Social Vulnerability and Suffering of Flood-Affected People: Case Study of 2011 Mega Flood in Thailand

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ABSTRACT

The purpose of this study was to explore the social vulnerability of flood-affected people resulting from the mega floods during October 2011 to June 2012, in Phra Nakhon Si Ayutthaya province, in the central flood plain of Thailand. Qualitative techniques including narrative interviews, observation, and focus group discussions with ten respondents were used to collect the data. The results dealt with the lived experiences of flood-affected people who became vulnerable to physical hazards and were exposed to multiple forms of suffering, caused by social factors such as negative economic impacts and political abuse. It was found that flood protection, public and private assistance, and social services focused mainly on the industrial zones, but neglected people living in the vicinity. Flood experience was affected by capitalistic ideology and political power from the patronage system, which produced inequality in assistance. Not only were people affected by visible suffering from physical impacts, they also experienced invisible forms of suffering due to uncertainty, unstable emotions, and mental trauma that affected their mental and physical health. The invisible sources of suffering gained less attention, so social arrangements should consider the social vulnerability that could generate suffering. Recommendations regarding future policy and interventions are given.

Keywords: mega-flood, vulnerability, suffering, flood-affected people

บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่อค้นหาความเปราะบางเชิงสังคมของผู้ประสบภัยน้ำท่วมจากประสบการณ์ความทุกข์เหตุการณ์มหาอุทกภัย 2554 ช่วงระยะเวลาตั้งแต่เดือนตุลาคม 2554 ถึง มิถุนายน 2555 ในพื้นที่จังหวัดพระนครศรีอยุธยาพื้นที่ราบลุ่มภาคกลางของประเทศไทย ทำการศึกษาด้วยการวิจัยเชิงคุณภาพ ใช้วิธีการสัมภาษณ์เพื่อเล่าเรื่อง การสังเกต และ การสนทนากลุ่ม กับผู้ให้ข้อมูล 10 ราย การศึกษาแสดงให้เห็นถึงชีวิตของผู้ประสบภัยน้ำท่วมที่ตกอยู่ในความเปราะบางทางกายภาพและได้รับความทุกข์ซ้ำซ้อนจากปัจจัยทางด้านสังคม ได้แก่ มูลค่าทางเศรษฐกิจ และอำนาจทางการเมือง การปกป้องและการช่วยเหลือจากสังคมมุ่งเน้นไปที่เขตพื้นที่อุตสาหกรรมที่มีมูลค่าทางเศรษฐกิจมาก แต่ละเลยประชาชนที่อาศัยอยู่ในพื้นที่ใกล้เคียง ประสบการณ์ความทุกข์จากน้ำท่วมจึงเกิดจากอุดมการณ์แบบทุนนิยมที่ผูกอยู่กับมูลค่าทางเศรษฐกิจ อำนาจทางการเมืองจากการใช้ระบบอุปถัมภ์ได้สร้างความไม่เท่าเทียมในการจัดการน้ำท่วม ความทุกข์ที่เกิดขึ้นมีทั้งความทุกข์ทางด้าน

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กายภาพที่สามารถมองเห็นได้และยังมีความทุกข์ที่มองไม่เห็นซึ่งเกิดจากความไม่แน่นอนของชีวิต อารมณ์ที่ไม่มั่นคง และ อาการทางด้านจิตใจ ซึ่งส่งผลต่อสุขภาพของร่างกาย ซึ่งเป็นสิ่งที่ถูกละเลย ดังนั้นการจัดการทางสังคมควรคำนึงถึงความทุกข์ที่เกิดจากความเปราะบางเชิงโครงสร้างที่ทำให้เกิดทุกข์ คำแนะนำต่างๆ จะเป็นประโยชน์สำหรับการวางนโยบายและการปฏิบัติในอนาคตต่อไป

คำสำคัญ: มหาอุทกภัย ความเปราะบาง ความทุกข์ ผู้ประสบภัยน้ำท่วม

INTRODUCTION

Floods are the most common natural hazards affecting almost 20 million people throughout the world (Centre for Research on the Epidemiology of Disaster, 2010). The number of flood victims and flood impacts appear to be increasing on a global scale, especially in developing countries (Osti, Tanaka & Tokioka, 2008). Asian countries had the highest number of flood events during 1998–2008; Thailand was ranked tenth in the reported flood events (Adhikari et al., 2010); floods are the highest disaster risk in Thailand (Department of Disaster Prevention and Mitigation, 2009). The mega flood in 2011 from October 2011 to June 2012 resulted from a series of catastrophic seasonal floods that culminated in the worst monsoon flood in over five decades, inundated 66 of the 77 provinces, and affected more than 13 million people with losses valued at THB 1.4 trillion (World Bank, 2012).

Flooding is perceived as a natural process as well as a social process. Traditionally, most research studies on disasters emphasize the causes of floods from biological factors that are associated with geomorphological and climatic changes. Significant numbers of research papers have focused on the social factors resulting from urbanization, economic expansion, and resource degradation that increase the vulnerability to flood hazard (Oliver-Smith, 1996; Wisner, Blakie, Cannon, & Devis, 2004; Baer & Singer, 2009). 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 in Hanoi during 1975–2004 (Hung, Shaw, & Kobayashi, 2010). Similarly, analysis of flooding in Mexico illustrated the interacting dynamics of livelihood, institutions, and the landscape that have been changed and have created exposure to risk and sensitivity to flooding (Eakin, Lerner, & Murtinho, 2010).

Social vulnerability refers to the inability of people, social groups, and societies to withstand adverse impacts from multiple stressors to which they are exposed in floods. These impacts are due to characteristics inherent in social interactions, institutions, cultural values, and structural patterns grounded in politics, economic, and environmental management. One study implemented the Critical Medical Anthropology (CMA) concept that placed emphasis on health conditions, which are related to economic order and social forces in a capitalist society (Baer, Singer, & Susser, 1997). The study focused attention on how risks and disasters influence and are products of human systems rather than simply representing isolated, spontaneous, or unpredictable events. There is special concern about how cultural and social systems (beliefs, behaviors, and institutions characteristic of a particular society or group) figure at the center of that society's disaster vulnerability, preparedness, mobilization, and protection. It is a holistic approach which examines the complex interrelationships between human's experiences, social structure, and the environment. It is human actions that may cause or influence the disaster impact, to the position of social vulnerability that defines disaster impact, to the extent of socio-cultural adaptations and responses, including the consequences of assistance. Disaster management is dominated by scientific knowledge that evaluates disaster impacts in terms of physical destruction; it focuses on estimating,

predicting, and controlling this destruction. Consideration of only the physical impacts is insufficient because other dimensions which include thought, emotion, and beliefs are excluded. Disasters should be evaluated from an insider view (Wisner et al., 2004).

ENCOUNTERING SOCIAL DISASTERS

The negligence of the views, understanding, and needs of local people by policy makers may induce inappropriate policy and intervention. Policies that ignore the subjectivity of people and produce nonconforming assistance may not match the needs of the people who suffer from flooding. Such actions do not take into account local knowledge during policy implementation (O'Brien, O'Keefe, Gadema, & Swords, 2010). The burden of language as a communication means is another difficulty encountered during disaster management. Misunderstanding peoples' needs causes inappropriate help; inappropriate help happens repeatedly because people's needs are ignored (Gaillard, 2007).

Disaster management must implement interdisciplinary perspectives. The different themes of disaster management require effective coordination from local to national levels and private organizations should be integrated for competent disaster management (McEntire, Fuller, Johnston, & Weber, 2002; Wungeao, 2006). Pakdeekul (2012) commented on water management that focused on water and rivers but ignored the ecological system, resources, and biology. Moreover, Thailand does not yet have a master plan for water management; even if there is information on the water system, it has never been used for benefit. All units are not integrated, so poor coordination causes inadequate and ineffective management.

Studies in Thailand indicated that the 2011 mega flood was caused by both natural and human activities. Considering the first cause, the natural flood resulted from climatic and geographical factors. An early monsoon season and a large amount of precipitation occurred. The geography of the central region is a floodplain; the natural drainage system is slow (Kongjun, 2012). Phra Nakhon Si Ayutthaya province is located in the central floodplain, so it is geographically vulnerable to flooding (Theerapunchareon, 2011). The second, man-made sources of the flooding, arose from the widespread unplanned land use and unwise consumption of natural resources. The transformation of land use from agriculture to industrial park became a major source of obstruction for water management. The geographical changes created a new flood experience that made it much worse than it would have been and as a result, the residents were unable to remain in their homes. In the past, people in Phra Nakhon Si Ayutthaya province have been used to living with floods; they were usually able to stay home and maintain their routine. Previous studies in Bangladesh (Haque & Zaman, 1993) have shown the same results from these changes; flooding was not only a natural phenomenon that was related to climatic and geographical factors, but also it was related to social factors that related to development and the new flood conditions. The 2011 mega flood crisis created new experiences for those who had to live with the floods. Most of people were unable to stay home; flood impacts went beyond their expectations and became unmanageable.

Assistance was not ready to help flood-affected people. There was a lack of systematic management, such as a timely announcement of evacuation, adequate accommodation, infrastructure protection etc. Only a structural approach (levee construction) was implemented (Suksri, 2011) during the mega flood crisis. A huge budget was used for levee construction in economically privileged areas that was similar to a study that showed the inappropriate concentration of resources for certain groups during flood protection in Pakistan (Mustafa, 1998). These actions reflect the

social vulnerability of flood arrangements.

The presentation of flood information was unequal. Nobody could get the right information during the flood crisis (Suriyawongpaisal, 2012). Furthermore, the communication did not give the right message to the affected people, and most of them did not understand, so they were unable to prepare properly. The announcement was that the government was able to control (*aou yu*, เอาอยู่) the flood, which was the wrong signal because they were careless in preparing themselves for the flood crisis. All the points mentioned above demonstrate ineffective flood relief from a social vulnerability perspective.

The current study applies the CMA concept to explain the vulnerabilities of flood-affected people that reflect social, economic, and political power relations. The social vulnerability of the study focuses on the suffering of flood-affected people who were attempting to cope with, resist, and recover from the impact of the mega flood that was influenced by unequal social development and social relationships. The pattern of vulnerability is a vital part of disaster management. It affects the effectiveness of emergency management throughout the flood disaster cycle.

RESEARCH METHODOLOGY

The field work took place in Phra Nakhon Si Ayutthaya province between October 2011 and June 2012. The primary researcher lived in a shelter with flood-affected people during the flood crisis, and later on maintained contact through visits to their community during the recovery period. The study consisted of three main data collection methods—narrative interviews, participant observation, and focus group discussions. The initial participant observations and narrative interviews were conducted in the response phase which occurred during the mega flood crisis. After that, the researcher set up focus group discussions among flood-affected people to gain the in-depth information. Several focus group discussions were conducted with at least four people in each discussion, and were designed as free flowing discussions to share flood experiences and concerns. The participants shared their flood experiences and discussed the flood crisis and relief operations. Question guidelines emphasized lived experiences, with flood-coping strategies in everyday life, such as "How did they prepare themselves prior to the flood crisis? How did they gain external help? What were the most needed issues for them after flood crisis? How did they feel?" Ten people (three male and seven female) from different socio-demographic backgrounds participated in our in-depth interviews. Trustworthiness of the data was implemented through the triangulation technique, which is the main method of inspecting responses in qualitative research (Denzin & Lincoln, 2005). The study involved interviews, observations, focus group discussions, and documentary review.

All information was analyzed by content analysis; other key elements were addressed to study significant flood experiences and management that included the web of flood causation, flood management, and flood relief policy. The flood-affected people's experiences during the mega flood crisis were related to past experiences. Moreover, it linked up to related external forces and experiences, including social factors such as the protection policy and political power, in order to shed light on the relationships among the different forces that shaped the personal and external realities during the mega crisis and its aftermath.

RESULTS

Vulnerability of flood risks

The narrated stories from studied respondents informed that though this area is swampy, they have had many seasonal floods and their experience is that flooding would not last for long. In addition, they have adapted to living in a swampy area with seasonal flooding by having a

small boat and by constructing a one-storey house that is raised above the flood level.

"Water had come seasonally, we can live with it. It was controllable. This time was different. We couldn't live with it. It was uncontrollable. It was the worst flood experience. I never had been in such circumstances." 48-year-old unemployed man.

"Since I was born, this has been a swampy area. There were many lotuses in the swamp. I brought water from the swamp for drinking. It has changed a lot in the present time; water is not good for drinking." 51-year-old woman, a market vendor.

"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." 41-year-old, a market vendor.

They had never seen such a massive amount of floodwater before. They reflected on the fact that agricultural lands had been changed to industrial areas since 1992, and the results were changes in floodways, with not enough concern for flood risks. Moreover, the mega flood was not a natural hazard but the result of human-induced activities. Informants reflected on the mismanagement of floodwater. The floodwater should have had a clear route to drain from the area. Management is based on the geography that moves water from high to low-lying land but this flood management depends on another significant issue, economic concerns. Social factors are ignored, so in the eyes of flood-affected people, there is mismanagement.

"The flooding was bad because of the flood protection. They managed the water currents but it had nowhere to go. Poor water management was one part of the flood crisis. They tried to move floodwater from low-lying land to high-lying land. How could they do that? Maybe they didn't want floodwaters in Bangkok." 41-year-old woman, a market vendor.

"I thought that the flood made poor people poorer. The poor did not have any opportunity. Society was already unequal. The rich people were fine but the poor were worse off; the rich people did not face any burden. Some had nothing left like myself. I have nothing now. All of my property floated away with the floodwater." 33-year-old woman, a laborer.

Vulnerability of social arrangements on flood protection

Though there was overwhelming information regarding the flood occurrence, local people were unable to prepare themselves properly because the information was ambiguous and not properly communicated, causing them to be vulnerable.

"We should have had better information. I thought that people in Bangkok got information that was more useful. They knew the period of flooding and the volume and the level of floodwater. Well! People here 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 damage." 41-year-old woman, a market vendor.

They did not understand the information given to them, because it was too academic. People in the rural areas felt inferior and they criticized the actual information presented.

"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." 67-year-old woman, a market vendor.

Flood protection was mainly focused on industrial parks and cities of economic importance such as Bangkok, the capital city of Thailand. Resources for flood protection were mobilized in what were considered to be the most important areas. In addition, the collective protection measures were delayed. Community leadership delayed providing help, because they believed that the flood would not come; moreover, they paid insufficient attention. Flood-affected people received less attention in terms of assistance. There was a general feeling of being neglected and this generated mental suffering. Flood protection in the community was ineffective

and incapable of stopping the waters.

"They constructed levees but it was too late. The leader brought a big vehicle for levee construction. He thought it was useless to construct levees, but we thought there would have been less impact if they had been constructed earlier." 51-year-old woman, a market vendor.

"The leader was never concerned about us. We asked for help and he said that he had no time. We weren't his group; he did not help." 67-year-old woman, a market vendor.

"The leader did not help me with anything. I moved three times. He saw me but he never talked to me. He was unconcerned." 45-year-old woman, a housewife.

The distribution patterns and the amount of flood relief reflected the inequality of the relief process because not all flood-affected people were covered. Getting assistance depended on power relations. Social connections determined aid; those with better connections received more help. The social arrangement of flood relief caused another type of suffering.

"The assistance did not cover all flood-affected people. They usually distributed supplies to their group first. They did not distribute equally." 48-year-old unemployed man.

"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 them." 40-year-old man, an agriculturalist.

"I felt sad. I was not in the group they wanted to help. We were different." 63-year-old unemployed woman.

Vulnerability of flood relief during the recovery phase

Assistance is important to relieve flood suffering; but on the other hand, it may create new forms of suffering. One of the policies for flood relief included a coupon campaign and compensation for property damages. The study found that the formulation of policies for flood relief did not conform to people's needs. They needed items for daily life such as clothes, blankets, food, and utensils. They were issued a 2,000-baht coupon for buying electrical equipment. The coupon was useless to most people because the program required the amount spent to total at least 10,000 baht to receive the discount, which was more money than most people could afford to spend. Most of them had an inadequate daily income and they did not have savings. The coupon policy did not mitigate suffering among the vast majority and was unmatched to the needs of many.

"I did not want to. I was fed up. Travelling there cost me a lot. I would have preferred to get cash. Only 2,000 baht, I could get by myself. Waste of time! They forced us to spend 10,000 baht and then we got the 2,000 baht discount." 67-year-old woman, a market vendor.

"The 2,000 baht coupon was inconvenient. Why did they not pay us 2,000 baht cash? They should have let us buy anything. Electronic equipment was not necessary, but items such as clothes and bedding were important." 48-year-old unemployed man.

"*It took two days to get the coupon. I did not go there. It was a waste of my time. I heard that the store did not have enough things for sale."* 40-year-old man, an agriculturalist.

DISCUSSION AND RECOMMENDATIONS

The study dealt with the social conditions that influenced the susceptibility of the mega flood-affected people lives to flood damage and that also governed their ability to respond to the flood in the Phra Nakhon Si Ayutthaya rural area. The study found that the mega flood affected people's lives, it emphasized that the suffering of people in distant rural areas is much greater than of people in urban areas. While these rural people were used to living

with flooding, the mega flood was far beyond their expectations and their ability to face its impacts. Similar to reality in other parts of the world, the study found that industrialization and urbanization caused a flood risk (Oliver-Smith, 1996; Wisner et al., 2004).

The suffering experienced by the flood-affected people was connected to social vulnerability. The ineffective social arrangements stemming from inadequate information, unequal distribution of help, and unmatched policy caused them more suffering. They could not make the right decisions due to inadequate information. The uncertainty and unrefined information, and the diverse information from different disciplines, caused them frustration. If they had received the right information, they could have helped themselves more or less. In addition, the flood relief did not cover all of them, because the help was selective. Furthermore, it was delayed and unorganized. The unmatched flood relief policy such as 2,000-baht coupons did not mitigate their suffering. They suffered from ineffective management that magnified rather than diminished their distress.

We found that the mega flood caused suffering as a result of the improper social arrangements and aid that were given. The reductionist paradigm devalues nature into amounts and numbers without proper attention to human needs. The government implements a mechanistic approach, manages only physical problems, and produces ineffective management of human lives in flooded areas. Structural mechanism is a myth belief to solve flood situations. Flood impacts are not relieved by these measures, but instead are increased. Thus, protection by levee construction during the flood crisis changed the direction of the flood and increased the currents of the flood flow. The intensified flow of water was due to levee construction. China and India have failed in their use of levees for flood protection (Wisner et al., 2004) as has Bangladesh (Haque & Zaman, 1993). The lack of a holistic approach and integration of an accounting methodology during the flood crisis induced ineffective flood management from a reductionist paradigm.

Flood management uses government power by policy implementation and measurement. The policies are not effective because they don't consider the subjectivity and the emotions of flood-affected people. The failure to consider subjectivity when formulating flood relief policies produces a lack of conformity of assistance (McEntire et al., 2002; Wisner et al., 2004; Lettieri, Masella, & Radaelli, 2009). The current study found that recovery policies did not mitigate suffering during the flood; rather, they created conflict among flood-affected people. During the flood crisis, the inadequate assistance was inappropriate to help people (Suriyawongpaisal, 2012). The coupons for buying electrical equipment did not benefit them. Informants in the study simply did not apply for the coupon. They thought it was useless and the application process was a waste of time. Recovery policies did not allow people to fully recover and resume their lives, representing a gap in the recovery strategy. Therefore, comprehensive vulnerability management needs to be undertaken, and local capacity building should be included in flood management. Hooke and Rogers (2002) proposed that the solution for decreasing this gap is to consider individual vulnerability differently. O' Brien et al. (2010) addressed the learning process at all levels and found that institutional learning empowers from the local level and strengthens governance, which this study has not found. Beyond negligence of subjectivity, the study has found that political power is an important influencial factor in determining flood assistance.

Professionals impose patterns of assistance reflected by power relationships. Those with high authority can gain access to people in power more easily than those with inferior amounts of influence. The data demonstrate that accessibility to political power brings major benefits. Powerless people are

discriminated against. Selective assistance during flood disasters originates from the patronage system. People with connections to those in authority were able to gain more benefits than others. Patterns of assistance don't cover all affected people. This reflects the vulnerability of ignorance (Wisner et al., 2004). The difficulty of the recovery process causes suffering and human beings are devalued by the inequality of help (Green, 1998). The current study found obvious discrimination in the recovery phase. The structural inequality produces, and reproduces, discrimination that is directly related to the patronage system. The inequality of help produces additional suffering, which Farmer (1997) mentioned as the suffering created by structural inequality.

To conclude, the study disclosed suffering and the lived-through experiences of flood-affected people that are related to social vulnerability. The following recommendations focus on the inequality of relationships that influence the recovery capacity. Organizations should understand that the physical and social perspectives have different forms of vulnerability to disasters. Moreover, the connection to political power is a significant factor in gaining help, so the relief operations should be more concerned with social justice and scrutinize the vulnerability of the least represented members of society. In addition, a paradigm shift of flood situations should be considered. Flooding is not a natural phenomenon. It is related to human activities, and it is a social process that is embedded in daily life. Urbanization and land use are intricately involved with the cause of flooding in flood prone areas. Therefore, regulation of land use should be considered in order to avoid similar disasters in flood-prone areas. The measurement of flood relief in flood-prone areas should be established prior to the next crisis.

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