

International Conference on Sustainable Initiatives (ICSI 2015) in conjunction with 8th ASEAN Environmental Engineering Conference (AEEC), UTM Kuala Lumpur, Malaysia, 24-25 August 2015

DEVELOPING OF EMERGENCY EVACUATION KIT IN RESPONSE OF MALAYSIA EAST COAST FLOOD DISASTER

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SUMMARY: The flood struck East Coast of Peninsular Malaysia in December 2014 has resulted in huge natural disaster. More than 4.82 million people across four states especially Kelantan were sink flooded, resulted shut down of the area from outside traffic and delaying the rescue forces. Emergency aid has difficulties to reach the evacuation centres and victims were scattered trapped with low life support on water, food, energy and healthcare supply. Therefore, an integrated assessment of flood in the basin is important to seek for effective responses. In response to disaster vulnerability for risk reduction among society who living in flood prone, community contribution is needed in preparation of emergency evacuation kit as a part of preparedness. The survey will be conduct by distribution of questionnaire to the flood disaster victims in order to discover the most important necessities during flood situation. The results of this survey may lead to the preparation of emergency evacuation kit for use in future.

Keywords— ‘bah kuning’, preparedness, risk management, flood prone area, disaster aid.

INTRODUCTION

The recent flood disaster in East Coast of Malaysia is also known as ‘Bah Kuning’ in Kelantan has turned the table down for evacuation centre management. The mainstream media has constantly shouted out the conflict faced in evacuation centre. The government of Malaysia has developed and execute the National Security Council Order 20 on policy and mechanism of national disaster management. In this regard it has implemented on every district and state level disaster management that should operate under Standard Operating Procedures stated in this order where it has stated the roles on government branches on managing disaster affected areas. There are several items that are listed in the order about conducting and managing evacuation centres.

Despite the government efforts, there is area identified in the Order 20 on the materials needed by the disaster victims for temporary back-up emergency kit that would help the community especially the flood victims survive for temporary period before the officials from respective agencies come. During recent disaster event, some evacuation centre were experiencing immediate shortage and cut-off from foods, electricity, telecommunication line and water supply. In response to this problem, the aim of this study is to develop emergency evacuation kits based on the needs rank by the flood victims hence characterize types of assistance for immediate usage based on preliminary result obtained from questionnaire feedback of flood victims in Kampung Linau, Batu Pahat, Johor. For

preparedness, community contribution for preparing the emergency evacuation kit will be considered.

2. MATERIALS AND METHODS

This study will elucidate the relations between disaster, vulnerability and society by applying a DPSIR (Drivers, Pressure, States, Impact and Responses) approach. Vulnerability to flood disaster of Kampung Linau will be assess in stages by looking at the frequency and intensity of rainfall (drive), rise of water table in floodplain (pressure), urgency of relocation to evacuation center (state), welfare of victims towards water supply, energy source, health support and security (impact), while as output (response) emergency pack-kit will be set up based on three stages. The stages covered are vulnerability assessment, preparedness for relocation to evacuation centre and response to reduce risk

Throughout these three stages, in-depth interviews and observations will be carried out. Several questions will be posed in the form of a questionnaire to identify the impact and the community response and preparedness to flooding. The unstructured questionnaires will be use for the in-depth interviews, in which the main content was developed based on previous research by Dewi (2007). The questionnaire particularly addressed the impact of flooding by identifying the important series of events that occurred during the flooding and how the community coped with the event. Information was gathered on the perceptions of the local community with regard to the active role of institutions/organizations in terms of flood response and identifying the needs of the community for immediate flood

relief during their early stage of stays in the evacuation centre. The early survey for this set of questionnaire have been distributed to the flood victims in Kampung Linau, Batu Pahat, Johor. The results from this survey may design a concept for emergency kit for other flood victims especially in Kelantan.

Dewi A (2007) Community-based analysis of coping with urban flooding: a case study in Semarang, Indonesia. M.Sc. thesis, International Institute for Geo-Information and Earth Observation, ITC, Enschede, The Netherlands

3. RESULTS AND DISCUSSION

Based on the findings from this survey, it was expected that most flooding occur commonly during heavy rainfall. However, this is not just the only reason of flooding, it was also caused by other factors such as poor frequent maintenance of drainage system, construction activities nearby, and low ground level in the village. The awareness of villagers during flood situation also can be considered as high since they are able to identify the location of evacuation centre.

Based on the questionnaire feedback, it is expected that respondents think it is a needed to have the emergency kit as the preparedness for flood. The emergency evacuation kit is useful by providing checklists, action sheets, consumer goods and information on evacuation precaution for flood to reduce risk among community and increase preparedness level. The main things that should be included in the emergency kits are the basic needs of human being for survival such as dry food that readily for eat, mineral water, emergency call, medicine supply for 7 days and the needs to worship (pray). These items are the top most priority that should be included in the emergency kits to reduce risk among community in the evacuation centre. The concept of emergency evacuation kit will be proposed for all flood victims in future. Preparation procedure and distribution process of this kit also being consider based on its necessities either in evacuation centre or at victims home.

4. CONCLUSION

The flood occurs in Kampung Linau, Batu Pahat, Johor based on their experience on the weather changing and the condition of the river nearby. The respondent are also aware to the flood occurs and recognized the direction to evacuation centre. Due to the immediate needs of the flood victims by characterized types of assistance for immediate usage, there is a need for preparing emergency kits to the flood victims with the required consumer goods for immediate flood relief considering the duration of their stays in the evacuation centre. The concept of emergency kit for flood victims in Malaysia will be prepared based on preliminary results of the survey in Kampung Linau, Batu Pahat.

ACKNOWLEDGMENTS

The authors would like to thank Ministry of Higher Education for providing financial support through FRGS grant no. 4F688 and 4F702, TRGS grant no. 4L827 and Universiti Teknologi Malaysia for research facilities.

REFERENCE