

CHAPTER III

THE IMPACT OF MALAYSIAN DISASTER

In analyzing this undergraduate thesis about the disaster management of Malaysia in enhancing its international cooperation, it is very important to understand some disaster problems that are encountered by Malaysia, as well as some post-disaster effects in Malaysia.

Hence, this chapter explains the definition and the types of disaster so that it will assist to determine the characteristic of the disaster in Malaysia. Thus, it also will describe some disasters that have become the problems in Malaysia. This chapter further will explain about some impacts of disaster in Malaysia, especially in terms of economic, social, political, and health aspects.

A. Definition of Disaster

According to the National Security Council (NSC) of Malaysia within the International Journal on A Review of Flood Disaster and Disaster Management in Malaysia, under NSC Directive No. 20 disaster is as “an incident that occurs in a sudden manner, complex in nature, resulting in the loss of lives, damages to property or the environments as well as affecting the daily activities of local community. Such incident requires the handling of resources, equipment, frequency and extensive manpower from various agencies as well as effective coordination and the possibility of demanding complex actions over a long period of time” (Taib, Jaharuddin, & Mansor, 2016).

Disaster, based on the Database of Emergency Disaster, is categorized into 2 classifications, namely the natural disaster and technological disaster. An incident can be stated as a disaster when there are 10 people killed or more that are reported; there are 100 people or more that are impacted by the disasters; there is a notification of receive the international assistance (Taib, Jaharuddin, & Mansor, 2016).

United Nations within the review paper of Zaitun and friends divide the disasters into 3 classifications, such as: biological disaster, hydro-meteorological disaster, and geophysical disaster. Some disasters, such as storm, extreme temprature, flood, foresh of scrub fire, and drought are classified into hydro-meteorological disaster. Meanwhile, the disasters that are categorized into biological disaster are insect infestation and epidemic. Additionally, the geophysical disasters are volcanic eruption, tsunami, and earthquake. However, in recent years, the disaster, such as drought, flood, windstorm, and geophysical disaster are experiencing an enhancement of occurrence rate. (Taib, Jaharuddin, & Mansor, 2016).

B. Types of Disaster

Pursuant to the Shaluf research in 2007, it explained that type of disaster has differently categorized into several classifications by some research centers and agencies. One of them, there are 3 classifications of the disasters, among others: natural disaster, man-made disaster, and hybrid disaster.

The disasters, such as tornado, earthquake, volcanic eruption, and others are classified as the natural disaster, where these are defined as the disasters that are caused by nature without any acts of human. In addition, these are usually considered as the “acts of God”.

In the contrast, man-made disasters are the disasters that are caused by some acts of human. Usually, the man-made disaster, that is based on the International Federation of Red Cross and Red Crescent Societies, suddenly occurs and is not in the short-term. The disasters that are classified into the sudden man-made are the collapses of building, mine and structure. While, the the disasters that does not occur in the short-term are the disasters of land, sea, and air, in which these usually trigger the conflict either in national or in international.

Hybrid disasters, on the other hand, are recognized as the disasters that are caused by the natural force and human error. One of the example is wide-clearing of forest (as a human

act) that can cause the erosion for the soil so that if there is a heavy rain (as a natural force), it will trigger the landslide disaster (Taib, Jaharuddin, & Mansor, 2016).

C. Overview of Disasters in Malaysia

Disasters in Malaysia are not as dangerous as disaster in its neighboring states. It occurs because geographically it is located in outer side the Pacific Ring of Fire (Center for Excellence in Disaster Management & Humanitarian Assistance, 2016). However, Malaysia still becomes susceptible area toward the natural hazard, such as: cyclonic storm, flood, earthquake, forest fire, epidemic, tsunami, haze, and landslide (UNISDR, 2010). Furthermore, Malaysia does not only encounter the natural disaster, but also face the man-made disaster that will cause any distructions and fatalities (Marlinda, 2005).

Recently, the frequency of disaster is getting higher. It occurs because there is a climate change that will cause the occurrence of the extreme weathers are more often than before. Therefore, it will give impact toward the climate-related disaster so that the intensity of the disaster impact also will be higher (Center for Excellence in Disaster Management & Humanitarian Assistance, 2016).

Based on the Interationally Reported Losses (1990-2014), the highest frequency of disaster occurrence in Malaysia was flood, in which it was estimated around 62,5%. Storm in Malaysia became the second highest frequency of disaster occurrence, with estimation around 12,5%. Meanwhile, other disasters in Malaysia were estimated around 8,3% landslide, 8,3% wildfire, 4,2% drought, earthquake 2,1%, and 2,1 mass movement (UNISDR, 2015).

Flood becomes the major disater in Malaysia since 1880 (Shafiai & Khalid, 2016). Moreover, it always occurs every year (Center for Excellence in Disaster Management & Humanitarian Assistance, 2016). Flood is considered as a terrible disaster in several states, especially in Malaysia. According to Drainage and Irrigation Departmen, there are 2

classifications of floods in Malaysia, namely floods of monsoon and floods of flash. There is a difference between both of these disasters in term of water period to recover. For floods of monsoon, these need a long-term in order to return in the water level of normal, usually 1 month. In contrast, floods of flash just need several hours to recover. Furthermore, there are 189 basins of river in Malaysia, namely 22 in Sarawak, 78 in Sabah, and 89 in Peninsula of Malaysia and the primary cannal flows to the South China Sea directly. Hence, there are 85 of 189 river basins that are susceptible toward the recurrent flood. Additionally, the total area of Malaysia that is considered as the sensitive area is estimated around 29,800 km² or 9%. The worst disaster that has ever happened in the Malaysia was the occurrence of flood disaster in 2014, in which there were over half a million people that were affected by the flood. Moreover, there were the expansion of disaster area (Taib, Jaharuddin, & Mansor, 2016).

Landslide is a disaster that can be caused by the nature slope and the man- made. The example of slope failure in the large-scale is the landslide that can occur in the natural field, namely in the region of mountain (slow-movement landslide), throughout valley (in the form of debris), and at the hill of limestone (in the form of rock fall). There were 60 landslides that were recorded during 1900-2009. In addition, there were 611 fatalities that were caused by the landslide at that time. However, there were some incidents of landslide that were not recorded during 1900-1990. Meanwhile, based on the report of landslide from 1989 to 2009, the number of landslides in Malaysia were around 56 incidents. there were 33 of 56 incidents that had caused 541 fatalities. Actually, the number of landslides from 1900 to 2009 experienced an enhancement each year even though the number of fatalities still fluctuated. The total number of landslide incident can be seen from the table.1 (Center for Excellence in Disaster Management & Humanitarian Assistance, 2016).

Tabel 3.1 The Summary of Landslide Incidents in Malaysia (1900-2009)

Year	The number of Death	The number of Landslide	Incident with fatality
1900-1979	70	4	3 Perak:3
1980-1984	n.d	n.d	n.d
1985-1989	2	1	1 Senah: 1
1990-1994	53	7	3 Selangor: 2 Pehang: 1
1995-1999	411	21	10 Sabah: 5 Pahng: 2 Perak: 2 Kuala Lumpur: 1
2000-2004	57	14	10 Selangor: 4 Sebah: 2 Perak:1 Pahang: 1 Johor: 1 Sarawak:1
2005-2009	28	13	9 Selangor: 4 Sebah: 3 Pahang:1 Sarawak:1

(Source: Center for Excellence in Disaster Management & Humanitarian Assistance, 2016)

Haze is one of disasters that occurs in Malaysia. The Air Pollutant Index (API) is a tool to quantify the level of haze in Malaysia, in which there are five pollutants of the major air that are used to determine the calculation of index of API, such as ground level ozone, sulphur dioxide, carbon monoxide, nitrogen dioxide, and other particulate matters with the diameter under 10 micrometers. There are some sources of problem that can cause the pollutants in Malaysia, such as motor vehicle, power generation, industries, and open burning. Haze in Malaysia is usually resolved by conducting the collaboration with the neighboring state, especially Indonesia. It occurs because haze in Malaysia usually comes from the impact of “burn and slash” activities in Indonesia (Center for Excellence in Disaster Management & Humanitarian Assistance, 2016).

Also, earthquake with enormity 5,9 has ever occurred in Malaysia. The location of incident was near Mount Kinabalu. There are more than 100 people that were affected by the earthquake. Moreover, there are 18 fatalities that was caused by this disaster. The center of earthquake was in Sabah state, especially in the northwest of Ranau district, with the dept of 34 miles. Furthermore, the impacts of the disaster are some destructions of road and building, especially in the building of hospitals and schools on the west coast of Sabah (Center for Excellence in Disaster Management & Humanitarian Assistance, 2016).

D. The effects of Malaysia Disaster

1. Economic Aspect

The magnitude of disaster impact has influenced many aspects of a nation-state, especially in the economic aspect (Said & Ahmadun, 2007). Based on the EM-DAT database from 1990 to 2014, The highest economic losses in Malaysia were caused by flood disasters, where it was estimated around 60% while, other disasters that also have caused economic losses were earthquake with 23,4%; wildfire with 14,1%; and storm with 2,5% (UNISDR, 2015).

There are a number of economic losses that also have to be encountered by Malaysian state after the occurrence of disaster in the form of the environmental damage that has caused by the disaster, in which it will give the impact to the sector of agriculture and manufacturing that indirectly can give effect to GDP of Malaysia (Shaari, Karim, & Basri, 2017).

Pursuant to the General Director of the Drainage and Irrigation Department, the economic growth and the quality of life in Malaysia are also threatened by two problems that are related to the water issue, namely drought (water shortage), and flood (excess water). These disasters can cause fatalities, loss of assets, and the damage (Taib, Jaharuddin, & Mansor, 2016).

For examples, one of disaster cases in Malaysia that has caused a huge economic losses is flood, in which each year Malaysia should encounter the flood disaster. Tropical Storm Greg had caused the flood disaster in 1996. It occurred in Keningau, Sabah, where there were 241 fatalities and the economic losses were estimated approximately 97,8 million US dollar for the destruction of property, house and infrastructure.

Flood in Johor had also given the impact of the economic losses during December 2006 and January 2007. It was estimated around 489 million US dollar for the destruction. Malaysia further suffered the economic losses again in Johor (2008), in which it was estimated around 21,19 million US dollar. Moreover, flood in 2010 occurred in Kedah and Perlis that was known as the "Rice Bowl" of Malaysia. It has disturbed the transportation in both of areas. In addition, it also caused the destruction of rice field in Malaysia, where the flood had damaged approximately 45,000 hectares so that there were the number of funds that were allocated by Malaysian government, with an estimation around 8,476 million US dollar for the damage (Ngai, 2012).

Malaysian state, especially Kelantan encountered some adverse effects on the people and the economic aspect that were caused by the terrible floods in 2014. Additionally, at that time the flood disasters were unpredicted so that these caused some damages of asset, crop, public infrastructure, and livestock, as well as, the facilities. Flood in 2014 is considered as the most terrible disaster in the history of Malaysia.

Furthermore, according to the Chief of Flood Disaster Operation Committee in Kelantan, namely Datuk Seri Mustapa Mohamed, the economic losses that were caused by floods in Kelantan were estimated almost 200 million Ringgit Malaysia. In addition, the economic losses in eastern and northern part of Malaysia were predicted around 300 million US Dollar or equivalent to 1 billion Ringgit Malaysia (Taib, Jaharuddin, & Mansor, 2016). Moreover, the infrastructure damage in 2014 that has caused the economic losses in Malaysia was estimated around 2,851 billion Ringgit Malaysia or equivalent to 670 million US Dollar (Center for Excellence in Disaster Management & Humanitarian Assistance, 2016).

Therefore, Malaysian government under the five-yearly Plan of Malaysia for the development provides the fund that will be allocated to conduct the reconstruction post-disaster. The total funds that are allocated to the programs and reconstructions of the mitigation are around 4,564 million US dollar (the First Malaysian Plan in 1966-1970), 9,78 million US dollar (the Second Malaysian Plan in 1971-1975), 32,6 million US dollar (the Third Malaysian Plan in 1976-1980), 65,2 million US dollar (the Fourth Malaysian Plan in 1981-1985), 97,8 million US dollar (the Fifth Malaysian Plan in 1986-1990), 228,2 million US dollar (the Sixth Malaysian Plan in 1991-1995), 306,44 million US Dollar (the Seventh Malaysian Plan in 1996-2000), 3,97 billion US dollar (the Eighth Malaysian Plan in 2001-2005), 1,25 billion US dollar (the Ninth Malaysian Plan in 2006-2010), and 1,17 billion US dollar

(the Tenth Malaysian Plan in 2011-2015) (Ngai, 2012). From the data above, it can be seen that the number of allocations that are given by Malaysian government are increasing every year, but since 2000s the allocations had continued to decrease.

2. Psychological Aspect

According to Ramakrishnan, Srivastava, and David, there are some terrible impacts that are inflicted by the disasters. One of them is psychological aspect. There are some researchs that have analyzed the disaster impacts toward the psychological aspect.

The qualitative research of Ahmad, Akehsan, Siti, and Halil on Post Traumatic Stress Disorder and Quality of Life Among Flood Disaster Victims attempts to identify the post-traumatic disorder toward the victims of flood in Kelantan, Malaysia. Evacuation toward the victims of the disaster that should move to a higher shelter perhaps will cause the encroachment of privacy and personal space because they have to live with people who are not their family. In addition, the privacy in the personal space, based on Rafieian and Gharaei (2003), is considered as a necessity of human universally so that it will give the impact of aggression, worry, and stress if there is an interference against it.

In addition, based on the research of Vlahov, Nandia, and Galea (2005), it explains that the people who get the biggest impacts of the disasters will be very prone toward Post Traumatic Stress Disorder (PTSD) with the various indications. Post Traumatic Stress Disorder (PTSD), according to Miri, Rezaeinejad, Heshmati, and Hoseinifar (2010), is a mental disorder that is caused by one or more traumatic incidents in their life, with various uncountable indications. Additionally, PTSD pursuant to Ahmadizadeh et al. (2010), said that there are some indications of PTSD, such as: disruption of sleep, evasion

of trauma reminder, hypervigilance, nightmare, distorting thought, flashback of past traumatic incident.

Moreover, PTSD according to the research conducted by Zokaefar, Mirbeigi, Eskash, Dousti, Sedaghatpishe, and Shafii (2015) has a long-term effect because it is caused by traumatic effect that can influence the mental response for the victim so that it will decrease the quality of life (Othman, Dahlan, Borhani, & Rusdi, 2016).

3. Political Aspect

Disaster, according to Hart (1993) in the article of Disaster Management in Malaysia: Evolution, Development, and Future Challenges that was written by Aini and Fakhrul, is described as the contexture of forming and accusing, in which it means that every politician that has several proficiencies will be able to change a disaster to be the asset of politic or the opportunity (Said & Ahmadun, 2007). Hence, the impact of disaster will be able to influence the political aspect in Malaysia.

In Malaysia, there some disaster cases, both in the form of natural disaster and in the form of technological disaster, that their impacts have influenced the political aspect of Malaysia. One of technological disaster cases that has influenced the political aspect in Malaysia is MH370 disaster. MH370 disaster occurred on 8 March 2014, in which the Malaysian aircraft with flight number of MH370 had been declared to disappear. This aircraft was carrying 239 people, where there were 14 different nationalities, including 12 crews and 227 passengers. In addition, the majority of passengers were Chinese, in which there were 153 Chinese involved in the accident. The flight would be travelling from Kuala Lumpur, Malaysia to Beijing, China (BBC, 2017).

As a result, the loss of Malaysian MH370 aircraft on March 8 has impacted indirectly to the political aspect of Malaysia, in which every of politicians in Malaysia attempted to utilize this disaster cases as their opportunity

to blame other parties each other. In the side of opposition politicians, they tried to blame the handling of Malaysian government in facing the disaster.

Moreover, there was similar criticism that came from China to Malaysia. The Chinese government was disappointed by the slow granting of information from the Malaysian government so that it might cause delays in the process of rescue and evacuation of the victims. In the notification related to flight path change MH370 aircraft, it could be immediately confirmed by the Malaysian government after 7 days of the accident. Hence, based on some statements in the editorial of China Global Times newspaper, the impact of MH370 disaster had caused an enhancement of mistrust from China toward the leadership of Malaysia that has an intention to be a high-income developed nation by 2020 (Bowie, 2014).

In the other sides, Malaysian government even attempted to divert the attention of public to the pilot MH370, in which they had indirectly hinted that the incident of aircraft MH370 disappear was caused by the pilot (Bradsher, 2014). It occurred because there was a claim that Zaharie Ahmad Shah, namely Captain of pilot in Malaysian MH370 aircraft, was an obsessive supporter of Anwar Ibrahim. Hence, Zaharie was hinted to deliberately make an accident on the MH370 aircraft as a result of his protest form to the government because Ahmad Ibrahim was sentenced to five years in prison on charges of sodomy so that he could not to be a chief minister of Selangor.

In addition, Ahmad Ibrahim was a former leader of Malaysian opposition party (Bowie, 2014). Moreover, Malaysian police was assigned to examine the stimulator data at the house of pilot and co-pilot, as well as, conducted the examination toward the background of all passengers at MH370 at that time (Farrer & Jones, 2014). Nevertheless, according to the defense minister, namely Hishammuddin, the data have been deleted since February

3 so that this actions has further aggravated the indication that this disaster was caused by the pilot.

On the other hand, the announcement on the deletion of stimulator data of the pilot was criticized by the head of the largest opposition party and the chief minister of Penang, namely Lim Guan Eng. He said that it was unfair because Malaysian government had created or intimated that there was another motif from the MH370 disaster. Additionally, it was done by government without clear and undeniable evidence.

In additon, other criticisms were also directed to the government by other opposition politicians, namely Sivarasa, in which within the handling of the disaster crisis, the Malaysian goverment was sluggish in seeking the international assistance on the search of MH370 aircraft. Also, there was a provision of information from government that was even contradictory and limited (Bradsher, 2014).

Therefore, from this case, it can be seen that the impact of disaster has indirectly influenced the political aspect in Malaysia, in which one of the examples, there are some disappointments that are felt by the society or other parties on the prevention and handling actions of the disaster that were run by Malaysian government in the case of MH370 so that it will be determinant factor in assigning the image of Malaysian government. As a result, if it cannot be handled well, it will be able to emerge a mistrust toward Malaysia from either Malaysian people, other parties, or other states. Moreover, the disaster impact will be able to be utillized by several agencies (such as opposition politicians) to blame the Malaysian government so that they can gain the oppportunity in the term of politic from this catastrophic.

4. Health Aspect

The impact of disaster is very influential toward the health aspect in Malaysia. Actually Malaysia state is recognized as the middle-income state, with the investment of financial in the sector of social, the commitment of politic, and the stability of sustained economy. Hence, Malaysia has a good system of health care in term of the main care and the care access. Nonetheless, there are some problems that are still encountered by Malaysia, namely Communicable Diseases (CD) and Non-Communicable Diseases (NCD). Disasters that are included into communicable disasters are dengue, HIV, tuberculosis, etc. Meanwhile, some disasters, such as diabetes, cancer, cardiovascular diseases are classified into non-communicable disaster. (Center for Excellence in Disaster Management & Humanitarian Assistance, 2016).

In the type of communicable disease, the highest infectious disease, that can cause the mortality, is tuberculosis with the number of incidents 78,3 per 100,000, so it becomes the concern of Malaysian government. In addition, there are HIV/AIDS, foot, hand and mouth disease, food-borne disease, and malaria that also become the main contributors to the communicable disease. Malaysia in 2014 recorded that there were health problems that were caused by the Middle East Respiratory Syndrom-Coroavirus (MERS-CoV) and Avian Influenza A (H7N9). It became the first case of imported diseases that came from other states. Moreover, the cases of dengue fever in 2015 were estimated more than 102,800 cases. These also caused 283 fatalities that were caused by these diseases. As a result, to prevent the transmission of the disease, every traveler had to protect themselves toward the mosquito.

In the type of non-communicable disease, there are an enhancement on the risk factor of NCD and the prevalence of NCD. Furthermore, in 2002, the main cause of the fatalities in this type was heart disease, in which it

was estimated at 29,400 people killed. Additionally, there were other diseases that occurred in Malaysia, such as 15% obese, 33% hypercholesterolemia, 33% hypertension, 29% overweight, and 15% of adult people in Malaysia suffered diabetes mellitus. However, the risk factor of NCD cannot be diagnosed for most Malaysians. Moreover, in the total population of adult people, a lot of people smoke tobacco now, in which it was estimated approximately 43,9% of men; and 1,0% of women) so that the number of people who are affected by smoke become very significant. In addition, there are disability and mental illnesses that have been the problem in Malaysia also, where in the aged 5-16 years, there is 20,0% people that suffers the issues of mental , namely behavioral disorder, emotional, and disability of development.

Therefore, both types of these diseases, namely communicable diseases and non-communicable diseases can be categorized into epidemic disasters (in the type of biological disasters) if the requirements of disaster are fulfilled, such as there are ten or more killed people; there are hundred or more affected people; there is a notification of emergency from a state; and there is the calling of international aid. As a result, these diseases have the potency to be the disasters that can give negative effects for health.

On the other hand, there are some efforts of Malaysia government in creating the status of good health in Malaysia, such as: the strategy of harm-reduction to prevent the spread of HIV among the user of drug, immunization of child, wide coverage through the system of private healthcare, sanitation and supply of the safe water, and the supervision of nutrition and growth (Center for Excellence in Disaster Management & Humanitarian Assistance, 2016). Hence, indirectly the occurrence of the disaster, both natural disaster and man-made disaster, can enhance the prevalence of communicable diseases and

non-communicable disease in Malaysia, so it can disturb the status of good health in Malaysia.

One of the examples from the enhancement of man-made disaster that can cause health problem, specially on the health of respiratory is haze. Haze in Malaysia ever reached at the level of API index that was classified into the level of unhealth in 2013. It was caused by Indonesian haze, so Malaysian government released the announcement of the emergency in Johor, especially in Ledang and Muar. Smoke usually came from the peatland destruction of Indonesia to plant the palm oil and pulp so that the smoke that comes from this fire are very toxic, in which it can enhance the level of Carbo dioxide production that is contained in the peatland (Center for Excellence in Disaster Management & Humanitarian Assistance, 2016).

In addition, indirectly climate change also can be a threat for the health in Malaysia. Some diseases that are very sensitive to the climate, such as dengue, cholera, malaria etc, can turn to change to be a disaster if the prevalence of diseases enhances (Center for Excellence in Disaster Management & Humanitarian Assistance, 2016).

One of case instances on climate-sensitive disaster in Malaysia is dengue. The number of dengue cases in 2016 were caused by the effect of El Nino phenomena. This statement was delivered by the General Director of Health, namely Datuk Dr Noor Hisham Abdullah, in which he said that the Aedes mosquito life cycle from egg to adult would be shorter, namely 7 days if there was hot weather so that it can enhance the population of mosquito. As a result, there was a fifty percent the enhancement of dengue cases that was caused by El Nino, according to the Minister of Health.

In addition, El Nino phenomena, that was predicted by the Ministry of Science, Technology and Innovation, would occur from January to March 2016, where this phenomena had caused dry and hot weather (The Straits Times, 2016). According to the Minister of

Health, namely S. Subramanniam, in 2017 there were recorded approximately 51,000 dengue cases, with 122 fatalities. It was estimated at 50 percent from the previous year, where in 2016 the number of fatalities reached to 230 lives from 101,000 dengue cases (The Straits Times, 2017).

Hence, Malaysian government has established the effective and efficient system of health that will be conducted by the Ministry of Health (MOH) to guarantee the quality healthcare that can be accessed universally. Moreover, the Minister of Health attempts to analyze the conceptual framework of the health system, especially in the term of enabling structure, health service delivery aspect, management, and expenditure. There are several programs to reduce the disaster risk that is released by MOH Disease Control Division, such as:

- a) Management Program of Flood in term of preventive and control activities, either in the pre-disaster, during disaster, or post-disaster. It is aimed to decrease the mortality and morbidity of the victim.
- b) Plan of National Strategic for the appearing disaster. The program of detection and response toward the appearing public health and disease was also conducted by this division.
- c) Plan of Action for Haze. In the plan, there is a guidance that is related to the plan of preparedness and response for Haze. Also, there are some specific advice and acts that should be run by every agency to confirm that the resource efficiently can be conducted and utilized.
- d) Plan of Food Safety Emergency Response. This program is for the illness that is caused by food
- e) Sanitation Program of Rural Environment on the supply of water and disease-related sanitation (Center for Excellence in Disaster Management & Humanitarian Assistance, 2016).