

## Assessing Well-being and Inequalities in Recovery in Disaster-stricken Regions Through the Capability Approach - Aceh, Indonesia

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### Abstract

The focus of this paper is on the study of disparities in the level of recovery of different locations in Aceh Province affected by the 2004 Indian Ocean Earthquake and Tsunami. The study surveys the existing literature, assesses whether significant disparities exist, and uses the capability approach to analyze field data measuring people's well-being and views about the progress of recovery. Further, the paper seeks to derive lessons on how inequalities in the level of support by the government, media, aid organizations following disasters influence people's lives and well-being. The work describes a qualitative field study of two different areas affected by the disaster and the methodologies used to conduct interviews, then explains how the data was analyzed by applying the capability approach. The data indicates that there are clear differences in people's feelings on the recovery in two distinct places, and that gap has significantly influenced their well-being. The results of the study draw out some lessons about the causes of the differences in the level of recovery, and suggest ways to provide better policy and approaches to rebuild after disasters. Different levels of support by various organizations following disasters have had meaningful effects on the recovery of different disaster stricken areas, compounding problems from the existing social disparities. The government, aid organizations, the media, as well as smaller volunteer groups need to place more effort into remote areas which lack aid and exposure to help people rebuild their lives in a sustainable way.

**Key words:** *disaster, recovery, gaps, aid, capability, mass media*

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### 1. Introduction

More than eleven years have passed since a massive earthquake and tsunami occurred off the west coast of Sumatra, and caused great damage to the entire region of Southeast Asia and some parts of East Africa. As Aceh is in the phase of reconstruction and rehabilitation, several problems are being widely pointed out. One of them is the different level of recovery of each area in disaster hit region. Historically, studies of disasters indicate that that suffering from disasters become more evident in relatively vulnerable parts of society (Oyane et al, 2007; Wisner et al., 1994). Further, Abe has given warning to the structure that, in reference to The Great East Japan Earthquake and Tsunami, social exclusion, poverty and economic disparity gave birth to vulnerable people and widen the inequality (Abe, 2011).

The case of Aceh is just one example that supports such theory. However, the existing literature in the field of disparities following disasters has research from the economic and business, as well as medical and psychological perspectives, but there is no research that focuses on the people's well-being from the regional comparison standpoint.

This paper uses the capability approach proposed by Amartya Sen and Martha Nussbaum's joint research to focus on the well-being of the people of Banda Aceh, the capital of Aceh Province, and remote areas, and assesses whether significant inequalities exist. In doing so, the paper explores how such inequalities come into being and proposes potential solutions to the problem. The reason for using the capability approach is due to the fact that, in order to measure the sense of recovery of people affected by the disaster, there exist complex factors that cannot be adequately measured by simple quantitative economic measures such as levels of income, used commonly in the existing literature to date. Therefore, measuring the quality of the "wellness" through capability -- representing the various functionings (beings and doings) -- that people can achieve (Sen, 1999), as used by the capability approach, is interrelated with assessing the feelings of recovery of each affected person and has validity. On the other hand, the well-being of each person is complex, constituting various factors, and comparing the well-being of people has its difficulties, but the approach is meaningful nonetheless in advancing the understanding of the issues.

The study aims to propose how to correct the inequalities upon understanding how the inequalities between regions are impacting the quality of people's lives.

## **2. Background**

This section discusses the history and the background leading up to the disaster and the subsequent recovery effort.

### **2.1 Aceh, Indonesia**

Aceh is located at the northern end of Sumatra Island in Indonesia. The northern part of Sumatra started accepting Islam in the 13th century, and there was an Islamic sultanate in the Dutch colonial period before the inception of Indonesia. Aceh is said to be the most religious region in the country. Special region was granted by the central government and it has autonomy based on the Islamic law. In its history, Aceh prospered from exporting pepper and other goods, and contributed to the country's high economic growth with its rich natural resources such as oil and gas since late 1970s. However, the discovery of those natural resources did not contribute to the development of Aceh itself, and ironically, the region became one of the poorest provinces in Indonesia.

### **2.2 Conflicts**

Aceh fought the Aceh War with The Netherlands from 1873 to 1904, and the Indonesian government had an internal conflict with Gerakan Aceh Merdeka (GAM) which sought independence from Indonesia and the current Indonesian government for many years. However, the conflict ended after the 2004 earthquake and the two sides reached a peace agreement in August, 2005.

### **2.3 The 2004 Indian Ocean Earthquake and Tsunami**

An earthquake occurred on December 26, 2004 off the coast of west Sumatra with a magnitude of 9.1. The quake triggered a massive tsunami and caused devastating damage to the entire area of Southeast Asia including Indonesia, India, Sri Lanka, Thailand and Malaysia, and some parts of East Africa. The exact number of the dead and the missing is unknown but is believed to be about 230,000. Among them, the number of deaths in Indonesia was about 131,000 and the missing is approximately 37,000. The number of people with injuries was totaled to about 230,000.

## **3. Materials and Method**

This chapter draws on a qualitative study implemented in two areas in Aceh: Banda Aceh and Aceh Jaya. The interviewees consisting of 100 adults over the age of 20 in each area, were selected and were limited to people who resided and experienced the disaster in the area. Banda Aceh is the capital of Aceh Province. Aceh Jaya is located southeast of Banda Aceh. Its capital, Calang, is about 150km away from Banda Aceh. Aceh Jaya had been influenced by the internal conflict, but Banda Aceh experienced only little influence. The populations of Banda Aceh and Aceh Jaya in 2004 were 239,146 and 79,155, respectively. The death toll in Banda Aceh was 64,713 (27% of its population) and 20,764 (26%) in Aceh Jaya.

The questionnaire was composed by the author to measure the respondents' sense of recovery from the disaster and their well-being. The field research took a semi-structural interview style intermediated by one interpreter and three local staff who are all university graduates and speak both Bahasa Indonesia and their local language, Acehnese. The author took a number of measures to further ensure the reliability of data. The interviews were all conducted in person over the period of November to December, 2015, with the author present, and each interview lasted an average of approximately 20 minutes. The interviews were conducted with individuals living in subject areas and were not with groups of people who belonged to particular organization as the people's environment and socio economic status may have had significant similarities. The data collection was conducted in 15 to 20 areas within each of the regions and the study eliminated biases such as with age and attempted to mirror the local demography.

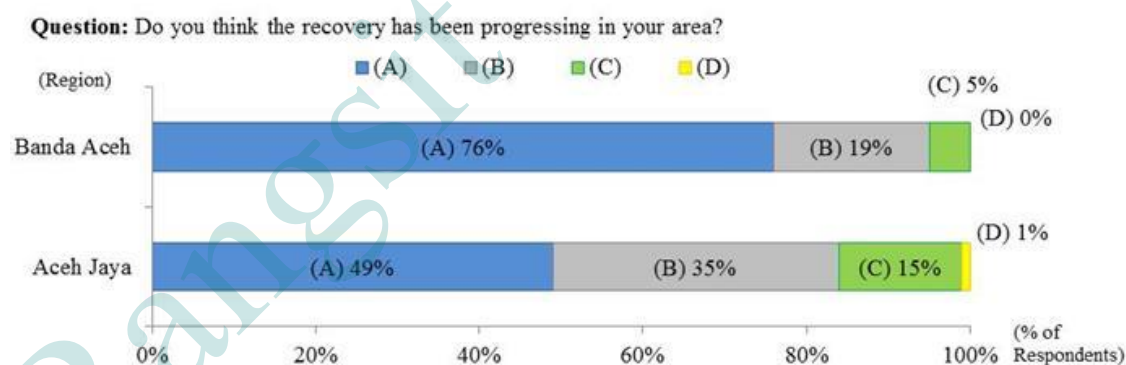
The questions utilized the capability approach of Sen and were designed to capture the well-being of the people affected by the disaster. Capability, as defined by Amartya Sen, means having the substantive freedom to achieve different functioning combinations (Sen, 1999, p60). That is, capability signifies the breath of choices of “beings and doings.” One can say that by enlarging the breadth of choices, people’s lives are improved, and capability is one means of measuring people’s well-being and assessing whether people have access to decent standards of living (Kim, 2011, p86). The questions included the people’s feelings of recovery and inquired about their standard of living. By doing so, the research aimed to measure how decent the people’s standards of living were. As criteria required to evaluate people’s standards of living, Sen defines “basic functions” as how much education a person has received, whether the person has a roof over his or her head, and “complex functions” as whether the person is able to participate in social activities and their level of happiness. The study uses these factors to evaluate the results.

#### 4. Findings from the Study

This study was conducted in order to ascertain whether there is a significant disparity in the level of their sense of recovery, which is directly connected to the wellness of their lives, and to enable comparisons among different areas. The following sections summarize the results.

##### 4.1 Qualitative Study

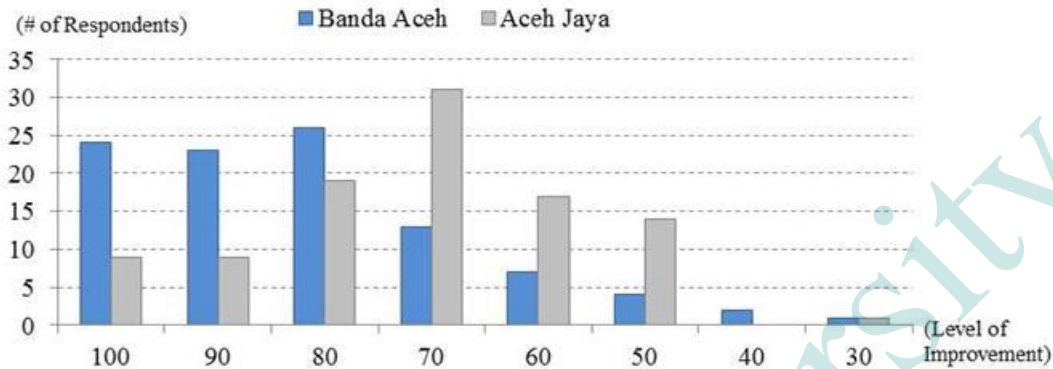
In the study, the respondents were first asked if they believe the recovery has been progressing in their area. (Figure 1) In Banda Aceh, 76% of the respondents answered “it’s progressing,” 19% stated “progressing somewhat,” 5% said “not progressing so much” and none answered “not progressing at all.” In Aceh Jaya, 49% stated “it’s progressing,” 35% said “progressing somewhat,” 15% said “not progressing so much” and 1% said “not progressing at all.” It is clear that there were significantly more people in Banda Aceh who felt that there was progress in the recovery.



**Figure 1** Progress of Recovery

Next, in regards to the question of “On a scale from zero to 100, how much do you feel your life has recovered from the disaster?” (Figure 2) in Banda Aceh, 26% stated that their recovery in the 80s, 24% said 100, 23% said 90s, which means the respondents who said 80s and above composed of 73% of respondents. In Aceh Jaya, 31% said it is in the 70s, 19% said 80s and 17% said 60s, which means that the rate over 80s was 37%. The average was 82.4 in Banda Aceh and 71.8 in Aceh Jaya. In contrast to the 24 people who answered 100 in Banda Aceh, Aceh Jaya had 9 people, which indicates clearly that there is a significant difference in the level in their feelings towards recovery.

**Question:** On a scale of 0 to 100, how much do you think your life has improved since the disaster?



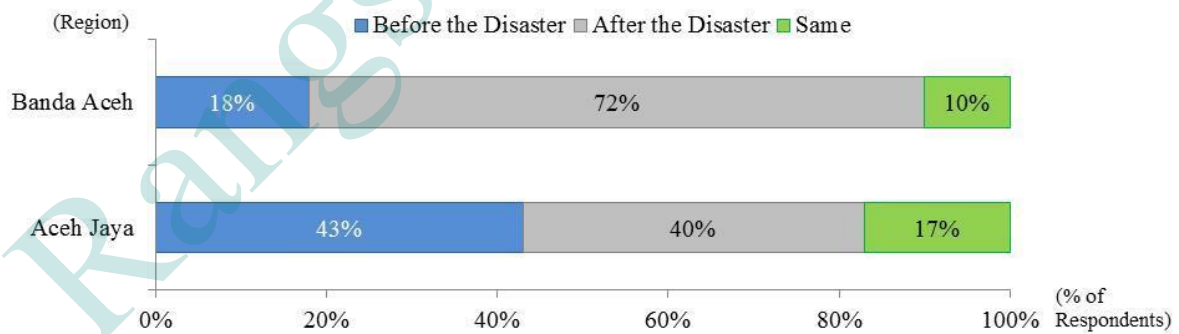
**Figure 2** Improvement in Standard of Living Since Disaster

Next, in regards to the question of “Is the quality of your life better now or was it better before the disaster?” in Banda Aceh, 72% said “after the disaster” and 18% said “before the disaster.” In Aceh Jaya, 40% said “before the disaster” and 43% said “after the disaster.” The answers indicate that Banda Aceh has 32% more people than Aceh Jaya who answered that the wellness of their life has improved (Figure 3).

To provide further details, in Banda Aceh, the main reasons for answering “after the disaster” were that they found a better job and their financial situation is better. For the answer of “before the disaster,” the main reasons were that they had a better, closer community in which there is more trust in each other.

In Aceh Jaya, the main reasons for believing that the quality of their life is better now was that the internal conflict has ceased, followed by the financial situation. The reasons for “before the disaster” were that they are now jobless, their financial situation got worse and they lost their family members.

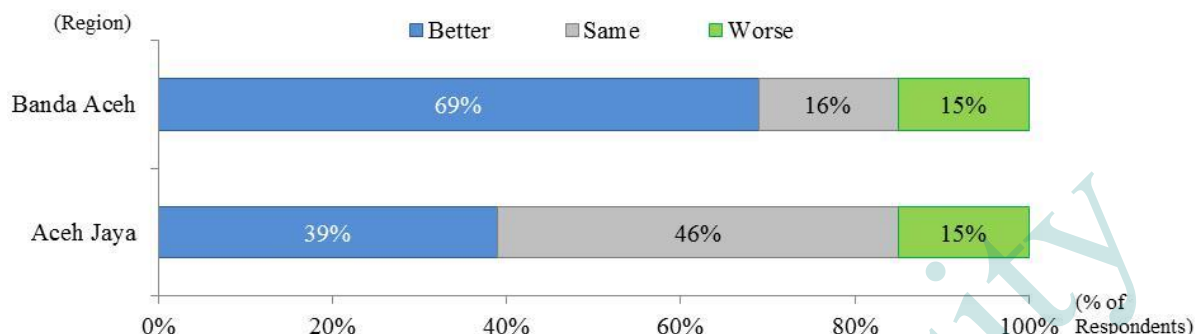
**Question:** Is the quality of your life better now or was it better before the disaster?



**Figure 3** Quality of Life Before and After Disaster (Better or Worse)

With regards to the question of their financial situation, in Banda Aceh 69% stated that their financial situation is better after the disaster, 16% said their situation is unchanged, and 15% said it is worse after the disaster. In Aceh Jaya, 39% stated that their financial situation is better after the disaster, 46% said unchanged and 15% said it is worse after the disaster. Banda Aceh had 30% more people than Aceh Jaya who answered that their financial situation had improved (Figure 4).

**Question:** Did your financial situation improve after the disaster or has it gotten worse?



**Figure 4** Financial Situation After Disaster

As shown in Figure 2, the score indicating their sense of recovery is higher in Banda Aceh. It can be said that one of the reasons is the improvement of Banda Aceh people's financial situation. In Aceh Jaya, the main reason for the deterioration of the quality of their lives was also their financial situation as well as the feeling of loss for their family members. However, in the study, the number of people who lost family members was 85 out of 100 in Banda Aceh, and 76 in Aceh Jaya, which means more people lost family members in Banda Aceh. But none chose the loss of family members as the reason for the worsened quality of life in Banda Aceh. Needless to say, the sense of loss of their family members must still exist in their lives, but this suggests that there were some other positive factors are helping to bolster their feeling of recovery. Of course, the factors vary on an individual basis, but the study shows that the improvement of their financial situation could be one of the factors. On the other hand, in Aceh Jaya, although 46% of the respondents answered that their financial situation is unchanged; their sense of quality of life is lower compared with people in Banda Aceh. That means that there are other factors such as the feeling of loss for their family members, problems with their job, residence, and others are pushing down the overall feeling for their quality of life. There is no clear definition of recovery from disasters, but at least the people of Aceh Jaya have not reached the level of feelings in which they believe they are carrying on their lives in a cultural, positive and happy manner.

The question we asked the respondents was, "What is it that you want to realize or accomplish now?" The answers we received in each area are listed below in Table 1.

**Table 1** What People Want to Realize

|  |
|--|
| Banda Aceh   |
| obtaining a degree from university or graduate school / sending my children to a good university / improvement of disaster education / visiting mecca / Olympic medals for Indonesia / buying my own ship / becoming a business owner / becoming a professor / success in business / prosperity and happiness of my family / success and wealth / travelling abroad / better house / owning a house / becoming a helpful person / marriage |
| Aceh Jaya  |
| descent life / visiting Mecca / owning a house / finding a job / improvement of financial situation / marriage / getting education / owning a ship / becoming a public servant / peaceful life / going back to a cultural life before the disaster / happiness / capital to start my own business / happiness  |

The results show that, in Aceh Jaya, the respondents' main wishes are such basic functionings as having a decent life, improvement of financial situation, finding a job and getting an education, which suggests that there are still many people whose basic functionings are still not realized. On the other hand, in Banda Aceh, their wishes were mainly such as getting a higher education, giving even better education to their children, wishing for prosperity, peace and improvement of the community to which they belong and travelling abroad for recreation. This suggests their range of choices is wider and more complex. In both areas there were some answers that wish for a better financial status, but they are talking about a different level of improvement. People in Aceh Jaya want a minimum standard of living, but people in Banda Aceh basically want to be richer. Better education was also mentioned in both areas, but again they are talking about a different level of better education. The answers in Banda Aceh indicate that the respondents listed more complex functionings such as wishing for the good of their family and for the community to which they, which means they are able to care and have affection not only for themselves but also to others, and a sense of solidarity for the community. Furthermore, these are the main functional capabilities that are listed on Nussubaum's capability list.

## 5. Analysis

The findings in the field research show that there are clear differences in the people's sense of recovery from the disaster in the two areas and also in their well-being. One of the main reasons for the level of well-being of the people of Banda Aceh being higher than that of the people of Aceh Jaya is shown to be financial. However, this does not necessarily only mean that their amount of income is higher. Sen (1999, pp.52-53) states that "The 'budget set' represents the extent of the person's freedom in this space, i.e. the freedom to achieve the consumption of alternative commodity bundles". In other words, based on the results, one can say that there is a disparity in the people's freedom to choose a better life. Here is the fundamental importance of this study. As one can understand from the question, "What do you want to realize in your life?" the answers by the people of Banda Aceh are clearly more complex and of higher functionings, and those of Aceh Jaya are more basic. From this result, one can infer that the people of Banda Aceh has significantly more freedom to achieve a desired level of well-being.

Based on the understanding that there is a marked disparity in the feelings of recovery in the two regions; there is a need to propose solutions to alleviate this inequality. In order to propose viable solutions, one needs to find the root causes of why such disparities came about. This chapter discusses what the causes of the inequalities are.

### The Causes that Created the Inequalities in the Two Areas

#### 5.1 Conflicts

As mentioned in Section 2, when the earthquake occurred, an internal military conflict had been ensuing in the region causing casualties. The influence from the conflict was mild in the capital, Banda Aceh, but was relatively apparent in Aceh Jaya. For reasons of safety, NGOs and other international aid organizations found it easier to set up their base and carry out their aid activities in Banda Aceh. In addition, since the government temporarily banned the aid organizations to enter the conflict-affected areas, all kinds of aid activities became concentrated in Banda Aceh.

#### 5.2 Logistical Factors

The massive earthquake severely damaged roads that connected each area in the region including the main coastal road. All the relief supplies from all over the world were gathered in Banda Aceh first and were supposed to be delivered to other areas, but the traffic conditions made it difficult. Aid activities were also obstructed. Although there were some inland roads that were available, many foreign organizations didn't know about the routes or carrying aid supply and implementing aid activities were difficult on those roads especially when they often have time and budgetary limits.



### 5.3 Complexities Faced by Aid Organizations of Various Countries

Immediately after the disaster, at least 45 countries and regions, international organizations, other middle to small-scale aid groups and volunteers announced their intention of support and flooded into the area. Since those organizations had to obtain permission from the government to stay in the area, they tended to follow the government's direction. It was possible to go outside Banda Aceh right after the disaster and also after the internal conflict ended in August 2005, but many organizations ended up staying in Banda Aceh (Nishi, 2014). There existed a few organizations including private groups that were able to cover the remote areas but many others chose to stay in Banda Aceh as they were not familiar with the region, and were faced with limited budget and time. Nishi states that there is one more possible reason that made the aid activities concentrated in one place, which is publicity (Nishi, 2014). Aside from the local newspaper company, all the media established a base in Banda Aceh. When they had limited human resources and not enough detailed knowledge of the area, and concerns about the conflict, their reporting became concentrated in Banda Aceh as a consequence. Some members of international aid organizations revealed in an interview that, "It's important for them to leave their aid activities visible to public. We can't put priority on implementing projects which no one will see and no media will pay attention to." That suggests that there is a strong possibility that exposure to media reporting made a difference in the amount of aid activities in different areas.

### 5.4 Inequalities in Amounts of Media Reporting

Table 2 shows the amount of reporting in two areas each newspaper company reported. This data shows an obvious difference in the amount of reporting.

**Table 2** Instances of Reporting by Newspaper and Region

|                           | Banda Aceh | Aceh Jaya |
|---------------------------|------------|-----------|
| Asahi Newspaper (Japan)   | 347        | 2         |
| Yomiuri Newspaper (Japan) | 251        | 0         |
| New York Times            | 115        | 0         |
| Kompas (Indonesia)*       | 1425       | 295       |
| Serambi (Indonesia Local) | 22900      | 8730      |

Unit: # of times mentioned

\* Kompas data for one year after disaster while other data represents period from the time of the disaster to end of 2015.

As shown in Table 2, equality in reporting was difficult not only for the foreign media but also Indonesian media as well due to the conflict, traffic damage, knowledge of the area or convenience. Moreover, Banda Aceh just by itself offered enough stories, as its population is much larger, and the area offered more stories as there were many more survivors. Even Serambi, the local newspaper, had difficulty reporting on the entire area equally even though they had branches in every part of the region and knew the area exceptionally well, but they themselves lost some of their offices and many journalists, which made reporting in affected, outlying areas challenging. That is how inequalities in the amount of reporting were created after the disaster. Miura has reported findings in his research that there were disparities in media reporting between regions and this inequality influenced the amount of donations and the number of volunteers in the case of the Great East Japan Earthquake (Miura, 2012). In the case of Aceh, there were disparities in media reporting among regions and this gave rise to inequalities in support from outside as well as within.

### 5.5 Inequalities Between Large Cities and Outlying Regions Before Disaster and Worsening After

The issue of inequalities between large cities and remote areas already existed in the past, but the issue became more conspicuous after the disaster. No foreign companies entered into business in Aceh before the disaster partly because of the conflict, but a cease-fire prompted foreign capital to flow into the region. However, once again the business operations all established themselves in Banda Aceh. This contributed enormously to the recovery of Banda Aceh, but at the same time, made the gap between Banda Aceh and other areas even bigger.

Many jobs were created in Banda Aceh after the disaster and helped survivors rebuild their lives, but the people of Aceh Jaya did not benefit at all. Many survivors who lost jobs in Aceh Jaya moved to Banda Aceh to get a job, but most of them ended up failing as they didn't meet the required technical or education level. The farmers who owned land received some allowance from the government to restart their farming, but the farmers who did not own land lost their jobs completely without any allowance, and many of them are still jobless.

Moreover, since control over illegal logging became much stricter in Aceh after the disaster, the people who made a living cutting trees in Aceh Jaya were dealt a heavy blow.

In addition, inequalities between regions, the people of Aceh Jaya have had to deal with another level of stress caused by many kinds of inequalities in aid within their community as well.

Factors such as the internal conflict, logistical factors, aid organizations, media inequalities between large cities and outlying regions gave rise to disparities in the progress of recovery, and these disparities, in turn, influence the well-being of the people. In other words, the disparities take away the freedom of the people to realize the type of life that the people desire to live, and there are inequalities in the people's capability to achieve functionings that he or she has reasons to value (Sen, 1999).

## 6. Lessons from the field

Each factor explained above added up to widen the disparity in living standards. Studies done after the 1980's regarding disasters have focused on the latent and structural mechanism that lay hidden in societies, and that exacerbate the damage caused by the physical disasters such as earthquakes and fires (Urano, 2010; Oliver-Smith, 1998; Wisner et al., 1994). In the case of Aceh, as well, the original, structural vulnerability hidden in its society which was attributed to economic disparities, geographical factors, internal military conflict, cultural structures, among others, was combined with the earthquake and tsunami to increase the damage.

Next, this chapter discusses what can be improved in a rebuilding process in a disaster area.

### 6.1 The Need for Fair and Appropriate Aid

In the case of Aceh, where the damage was distributed in vast areas, we cannot say that aid was distributed equally in every area. Also, aid by the government and aid organizations following the disaster was not well-balanced. The imbalance happened not only on the hardware side such as with evacuation towers, which were built only in Banda Aceh, but also the software side including education for disaster mitigation.

In order to strengthen the resilience of geographic areas, improvements in both the hardware and software are needed. Hardware consists of such things as construction of quake-resistant buildings and evacuation towers, and software includes education for disaster mitigation or technical assistance on a new business which helps the community to develop in a sustainable way. One of the reasons that the 2004 disaster produced so many victims in Aceh was the people lacked knowledge about tsunami and disaster mitigation. In the past 200 years, a large earthquake and tsunami have been observed about every 20 to 30 years, but one on the scale as the 2004 disaster did not occur for more than 110 years. The last one was a magnitude 8.6 earthquake and 10 meter-high tsunami that hit the area in 1861. The memory of the disaster wasn't handed down except in some very limited areas. That is one of the reasons that the damage in 2004 was so devastating. From this lesson, education about disasters is essential and we must not create inequalities in this area.



In addition, listening to the local experts and the people is important in investigating the real needs of the people. In Aceh Jaya, a new restaurant was built by a foreign aid organization, but it was impossible to run a restaurant business there as many farmers and fishermen were displaced. Produce available tended to flow into Banda Aceh, and there was virtually no one that could afford to run the business or to dine at a restaurant. As a consequence, the restaurant ended up becoming abandoned.

Needless to say, it is important for remote areas like Aceh Jaya to create employment opportunities and revitalize the economy, but first, the base has to be created by aid so that the people can restart and develop their economic activities. Otherwise, the community can never achieve true recovery from the disaster.

One local NGO said as a lesson, "Although there were so many aid organizations in Aceh, their cooperation linkage was weak. Many of them tended to just follow the government direction and didn't seem to be interested in getting advice from local groups that have deeper and better knowledge about the region. The inequalities in aid could have been mitigated if we could have shared information more with each other." This suggests that one key to effective aid is to improve horizontal connections among aid groups and establish a system in order to share information.

## 6.2 Expectations of Fair Media Reporting

In news reporting of disasters, the disparities in the amount of reporting in different areas was discussed earlier (Matsuyama, 2013; Wisner et al., 2004). According to Miura, in the case of the East Japan Earthquake and tsunami in 2011, the unequal reporting had an influence on the amount of donation and the number of volunteers (Miura, 2012). In the case of the 2004 disaster in Aceh, since all the monetary donation and the distribution of it were in the control of the Indonesian government (BRR), the amount of reporting didn't directly affect the distribution of money. However, as discussed earlier, the concentration of media in Banda Aceh influenced many small and large aid and volunteer organizations who sought media attention.

Sen says that an unconstrained, healthy media is important for several different reasons (Sen, 2009). He went on to say that "the press has a major informational role in disseminating knowledge and allowing critical scrutiny [...]. Furthermore, investigative journalism can unearth information that would have otherwise gone unnoticed or even unknown" (Sen, 2010). He adds that "media freedom has an important protective function in giving voice to the neglected and the disadvantaged, which can greatly contribute to human security" (Sen, 2010). He concludes the paragraph by saying that public criticism in the media becomes incentive to the rulers to take timely action to avert to paying price (Sen, 2010).

The case of Aceh following the disaster was not Sen's ideal reporting. Conversely, if media reporting was done in a more equal manner, the gap between areas could have been mitigated. It should be understood that reporting equally was made difficult especially for foreign media because of the internal conflict, traffic and their lack of knowledge of the area. That is why the media should never give up trying to pick up voices from the most devastated area.

## 7. Summary

The study focused on the inequalities in the levels of recovery following disasters, and in the case of Aceh, whether there exists a clear disparity, and whether those disparities influence and give birth to inequalities in the wellbeing of people affected while employing the capability approach to analyzing the results. The field research found that there exist clear inequalities in the level of recovery between different areas, and that is affecting the well-being of the people concerned. Based on the inequalities, the author analyzed the possible causes of the disparities which are various, and multi-layered. Moreover, as Abe states, this inequality is strongly linked to structural problems such as societal exclusion and poverty. Further, these findings support the theory of Oliver-Smit and Wisner that damage from disasters expand when met with vulnerability of people due to societal, political, economic, cultural and historical structures. Based on these findings, the solutions the author proposes are complicated and by no means easy, but there is urgent need of continuation and expansion of aid activities in the areas whose people have lower well-being. Since the conflict is over and the capital, Banda Aceh, has been recovering relatively smoothly, now is the chance for the government and aid organizations to turn their eyes to those areas that are in

urgent need of recovery, thus various organizations' support can be obtained. The media, who is one of the key actors in disasters, needs to strive for fairer reporting despite all the difficulties. This issue is not just Aceh's problem, but also in Japan and other disaster stricken areas all over the world. In recent years, in addition to major factors surrounding human beings such as environmental destruction and climate change, economic disparities and other issues such as military conflicts pose as risks factor to expanding the damage, and inequalities when societies are faced with the prospect of natural disasters. Each country and the international community must take these basic problems seriously in order to stem the damage and inequalities caused by future disasters.

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