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## RESEARCH ARTICLE

### DISASTER RISK AND EVACUATION STRATEGIES AWARENESS OF COMMUNITIES IN BORONGAN CITY: INPUTS TO BORONGAN CITY DISASTER RISK REDUCTION AGENDA

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#### ABSTRACT

Disaster consciousness is an utmost tool in the mitigation of disaster hazards, thus individual should be disaster conscious if they are to have a higher chance of surviving the onslaught of disaster. Disaster risk awareness and evacuation strategies awareness are among the most crucial areas of hazard mitigation, hence there is a need to establish these areas of awareness in the population which has been determined to be vulnerable to the harmful impact of disaster. The study aimed to determine the disaster risk and evacuation strategies awareness of the participants. It further aimed to find out whether there is significant relationship between two variables. Descriptive correlation research design was employed in the study. It was participated in by 6,086 household heads from forty-five (45) barangays of Borongan that were found to be vulnerable to specific disasters such as flooding, storm surge, earthquake, tsunami and landslide. Selection of participants was through simple random sampling using Slovin's formula based on the 2010 Census of Population and Housing conducted by the National Statistics Office (now known as Philippine Statistics Authority). Data was gathered in July, 2016 through a Likert-type survey questionnaire. The study's results established that the respondents have a very high level of risk awareness but very low level of evacuation strategies awareness. It likewise showed that the respondents' disaster risk awareness had positive negligible relationship to their evacuation strategies awareness. The findings indicated that although the participants are conscious of their vulnerabilities to the onslaught of disasters, they lack knowledge regarding the mechanisms set forth by the barangay officials through the Barangay Disaster Risk Reduction Management (BDRRM) as to the selected areas and proceedings of evacuation from the site of vulnerability to a relatively safer site. The gap which is found between disaster risk awareness and evacuation strategies awareness is such that implications point towards the assumption that although the population knows that they are in danger from the disasters they very little about where to go, what to take and what to do to minimize the hazards brought about by disaster. The study calls for a more serious, intensive and extensive dissemination of information at household level concerning the pre-disaster evacuation strategies within communities found to be vulnerable to disasters. Utilization of the tri-media and other creative means of public awareness campaigns such as road shows maybe effective means of communicating evacuation strategies to the public.

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## INTRODUCTION

The Philippines being situated along the Pacific Ring of Fire along the deep Marianas Trench and facing the world's biggest typhoon spooning area, is at the cusp of disasters. Hazards are further magnified by overwhelming poverty, making Filipinos especially vulnerable to the impact of calamities. A couple of years after Yolanda, typhoon-affected areas in Eastern and Central Visayas are still in the process of recovery. It understandable that much energy is focused on rebuilding homes and livelihoods, but this is only one aspect of disaster management. Unfortunately, disastrous events do not wait until

the slow process of recovery is completed. Often, another storm, or another natural hazard, will happen before people are fully able to handle another disaster. This compounds the effects of previous events and decreases overall resilience. The challenge is to move people to move forward with recovery, while taking the necessary steps to prepare for future hazards and possible disasters (Environmental Science for Social Change, 2015). When the warnings were issued about typhoon Ruby (December 2014), comparisons were made to Typhoon Yolanda that struck the Philippines in November 2013, in terms of the expected typhoon intensity and impact. Due to the devastation wrought by Yolanda and because the experience was still fresh in people's minds, they were more responsive to early warning and evacuation. This strengthened the concept that people's experiences tend to motivate their reaction to an

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imminent event and their willingness to plan and prepare for a similar hazard. This over-emphasis on recent events may cause people to overlook different hazards that they may not have experienced yet. Typhoon Seniang struck the Philippines on 28 December 2014. Rather than high winds, Seniang was characterized by heavy rainfall, which resulted in flooding and landslides. Unfortunately, some communities were conditioned only to respond to wind warnings and were therefore unprepared for the impact of heavy rainfall. Multiple hazards must be the focal issue in disaster preparedness. Communities must be prepared for all types of and combination of events, regardless of their previous experiences. Floods and landslides are secondary events, the latter resulting from the combined onslaught of rain and wind. Understanding these effects should arm residents to prepare for eventualities more effectively (Environmental Science for Social Change, 2015).

The City Disaster Coordinating Council (CDCC) is the primary body that oversees disaster management system. Their actions are focused on activities implemented during emergency period, involving relief distribution as well as search-and-rescue operations. Efforts on preparedness are usually given minimal attention thus making disaster management emergency-oriented and reactive in nature. Though disaster coordinating councils exist at the barangay level (BDCCs) as mandated by law, they respond only during emergencies. The DCCs at both the city and barangay levels function mostly because they are concurrent government officials rather than being DCC members. Aside from the CDCC and the BDCCs, there are no permanent positions for disaster risk management.

On the legislative aspect, most of the implemented laws related to disaster risk management (DRM) were on environmental protection such as solid waste management, regulation of fishing structures and mangrove re-vegetation. Ordinances on DRM are often non-existent. A well-inform citizenry about the concept of disasters and early warning system is most likely to cooperate knowing that these will protect them from any adverse effects of disasters. Community mobilization moves actions faster because it gives a common frame of reference, appreciation and it puts a system in place (Asian Disaster Preparedness Center, 2008).

**MATERIALS AND METHODS**

The study was conducted on July 2016 in Borongan City, Eastern Samar, Philippines. It was conducted in forty-five (45) barangays of the city that are considered by the City Disaster Risk Reduction and Management Office as vulnerable to disasters such as floods, storm surges, earthquakes, and landslides. Simple random sampling using Slovin’s formula with an error margin of 5% was employed in sample selection to obtain a total of 6,289 household heads as research participants. Likert-type survey questionnaires were used to obtain the level of awareness of respondents in terms of disaster risks and evacuation strategies in their respective barangays. Mean and percentage were employed for descriptive data presentation and Pearson Product Moment Coefficient of Correlation was utilized for correlation of disaster risk awareness level to evacuation strategies awareness of the respondents.

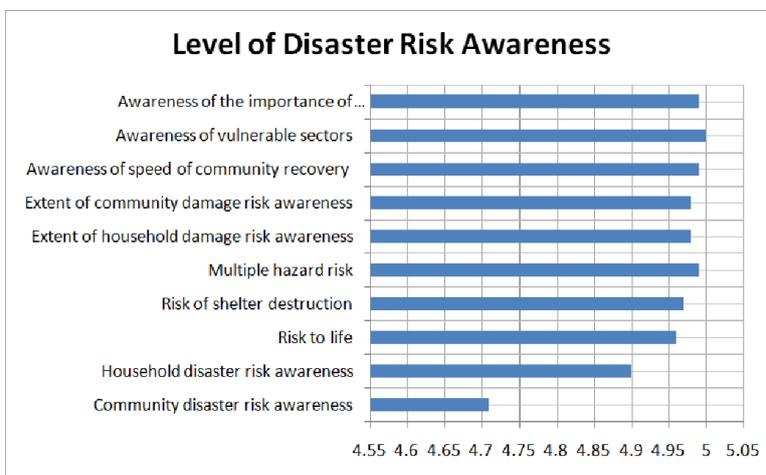


Figure 1. Disaster risk awareness of respondents

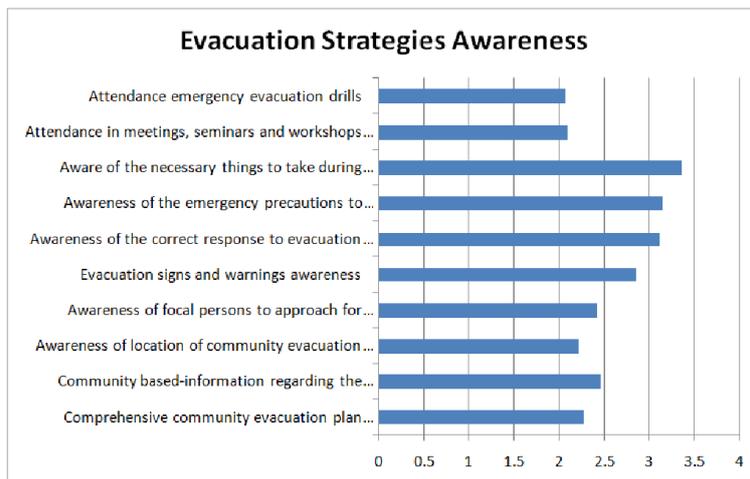


Figure 2. Evacuation strategies awareness of the respondents

## RESULTS AND DISCUSSION

The study found that there is a very high level of disaster risk awareness among the respondents, obtaining 4.95 mean awareness level in the five-point Likert scale survey on disaster risk awareness. On the other hand, the results show that the same respondents have low awareness regarding the evacuation strategies established by their respective barangays, obtaining a mean of 2.6 on the 5-point Likert scale survey on evacuation strategies awareness survey. Correlation of disaster risk and evacuation awareness of respondents shows r-value of 0.29, which is interpreted as low correlation; implying that there is a definite but small level of relationship between the variables. Figure 1 shows the disaster risk awareness of the respondents while Figure 2 presents their evacuation strategies awareness. The figure above shows that the respondents are equipped with a very high awareness of the risk they are exposed to during the onslaught of disaster. They are especially cognizant of those who are most vulnerable to the hazards of disasters, thus they may be expected to give due consideration and attention to these sectors in times of disaster emergencies. However, their awareness fall short in terms of the disasters that may befall their respective communities, implying that their vulnerabilities lie on their relative lack of knowledge about the types of disasters that they are actually at risk of being exposed. The figure above captures the state of awareness of the respondents in terms of evacuation plans and procedures that are particularly laid out and employed in their respective communities. Noteworthy is that there appears to be a limited knowledge regarding evacuation procedures due to low attendance to evacuation drills, meetings, workshops and seminars. This point towards the lack of intensive community-based information dissemination regarding evacuation practices. Also, evacuation sites are not widely known to the respondents, implying that, although they are aware of the danger of posed by the coming disaster, they are barely aware about where to go for their relative safety. Noteworthy is the respondents' moderate awareness regarding home-based pre-evacuation preparation and adequate response to early warnings, signs and emergency precautions.

The disparity between disaster risk evacuation strategies awareness shows the considerable gap between the very high community-based knowledge regarding the hazards posed by disasters and the low level of community-based evacuation strategies awareness. This calls for the need to minimize this gap in information through more extensive approaches of public awareness campaigns (1) the employment of tri-media strategies, (2) maximizing community-based information facilities such as bulletin boards and community centers as venues for meetings, workshops, seminars and drills focusing on evacuation strategies, and (3) mobilizing more creative information campaigns such as theatrical productions and road shows to encourage viewership and participation from all sectors of the community.

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