Humanitarian Logistic Relief Team Challenges during Flood

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Abstract: This paper demonstrates the challenges faced by humanitarian logistics relief team in rescuing the flood victims during floods. Flood is a disaster that commonly happened in Malaysia and this disaster can become chaotic and panic if handled improperly. The objective of this paper is to assess the challenges in humanitarian logistics relief mission during flood. To achieve the objective, semi-structure interview with six humanitarian logistics relief team has been conducted; two are from police, two from fire brigade and two from civil defense. The result from interview reveal that the factors that made the humanitarian logistics relief mission during flood inefficient are bound to three factors which are lack of emergency response transport and equipment, vulnerability of road network and attitude of flood victims. This study thus recommend that the government can add more budget to buy more equipment and emergency transport vehicle and educate by giving more awareness to public on the dangerous of flood to people and what should be done if they think the flood is going to be happened, without only hoping for the humanitarian logistics relief team to come and save them.

Index Terms: Humanitarian, Logistics, Relief, Flood, Challenges

I. INTRODUCTION

Humanitarian logistic could be define as the proses of planning and implementing of system that involved mobilizing people, resources, skills and knowledge, to help vulnerable people of disaster [1]. Similar with the function of logistics in private practice, humanitarian logistics also dealing with the planning of procurement, inventory, transportation, warehouse and tracing, in ensure the vulnerable people can get the helps at the right time and right place.

According to [2], all this while logistics in humanitarian operation always being neglected and this make humanitarian logistics performance are 15 years left behind.

Nevertheless, the humanitarian organizations are starting to recognize the need of effective humanitarian logistics management recently, as the success or failures of the rescue mission are depending on the effectiveness of logistics. Therefore, in order to reduce the cost, it is essential to improve the humanitarian logistics management [1], [2].

When the disaster happened, the most crucial element is time to response. As stated by [3], the fastest time to humanitarian logistics need to response is between 12 to 36 hours after the disaster had occurs. At this stage, the humanitarian organization will send the first response team to evaluate the level of damage, the numbers of people that affected and what is the a material or helps that are needed. [4] stated that the biggest challenges of humanitarian logistics in performed well during the rescue mission is because lack of expertise in information technology (IT) systems, professional specialist and collaboration initiatives while in private practice, logistics company are supported with these kinds of help. However, the opinion above cannot be considered as comparison because what the humanitarian logistics done are more complex due to environment and unpredictable challenges. In today's environment that disaster seems to striking all corner the world due to climate change, the important of humanitarian logistics is undeniable. Many human loss and destruction of infrastructure could be avoided if the proper planning as well as precise execution is been conducted. The question is, how to respond the natural disaster in most efficient manner to minimize the loss and maximize the efficiency of rescue mission where often during disaster, the humanitarian logistic team face problems in managing the transportation of commodities including food, cloth, medicine machinery and personnel whilst the supplies of that must be done quickly to maximize the survival rate of victim [5]. In Malaysia, the organization that responsible for preparation and response to every disaster is National Security Council (NSC). The layout of the humanitarian logistics is grounded by the NSC Directive No. 20 on "Policy and Mechanism on National Disaster and Relief Management (PMNDRM)", and the operation is divided to three level category which are Level I, Level II and Level III (as shown by Figure 1). Every level has its own committee and responsibilities and the divination of the level was established to ensure the coordination of humanitarian operation in term of aid, can be deliver in effective manner at the Federal, state and district level [6].
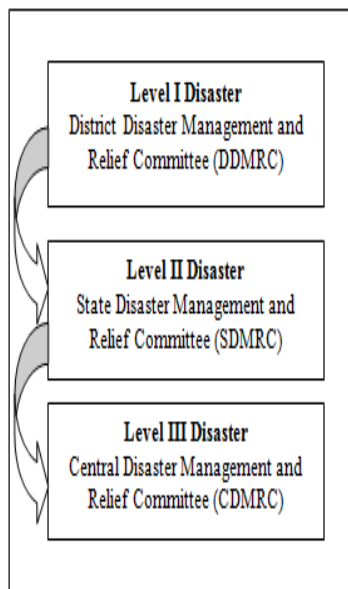
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Fig. 1 The Organization of Every Level for Humanitarian Logistics in Malaysia
Source: National Security Council (2011)

Malaysia, even fortunate because not directly affected by serious disaster like earthquake, typhoon, tsunamis and volcanic eruption, but still vulnerable to flood. According to [7], flooding is the most significant hazard in Malaysia that affected many populations and caused millions of economic damages. From the record, the country has faced many major floods starting from 1926, 1963, 1965, 1967, 1969, 1971, 1973, 1979, 1983, 1988, 1993, 1998, 1995, 2006, 2007, 2009, 2011 and most recently in 2014 [8], [9], [10]. However, in the perspective of humanitarian logistics operation, it was found that the current practice of humanitarian logistic is unsatisfactory. For example, comments from [7], [12], [13], [14], [8], the weaknesses of humanitarian logistics in Malaysia is when "no clear lines in command in coordinating the response from higher level of government, when the local response at the district is not sufficient". This is also has been highlight by [11] that mention the coordination of PMNDRM above was only active when the disaster is up to level III and overseas the operations at the state and district level. The result from the weaknesses make the inventory of resources such as emergency transport vehicles, buses and trucks, earth moving equipment, boats, emergency electricity generators and mobile telecommunication equipment cannot be available at the time needed. Other than that, no pre-determined evacuation road to facilitate quick transportation of flood victims to safety, also one of the weaknesses that been highlight by most of the researcher above.

[13] in his research on *Issues of Disaster Management Preparedness: A Case Study of Directive 20 of National Security Council Malaysia* state that the Directive No. 20 is no doubt is an effective mechanism in disaster management but this mechanism is not properly being implemented. His finding is then supported by another findings from [8] in their research on *Flood Disaster Management in Malaysia: A Review of Issues of Flood Disaster Relief during and Post-Disaster*, that mention the efficiency of humanitarian logistics is poor because the government only act after the disaster happened and do not use the establish policy by NSC as a guideline. [10] in the Malay Journal of Medicine Science, write about the challenges that the staff hospital of USM kubang Kerian face during the terrible flood in 2014 and what is their perspective towards the humanitarian operation. From their experience, they conclude that the standard operating procedure (SOP) in humanitarian logistics operation need to be strengthen from various level i.e., from the activation of it to the post-disaster phase, and these SOPs must be tested and drilled with all personnel involved at regular intervals.

Nevertheless, it is unfair criticism to judge the humanitarian logistics team's performance without knowing exactly the real challenges faced by humanitarian logistics team during the mission. This paper therefore, seek the opinion of humanitarian logistic team, in order to find out what are some of the challenges that may contribute significantly to inefficient to the flood relief mission.

II. LITERATURE REVIEW

Flooding is one of the common types of disasters around the world and it is the most severe natural disaster experiencing in Malaysia [15]. Despite the preparations and major effort to control and mitigate floods, it seems impossible to achieve 100% of victim's satisfaction as it is really hard to predict the risk that can emerge during the disasters. However, a great deal can be learned from the experiences of other countries to improve the current system.

Lesson to learn from Thailand (2011)

The year 2010 and 2011 were tragic years for Thailand as flooding hit different parts of Thailand such as Bangkok, Chiang Mai and Hat Yai from October 2010 towards the end of 2011 [16]. Apparently, Thailand has a flood policy, but that policy was not incapable of facing this disaster. According to [17], The National Forecasting and Warning center developed to overcome the flood are unable to completely function because no matter high standard of the design, there is always the possibility that higher floods will exceed the standard. As said by [18], the flood in 2010 and 2011 is causes by insufficient of flood prediction system, unsystematic flood fighting system, irregular facilities maintenance, and unsystematic of social and political involvement. This disaster has led to increasing of frustration and anger as Yingluck (the Prime Minister at that time) failed to overcome this problem whilst also not trying to obtain international assistance. The victims blamed the government for not taking more preventive measures and releasing confusing information [19].

Thailand's today however, is more ready to face with this disaster because they already have the Thailand Flood Sensor web. This mechanism is under Thailand Hydro Agro Informatics Institute (HAII) and they play an important role in getting the numerous rainfalls, water level and flow rate sensor [20]. Apart from that, Thailand Government also has set up a strategic flood committee for short- and long-term measures to counter with future floods.

The flood preventive measure is focus on the upstream plan (to reforestation and build new reservoirs), midstream plan (to prepare for flood plain management), downstream plan (to manage the land use plan and control the development and consider flood way to the sea), administrative aspect (to set up single command organization, with compensation regulations, data base, prediction and warning system), social aspect plan (to facilitate the understanding, acceptance and participation to the government measures [18].

Lesson from Kerala Floods (2018)

The monsoon floods in Kerala, 2018, have caused 370 casualties with over 1 million people evacuated to relief shelter. According to [21], there are a few lessons can be learned from the disasters. Firstly, effective coordination through information sharing between rescuer and decision makers can stops a disaster from becoming a crisis. Therefore, there should be a mechanism to managed large response rescuer from multiple stakeholders of various responding agencies to create an effective relief mission and avoid duplication efforts. Secondly, there is a need for systematic integration assessment to evade the dumping of unwanted relief goods into flood-affected. Lastly, as there are so many things to be accomplished during a turbulent environment, there should be a government's priority to reach out on the vulnerable and marginalized victims and survivors first. [22] emphasized on the need to plan for critical infrastructure such as airports, railway stations and others with appropriate disaster management plans to ensure they are well protected from disasters for disaster accessibility purposes. This is to ensure the transport connectivity still can be used during/after disaster.

III. METHOLOGY

This research aimed to investigate the challenges faced by humanitarian logistics team in rescuing the flood victims. To achieve the objective, a semi-structured interview with six (6) humanitarian logistics team; two from police, two from fire brigade and two from civil defense, was conducted. The objective of the interviews was to better understand on the humanitarian logistics team challenges during the flood mission.

IV. RESULT AND DISCUSSION

Based on the interview, it was noted that the challenges in humanitarian logistics are characterized within three factors which are lack of emergency response transport and equipment, vulnerability of road network and attitude of flood victims.

Challenges 1: Lack of Emergency Response Transport.

According to the respondents, they have problems with the current emergency response transport and equipment as it is not enough. This has been stated by five out of six respondents, that mention:
"The main problem during the rescue mission is lack of asset. Police has only had one boat" (respondent 1)
"There is insufficient equipment. We don't have enough safety jacket and boat" (respondent 2)

"In every rescue operation, lack of asset especially vehicle is the problem" (respondent 3)
"In every rescue operation, among the problem is lack of asset especially vehicle. Besides that, safety jacket is also limited". (respondent 4)
"The challenge during the mission to rescue the victims is lack of asset and equipment. When the flood is in big scale, APM always has problems due to lack of life jacket and boat." (respondent 5)

Challenges 2: Vulnerability in Road Networks

For the challenges of vulnerability in road network, according to the respondents, it is actually the common problems that occurred during the flood mission as flood will resulted to slope failure and also road damage. Therefore, in order to manage the problem, what can they do is by using various alternatives including use the helicopter if necessary. As helicopter will take longer time to get approval, in the meantime the humanitarian logistics team will figure out other route that can be use by lorry or boat.

Challenges 3: Attitude of Flood Victims

The attitude of flood victims is one of the challenges that delay the disaster relief processes. It is because there are some victims who are reluctance to leave or unwilling to relocate to safer places when being asked for. There are also victims that unprepared when the humanitarian logistics rescue team arrives at a place, and there are also victims that think the flood is a event that need to be enjoy.
"When there is instruction to move out from their houses, there were victims who did not want to leave their houses. There were also victims who took too long to prepare for them to leave their house because they made last minute preparation even though they have received the instruction to move earlier" (respondent 1).
"The local do not listen to the instruction given by police for not going to the flooded area. Some locals made own boat or raft just to check on the flooded area" (respondent 2).
"Some people look at flood as some kind of celebration and they did not care about any unfortunate possibility such as drowning" (respondent 3).
"There are some of the public who enjoy the flood and they did not care of the instruction from the fire brigade for not playing in the flood". (respondent 4).
"There are public who do not want to follow instruction to evacuate from their house. They give various reasons such as because of their livestock, afraid that the house will be broken into or being more comfortable at their house rather than at the flood relief center. When these happened, evacuation process becomes slow because APM has to persuade the victims to move" (respondent 5).

V. CONCLUSION

From the interview conducted, it was found that the factors that made the humanitarian logistics relief mission during flood inefficient are bound to three factors which are lack of emergency response transport and equipment,

vulnerability of road network and attitude of flood victims. These findings thus demonstrate that not all the factors to inefficient is solely because of the humanitarian logistics relief team but may come from the victims itself. Therefore, it is hope that the victims or public, not easily blame the relief team if the things not go according to plan as the relief team has try their best to ensure all the floods victims can be evacuate to safe area as soon as possible. This study thus recommend that the government can add more budget to buy more equipment and emergency transport vehicle to mitigate the issue above and educate by giving more awareness to public on the dangerous of flood to people and what should be done if they think the flood is going to be happened, without only hoping for the relief team to come and save them.

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