

Study on Disaster Risk Perception and Disaster Preparedness in Yangon, Myanmar

Aye Min Tun

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Yangon, the commercial capital of Myanmar, is experiencing rapid urbanization and the population of Yangon City is projected to be over 11 million by 2040. The congested houses and careless handling of electrical appliances and fuels often lead to perilous fires, with over 2,072 cases reported in the last ten years. Yangon is also vulnerable to earthquake as it is located 35 km to the west of Sagaing fault, which is the most prominent active fault in Myanmar. The last significant earthquake was the 1930 Bago earthquake with $M=7.3$, which damaged several buildings and killed 500 persons in Bago and 50 persons in Yangon. In addition, Yangon is potentially threatened by tropical cyclones like Cyclone Nargis (2008), which inflicted major damage to buildings and resulted to 1,640 casualties in Yangon. Without good understanding of how people assess risks associated with the various aspects of disasters and their preparations for disasters, well-intended policies for disaster risk reduction may be ineffective or even lead to undesired results. The main objective of this study is to understand how local people perceive risks and are prepared for fires, earthquakes, and cyclones, and to explore the influencing factors on risk perception and disaster preparedness in two wards of Pazundaung and Tamwe Townships, which are among the ten townships with the highest population in Yangon City. A questionnaire survey was conducted in the targeted wards in October 2016 with 213 respondents.

The results show that the survey respondents underestimated the probability of a future fire, earthquake, and cyclone in their area even though they feared the huge damage from these disasters. In addition, they had little knowledge of mitigation actions and little control of avoiding a huge loss from these three disasters. As to the factors influencing risk perception, past experience was related to perceived likelihood of fire and earthquake, but not of cyclone. Male gender was positively related to perceived knowledge of mitigation actions for the three disasters. Renting opposed to owning and dwelling in an apartment opposed to living in the detached homes were positively related to perception that fire and cyclone will affect quality of life. High education was positively related to perceived knowledge of fire, but negatively related to dread of fire. High income was positively related to perceived knowledge of fire and cyclone, but not of earthquake. Moreover, low income was positively related to dread of fire. Unexpectedly, it was observed that living in an apartment as well as having no earthquake experience were positively related to perceived financial loss from earthquake. Likewise, living in an apartment was positively related to threat to life due to cyclone.

As to the significant determinants of disaster preparedness, exposure to more information sources and higher sense of control were strong predictors of taking preparedness actions for the three different disasters. Past experience and higher perception of threat to life were good predictors of preparedness actions for fire, but not for earthquake and cyclone. Finally, home ownership was a strong predictor of preparedness actions for earthquake. The results of this study may provide policymakers in Yangon with some insights as to how to take individual household's characteristics into account in their disaster management plans or strategies.