

NATURAL DISASTER AND VULNERABLE VICTIMS IN MALAYSIA: A PRELIMINARY STUDY

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ABSTRACT

Situated outside the Ring of Fire and south of major typhoon paths, Malaysia is considered free from natural disasters resulting from volcano eruptions, earthquakes, and typhoons. However, Malaysia is often affected by other disasters including floods, landslides, haze, man-made disasters, as well as some rare cases of droughts and tsunamis. Thus, the 2014 flood in the East Coast and 2004 tsunami in Penang Coast were an eye-opener to the government and the community. Due to climate changes and recurring natural disasters, a new disaster management structure, the National Disaster Management Agency (NADMA) of the Prime Minister's Office was established to lead disaster management efforts. This paper aims to examine the extent to which disasters that occurred, are considered natural. It also examines the emerging legal issues relating to babies, infants, pregnant women and elderly who are regarded as vulnerable victims in need of extra vigilance and care in time of natural disasters. Another important objective of this paper is to look at the role of NADMA and its assistance and protection of vulnerable victims. Data and information for this paper are developed based on library research. This paper concludes on the possible arrangements and efforts that can be taken by the government as well as the community at large as preparations in facing unexpected disasters.

Keywords: natural disaster, victim of natural disaster, National Disaster Management Agency (NADMA).

1. Introduction

Disaster can be classified into two categories; man-made disaster and natural disaster (Mohamed Shaluf and Ahmadun 2006). In recent years, Malaysia is also exposed to natural disaster due to the exposure to climate change and disaster which is caused by people themselves. As a result, the government has taken serious efforts in facing disaster and resilient due to the effect of disaster by incorporating a specific plan in the Eleventh Malaysian Plan. This paper aims to discuss the extent to which disaster is regarded as natural and secondly, the effects of natural disaster to vulnerable groups in the community which also lead to the debates of legal response and state responsibility in facing unexpected disaster and its challenges due to disaster. The current pandemic of Covid-19 which is faced globally is also categorized by the international researchers as natural disaster despite it was a wide-spread humours it was caused by men. The World Health Organizations (WHO) as an international body which is responsible to global health has issued several guidelines during the influenza epidemic. However, it is not the aim of this paper to discuss the current pandemic, covid-19, but to consider the extent to which a disaster can be categorized as natural and how to determine vulnerable groups?

This paper begins by discussing the possible definitions of disaster by referring to relevant literatures specifically in Malaysia and other countries. It also examines the types of natural disaster that frequently reported in Malaysia and the roles of government in dealing with disaster especially in identifying vulnerable groups.

1.1 *What is meant by disaster?*

“Disaster” comes from the Latin word *astrum*, the ancients believed that earthquakes, volcanoes, and the like were mandated by the heavens (Spinks & Zika, 2016). The International Federation of Red Cross and Red Crescent Societies ("IFRC") defines "disaster" as "a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources." (ref). At first glance, disaster law seems to be nothing but a collection of legal rules of various kinds that happen to come into play when communities have suffered severe physical damage. But at a deeper level, disaster law is about assembling the best portfolio of legal rules to deal with catastrophic risks—a portfolio that includes mitigation, emergency response, compensation and insurance, and rebuilding strategies.

1.2 *The Difference of ‘Disaster’ and ‘Natural Disaster’*

Disasters are defined by several criteria, without a single, universally accepted definition. Disasters can be categorized into three types: (1) natural disasters; (2) man-made disasters; and (3) hybrid disasters – a combination of natural and man-made elements. The character of a natural disaster is the existence of abnormal intensity of its natural cause such as flood, landslide, mudslide, avalanche, earthquake, volcanic eruptions, tornadoes, hurricanes, storms, drought and etc that may result in catastrophic events, when the usual measures and human control were not able to prevent their emergence. (Mohamed Shaluf, 2007)

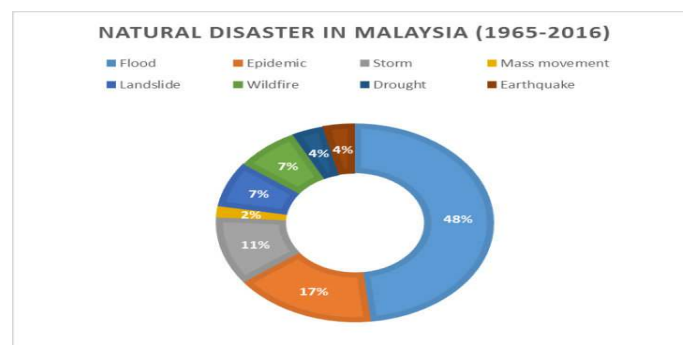
Disasters in Malaysia are influenced by weather and climate. Malaysia has experienced 39 disasters during the period of 1968-2004. The natural disasters, at that time, make 49 percent of total disasters in Malaysia where most were resulted from the heavy rains. (Mohamed Shaluf, 2006). Simultaneously, there are some disasters that happen in Malaysia caused by human factor, such as haze and fire and the combination of both natural and human factors such as flood and landslide.

Malaysia has adopted several strategies to advance progress in mainstreaming Disaster Risk Reduction (DRR), by incorporation of DRR and Climate Change Adaptation into land use planning system regulated by the Town and Country Planning Act 1976 into the National Physical Plan at National Level, Structural Plan for State Level and Local Plan and Special Area Plan at Local Level. (Maidin, 2020). The National Security Council Directive No. 20 is the main guideline for disaster management in Malaysia.

2. Literature Review

Malaysia has taken the step to review the disaster management resilience against climate change and natural disaster strategies by introducing such plan in the Eleventh Malaysia Plan 2016-2020. Undeniably, the impacts of disaster has a long-term effect to its member of society in terms of the community health and economy. For the period of 20 years, from 1998- 2018, Malaysia has experienced more than 50 natural disaster events including flood, storm, earthquake, landslide, drought and wildfire that caused around USD2 billion of total damage. Flood alone have affected around 800,000 people during the two decades and resulted in about 150 deaths (UNISDR & CERD, 2018). In 2018, Malaysia has experienced 110 disasters – 66 (or 60.5 per cent) floods, 26 (or 22.9 per cent) storms, 9 (or 8.2 per cent) fires and 3 (or 2.7 per cent) landslides, with 6 earthquakes in low and medium scale in Ranau and Kundasang in Sabah and Miri in Sarawak. (NADMA, 2018). Below chart show the frequency of natural disaster in Malaysia.

Frequency of Natural Disaster in Malaysia



(Source: Ishak and Hashim, 2018)

For the past two decades, Malaysia has experienced 51 natural disaster events (1998-August 2018). Due to this natural disaster, 281 people died, over 3 million people were affected, and disasters caused nearly US\$2 billion (MYR8 billion) in damages. (CFE, 2019). In 2015, the Director of General Health, Tan Sri Datuk Dr. Noor Hisham Abdullah has narrated the disasters happened in Malaysia since 1997 as follows:

2.1 Disasters in Malaysia

1997	Eetorevirus Enchapilitis Outbreak in Sarawak
1999	Nipah virus outbreak in Negeri Sembilan and Perak (265 cases)
2003	SARS pandemic (5 suspected cases)
2004	Tsunami Aceh affected Penang, Kedah and Perak
2009	Pandemic H1 N1(17, 253 cases)
2013	Lahad Datu, Sabah standoff (63 death) Bus accident at Jalan Genting Highland-Kuala Lumpur, mass casualty 37

(Source: Noor Hisham Abdullah, 2015)

Based on the above pie-chart, flood is the most reported natural disaster occurred in Malaysia which carries 48% of the reported types of natural disaster. Most of the states in Malaysia are prone to flood risk due to (1) the natural physical topography and drainage, and (2) human geography of settlement and land use (MY Safiah *et.al*, 2020). Whereas 17% is caused by epidemic. 11% is due to storm and other types of natural disaster reported were landslide, wildfire, drought, mass movement and earthquake. At the moment, Malaysia is facing a global pandemic which is classified by the World Health Organization as pandemic that is spreading over multiple countries or continents.

Chong and Kamaruddin (2016) highlighted the challenges faced by Malaysian government in dealing with disaster management especially in terms of agency, which are as follows:

- (1) disaster management planning imbalanced between top-down and bottom-up approaches,
- (2) lack of coordination in disaster management cycle, with greater focus only on the disaster emergency response stage and,
- (3) lack of planning of long-term recovery (post-disaster) process, which resulted in low level community and stakeholders' resilience to disasters.

The above mentioned challenges need a master plan from all inter-agencies, inter states and central government to lessen the bureaucracy in distributing aids and assistance after the disaster.

It is essential to know that there are different types of natural disaster whereas man-made disaster is usually related to human intent, negligence, or error involving a failure of a man-made system, as opposed to natural disasters resulting from natural hazards. Such man-made disasters are crime, arson, civil disorder, terrorism, war, biological/chemical threat, cyber-attacks, etc.(Monroe County, Florida, 2021). The tragic case of Chernobyl in Russia was reported by the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) that there were three population groups were highly at risk and therefore they considered vulnerable, namely:

- a) The recovery operation workers
- b) Evacuees from the contaminated zones
- c) Inhabitants from these areas

It is crucial to identify the vulnerable parties affected due to disaster regardless whether it is natural disaster or man-made disaster. By identifying the groups who are vulnerable, the urgency for quick and accurate resources in terms of preparedness are essential for policy-makers and those who are involved in the rescue team. Generally, women, children and disabled person are considered as vulnerable group who may suffer post disaster.

3. Disasters, Vulnerability and Vulnerable Victims

Disasters are not only unpredicted events that cause devastation and suffering but they also sometimes overpower the response capacity of nations (HT Have, 2018). Nowadays, disasters are also considered as one causes of human rights violations (Hurst, 2010). Since disasters often have the most terrible impact on vulnerable people those who provide humanitarian assistance must also observe ethical and human rights principles such as right to life and security and equal access to assistance.

Vulnerability is a salient principle in the context of global disasters. According to Adger (2006) vulnerability is “the state of susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt”. It is usually portrayed as a tool to measure human possibilities of hazards or indicates potential harm that might happen to an individual or groups of people (MY Safiah, 2020). The consequence of it is that, unless some action is taken these groups of people may be exposed to potential hazards and thus become the victim. Due to the increase of report on the lack of ethical and equal assistance in disaster management, the United Nations Programme (UNDP) reports continue to use vulnerability as a core concept to the undermined position of the most disadvantaged people to advocate just and unbiased policies (HT Have, (2019) HT Have, (2019)

Vulnerability occurs not only by recognizing the threat, but also by acknowledging its responsiveness in utilizing opportunities while adjusting with the different environment faced. It can also can be observed as to how the vulnerable group people survive and manage their hardship to keep up with the current environment. Vulnerable people are susceptible to harm. They become vulnerable when they interact with particular resources and face certain life challenges. Those factors, among others, are “developmental problems, personal incapacities, disadvantaged social status, the inadequacy of interpersonal networks and supports, degraded neighbourhoods and environments, and the complex interactions of these factors over the life course” (Mechanic & Tanner, 2007). Those people are disadvantaged or affected by the undesirable condition, including disaster, that make them become vulnerable. This group includes, but not limited to, women and girls; children; elderly people; refugees; internally displaced persons; stateless persons; indigenous peoples; migrant workers; persons with disabilities; people with HIV and AIDS, malnourished people, people who are ill or immunocompromised; and pregnant women. The vulnerable people in this article refers to victims in need of extra vigilant and care in time of disasters, which include infants, babies, pregnant women and elderlies.

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It is crucial to identify the vulnerable parties affected due to disaster regardless whether it is natural disaster or man-made disaster. By identifying the groups who are vulnerable, the need to quick and accurate resources in terms of preparedness are essential for policy-makers and those who are involved in the rescue team. Generally, women, children and disable person are considered as vulnerable group who may suffer post disaster. It is submitted that every person is also vulnerable and it is a matter of how resilient someone in facing unexpected disaster that occur in their life. Thus, this article will discuss briefly the impact of disaster on women.

4. The impact of disasters on women.

Vulnerable and disadvantaged people commonly experience difficulty in their life and feelings of low self-esteem that could be effects from diseases faced, health problems, being discriminated against, and hardship. Thus, they tend to have high expectation, are impatient and sensitive while receiving help and assistance. Incidentally, the effect and impact of natural disasters vary for men and women. Women are more likely to die and suffer ill health as a result from these disasters (Kottegoda, 2011). Women are evidently even more vulnerable to natural disasters (Ginigea, *et al.*, 2014). Due to higher disaster vulnerability of women, it is a must to recognise the different roles that they play, their capacity, vulnerabilities and needs as a woman, and to include them in any disaster risk reduction in the built environment, in order to reduce women's disaster vulnerabilities (Ginigea, *et al.*, 2014). Apart from the higher death toll and more injuries both physical and psychological, it has been observed that women also suffer from more socioeconomic losses from disasters as well (Ginigea *et al.*, 2014)

In particular, women's role as mothers, and primary carers of the elderly, disabled and children performs a uniquely significant role in deciding their disaster vulnerabilities (Enarson, 2001). It was reported that some women delayed escaping or, chose to remain in unsafe locations, for example during the the incoming waves of the 2004 Indian Ocean Tsunami. Many women died due to their role as carers for family members who could not be easily transported such as the sick, the disabled, the elderly and children.. Furthermore, a research conducted by using in-depth semi-structured interviews with 27 child survivors of the Aceh Tsunami, revealed through insights and observations of the child survivors who were often the last people to see their mothers alive, that these women did not survive the natural disaster because they waited for their husbands to return, in an effort to obey and honor their husbands; they put the safety of their other family members first, before their own; that they were likely to pray rather than leave, and that they were often more vulnerable and less aware of how to protect themselves. It is severely heartbreaking to accept these facts, but unfortunately this is what normally happens in real life. Perhaps the nature of women itself which makes them very vulnerable too.

There have been studies which reveal that the role of women in disaster risk governance as vital for an effective disaster risk governance and resilience. Further, the study identified socio-cultural factors, individual characteristics, legal and institutional factors and socio-economical factors as the barriers that limit their role in disaster risk reduction and disaster risk governance efforts. (Hermachandra, *et al.*, 2018). It is imperative to empower women with the skills and knowledge needed in facing unexpected disaster. Perhaps, there should be legislation to empower women in humanitarian action.

5. The National Disaster Management Agency (NADMA): Disaster Management Strategy

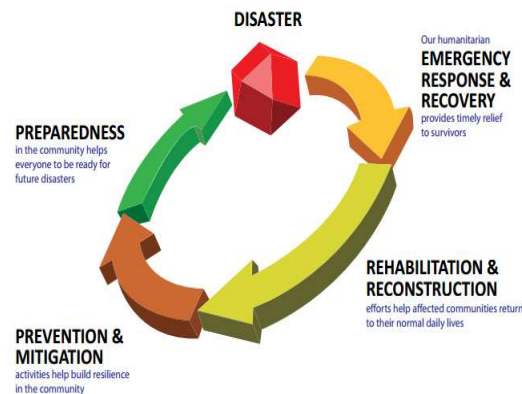
Established in October 2015 by the federal government, the National Disaster Management Agency (NADMA) is a special agency dedicated to disaster risk management (DRM). Under the Malaysia DM structure, seven service themes were established, including; (1) search and rescue, (2) health and medical services, (3) media, (4) support, (5) security control, (6) welfare, and (7) warnings and alerts (H. E. Che Hamid *et al.* 2019). Among others, the roles and responsibilities of NADMA include: Malaysia's National Focal Point for Disaster Management, formulation of National Disaster Management Policy, regulate the Implementation of policies, coordinate Disaster Risk Reduction Initiative, cohere disaster relief exercise, implement public awareness programme, *After Action Review (AAR)*, managing disaster relief trust funds, secretariat of National Disaster Management Committee, head of humanitarian assistance disaster relief delegation and deployment of SMART team (Abu Seman 2017).

In Malaysia, there is a general nation-wide policy that applies to all types of disasters. Previous studies have criticised the disaster relief policies that not systematically manage and only take action after a disaster has occurred (N Ashikin, A *et.al*, 2021). It is therefore evident that disaster management does not specifically focus on a certain type of disaster or the specific context in which it occurs. N Ashikin, A, *et.al* (2021) suggested four main stages of disaster management with special reference to flood issues namely; prevention/mitigation, preparedness, response and recovery. This is important because some of the disasters can be foreseen. Thus, the potentially affected victims may be guaranteed temporary relief and welfare including compensation to help their recovery process.

Nonetheless, up until today, the government has taken a positive step in developing structural measures such as the development of multi-purpose dams, embankments, diversion channels and non-structural measures which include land-use planning to prevent or mitigate the flood disaster (Chan, *et.al*, 2020). In the urban areas such as in Kuala Lumpur, due to the annual flooding event, the government developed multi-purpose dams, embankments, diversion channels such as the Storm Water Management and Road Tunnel (SMART). As for another part of the countries, in particular, in rural area or villages in Pahang and Kelantan a non-structural measure has long been practiced. Apart from that, Flood Forecasting and Warning System also has been installed all over Malaysia as well as live information of the National Flood Monitoring System for public easy reference for preparation during monsoon rains (DID,2007). However, both measures must engage the public, especially the potentially vulnerable victims so that their right and interest can be protected during the disaster. Next, the authors will discuss on the total disaster risk management.

6. Total Disaster Risk Management (TDRM)

TOTAL DISASTER RISK MANAGEMENT (TDRM)



Source: Mercy Malaysia

Total Disaster Risk Management is not a new concept and it yet involves non-government organization in Malaysia such as MERCY in dealing and coping with natural disaster. MERCY Malaysia had a paradigm shift in 2005 by adopting the Total Disaster Risk Management (TDRM) approach which is in line with the Hyogo Framework for Action (HFA), which was adopted by 168 countries at the 2005 UN World Conference on Disaster Reduction in Kobe, Japan. Four stages are outline as seen in the a) Emergency response and recovery, b) rehabilitation and reconsriction, c) prevention and mitigateion and finally, d) preparedness. Often the final stage that is preparedness might take a longer time for recovery especially the vulnerable group who have to face the realities.

7. Concluding Remarks

The establishment of the National Disaster Management Agency (NADMA) and Majlis Keselamatan Negara (MKN) or also known as the National Security Council are seen as the first step in facing unexpected disaster in Malaysia. In facing disaster, often if the procedures is statutorily mandated by the law, it will provide and protect the victims of disaster. Thus, what is considered as vulnerable group usually it needs a legal recognition by the law itself. In facing disaster, it is essential to address that communication among the agencies in local setting as well as at the international arena is crucial to ensure that the public will get the information related to disaster.

8. Acknowledgement

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