The side road is closet place for temporary shelter. Staying there is convenience to visit home back and forth during flood.

Korn told me that she did not think anything to flood. She went to the bridge just to see floodwater in the other side of Phaholyothin highway. She and her daughter still stayed home even if they had been listened to flood announcement. In addition to, her neighborhood told them to leave but they were continuing to stay home. They stayed home until flood had come with the high level of water.

“When we myself and daughter could not sleep at home we moved out to the side road. I hugged my daughter and cried. I brought only cloths and blanket in small plastic bag. I felt like a hapless person. I floated back and forth. I thought that why I had to face such vicious situation, how unfortunately I was; However, I was not the only one who fate this bad luck.” Korn, 52-year-old woman, labor

Spending life on the road is unforgettable memory. Korn and her daughter sleep on the truck which park on the Phaholyothin highway. They have got food from people who come and distribute donation bag. They have got food sometimes. They have to separate food for the next meal just in case nobody has come. They pee beside the truck, they also defecate beside trucks, but they defecate during night time. They stay on the side road until the water level rise up high so they has to move again. They move to the higher level, they see the crossing bridge where is 400 meters far way. They walk in the water until they reach the crossing bridge. Nevertheless, they do not have enough room for sleeping. There are many flood-affected people in the crossing bridge. They have been looking for shelter for a while. They have met people in community and asked them to stay in front of the bank. Therefore, they have spent several nights over there.

Korn has moved to military camp where the shelter is. Korn is sick from her past medical history. She needs medication and examination from doctor. She knows that there is military doctor in the military camp. She come to the camp by a big military vehicle. She moves in and out for several times. Her sickness condition is not so good doctor told her to stay at the clinic. Therefore, she has moved to the shelter for treatment.

4.5.2.2 Moving to shelter, temple and military camp

Public places are used to be the shelter for flood-affected people. The temple is part of community. Temple is one place that Thai people has closely relationship. Whenever they get in any problem, they usually go to temple. Montholprasit temple is in near Nai Bung village. Many flood-affected people move to live here as a shelter. They stay in the big two storey high building.

“I had several ideas about shelter. I moved to mom’s house for a night, and then we both had to move again because the large amount of water. We spend another night at Montholprasit temple. My mom never seen vicious flood like this in the whole life. However, she moved to my sister house but I moved to military camp. My nephew who is the soldier told me to move there. I was the first group in the military camp.” Nao, 45-year-old woman, housewife

“I was about to reach the temple. I met military officer, he was constructing levee. He told me to move to military camp. I decided to go to military camp. I asked Aoun to move from temple to military camp.” Nual, 41-year-old woman, market women

“I moved to Montholprasit temple. Firstly, I stayed at the ground floor. After that, I had to move very quickly to upstairs. Then I have to military camp.” Aoun, 51-year-old woman, market women

There are several significant factors for making decision. Flood-affected people think about distance from shelter to their community. They

would like to stay close to home in order to visit home easily. Moreover, food, sleeping area, rest room are concerned. People get together and share ideas before moving out of community.

“I asked to other people in community where was the suitable place to stay. I asked them temple or military camp. Most of them rose up hand for moving to military camp I thought we had made the right decision because there was everything in the camp. There were canteen, which we did not need to cook, and there were doctor who could care us. If we had moved to temple we would have had to cook by ourselves.” Singha, 50-year-old man, teacher, leader’s community, key informant

“Where ever Singha went I would go with him. I was with him.” Weaw, 33-year-old woman, labor

“If we had moved to temple we would have had to cook for ourselves. I thought that military camp would be better. I thought we were right. We moved to military camp. Soldiers provide a good service. I gave them full score.” Pong, 45-year-old man, labor

4.5.2.3 Living in the shelter

The living in shelter is good; however, it is not good enough like their home. Even if flood-affected people get food and children have gained 3 boxes of milk. They have got extra other things; nevertheless, they still worry about damaged housing. Moreover, the daily life in shelter is different from own places.

There are too many people in the shelter. Flood-affected people have only small place. They have to live head-to-head or feet-to-feet. They have to share area together. There is no privacy area. Moreover, the floating toilet is problem. It is very difficult to use small boat go to floating toilet. Flood-affected people’s daily life is very tough.

“The first day in shelter was suck. Nao and I cried. We both were very sad. I could not stop crying.” Aoun, 51-year-old woman, market women

"I stayed here was fine. My physical was fine but my mental was not good. I liked to be home. I kept herb in the garden and bring them for cooking." Aun, 63-year-old woman, unemployment

"The first few days, using toilet was difficult. We had to lay two pieces of woods over floodwater. Then, I brought a canvas to make a temporary wall. So we could use them as a toilet. I fed up with toileting. It was difficult to use but there was no choice. I was a hypertension and I needed to urinate quite often. I ignored to take medication. My husband told me to take it continually. He was afraid of my symptom would flare up. Therefore, I had to take medication for hypertension. I urinated into a can. Sometimes I urinated into floodwater. I had not pooh for a month. Using floating toilet was very difficult. We had to paddle a boat to toilet for 2 week. There was disability people flipped into floodwater. Therefore soldiers brought floating toilet close to the building." Nao, 45-year-old woman, housewife

"I would have had to cry. I did not want to speak to anyone. I was used to live in my house but I had no choice. I had to live here. My son told me to come here. He waited at the house until he could not stay. He followed me to stay here. It was fine that I got 3 meals a day but I had to live with crowded people. Children were yelling to each other that made me annoying. Adult people had different ideas and they spoke very loud. It made me sick. I was already stressing from damaging. I felt uncomfortable to live here but I did not know where to go." Wee, 67-year-old woman, market women

"Hmmm...I could not sleep at all. I was worried about the house. I thought about future. I had planned what to do after flood. I had to loan some money from the bank to recovery my place." Singha, 50-year-old man, teacher, leader's community, key informant

4.5.2.4 Going to relative places

People have network in rural area, they move out to their

relative places. Sometimes, they firstly sent out vulnerable people from flood area. Aoun, Nual and Thid send someone out of the flood area because they want to control flood situation easily.

“Nual and I were worried about the house. We send our father out of Wang Noi. We send them to Mahasarakham Province because he could not anything with flood here. He would not feel worried about flood. We decided to send him out.” Aoun, 51-year-old woman, market women

“I sent my mother in law and my son to Mahasarakham Province. I left home too but I moved to stay on the side road. Then I moved into the camp for a night. I kept an eye on flood level until I notice it was getting worse. I drove to Mahasarakham Province.” Thid, 48-year-old man, unemployment

On the other hand, Wee is sent to the shelter even if she does not want to go there. Her son takes care home until he is unable to stay home, he follows Wee to shelter.

“When I left home, my friend told me to military camp. There was no way to go it had better to move to military camp. My son told me to leave first. I had move out by 3 p.m. the day after I left my son moved to military too.” Wee, 67-year-old woman, market woman

4.5.2.5 Self-independent

In recovery phase, flood-affected people go back home. They move all damaged properties. They are hurry up for cleaning house because they need accommodation. They could not wait for helping from government because it is too late. Moreover, they need to stay inside the house. They have to do everything on their own.

Thid do not want to wait for government help because it is a long procedure. They could not wait for a long time. Villagers ignore government helps. They help themselves.

“I had got assistance from military. There were also other organizations but it was slow and late. I thought it might be better that we could help ourselves. I was not hope for help or any flood relief.” Thid, 48-year-old man, unemployment

Nual reflects to adjusted life. Flood-affected people move on believe. They try to stay with flood. They learn how to live with the flood situation. They scrutiniz to their role and determine their actions. They are not waiting for only external help.

“At the present, agriculturalists or framers begin calculation. They estimated to flood in August or September. Now I was ready to cultivate my land in July”, Nual, 41-year-old woman, market women

4.6 “Nam Thum (น้ำท่วม) Nam Lang (น้ำแล้ง)”: the interpretation of flood crisis

The villagers face the flood crisis that it is beyond their capability to cope. Especially, they have less power and inaccessible to resources and assistances. Therefore, they are unable to cope with flood crisis. The interpretation of flood crisis reflects to the resistance to flood situation and the suffering from inability to handle.

There is irony of “Nam Lang”. It infers to the new life. It reflects to the old life has gone with the flood. Flood move out everything. Therefore, “Nam Lang” means to both positive and negative meaning. There are two levels of reflections, the individual level state to wash out and begin a new life, the relationship level reflects to poor relationship but flood water dissolve the conflict. A poor relationship is resolve by the flood water.

4.6.1 Wash out for the new life

Flood 2011 means to the washing-floodwater because property dissolve into floodwater. Flood wash out everything that includes physical and opportunity in life. The insufficient life is worse than ever it is. Especially, market women have got earning daily. Some of them have accumulation money but someone do not.

Aoun and Weaw are market women but their statuses are different. Aoun and Weaw have got trouble from flood but Weaw are sufferer. She does not come back to her own job because she does not have enough money to start a new life after flood. Moreover, she does not have family support. She has to begin a new life as waiter in Krabi Province. She works for her relative over there. Aoun can come back to normal life as it was.

The new life is like new married life. Flood-affected people ideas are the new accumulation. Nao and Nual perceive the same that flood causes physical damages. They have to begin new life by accumulation everything from beginning. Even if they are thinking how they could reach the same point. The washing floodwater is a supportive word to empathy themselves.

Flood impacts are given the washing meaning. It refers to both positive and negative meaning. It is negative because of it infers to wash out everything. It is positive because of it infers to start new life. Starting new life is begin after losing every already. Meaning relate to each and it is irony meaning.

“I thought that flood made poor people was poorer. The poor did not have any opportunity. Society was already unequal. The rich people were fine but the poor were worse the rich people did not face any burden. Somebody had nothing left like myself. I had nothing now. All of my property floated with floodwater. Flood was just like a starting in a new house.” Weaw, 33-year-old woman, labor

“It was disaster. It took all property. Flood made our life more trouble. Buying and sale thing in the market was not good. The accommodation was difficult. I had to invest again. I began my new life.” Aoun, 51-year-old woman, market women

“It washed out everything. Almost of my property damaged. Fortunately, I had my house. I had to start accumulation again. However, I was not sure that I could gain the same.” Nao, 45-year-old woman, housewife

“Flood washed out everything. I had only empty house. I had to buy new things as well as new investment. I started everything from beginning. It was like a just married life.” Nual, 41-year-old woman, market women

4.6.2 Erasing the conflict

Washing water is resistance that flood-affected people metaphor to erase the political conflict. Flood 2011 is given to “Nam Lang” which means to flash washing water. Before flood situation, people in Wang Noi do not like military officer. They think that military personnel get involve in insurgency at Rachaprasong area where the political conflicts are there. At that time, military personnel have a hard time to spend their life in Wang Noi. Market women do not want to sale anything to them. When flood situation occur, everybody has seen military personnel helping flood-affected people. It is a good relationship. Therefore, flood 2011 means to washing water to erase political conflict. Flood-affected people like what military has done for them. The new relationship has begun since the flood circumstances.

“ Before flood situation, I was not able to wear military uniform in Wang Noi market. Women market did not want to sale anything to me. They were angry that they saw soldier dissolved the protestation at Rachadumnean road. Even if our unit did not go there but they thought that, we were the same. Most of people here in Wang Noi were the red party. Now after flood, people complement to military personnel. We had no problem now. They were understood more and more.” Sak, 42-year-old man, military officer, key informant

“Flood 2011 was washing water. It was a “Lang Leud, Lang Pan Din (ล้าง เลือด ล้างแผ่นดิน)” which meant to wash out discrimination party between yellow and red color. People, who were in opposite sites, felt empathy to each other. They helped each other. It seemed like washing out all conflicts. After the military coup, there were red and yellow shirts. I thought that after flood it was not happen anymore. Thai

people loved each other when they faced the same destination.” Singha, 50-year-old man, teacher, leader’s community, key informant

There is irony of “Nam Lang”. It infers to the new life. It reflects to the old life has gone with the flood. Flood move out everything. Therefore, “Nam Lang” means to both positive and negative meaning.

CHAPTER V

SUFFERING EXPERIENCE, SELF, AND RESISTANCES OF FLOOD-AFFECTED PEOPLE

Chapter 5 presents two issues, life during the 2011 flood crisis in Thailand and social arrangement of suffering experiences during the flood. The first issue examines comprehensive life experiences during the flood crisis such as visible physical suffering and invisible suffering. Moreover, collected information shows there were varied flood recovery experiences. The second issue elaborates on the voice of flood-affected people on social arrangements during the flood. Additionally, power relations of the patronage system in flood assistance are discussed.

5.1 Life during the flood crisis

In this section, the researcher illustrates the suffering experiences during the flood and the recovery period, beyond physical damages. The researcher elaborates on the uncertainty of life during these times, includes lack of income and increased debt. Moreover, the researcher discusses the mental and emotional suffering experienced.

Disaster impacts occur in various dimensions and have effects beyond physical damages. The visible destruction of buildings is often the beginning of invisible psychological affects. Moreover, the destruction of infrastructure affects community and society. There are different impacts and recovery experiences because of individual vulnerability. Individual vulnerability consists of socioeconomic status and the social network which are significant determinants in recovery.

5.1.1 The physical loss

5.1.1.1 Houses and lost properties

Physical losses are normal events from flood damages. The visibility of suffering is clear. Houses are damaged from floodwater; moreover, property inside houses is damaged. People who live in one-story houses experience damages because they do not have enough room to keep their personal property away from floodwaters.

“When I came back home. I saw my furniture; the cabinet, the small gifts. All those things sunk into water. I did not know what to do. I was stressed. Everything I accumulated from my whole life, the flood swept everything out.”

Aoun, 51-year-old woman, merchant

“Everything in the house was damaged. Four cabinets, my refrigerator, and my television sunk in the floodwater. My house was a one-story house. I had no place to keep them.” Wee, 67-year-old woman, merchant

“I did not pack my property. All of it was damaged.”

Thid, 48-year-old man, unemployed

In addition to house damages, the other items are also damaged. The tools used by many people to make their livings are destroyed because people were not able to take them to a safe area. .

“ I was stressed because I was worried about moving my car and motorcycle. I brought them to a military camp. I elevated them with jack. I was lucky; my car was up higher than floodwater. This was my first time I faced massive floodwater. My life was difficult in the first period. After that, I had to adjust myself. My mushroom building was destroyed. I have not thought about any other investment.” So, 40-year-old man, agriculturalist

“There was nothing left in the house. My house was damaged. Four cabinets sunk into the floodwater. Moreover, the Tuk Tuk that belongs to my husband got damaged.” Nao, 45-year-old woman, housewife

5.1.1.2 Other consequences

Stealing, or looting, is a common event d flooding. Shops or small groceries are often targets. There is no one home and this presents good opportunities for theft. Aoun and Aun work in a market. They keep their equipment and all the products used for coking in their house. Unfortunately, everything was stolen during the flood.

“All of my stuff was stolen. Jar, water tanks, gas tank, pots, utensils, and so on. There was nothing.” Aoun, 51-year-old woman, market food seller

“All of my stuff was stolen. Cigarette, liquor, and other things for sale. The door was opened and everything had disappeared” Aun, 63-year-old woman, unemployed

Two categories of disease are found during flood situation; both chronic and acute diseases are found among flood-affected people. The categories of chronic illnesses are the same as the general burden of disease in Thailand and include hypertension, diabetes mellitus, high lipidemia, migraines and so on. Chronic patients need to take medication continually.

Aun has medical history such as hypertension and diabetes mellitus. She regularly visits the doctor at Wang Noi Hospital. She visited the hospital just before flood because was afraid of not having adequate medication supplies. She was able to acquire enough medication to last throughout the flood. Wee has a medical history as well. She has asthma. She also visits the doctor at Wang Noi Hospital. She has a social network that assists her with taking care of her medication and therefore, didn't experience any problems with inadequate supplies of medication. Korn has a medical history including hypertension, high lipidemia, and myocardial infarction. She visits the doctor at Wang Noi Hospital, and sometimes must go to

Ayutthaya Hospital. When her symptoms flare up, her blood pressure is very high and reaches 200-300 mmHg, causing nosebleeds. She has extra medication because she visits the hospital quite often and has accumulated ample supplies of her medications. She had enough medication during the flood. Nual has a medical history of hypertension and migraines, which often make her feel dizzy. During the first period of the flood, she has terrible migraines. She usually takes stress relief medication but only had two packs of her usual medication. She says if she had known the flood was going last so long, she would have bought more drugs. However, she thinks she is lucky because she sees military doctor in her shelter.

The researcher saw many patients during the flood. The researcher discovered many acute diseases in affected people in other shelters. During flooding there is a lack of purified water, causing diarrhea; moreover, crowded areas also cause the rapid spread upper respiratory tract infections. Skin diseases are also common among flood-affected people.

5.1.2 Invisible suffering

5.1.2.1 Decreased income and consequences

Income is the most important issue for flood-affected people. Flooding causes decreased income or a lack of income. Flood-affected people could not continue their jobs during the flood. After the flood, some people lost their jobs. People working in market earned less money because there were a small number of customers. Laborers from factories were laid off and some moved out of flooded area because of a lack of employment.

Thid was laid off from his factory. He was a supervisor, which paid about 40,000 baht per month. He told me that he understood why his factory laid him off. He earns a good salary and his factory can hire a couple people for this amount of money instead of himself. He disliked the layoff but he understood the reasons behind it. Even though he was paid 10 months' salary for the layoff, he is worried about the future. He is responsible for his son's education and is very worried about his son.

“ I was worried. I used to work but now I have no job. When I was escaping from the flood, I drove and I was worried. I was worried about income and expenses. I had to have money for my son. I thought that employment was important. If there was no employment, there was no income. It continually affected everything. I couldn’t afford the family expense without income. In my life, I needed it. I thought that it was everything.” Thid, 48-year-old man, unemployed

Income and other opportunities were lost during and after the flood. People who earn daily income, especially market women were severely impacted. The decreased income caused many people stress. Nual, Wee, and Weaw are sell in the Wang Noi market. They earn their income day by day. During the flood, they could not do their job and so lost income. After the flood, they were impacted by the closing of factories. They had fewer customers because of the closures so their income decreased.

“During flood, I did not sell anything. I had no income. After the flood, I had not started my job again. I stressed about income, I was not stressed about the flood. The flood impacted my income directly and it indirectly impacted other issues in life too.” Weaw, 33-year-old woman, market seller

“I was not in pain at all because of the flood. However, I did not do my job; I did not sell anything during the flood. It caused me stress. I had to use my savings, which decreased day by day. I was used to have income. I was stressed when I had no income.” Wee, 67-year-old woman, market seller

“I was stressed. I used to have income. I am bored with no income. I was depressed. I was worried. Why was this? Now, my income is not the same. Many people lost their jobs and moved to Chonburi province and Pracheenburi province for employment. The rest of the people here in Wang Noi have less money.” Nual, 41-year-old woman, market seller

Lack of income causes another burden; it directly affects debt. Debt increases even during flooding. People suffer with increased debt and a decrease or absence of income. Nual told me while she was that she had to borrow money for surgery at Rajathani Hospital. Unfortunately, she and her husband lost property during the flood that included their Tuk Tuk vehicle. This was devastating for her family because her husband drives the Tuk Tuk for family income. During the flood, they had absolutely no income and their debt increased every month.

“The flood caused me extreme pain. I had to borrow money for fixing our Tuk Tuk. I had almost cleared my debt from the operation, now I had to take out another loan. However, I had to fight. If I would not have fought, what would I have done? Nao, 45-year-old woman, housewife

5.1.2.2 The uncertainty of feeling and emotion

Physical damage is the first step of loss in a disaster. Because of the physical damage many people experience mental suffering. Most flood-affected people are worried and stressed. People in the flooded town of Nai Bung felt sorrow, worry and depression over losing their property. They reflected different emotion and feelings.

“I walked in the water from the shelter to my house. It took half a day. The first time I saw my house I cried. I talk to Aoun. I told her that my house had collapsed. There was nothing inside the house. I really had nothing left of what I had accumulated my whole life. I had to take medication for stress relief. I took medication quite often in the first period of flood. I had to take medication every day. I would feel stressed and then my migraine would flare up. I could not sleep at night. Along with anti-stress medication, I was also taking sleeping pills. ” Nao, 45-year-old woman, housewife

“I went home from time to time. I visited my home during the flood. I cleared out everything that was damaged. I was depressed, gloomy, and sad. I saw dead trees. I felt abnormal. I cried when I saw my house. I told god to protect my

house. I was unable to stay at home. I was stressed that I had to leave home.” Korn, 52-year-old woman, labor

“...I was unable to sleep at night. The flood swept out everything. I had almost nothing. It was a disaster. It made my life more difficult. ” Aoun, 51-year-old woman, market women

“..I made up my mind. However, I felt sad when I saw my house. I could not stop thinking about all damages. I was worried.” Thid, 48-year-old man, unemployed

“..I visited home by boat. It took 3 hours to travel there. When I saw my house; I was extremely stressed and worried.” Wee, 67-year-old woman, market woman

5.1.2.3 The uncertainty of future

Feelings of uncertainty about the future cause human suffering. Those feelings are a result of physical damages, decreased income, and general uncertainty about the future. Flood-affected people are worried about their life in the future. They want to recover their life; however, they think they might not go back to the same way it was. Thid was laid off from his work. He was the supervisor in a factory. His unemployment caused a catastrophe in his family. He is responsible for his son's education, but everything was changed by the flood. He is not sure that he could come up with the money he needed for his son's tuition and other expenses. He felt uncertain about life in the future, starting a new position, and replacing the property he had accumulated.

”The flood came and it destroyed everything I had accumulated my whole life. I was worried. My life was changed. If I get a new job, I might not get the same salary. I was stressed. I planned to support my son while he studied for a bachelor's degree. I planned to retire at the age 55. Because of the flood

I was laid off. How can I still retire early? Everything is uncertain.” Thid, 48-year-old man, unemployed

“.....I was unable to settle things in my life. I was too old to start a new life. I thought that I might not accumulate property like it was.” So, 40-year-old man, agriculturalist

Aun was not worried about flooding because it did not affect her life. However, she did think about the future. She also wanted to start a new business opportunity but she felt the uncertain because of the flood. She planned to wait and see if there was another flood next year.

“ I was not stressed about the flood but I was stressed about not being able to do anything. I would like to open grocery store. I had no income but I had expenses. I spent 30,000 Baht within two months. My daughter gave me 6,000 Baht and said couldn't afford any more. I felt sad to hear that. I would like to have my own income or my own money. However, I don't dare invest. I feel uncertain about flood. It might come again. I'll wait and see, Aun, 63-year-old woman, unemployed

5.1.3 The differences of recovery

The researcher divided informants into three groups. The criteria for categorization are socioeconomic status and family support, both of which affect individual recovery.

The first group had been unable to return to their normal lives. Members of this group are of low socioeconomic status and have a minimal social network. This group comprises two informants; Weaw and Korn. Both women have faced difficulties in their lives. They don't own accommodation and have to rent a house or land. Moreover, they lack family support. Weaw husband contributes nothing to their family and she takes care of him. Korn is a widow. Her husband passed away many years ago. She alone is responsible for her daughter. In addition, she in bad health and has several medical condition. She has to visit the hospital regularly and at the time of her interview had not yet been able to return to work.

The second group is of middle socioeconomic status. Members of this group have a social network for support. However, they have had to adjust their lives due to impacts of the flood. This group comprises five informants; Nao, Aun, Thid, Nual, and Wee.

Nual had to borrow money for her operation, but her husband was able to continue working. Nual's family lives in their own home. They do not have any debt with the bank. She felt more comfortable as soon as her husband was able to drive his Tuk Tuk to make a living again.

Aun lives close to Cholprathan 26 canal. She used to operate a small grocery shop. After the flood, she closed her business. She will wait and see how the flood situation turned out before she opens her grocery again. Moreover, her daughter has asked her to stop the business because she has several illnesses. Her daughter gives her money every month. She is lucky to have family support. At the time of interview she was living in her nephew's house.

Thid was receiving a good salary from his job at a factory. Unfortunately, he was laid off the previous year because of flooding. He is unemployed, but is lucky because his father gave him a rice field in Chainath, his hometown. Although he has to travel between Ayutthaya and Chainath, he is doing well. He cultivates rice and is able to earn some money as a framer. His life has changed due to the flood. Even though he does not have the same amount of money, he is fine and can still support his son.

Nual and Wee are single women. Nual is separated from her husband and Wee's husband passed away many years ago. They are market vendors in Wang Noi Market in the same section. They have earned less money from sales because there are fewer people in Wang Noi. Some laborers were laid off and some moved to other places for employment. Their reduced income is an impact of the flood. Moreover, neither woman has support from their family. They have to work and are responsible for other family members.

Finally, the last group is also of middle economic status, just as the second group. However, this group has good family support. They have been able to recover from flood impacts quickly and resume their normal lives.

Aoun is a market vendor like Wee and Nual. However, Aoun has family support. Her husband and two daughters give her good support. The three of them work for a company and earn a salary. Of all the informants, she was able to resume her life the most quickly as a result of the support of her family.

So is an agriculturalist. He used to cultivate mushrooms but has changed to raising small fogs. He also is lucky that his wife Noi did not lose her job. She gets paid monthly. Moreover, both of them have money from a loan. They definitely experienced some flood impact, but were able to resume their normal life.

Pong works for the Honda Company. He has certainty in his life because he got paid during flood. He received 75% of his salary during flood and he has enough money. Moreover, his wife and his son are laborers too. They also were lucky and were not laid off. Their factory was not affected at all. At the time of interview, all of them had resumed their normal lives. Although they are renting a house, they will soon buy their own house.

5.2 Multiple suffering from social arrangement

Suffering from the flood crisis is not only suffering due to flood impacts but is also related to the social arrangement. The social arrangement is based on power relations. This suffering is from human action and creates a new form of suffering during the flood.

5.2.1 The flood....is it man-made?

Flooding is not only a natural phenomenon; it is also man-made. During conversations with people in Wang Noi they mentioned that they thought the flood was man-made. They had not seen any heavy rain and questioned where the water came from?" They believe that humans are part of cause of the flood. Four different types of human actions are involved: 1) poor water management, 2) temporary flood protection, 3) restoring and releasing of water and 4) destruction of the environment.

5.2.1.1 Poor water management

Human activities affect water currents and direction. When villagers expressed their opinions about the flood; most of them said they believe that the flood was induced by human activities.

Aoun and Nual both perceive that the flood was caused by faulty water management and not only rain. Floodwaters are i unable to flow freely and the ground is impermeable. Moreover, the influx of water is extreme.

“I thought that the 2011 flood was not from the rain. It was because of bad management. They constructed the levee badly. The flood was different from the flood in 1996. Then, the flood came slowly. This year, it was sudden.” Aoun, 51-year-old woman, market vendor

“The flooding was bad because of the flood protections. They managed the water currents but it had nowhere to go. Poor water management was one part of the flood situation. They tried to move floodwater from low-lying land to high-lying land. How they could do that? I didn’t understand. Maybe they didn’t want floodwaters in Bangkok.” Nual, 41-year-old woman, market women

“There were several waterways in the past. Water flowed in different ways. Floodwaters had their routes. This year, they used only the Chao Phraya River for water management and that had limited flowing capacity. Therefore, drainage system via the Chao Phraya River wasn’t enough.” Why don’t they use other floodways?” Wee, 67-year-old woman, market vendor

The land level in Wang Noi is lower than in Pathumthani Province. However, both provinces have constructed large embankments. Moreover, they are watched by security guards all day long. Therefore, floodwater couldn’t flow from Wang Noi to Pathumthani Province. However, they did try to manage floodwater in a southerly direction, into an area which was higher than Wang Noi and as a result, the floodwater moved back and forth.

Three informants reflected on the mismanagement of floodwater. The floodwater should have had a clear route to drain from the area. However, management is based on the geography that moves water from high to low-lying land. Nevertheless, flood management depends on another significant issue, economic concerns. However, social factors are ignored. Therefore, in the eyes of flood-affected people, there is mismanagement.

5.2.1.2 The temporary flood protection

Embankment constructions are popular ways to deal with during flooding. Sandbags or hard soil are used to construct a wall. However, because they are independently constructed, the embankments protect only small areas and to not offer collective protection.

“I thought that the flood was caused by the protection measures used. Everyone protected their own house. Levees were constructed everywhere. They did not let the water flow freely. It was not natural so people told the government. If they had not constructed embankments, there would not have been a flood. If there were no embankment, the situation would be more equal. It would not have been only us to get flooded and other issue wouldn’t have been as severe.” Nao, 45-year-old women, housewife

“Flood protection was everywhere. The influx of floodwater was strong. If flooding is natural, this is fine. Moreover, the flood water was very high because of the flood protection measures. This time, it swept in suddenly. It was not natural.” Weaw, 33-year-old woman, laborer

“There were fewer waterways during the flood than in the past. Moreover, some waterways were closed. The direction of floodwaters changed because of constructions. The water gateway was another issue. People from the opposite site of the gateway had conflicts about using the gateway. The command system had problems. It was not clear if they had been ordered to open or close the gateway.” Thid, 48-year-old man, unemployed

“Each area protected itself by building embankments. Finally, they overflowed. Floodwater penetrated the embankments” Sak, 42-year-old man, military officer, key informant

Nao, Weaw, Thid, and Sak expressed the same perspective. The flood was not natural. The strong water current was from flood protection embankment. Moreover, the direction of floodwaters was unequal. Some areas were flooded but some areas remained dry. This is not natural at all, but is instead related to the politics of flood management.

5.2.1.3 Storing and releasing of water

Water is restored in dam for agricultural use in the summer. There is a large amount of water in the dam. Starting in June 2011, heavy storms brought massive amounts of water to Thailand. Therefore, water had to be released from dams in the northern region. However, there was poor coordination between government organizations, leading to mismanagement. Many dams released water promptly which flood-affected people viewed as the cause of flooding. They told me water was released from many dams such as Pasak, Chao Phraya, Phraram Hoke and Bhumiphol dams. As soon as storms began to hit Thailand, the water level in dams increased and water had to be released. Unfortunately, this caused massive amounts of water to flow from the northern to the central plain region, causing flooding.

“In the beginning, they were afraid of drought. They kept a lot of water. They stored it until they thought that it was uncontrollable and then they released the water. The government mismanaged this. They released water from four dams” Nual, 41-year-old woman, market women

Nao and Chai described the same situation. They saw poor management as well inequality of flooding. There were flooded and dry areas were not dependent on geography, but instead depended on power relations.

“There’s normally rain, but this year was different.

Bhumiphol Dam released water and it was a large amount. Now, there four dams released water. The 2011 flood was everyone’s fault. A small amount of small mismanagement caused a huge flood. Moreover, releasing the water was the wrong move for protection. If they had released water to all the provinces in the vicinity, the water level would not have been so high. Why was Suphanburi Province not flooded? Why did Ayutthaya get flooded?” So, 40- year-old man, agriculturalist

”This flood was caused by the dam. They released water from the dam. There was no rain at all.” Nao, 45-year-old woman, housewife

“It was mismanagement. Mismanagement caused different water level in different areas. They should have released water earlier.” Sak, 42-year-old man, military officer, key informant

5.1.1.4 Destruction of the environment

The destruction of environment is involved in the flood situation. The degradation of forested lands causes poor water absorption. Erb and Wee discussed dynamics of the seasons. Season dynamics is changed by human activities.

“Flooding is a natural phenomenon but it was different in the past. In the past, rain came seasonally, but now it’s different. It rains in January; it’s like this because of human activities” Erb, 70-year-old man, member of local authority

“Hmmm! The 2011 flood was very different from the 1995 flood. In 1995, I was able to stay home; moreover, the flooding was only for a short period. This year, I thought that the flood was caused by global warming. The icebergs at the pole are melting; moreover, the earth is warmer. I got this information from television. People who live up on the mountains are involved in the flood too. They cut many trees. There are no trees for water absorption. Water came very fast. In the past, there was rain for seven days continuously, but it didn’t flood. This time,

I did not think that the flood was from rain. It was a disaster. It was terrible.” Wee, 67-year-old woman, market vendor

5.2.1.5 The inevitable transition in Wang Noi

Geographic transition in Wang Noi is due to economic development. It was an inevitable transformation. There have been many changes such as the houses built in swampy areas, higher density of accommodation, and factories constructed on rice fields. The houses in swampy areas reflect changes in land use. The housing replaces swampy areas and water ponds. There are many housing estates in the area. The density of accommodation is too great and reduces visibility. The factories on the rice fields reflect the trend of constructing industrial buildings on areas previously used for cultivation. The transformation is influenced by occupations, way of life, and the population structure of communities. Regardless of whether people realize it, they are vulnerable because of these changes and the transformation of the area has increased suffering.

(1) “Ban Plean Bung (บ้านเปลี่ยนบึง)”:

The replacement of houses on swampy areas

The landscape in Nai Bung village is a combination of agricultural fields and dense construction. There are various kinds of terrain and features such as rice fields, banana trees, reeds, and marshy areas. This data was gained from observation, similar to the aims of narrative interviews. Informants told me that there were many swamps and marshy areas that are used for cultivation. Currently there are still several swamps and marshy areas although some have been taken for construction. The differences between present and past are that there are now fewer swamps and more construction. Moreover, capitalists from Bangkok have invested in the Wang Noi area, causing rapid expansion due to construction.

Since 1992, housing development have been constructed in Nai Bung village. The rice fields, which previously belonged to farmers have been transferred to investors, who have invested in housing estates. After Because of the housing estates, transportation and other development has moved

to Nai Bung village. Swampy and marshy areas are being transformed to erect building and accommodations. Erb, the key informant in this study is 70 year olds and reflected on the significant changes in this area. Erb reflects on the geographic transition due to investment.

“In the past, nobody wanted to be here because it was a swampy area. It was difficult to travel. This village was set up on the waterway. It was full of rice fields. The capitalist from Bangkok came and invested in the housing estate. He invested only 30,000 Baht for 1,600 square meters (one rai). The housing development occurred in the year 1992. Then, the road was paved to the village.” Erb, 70-year-old man, member of local authority

Aoun told me her life story since she was young. She told me that this village used to have many lotuses in many swamps. Moreover, the water in swamp was good enough for drinking. Her story presents a very different picture than what the researcher noticed from observation. On the way to Nai Bung village, the researcher saw swampy areas at many points. The researcher was aware of wastewater or polluted water and many growing reeds in swamps. Moreover, a stinking smell from the swamps was sensed. Water in swamps could not used for drinking. There are major different thing between Aoun’s story and observations. Development has occurred in Nai Bung village, but, on the other hand, the environment is being gradually destroyed.

“This land was swampy area. Since I was born, this was a swampy area. There were many lotuses in the swamp. It is just like this 30 years ago. I brought water from the swamp for drinking. It has changed a lot in the present time.” Aoun, 51-year-old woman, market vendor

The researcher has confirmed information from Wee who is an elderly woman of 67 years who knows the area very well. Wee told me that there was a huge different between the present and past surroundings. Travelling was very difficult in the past because there was no road. The main means of travel was hydrologic. Boats were used as the main means of transportation.

Moreover, it took a long time to travel to Nai Bung village. The landscape was wild and disordered.

“We had to use a boat for travelling. There was no road. My previous home was next to Raphiphat canal. We rented the house over there; it cost only 20 Baht a month. The land was wild and unoccupied. Some parts were used as rice field but now it is a housing estate. My son has bought a house, I have to move there.” Wee, 67-year-old woman, market vendor

The researcher travelled by personal vehicle to the ethnographic study site, which is very convenient way to get there. It takes only 10 minutes from Wang Noi market to Nai Bung village. On the trip from Wang Noi market one passes the Wang Noi police station, then crosses a small bridge. After that, one passes a military camp and drives on an asphalt road until a posted sign labeled “Wang Noi, Local Authority” is seen. Then, one takes a left turn and drives along a concrete road about one kilometer until reaching Nai Bung village. There is various scenery along the road. There are many rice fields, banana trees, reeds, swamps, as well as accommodation. Moreover, many building are in the process of being constructed. The land is used in the same ways as it has been in the past, but there is now much less agricultural land and many more factories. There are fewer swamp areas, rice fields, and canals. On the other hand, there are many buildings, houses, and other types of construction along the road and inside the community. As the researcher stated, this reflects the transformation of geography. Swampy and marshy areas have become areas for accommodation and construction.

(2) “Ban Bung Ta (บ้านบึงตา)”: The density of housing

The scenery of Nai Bung village was changed by urbanization 30 years ago. The density of houses and population are significant factors. Many houses have been constructed in Nai Bung village because of immigrant laborers have moved into the village. They are both buying and renting houses.

At the present time, there are many houses, buildings, and construction which is different from the past when there was less housing. There used to be space between each house and people could far away from their houses and visibility was good. They could see Phaholyothin Highway, which is located several kilometers away.

The visibility is now reduced by houses, building and construction. During observation during travel along the village road, the researcher saw houses, buildings, and factories; moreover, the researcher also saw rice field and cultivation of other types of plants. All these things mentioned act like curtains that block visibility. The images that the researcher gained from observation are similar to the pictures from narrative interviews. Two key informants gave complementary information. Cheun and Erb are elderly people who have lived in for their entire lives. They have seen lots of changes in this area. Cheun reflects on the changing of visibility, which is reduced because of density of construction.

“There were fewer houses in the past. I could see people walking on the Phaholyothin Highway. It is a lot different now. There used to be spaces between houses. Since the housing development has come, it obscured things (emphasized voice).” Cheun, 75-year-old woman, housewife

“Right there, there were rice fields. I could see the water gate in Pathumthani Province. This land is flat and plain. After the intensive construction of factories came to the Wang Noi area, housing estates were built. They were full of houses. Nowadays, I can’t see that far.” Erb, 70-year-old man, member of local authority

(3) “Rong Ngan Bon Pheun Na (โรงงานบนพื่นนา)”:

Factories on the rice fields

Thailand’s economic expansion has brought about an increase in industrial areas. Agricultural lands have become industrial parks. Rice mills have been changed to factories. Factory Land Industrial Park was built in the Wang Noi area, next to the flat plain areas in Nai Bung village.

Cheun, Wee, and Erb are native villagers who have seen many transformations such as changes in land use and immigration of people in to the area. They have seen many houses and buildings replace rice fields. They feel the winds of change.

“In the past, nothing was obstructed... (Emphasized voice). There was less construction. Nothing obstructed water flow. We lost large amounts of land area for the construction of factories.” Cheun, 75-year-old woman, housewife

“When factories have come, rice fields have been lost. Those people used rice fields for industrial construction.” Erb, 70-year-old man, member of local authority

“There was a rice mill in the past. Right now, there is no more the rice mill, only the factory is left.” Wee, 67-year-old women, market vendor

Social transformation is creating an industrial society. Agricultural areas are changed to industrial areas. The number of factories is increasing. Rice field are becoming industrial land. Some of the villagers reflect on the high number of factories that present obstacle to floodways. This is the part of the flooding process.

Nual, who is a woman vendor, explains the surroundings of Nai Bung village. Nual reflects on the advantages of infrastructure improvement. She thinks that it is involved with the flood process. She has spent the whole life here in this village. This is the first time to face flood crisis.

“I have been living with water. I grew up with water, but I’ve never ever seen this. The advantage of technology is obstructing the floodway.” Nual, 41-year-old, market women

A military officer who is the key informant in this study also reflected on the relationship between industrial development and flooding.

“Politicians created and brought industry to Ayutthaya. There are many factories here but people dislike them and raise questions. Here Ayutthaya is, a world heritage city and an agricultural area. Why are there factories here? Why are there so many factories? Factories cause the obstruction of floodways. The factories were protected from flooding but they let people’s houses flood. This land is appropriate for cultivation; it is not for building factories. To reduce the capital needed factories are built next to the river, but I think it’s not suitable. This shows poor management and irresponsibility.” Sak, 42-year-old, military officer, key informant

The construction of many factories can be seen in the rice fields along Phaholyothin Highway. The huge rice fields accommodate both agriculture and industrial uses. From observation along Phaholyothin Highway from Phra Nakhon Si Ayutthaya Province to Saraburi Province, there are many factories along the highway and others under construction. This route is the main route from Bangkok to the North and North-East regions. Convenient transportation is a benefit that minimizes costs.

Observational data confirmed information revealed in the narrative interviews. The researcher has seen many factories along the highway from Bangkok to Wang Noi. There are many industrial areas, especially in the part of Pathumthani Province connected to Phra Nakhon Si Ayutthaya Province. There are many industrial building dotting the landscape. Moreover, the walls that have been constructed around industrial estates clearly indicate the boundaries between industrial and agricultural areas.

5.2.2 Social arrangement in the flood crisis

5.2.2.1 Objective knowledge in flood relief arrangements

The implementation of objective knowledge by expert in flood relief arrangements are tied to government authority. Relief arrangements ignore the subjectivity of flood-affected people and are concerned only with measurable issues. The government pays attention to economic evaluations, but does not recognize the subjectivity that includes the emotions, thoughts, and perceptions of flood-affected people. Therefore, flood relief is not matched to the needs and perceptions of affected people. Moreover, objective knowledge focuses only on economic damages, creating inequality of flood protection and in reports of information about flooding and its impacts.

Economic evaluation is based on the amount of property loss and damage. The high monetary value of potential loss receives more attention regarding flood protection. Flood protection is mainly focused on industrial parks and cities of economic interest such as Bangkok, the capital city and financial center of Thailand. Resources for flood protection are mobilized in the what are considered to be the most important areas. However, the flood-affected people who live in the study received very little attention. Moreover, information about the flood was presented inequality. The presentation is biased; areas with a high economic value are discussed in the news and by the government because it is of more interest. In summary, the measures for flood protection depend on economic value. On the other hand, suffering caused by flooding is barely discussed. Mass media usually reports on areas with an economic value. People in the rural areas felt inferior and critiqued this focus as well as the actual information presented. The information provided is ambiguous, and data is concealed, causing people rural area to be at a disadvantage. People in Bangkok were closely informed about the flood situation because Bangkok is the capital city of Thailand and important to the economy. Reports about the flood were presented quite often, but did not include information about areas like Wang Noi. The lack of transparency of available information caused people in Wang Noi to prepare themselves inappropriately.

People in Wang Noi feel that they are a marginal group. There is little news available in Wang Noi. They are ignored by the mass media and government organizations. They thought that if they had had more information, they would have prepared themselves better. Their uncertainty about the flood situation caused them to prepare inadequately.

“We should have had better information. I thought that people in Bangkok got information was is more useful. They knew the period of flooding and the volume and, level of floodwater. On the other hand, people in Wang Noi did not get enough good information. If we had known about the flood situation, we would have prepared ourselves. They should not have hidden information. We would have had less damages. Nual, 41-year-old woman, market vendor

Flood information was not properly communicated. The messages presented made people confused. Flood-affected people didn't understand the information. It was too academic. They didn't understand so they were unable to prepare themselves properly.

“I did not understand what they said. I did not know what it was. I knew only that the water was at knee-level last time.” Wee, 67-year-old woman, market vendor

Living in Bangkok, one heard flood information quite often. Flood protection measures in Bangkok were mainly discussed as a result of Bangkok being the capital of the country where many business and people are located. The government followed the flood situation closely. People in Bangkok felt differently from people in Wang Noi. People worried before the floodwater even came. The supermarkets had nothing on the shelves. There were no bottles of water and the canned food was gone. The whole city was in panic mode. This circumstance is one form of flood suffering. The suffering of people in Bangkok due to the flood was different from that of people in rural areas. People in Wang Noi suffered because of a

lack of information, but people in Bangkok suffered because of too much information. However, both situations were caused by biased presentation of information.

5.2.2.2 The variety of methods of receiving information

The use of technology makes communication easier and more convenient. People usually get their news mainly by watching television. Villagers of Nai Bung got information on the flood from television because of the timeliness of the information. However, much of the information was untruthful. The villagers did not act based upon official information, but rather move on their local knowledge or belief systems. In addition, they sought other information from different sources and they wanted empirical evidence of what they had heard. Most people got to information from the mass media and sought news from networks such as friends and organizations because formal information was not communicated to local people. They have sought to others channel because it matches to perception and communicates the flood message.

(1) News from television

Villagers listened to the news about the flood on television but they didn't think that they would be flooded. Even though they saw it on television, some people went to Rojana Industrial Park to see the flood level. They sought more information and prepared based in this. However, some of them still stuck with past experiences so they did not prepare well.

“When I listened to the news I thought that it would flood. I thought that it was not severe. I rode my bike to Rojana Industrial Park. I came back home and packed my gear. Someone ask me why I was doing this so early.” So, 40-year-old, agriculturalist

“I knew about the flood from news on television. I heard that Chainath Province, Bang Pa In was flooded but I did not prepare myself.” Korn, 52-year-old, labor

(2) News from the social network

People in Wang Noi have built informal relationships with each other. Market women have built relationships with their customers. They used their past experience to resist the flooding. They are used to floodwaters flowing from Ayutthaya to the Cholprathan 26 canal. This time the floodway was different.

Aoun does not watch television but she got news about the flood from a friend in Lamtasao, which is located next to Rojana Industrial Park. It is located on the floodway to Wang Noi market and Nai Bung village. Aoun talks about the flood situation on that day.

“People at Lamtasao called me and told that the flood would reach Wang Noi market very soon. I did not believe it because it had never ever happened. The flood in 1995 was not like this year. I did not believe the flood would come.” Aoun, 51-year-old, market vendor

Wee also got flood news from other friends in the market. Usually she spends more time in the market than she does at home. She told me her story.

“I sold my stuff in the market. I just waited and heard news from other people. I got flood news from people in the market. They told me that the flood was coming from Ayutthaya, not from Cholprathan 26 canal.” Wee, 67-year-old, market vendor

Customers are another social network, especially military personnel. Villagers think that military personnel have comprehensive in-depth information. However, villagers stick to their past experiences for normalization. They resist the flood situation with their own belief system even in the face of other evidence.

“I listened to television and I did not believe that flood would come. If the flood came, it might only come a little bit. I asked my military customers about it. When I asked I felt anxiety because they said the flood would reach 2 meters. I thought that Bangkok would have sunk if Wang Noi were reached 2 meters. I thought that the government should have handled the situation.” Nual, 41-year-old, market vendor

“My customer who was a soldier use to come here. He told me that an extensive flood would come but I did not believe.” Aun, 63-year-old, unemployed

A key informant who is a military officer talked about the flood situation. He said that *“the military obtained flood news from the government and provincial offices. Sometimes we got information from our soldiers who live outside. It’s like a radar to monitor the situation. Many people thought that flood would not be severe but it was. People in Ayutthaya were told to evacuate but they did not because they were restless. Moreover, they preferred to be home. When they left home, the flood was at chest level.”* Chai, 45-year-old, military officer, key informant

5.2.2.3 The unconformity of flood assistance system

Policies for flood assistance included a coupon campaign and compensation for property damages. The formulation of policies for flood relief did not conform to people’s needs. Moreover, it caused other forms of suffering. Flood-affected people needed items for daily life such as clothes, blankets, food, and utensils. However, they were issued a 2,000 Baht coupon for buying electrical equipment. The coupon was useless to most people because they were required to spend a total of 10,000 baht to receive the discount, which was more money than most people had or could afford to spend. Most of the flood-affected people have daily income of less than 500 baht per day. Moreover, they do not have much savings. The coupon policy was not appropriate to help them in this situation.

Flood policies in the recovery phase did not mitigate suffering. In addition, it created conflict among villagers. They felt electronic equipment was unnecessary for their life. They would like to have clothes, bedding, and other basic items. The coupon campaign was not matched to the needs of flood-affected people. Moreover, the coupon benefited only those who already had enough money. People earning daily less than 300 baht per day would not be able to buy expensive electronic equipment.

“I listened to somebody else even though I didn’t want to. They forced us to spend more than 10,000 baht and then we got the 2,000 Baht discount. I fed up. Somebody told me they went to Ayutthaya very early in the morning. Elderly people had to wait too long and it was hot. Travelling there cost me a lot. I would have preferred to get cash. Only 2,000 Baht, I could get by myself. I don’t have to go there and waste my time.” Wee, 67-year-old woman, market vendor

“Hmmm..... the 2,000 Baht coupon was inconvenient. Many stores did not have electronic equipment. Why they did not pay 2,000 Baht cash? They should have let people buying anything they wanted. Electronic equipments were not necessary, but items such as clothes and bedding were important.” Thid, 48-year-old man, unemployed

“If we wanted to get a coupon we had to go there very early in the morning and it took two days to get the coupon. I did not go there. It was a waste of my time. I heard that there was somebody buying coupons for 1,600 Baht. I thought this was bad. I also heard that the store did not have enough things to sale, they just closed the shop.” Singha, 50-year-old man, teacher, community leader, key informant

5.2.3 The patronage system and discriminations

Relief operations are performed in different patterns everywhere. Forms of assistance can be both internal and external. Internal assistance is executed within a community and includes measures such as consultation and surveillance of flood

level. Nai Bung people generally meet to share ideas about how to live during periods of flooding. However, the 2011 flood was worse than the flooding in years past. The internal resources of the community were insufficient for community members to cope with the flooding; they needed external assistance. However, along external assistance comes issues caused by power relations. Groups are selected to receive assistance based on their social networks and political power. Political power and electoral support affect how resources are distributed to assist individuals. Corruption and favoritism are two factors that influence the distribution of resources and this generates new patterns of unnecessary suffering during flooding.

5.2.3.1 Delayed assistance

Nai Bung villagers received delayed assistance, and this caused them to resent and ignoring local authorities. They felt that if local authorities had provided protections earlier, their community would have had less damage. They felt insecure when floodwater ran off rapidly because of poor flood protection.

Aoun reflected on the delay of flood protections by local authorities. Aoun thought that if they had constructed levees earlier, the floodwater would have not been as high.

“They constructed levees but it was too late. Villagers had to ask even though they felt resentful. They brought a big vehicle for levee construction. Their opinion was that the flood would not come to the community. They thought it was useless to construct levees. On the other hand, villagers had different ideas. We thought that there would have been less impact if they had been constructed earlier. We thought that we would not select the same people for the next election.” Aoun, 51-year-old woman, market vendor

After the flood was the recovery phase. People had to repair their houses. They didn’t wait for compensation money. Thid and Nao reflected on help during the recovery phase. Compensation for damages was received very late. They didn’t wait for compensation because they had to fix their houses before they could move back in.

“I was resentful about assistance. It was late. The government should have done it earlier. The recovery phase should be quicker. The flood caused high expenses. We had to buy and fix many things. The compensation should have been received in less than a month.” Thid, 48-year-old man, unemployed

“I fixed my house even though the compensation money had not come yet. I had to fix it because my family had to have a place to sleep. I did as much as I could.” Nao, 45-year-old woman, housewife

5.2.3.2 Unequal aid

The distribution patterns and amount of flood relief assistance reflects the inequality of the relief process because not all flood-affected people were covered. Getting assistance depended on power relation. Social connections determined flood assistances; those with better connections received more help and resources and got them faster. Therefore, the social arrangements of flood relief caused another form of suffering.

The assistance started during the first period of flooding and continued to the flood recovery phase. Wee, Thid, Aoun, and Sak reflected that the lack of coverage from assistance depended on local political relationships.

“I felt sad. I was not in the group they wanted to help. We were different.” Wee, 67-year-old woman, market women

“The assistance didn’t cover all flood-affected people. Some families did not get donation bags. I wanted the local authority to take care of villagers. However, they never pay attention to villagers. It was hard to reach flood-affected people who live in remote areas.. The donation bags were tampered with; somebody took things out such as oil and rice” Thid, 48-year-old man, unemployed

“Villagers asked for help from local authorities. We asked to borrow small boats. They refused us. They said that they had no fuel in the boat. Moreover, they had no time.” Aoun, 51-year-old woman, market vendor

“The distribution was unequal. Some families got assistance but some did not. I would like local politicians to take care of everyone. They never cared for my family. They selected some families to help that would benefit for them. Since the flood came, they have never come to visit.” So, 40-year-old man, agriculturalist

“The assistance didn’t reach some places. Accessibility was hard. People in some areas did not receive assistance because local authorities didn’t distribute the supplies equally. They usually distributed supplies to their group firstly. ‘We had to care of our groups. Our groups come first.’ I have heard this many times.” Sak, 42-year-old man, military officer, key informant

There is diversity of helps that reflect to the unequal help. Protests were held in many regions during the flood recovery phase. People were resentful about compensation. The amount of compensation was the main problem. Varied amount of money were given as compensation. Even though people incurred different amounts of damage, they all wanted to obtain the same high amount of money. They knew that the government paid a maximum of 20,000 Baht for family. However, only a portion of that amount was distributed to flood-affected people. Villagers resisted the compensation. They did not accept it at first. Local authorities had to estimate damages again; otherwise, villagers protested. The data collected during this research is similar to the news from mass media. The government release compensation to Nai Bung village in May 2011. So and Aoun told me about the compensation.

“.....I just filled out the form for compensation. I knew that my relative who lived next to me got, 4,500 Baht. On the other hand, another family only got 2000 Baht. I thought it was unfair. If compensation were the same for everyone nobody would feel resentful and protest.” So, 40-year-old man, agriculturalist

“They put the compensation list on the black board. Villagers were angry and resentful about the compensation. Some of them had conflicts because

of the unequal assistance. I got 7,000 Baht, but my sister Nual got only 2,000 Baht. However, I had heard that the government was paying 20,000 Baht for each family. Nobody accept what was going on. I spoke out. I talked loud. If I did not talk, they would think that we were silly people. I was very angry at the compensation. I talked to other villagers. I told them that we should fight together. If everybody got the same compensation, it would have been fine. We planned to protest if we got less than 10,000 Baht. We planned to inform Chanel 3 TV. Now they are redoing the evaluations. I saw this and have been waiting.” Aoun, 51-year-old woman, market vendor

The patronage system normally exists during flood relief. The relationship of local politics is a significant factor that determines the amount and distribution patters of flood assistance. It reflects the inequality of assistance. Local politicians assist group or families to get electoral support. Those who have no connections to local politicians get inferior help.

“Thai society is based on the patronage system. The Thai system was based on inadequate issues for a long time. Therefore, the competition was very high. People liked to stay close to the authorities in order to get extensive help. It was an advantage to be connected to a politician. I had seen a lot this relationship. The relationship was good if they got help. On the other hand, the relationship was bad if they did not get any help.” Chai, 52-year-old man, military officer, key informant

5.2.3.3 Neglected help

Villagers would like to get help from local authorities, but they haven't gotten any attention in terms of assistance. The authorities ignore the villagers' suffering. As a result, relationships became fragmented during the flood crisis. Feeling of neglect generated mental suffering. Support for mental issues was not available. It was necessary to get tangible support but the intangible support is also important. This gives them mental support. Aoun, Wee, and Nao reflect on being ignored.

“ The leader never paid attention to us. Nobody told us what to do. They let us go without any complementation. They care about only themselves. They were on high land and they did not suffer because of the flood.” Aoun, 51-year-old woman, market vendor

“ The leader was mean to us. He was never concerned with us. We asked for help and he said that he had no time. We asked him for small boats and he refused us because of there was no fuel. We (villagers) were like his family members. He should have cared for us. We were not comforted. We were not his group so he did not help us.” Wee, 67-year-old woman, market vendor

“The leader didn’t help me with anything. I moved three times. He saw me but he never talked to me. He just stood still. He never mentioned my business. He was unconcerned.” Nao, 45-year-old woman, housewife

CHAPTER VI

CONCLUSIONS, DISCUSSIONS AND RECOMMENDATIONS

Conclusions from the study of social suffering, vulnerability, and subjectivities of flood-affected people are made in this chapter. The ethnographic study area was Nai Bung Village, Wang Noi District, Phra Nakhon Si Ayutthaya Province, Thailand. Narrative ethnography was used as the research methodology. Narrative interviews were conducted with 10 informants and five key informants. Other data collection methods such as observation, review of documents, and focus group discussions were also used. All data collected were analyzed and used to inform the research. The researcher used several concepts for analysis including Critical Medical Anthropology (CMA), social suffering, vulnerability, and subjectivity. The researcher categorized the methods of analysis into three domains. The first domain was the context of flood areas that are inevitably changed, the second domain was flood experiences, and the last domain was social suffering during flood phenomena.

The theoretical framework for discussion was the Critical Medical Anthropology concept. The researcher made connections from the macro to the subjective level. In addition, the researcher complemented the elaborative explanation with vulnerability, which exists in two forms, structural and individual. The explications consist of two dimensions: exposure and incapability to cope with flood impacts. Both dimensions of vulnerability are conjoined to power relations and social forces. An argument encompassing the previously mentioned concepts will unfold a comprehensive understanding of social suffering during flood phenomena. Social suffering exists at both the visible and invisible levels. Moreover, recommendations will be introduced for flood assistance in the future which will be appropriate for flood-affected people's lives.

6.1 Conclusions

6.1.1 Flood phenomena and meaning

6.1.1.1 Flooding situation

The 2011 flood in Thailand was caused by increased water levels in the northern region due to a greater than average number of storms and mismanagement of water. As a result, about half of the country experienced flooding. Wang Noi was the last of a total of 16 districts in Phra Nakhon Si Ayutthaya Province that was flooded. It was very difficult to evacuate residents because many routes of egress had already been flooded.

Wang Noi is located in a floodplain; it is geographically vulnerable to flooding. The control of the water gateway in the area depends on perception of economic value. Control of the gateway does not depend on geographic terrain, but rather on political power that is linked to economic value. Compared with Bangkok, people in Wang Noi have less economic value, so they are forced to live with the inevitability of flooding. This situation is illustrative of social inequality and produces double suffering for flood-affected people in Wang Noi. Groups of people who live on opposite sides of flood protection barriers fought with each other about flood controls. Ineffective flood protection arrangements intensified conflict among flood-affected people. The suffering of flood-affected people was not due only to flood impacts, but was also a result of conflict between human interests.

This fragmentation of relationships was due to social arrangements. The imposition of measures to control flooding levels caused conflicts of interest between two groups on opposite sides of an irrigation canal. People in Klong Luang, Pathumthani Province, and Wang Noi, Phra Nakhon Si Ayutthaya Province fought with each other about opening the Intra-Racha water gateway. People in Wang Noi wanted to open the gateway to relieve suffering, but Klong Luang residents were afraid of the influx of water. They couldn't come to an agreement about the issue. Therefore, people who used to coexist peacefully had a conflict of interest about drainage of floodwaters. The social arrangement in this case was ineffective. The flood crisis created not only suffering but also conflict.

6.1.1.2 The flood - “Nam Thum,” “Nam Kern,” and “Nam Lang”

Wang Noi received extensive impacts from flooding because it is located in a floodplain area and is on low lying land. Protection is very difficult because the low lying land floods easily because of its geographic vulnerability. All the above terms were used to explain characteristics of the flood.

“Nam Kern (น้ำเกิน)” is an explanation of social perspective that reflects inability to cope with flooding. The term means extensive flooding with excessive water. The 2011 flood had extreme currents and accelerated velocity. Daily life changed suddenly and people were unable to respond quickly to the flooding. “Nam Kern” is a term that reflects structural vulnerability. The social arrangements of the flood situation demonstrated economic inequality. Those who were less economically important were affected more by flooding. Wang Noi residents experienced a lot of suffering. Individual vulnerability reflects the inadequacy of internal resources in coping with the flood. People failed to adjust their lives during the flood crisis. They did not prepare themselves properly; moreover, they were unable to stay home.

The 2011 Flood was also called “Nam Lang (น้ำล้าง)”, which refers to washing water because property was washed away by floodwaters. The flood washed away everything, including physical property and opportunities in life. The term also has a positive connotation; new life can begin after everything is washed away. Moreover, “Nam Lang” reflects the relationships transformed during the flood. Flood-affected people construct metaphors and implications to erase political conflict. People in Wang Noi did not have favorable opinions of military officers because they saw the military involved in the insurgency at the Rachaprasong area of Bangkok in 2009. There is a poor relationship between military personnel and local people, but the flood improved that relationship. In this context, “Nam Lang” has a meaning associated with social perspective.

6.1.1.3 Local knowledge

Experiences during the 1995 flood informed the local knowledge of Nai Bung villagers. Their knowledge was accumulated and embodied. They used local knowledge as the normative standard to prepare for the 2011 flood. They compared the 2011 flood with the flood in 1995. They resisted the flooding in 2011 with their experiences in which they had previously been able cope with flooding. Therefore, their actions were informed by local knowledge. They followed their old beliefs and experiences. They did not evacuate or follow the official recommendations. Announcements and news did not affect their attitudes and actions. They assumed the flood situation was controlled. They prepared themselves for living with flooding in three ways. First, they bought food, gas and other essential items. Second, they constructed embankments. They used sandbags for levee construction for personal protection. There was a lack of coordination in this activity and people built their own sandbag levees. Third, they protected their personal property. Those who had social networks moved their belongings to other places. However, people with no social network had to leave things inside their houses. They were unable to prepare themselves sufficiently due to economic insufficiency and individual vulnerability. In addition, geographic vulnerability caused a lack of protection. The poor management of collective protection made people in Wang Noi susceptible to flood risks.

Flood-affected people wanted to stay at home, but the flooding was severe. There were many differences between previous floods and the 2011 flood such as characteristics of flooding, and ability to stay home. Moreover, the 2011 flood was more severe.. Nai Bung villagers were forced to reevaluate the flood situation, and they reshaped themselves anew. After self-reflection they realized they would be incapable of remaining at home. They sought solutions such as evacuating from their homes and finding alternative shelter. They preferred to stay close to their homes, which is a typical desire in Thai culture, but many people were forced to evacuate. Several factors were considered during consideration of evacuation such as distance from home, availability of food and sleeping places, and social networks. People wanted to stay close to their houses so they could visit from time to time and keep an eye on their property. Many people stayed nearby their homes on the road

side, in front of the local bank, or on the bridge. Some moved into shelters in schools, temples, and military camps. Living in a shelter shaped a new form of the self for these people; the self became objectified.

Life in shelters is a regulated experience. A schedule imposes times to eat, sleep, and perform other activities. The inconvenience produced by this objectification leads people to surrender to suffering. Living in a shelter is not as convenient as staying home, but there were limited alternative choices at the time of flooding. Even if they were not worried about food, people were still worried about their homes. In addition, they were stressed because of new surroundings and the crowding and noise in the shelter. Shelter residents had only a small area as their personal space. They had to sleep in close quarters. Moreover, using the toilet was very inconvenient. Vulnerable groups such as pregnant women, elderly people, and infants and children suffered in such a hostile environment.

6.1.1.4 The inevitability of change

Economic expansion brings about geographic transformation. Agricultural areas are changed to industrial areas. The economic power of capitalism inevitably results in geographic transformation. Capitalists buy large amounts of land and invest in industrial businesses and housing estates, cause urbanization. Economic development brings about geographic vulnerability. Natural reservoirs are altered for industrial zones and there are fewer water storage areas than before.

Urbanization has expanded to accommodate people who have immigrated to the study area. The structure of the population has also changed. The population comprises 80% recent migrants to the area with only 20% native Wang Noi residents. Relationships in the community have changed. The traditional network of relatives has been transformed to a nuclear family. People are independent and there is less social interaction. The social network is weak in chaotic times, limiting its capacity for help.

Urbanization has caused a lack of regulation of Cholprathan 26 Canal. Ineffective regulation has allowed settlement next to irrigated land. This is a structural vulnerability. The government has ineffectively regulated this area and the canal area is used for accommodation. There are fewer natural floodways as a result.

Moreover, people living next to canals are susceptible to flooding. However, limited resources produce limited alternatives. People surrender and live in dangerous areas. Most people who live in these areas are poor. They have to live there even if the area is dangerous because there are few, if any, alternatives.

6.1.2 Lived experiences during the flood crisis

Suffering of flood-affected people is both visible and invisible. The flood experience reflects the social arrangements of flood management. Flood assistance may mitigate suffering but can also create new forms of suffering.

Invisible suffering occurs within a social structure which contains structural inequality. Economic development produces transformation. Transformation induces susceptibility to flood risk. Factories, accommodation, and other buildings constructed in rice fields or agricultural areas decrease floodways and obstruct the flow of floodwaters. However, villagers did not realize that along with the advantages also came negative consequences until the flood crisis. Only some thought that factories obstructed flow of floodwaters and generated flood processes.

Suffering experiences exist in multiple forms. Physical loss is observable and therefore always noticed. People in communities face collective suffering from losses such as destruction of accommodation, collapse of community relations, and destruction of infrastructure. Individual lived experiences connect to collective experiences.

Invisible suffering causes uncertainty about life. Uncertainty about the future is a result of decreased income. Moreover, debt and loans cause poor people to experience difficulties and face financial suffering.

Individual vulnerability relates to socioeconomic status, social support, and health. Individual vulnerability determines the capacity of recovery. Those with poor economic status are unable to recover. Social support is one part of reinforcement and promotes effectiveness of the recovery process. Health issues are another factor that influences the ability to make a living and return to normal life processes.

6.1.3 Multiple suffering from social arrangements

Power relations create inequality and generate new forms of suffering. Flood assistance can both mitigate and create other forms of suffering. Power relations induce discrimination of help and demonstrate inequality of assistance. Therefore, there are people who gain benefits and people who are not able to access help. In addition, the discrimination of help establishes a patronage system in which people must be close to those in power to receive benefits. Those far away from power receive delayed help, intensifying flood impacts. This social arrangement produces double suffering; it creates both visible and invisible suffering. The suffering is at the structural level and affects normal ways of life. There are three types of suffering that were created from social arrangements at the structural level.

The first is the social arrangement of information which is ambiguous because of biased selection. Economic value is the most highly prioritized selective criterion. Issues with high economic value have first priority in presentation of information. Ambiguous information affects the emotions of receivers. They feel suffering from uncertainty about the situation and receipt of only vague information about important issues. In addition, this study found bias in presentation. The information reported is often one-sided. The mass media reported flood situations that were of economic interest. Flood protection measures in Bangkok also received more coverage. Areas of low economic interest were marginalized and underreported. There were fewer reports about areas of low economic interest.

Secondly, the government implements objective knowledge classified by professional expertise. Objective knowledge ignores subjectivity so policies are unsuitable to assist affected people. In addition, government drives the mechanistic approach that calculates, predicts, and controls the direction of floodwaters and the focus of flood protection. The government uses expert knowledge to formulate policies which do not fully address affected people's problems. In addition, they produce other patterns of suffering and are not a quick fix for the problems. This study found that the 2,000 Baht coupon distributed for buying electronic equipment was largely useless because flood-affected people needed other things more. Electronic equipment is a symbol of a modern lifestyle. On the other hand, rural people needed only essential items for daily life such as clothes, blankets, and food.

Electronic equipment was a luxury item for them. Moreover, the process to obtain a coupon was complicated and time-consuming. The process took two days. Most flood-affected people did not like this policy because it provided them with something they considered useless and the application process was prolonged. The policy did not relieve any suffering. People needed cash to buy other things. Moreover, they wanted to have somebody fix their accommodation. They wanted to have income to achieve their goals in the future as well as maintain the stability of their families.

Third, selective flood assistance induces suffering. There are several factors involved in selectiveness including who receives assistance, when aid is distributed, and what information is reported to the public. This selectiveness is a kind of discrimination. It stems from power relations. Flood-affected people in Nai Bung village received different kind of help and in different degrees. Before the floodwater came to the village, Nai Bung residents got together and shared ideas about coping with the flood. However, the impact of the flood was worse than expected. They needed external assistance. Along with external assistance came power relations. Therefore, assistance was selective and generated new kinds of suffering.

Nai Bung villagers remarked on the delayed assistance. They perceived that local authorities were unresponsive. They thought that if local authorities had been proactive, the community would have experienced less destruction. Local authorities protected only themselves and their own networks. Moreover, the housing of local authorities was in good locations and they experienced fewer impacts. For this reason, they did not collectively protect the community from the beginning of the flood. Moreover, the effect of socioeconomic status on the ability to cope with flooding was manifested.

6.2 Discussions

The theoretical framework informing the discussion of vulnerability, social suffering, and subjectivity of flood-affected people is based on the concept of Critical Medical Anthropology. The researcher made linkages from the macro to the subjective level. In addition, the researcher complements the elaborative explanation

with vulnerability, which exists at the structural and individual levels. The explications are in two dimensions; exposure and the inability to cope with the flood. Both dimensions of vulnerability are conjoined to power relations and social forces. Therefore, the argument encompassing all the previously mentioned concepts will unfold a comprehensive understanding of social suffering in flood phenomena. Social suffering exists at both the visible and invisible levels.

6.2.1 Influence of capitalism on social life: the web of causation from structure

The application of the Critical Medical Anthropology concept to analyze the flood crisis in Phra Nakhon Si Ayutthaya Province demonstrates the connection of world economic development to transformation in Thailand. This transformation influences geography, the environment, and the local ways of life.

World capitalism drives global economic development. Economic growth consumes massive resources and causes the degradation of resources. It causes deterioration of the environment and creates a high risk of disasters, showing the vulnerability of social and economic processes (Oliver-Smith, 1996, Wisner, et.al, 2004, Smith & Petley, 2009). This vulnerability is involved with man-made disasters. Development produces imbalanced exchanges (Alexander, 2006) and affects human health. Development also generates health threats and illness. This is the same argument that Baer & Singer (2009) made.

Thailand has been heavily involved in global capitalism since 1961. Thailand has implemented national economic and social development plans to develop the economy and protect Thai society. Thailand has been largely transformed from an agricultural to an industrial society (Yos Suntasombat, 2005, Dechrat Sugkhumnerd, 2011). The First, Second, and Third National Economic and Social Development Plans emphasized economic development but neglected environmental impacts. Massive natural resources have been used for industrial modes of production, so the natural environment has deteriorated (Jirakorn Kochasene, 2002). The intensive mobilization of resources for industrial prosperity has induced the transformation of modes of production, community relations, and capital. Moreover, many agriculturalists have become laborers in the industrial process. The agricultural

way of life that depends on rice production and natural water has changed to a system of earning income from the industrial process. The Thai lifestyle has changed from agricultural to industrial by world capitalism.

The mobilization of resources requires massive labor so many people have migrated to industrial areas, causing demographic transformation. Migrants outnumber native people in many areas. Relationships in communities have changed. The traditional extended family with close relatives living together has been altered by urbanization to a small nuclear family. People have become strangers to each other. Data was collected in this study using interviews and observations. Flood affected people reflected on the density of accommodation. Agricultural land and rice fields have been changed to industrial areas and there is little land for floodways. Housing estates were constructed beginning in 1992, which was the commencement of industrial development in Phra Nakhon Si Ayutthaya. The transformation in Phra Nakhon Si Ayutthaya is due to global economic development. Therefore, economic development causes land to be flood prone. The results of this study conform to those of previous studies. Mustafa (1998) and Wisner, et.al, (2004) stated that economic expansion due to world capitalism induces structural vulnerability. The positive impacts that are promoted relate to increased economic values. However, the negative impacts such as degradation of natural resources and deterioration of the environment are ignored. Moreover, the negative impacts can eventually cause disaster events (Wisner, & Gaillard, 2008). There is an imbalanced exchange between the negative and positive impacts, which induces geographic vulnerability; areas subject to economic development become flood prone. Susceptibility to flooding is increased and areas are vulnerable to hazards (Dow, 1992).

Economic development induces rapid urbanization. Data from documentary review shows that between 1990 and 1996 the population growth rate of Wang Noi district was the highest in Phra Nakhon Si Ayutthaya Province at 1.95%. This is connected to urbanization and economic development (Department of Provincial Administration cited in Janchai Thongsuk, 1997). As a result, urbanization grows with economic expansion and induces immigration. People migrating into Wang Noi are not able to afford accommodation in safe locations. Therefore, they have built informal settlements in marginal areas such as near irrigation canals. They

have not considered the risks of settling in these areas. Because of social arrangements, construction in irrigation areas is ignored. The government does not regulate construction so there are fewer waterways. This area is under greater risk of being flooded. Previous studies made the same argument as in this study; urbanization increases vulnerability (Penning-Rowsell, 1996, Mustafa, 1998, Wisner, et.al, 2004). Vulnerability in this study means exposure to flood impacts. Vulnerability is complex and interact to society, economy and environment (CRED, 2010). It bases on unequal relationship (Fjord & Manderson, 2009) such as urbanization and connection of flood crisis.

Urbanization induces the flood process. Spatial replacement consists of construction on rice fields and floodways such as factories and housing. The drainage system was decreased (Thonpleaw Kongjun, 2012). Urbanization and industrialization that followed the national plan included in flood process (Rapihat Pasabutra, 2012, Strategies Center, 2011). A previous flood study in Argentina demonstrated the flood process from urbanization. Many people have moved to cities and settled in a floodplain because of the low cost of living there. People living in these areas are vulnerable to flood impacts. A similar study in peri-urban Mexico showed the unregulated transformation of agricultural land to industrial uses caused the flooding process. The Asian region faces flooding more often than any other global area. Several studies showed flooding from urban development such as in Argentina, Philippines, Indonesia, and Vietnam (Penning-Rowsell, 1996, Bankoff, 2003, Akmalah, 2010, Hung, Shaw & Kobayashi, 2010). Expanded urbanization results in fewer reservoirs, decreased water absorption, and obstruction of floodways. The causes flooding related to urbanization, industrialization, and economic development.

Flooding is due to structural vulnerability that is emphasized by economic expansion. Economic development has transformed Thai society from agricultural to industrial and has been influential in geographic transformation. Floodplain areas have become factory land. Irrigation canal areas have been used as temporary accommodations for migrants, obstructing the flow of floodwaters. Therefore, economic development in Thailand induces the process of flooding. Flooding is not only a natural phenomenon but also a social process. These processes include economic development and physical arrangements to accommodate the expansion

caused by industrialization, massive immigration, dense industrial construction, requirements for accommodation, and unregulated urbanization, geographic transformation, and forest degradation. All of these factors are vulnerabilities of geography that originate from economic expansion and induce flood processes.

6.2.2 Professional media and capitalism: objective ideology in flood arrangements

Capitalism dominates the institutional level. Flood management policies create new forms of suffering. The suffering is beyond that caused directly by flooding; it is also hidden in hegemony and discourse. Disasters are defined in time and space (Jigyasu, 2005), imposing practices of disaster relief. Lock (1997) stated that hegemony of ideology leads to new patterns of suffering. The objection of emancipation causes double human suffering in everyday life. Double suffering is a cultural process (Kleinman, 1997) and results in the collective experiences of flood-affected people. The information available during a flood crisis dominates ideas and constructs discourse. As a result, whenever people get in trouble they expect and require external assistance: receiving supply bags, medicine, and so on. Life depends on expertise that uses causal relationships, and expert knowledge that controls and manages situations. Therefore, hegemony is not limited to the institutional level but is also present in the professionalism embedded in everyday life. Professionalism controls and manages human life. The reflexive self is controlled and dominated by social determinants. Therefore, people surrender to the conditions of their lives.

The selective presentation of information concerning only areas of economic interest shows the influence of capitalism on the media. The inequality of presentation is a structural inequality and causes human suffering (Farmer, 1997). People who live in economically poor areas are marginalized because disasters in the media spotlight get more attention and assistance (Stromberg, 2007). Information about flooding in more economically valuable areas is presented. People in these areas receive accurate information and are able to adequately prepare themselves. There was plentiful information about the flood situation in Bangkok. People in Bangkok received updated information and were able to prepare themselves properly. There was less information about the situation in Wang Noi and what was received was

ambiguous, so people were not able to prepare themselves properly. They felt uncertain about the flood situation and the future. These are transient factors that increase stress and vulnerability. They suffered from watching flood news because it causes emotional instability, indecisiveness, and feelings of not being control. Psychological health was threatened from the protection of industrial zones because people felt there was no solution for their situation.

Social arrangements depend on economic power but ignore other social dimensions. The government estimates economic loss and is concerned with a potential decrease in gross domestic product, so they protect areas of high economic value more than they protect villagers' accommodation. Flood relief arrangements are based on the economic inequality of power relations. This is the hegemony of injustice. Protection and mitigation in flooded areas depends on the area's economic value. Industrial areas were protected more than agricultural areas during the 2011 flood. Many people in unprotected areas were affected because they were poor and considered inferior. They have to live with the inevitability of flooding; eventually it becomes normal and is ordinary suffering. Humanity is devalued by modes of production, which is dehumanization from social arrangements. Reflection on mobilization of flood relief resources reveals structural vulnerability. It produces inequality and social suffering.

The suffering from ambiguous information could not communicate to affected people. Moreover, the fault information or different information from different organization made flood-affected people frustrated. Affected people were confused (Mingsun Khaosa-ard, 2011). Therefore, they were unable to cope with flood properly during the intensified flood crisis. Political power of data presentation created double suffering to flood-affected people.

6.2.3 Social interactions and power relations between relief workers and affected people

6.2.3.1 Discrimination and the patronage system

Professionals impose patterns of assistance reflected by power

relations. Those with high authority can gain access to people in power more easily than inferior people and therefore receive privileges. Inferior people are discriminated against. The data demonstrates that accessibility to political power brings benefits. Powerless people are discriminated against. (Mong Paisal Wisalo, Duanghathai Buranachareon, Nongluck Trongsilasath, 2007) Selective assistance during flood disasters originates from the patronage system. People who are connected to local government get help faster. This study is similar to a study in Vietnam that showed unequal help generated conflict in the community (Bui, 2008). Pattern of assistance do not cover all affected people. Migrants especially move into industrial zones and are impacted by flood consequences. The assistance process requires presentation of an identification card, so some people are excluded from receiving help. Migrants don't get any benefits from formal assistance because they are not registered in the flooded area. This group receives double suffering from flooding. This event reflects the vulnerability of ignorance (Wisner, et.al, Hooke & Rogers, 2002). Another disaster, a tsunami in the southern part of Thailand, showed the vulnerability of ignorant groups. These vulnerable groups did not get help (Siriporn Scrobanek & Waranya Keunun, 2007, Social Research Institution, Chulalongkorn University, 2008). The difficulty of the recovery process causes double suffering. Human beings are devalued by the inequality of assistance (Green, 1998).

This study found obvious discrimination in the recovery phase. People with connections to those in authority were able to gain more benefits than other people. Compensation for flood damages is a good instance of inequality in the flood relief process. The amount of money depended on relationships with those in power rather than the amount of destruction. The study of Nareumol Arunothai (2011) stated structural inequality causes, produces, and reproduces discrimination. However, people were not aware of the discrimination. Consciousness of flood relief processes expressed a new form of the self. They struggled to survive and recover their normal lives. This conscious action shows the self and agency. Affected people gathered to resist the power by peaceful demonstration to changing flood assistance processes.

Discrimination in flood assistance stems from the patronage system. People who have close relationships to those in power get faster and better

help. A similar study of disasters in Vietnam showed the inequality of assistance caused conflict within the community (Bui, 2008). Those who didn't receive aid felt alienated from relief workers. The patronage system in Thailand generates competition to gain access to and create connections with those at the center of power.

The suffering of flood-affected people exists in multiple dimensions, especially suffering from mismanagement. Studies of disasters point out that assistance is important to flood relief. From interviews with informants, the researcher confirmed that the patronage system is influential in Thai society. There is competition towards the center of power in efforts to gain benefits. Moreover, flood assistance is politicized. Local politicians use their power for selected interests. On the other hand, flood-affected people who have gained assistance get more benefits. This is unfair for other flood-affected people who have no connections. In this study, obvious discrimination was found. Flood-affected people with connections to local authorities obtained more benefits such as more frequent distribution of supply bags. The researcher observed people receiving many different types and amounts of aid. Moreover, compensation during the flood recovery phase manifests the social inequality present in the relief system. Members of the local authority received more money for compensation than others. Evaluations of damaged property did not depend on demolished property, but rather on social relations.

6.2.3.2 Objectification of professionalism and victimization

The professional process implements objective knowledge emphasizing expertise. The principle strategy is to target physical problems only. This arrangement calculates, predicts, and controls (Beck, 2007) but ignores the subjectivity that involves the mind, society and culture that is embed in the cultural system. The negligence of subjectivity produces other forms of suffering. Flood-affected people suffer from living in shelters. They face physical problems and mental problems due to the inconvenience of accommodation. Therefore, flood assistance does not respond to normal ways of life and the needs of affected people.

The objectification of expertise influences affected people and induces victimization. This is similar to a medical model in which political power created otherness in patients with Jewish ethnicity (Komartra Cheungsatheansup &

Malee Sithikreankrai, 2003). The Jewish patients were objectified by biomedical power. Similar to flood assistance, professionalism objectifies affected people and creates selflessness and powerlessness (Farmer, 2003). They have to accept and surrender; they must be controlled and passive. Human dignity is devalued as an object. Flood relief processes objectify affected people and cause other forms of suffering.

6.2.4 Struggling over meaning

The Critical Medical Anthropology concept considers lived experiences, resistance, and agency. This study analyzes flood responses that show the self, local knowledge, and help-seeking behaviors; moreover, the study examined adaptation when the flood situation was severe and uncontrolled.

“Nam Kern (น้ำเกิน)” is the excessive water that reflects risky scenarios that go beyond local knowledge. People are incapable of living with flooding. Flood-affected people characterize “Nam Kern” by accelerated velocity, strong currents, and a large volume of water. Flood impacts are intensified and physical damages are increased from the strong currents. “Nam Kern” involves overestimating capability which reflects individual vulnerability. Dow (1992) said individual vulnerability is an uncontrolled situation. Flood-affected people have never had to live in a hostile situation. The flood crisis produced uncertainty in their lives and created new forms of suffering. Suffering from the flood causes life crises. This study shows flood-affected people have collective experiences.

Flood-affected people prepared for the flood by reflecting on their past experiences. They stored food, built levees, and collected other items. Even if they listened to official announcements they did not trust the information. They did not follow recommendations immediately. The knowing subject shows thought and agency (Ortner, 2006).

Villagers resisted the flood situation with their past experiences; they did not evacuate until the flood had already arrived. When it did arrive, it was beyond their expectations. Local knowledge was not enough to cope with the situation. “Nam Kern” created a new self that caused the restless self to feel anxiety. “Nam Kern” changed the subjective body to the objective body. Affected people were objectified

by the uncontrolled flood situation. The uncontrolled situation generated social suffering (Csodas, 1994). Normal life was changed and villagers were affected by the flood. They were selfless and powerless to control anything.

“Nam Lang (น้ำล้าง)” means washing floodwater. The meaning can be interpreted on two levels. The first is the beginning of life at the individual level. The second is social interaction between flood-affected people and others.

“Nam Lang” means resistance. The washing floodwater resists inequality. It is the solution to get rid of all inequality. Both rich and poor were washed by the floodwaters. The washing floodwater swept out everything.

There is irony in “Nam Lang.” The washing floodwater not only swept all property away but also normal life and hopes for the future. Emotion is evoked from the immense losses. On the other hand, flood-affected people gave another meaning to “Nam Lang”; the beginning of new life. They had to start over with nothing. They felt uncertain about the future and that it might not be the same. This was a new form of flood suffering. Green (1998) stated that feelings of uncertainty, insecurity, and depression is a form of suffering.

In addition, “Nam Lang” has meaning at the level of personal interaction. “Nam Lang” is also connected to political power. Flood-affected people believed that “Nam Lang” erased political conflicts. Anan Kanchanaphan (2009) and Ortner (2006) explained that the meaning is linked to the structural level. Flood-affected people constructed the “Nam Lang” metaphor.

6.2.5 Double suffering in flood phenomena

6.2.5.1 Structural management and the mechanistic approach

Reductionist ideology is influential in social arrangements. Social arrangements implement a mechanistic approach. Expertise and knowledge drive the mechanism (Capra, 1982). Flood-affected people reflected that the social arrangements that manage storage and drainage of water cause flooding in many areas. Flood-affected people recognize unnatural flood process. Local knowledge shapes the idea that flooding is caused by extensive rain. This study found that flood-affected people

thought that the storage and drainage of water was the main cause of flooding. Moreover, the different flood levels in several areas infer the inequality of social arrangements. Flooding is not a geographic problem, but rather is a result of political power: the politics of water. Structural inequality affects flooding. Flood-affected people have to inevitably live with floods.

Defining, controlling, and managing disasters is a scientific approach. Scientific knowledge emphasizes calculation, prediction, and management. Authorities announce flooding and then predict which areas are at risk. Flood arrangements are dominated by scientific knowledge which is tied to authority (Fayerabene cite in Weera Somboon, 1998). The government defines disaster with the ideology of modernity that states situations can be predicted and controlled. However, professional expertise is objective knowledge and each expert encounters discourse. Therefore, different flood protection and relief arrangements are made. When irrigation systems, water storage for agriculture, and drainage of water from dams are inconsistent, vulnerability is produced for farmers and others people.

Flood processes are perceived as unexpected natural processes that can be controlled. When natural processes are reduced to quantitative relationships such as amount and number, nature is objectified. The solution generally used for flood control is mechanistic and emphasizes structural solutions. The primary means of flood protection observed this study were levee construction along the road and canal. There was no evidence of an integrated solution.

The reductionist paradigm influences perspectives of flooding. Disasters have consistently occurred outside of normal development. It is a modernist tradition that nature is separate from society (Pelling, Ozerdam, & Barakat, 2002). The flood is excluded from human society. Nature is devalued to amounts and numbers when the government implements a mechanistic approach and manages only physical problems. Therefore, flood management is ineffective because of the lack of a holistic accounting methodology. Structural mechanism is a myth believed to solve flood situations. Flood impacts are not relieved but instead are increased. Flood protection by levee construction changes the direction of floodwaters and increases the currents of floodwaters. The intensified flow of water is from levee construction.

China and India have failed in their use of levees for flood protection (Wisner, et.al, 2004). Bangladesh c has had the same experience (Hague & Zaman, 1993).

6.2.5.2 The policy and negligence of subjectivity

The failure to consider subjectivity when formulating flood relief policies produces lack of conformity of assistance. This study found that recovery policies did not mitigate suffering during the 2011 flood; rather, they created conflict among people. The coupons for buying electrical equipment did not provide benefits for flood-affected people because electronic equipment is a luxury item. Most of the informants in the study did not apply for the coupon. They thought it was useless and the application process was a waste of time.

Flood management uses government power by policy implementation and measurement (Shore & Wright, 1997). The policies are not effective and do not provide benefits because they do not consider subjectivity and the emotions of flood-affected people. Recovery policies did not allow people fully recover their lives, representing a gap in recovery strategy. Hooke & Rogers (2002) proposed that the solution for decreasing this gap is to consider individual vulnerability.

Failure to consider individual vulnerability is dehumanizing. Green (1998) stated that dehumanization is one form of human suffering. Individual vulnerability is caused by different patterns of socioeconomic status with different needs. This study found that flood assistance was based on the registration of a family, so migrants are unable to access assistance and compensation. They protested in the community and gained some benefits, but they received nothing until six months after the flood. This group had double suffering from the flood process and experienced difficulty in the recovery process.

6.3 The recommendations

This study used the CMA concept to analyze flood phenomena. Flooding is a social phenomenon and is related to social vulnerability caused by economic expansion. The consequences of expansion produce diverse transformations such as hazardous conditions which could eventually become disasters. This study discloses the suffering and subjectivity of flood-affected people that is related to individual vulnerability. Therefore, the suggestions of the study try to minimize the suffering of flood-affected people and try to reduce the gap between flood assistance.

6.3.1 Empower to communities and local management of flood protection. Flood relief operations should integrate the body of knowledge of local people in relief operations. Help local people build capacity to respond within their communities and coordinate social networks in the vicinity for prompt assistance. The mobilization of resources will be beneficial at the local level for coping flood and recovery.

6.3.2 Integrate all solution and be flexible to situation. The consideration of different level of vulnerability should be concerned. Understanding of subjectivity that includes emotion, feeling, social contexts, culture and history of community should be addressed for maximize benefit for flood-affected people. The assistance should match to the need of flood-affected people.

6.3.3 Encourage and immunize local people who have been involved with flood disaster. Knowledge of flood disaster should focus at the root cause of disaster that connects to both natural and human activities. Competency at the individual level is good for self-care during flood crises. To enable living with a disaster the positive and negative impact need to be addressed. All people have to cope with disasters at some point so disaster response is everyone's business. Everyone should cooperate with each other to immunize the society for living with catastrophe.

6.3.4 Increase capacity of government organization, private organization and civil society in order to relief in all issues. The paradigm shift of flood situations should be considered. Flooding is not just a natural phenomenon; it is also related to human activities. Moreover, it is connected to water management, which is a determinant of flood intensity. The inequality of relationship is influent to coping

capacity. All organization should understand physical perspective as well as social perspective that are vulnerable to disaster differently.

6.3.5 Suffering of flood-affected people beyond physical need because the feeling of uncertainty is invisible suffering. It exists in a long period of life. Therefore, government organization, private organization and civil society should emphasize on subjectivity of people. They are different in body of knowledge and experiences. Therefore, assistance should bring all differences to design for appropriate model such as communication, presentation and increasing local capability. They can handle to flood disaster with competency.

6.4 Recommendations for further study

This research studies the subjectivity of flood-affected people and reflects on the social processes of flood phenomena. The study was conducted in the response and recovery phases. Further research should be undertaken during the preparedness and prevention phases. Limitations of this study were time and resource constraints. All four phases of the disaster cycle should be integrated in one study.

Therefore, further research should be conducted over a longer period of time that includes all phases of the disaster cycle. This will be useful to gain a comprehensive understanding of practices in each phase. In addition, participatory action research should be implemented because it drives the movement of knowledge and practice for concrete disaster management. People in communities are the first responders for disaster management and use internal resources. Empowerment of communities should be promoted to strengthen their capability. In order to ensure effective disaster management, government and others local organizations should share and integrate knowledge for disaster management with the community. This would provide a variety of concrete patterns for disaster management and would be beneficial in minimizing disaster impacts.

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BIOGRAPHY

NAME	LTC. Jiraporn Chomsri
DATE OF BIRTH	13 DECEMBER 1970
PLACE OF BIRTH	Nakhonratchasima, Thailand
INSTITUTIONS ATTENDED	Khonkaen University, 1993: Bachelor of Sciences (Medical Technology) Mahidol University, 2003 Master of Art (Medical and Health Social Sciences
POSITIONS &OFFICE	Army Medical Department School Army Medical Department, Royal Thai Army Bangkok, Thailand,10400 Tel. 02-3544445 Army Instructor
HOME ADDRESS	29 thanon thesaban 43, Soi 2 Nongsarai, Pakchong, Nakhonratchasima, 30130