

Evacuation Behavior during Floods in the Myanmar-Delta area: A Case Study of Pathein City

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Keywords: flood inundation area, evacuation facility, evacuation behavior, Myanmar

Abstract

Pathein City, in southern Myanmar, is prone to flooding during the annual rainy season. The region was severely affected during the 2015 Myanmar floods. Among the disaster prevention measures implemented by the Myanmar government, in the flood inundation assumption formulated by the Myanmar government in 2009, the flood inundation assumption at the township level still exists, but there is no evacuation behavior on the community level. The purpose of this study is to analyze the flood inundation area of Pathein City and to propose the corresponding evacuation behavior strategy. Based on the elevation of Pathein City, the condition of the river and the flooded area of 2015 Myanmar floods, a simple flood inundation area map (inundation level 1-4) was made, and the impassable road network in the flooded situation was extracted. As a result, the center city communities were not significantly affected by the flood damage, but those that are no-central communities were more damaged by inundation. In addition, based on the flooded area map and scenario simulations of flood disaster within the community, it was possible to grasp the community which can not be evacuated by each inundation level and the community that become isolated islands. Therefore, based on these different simulation results, we can identify the existing problems in local disaster prevention from the four perspectives of trunk roads, evacuation facilities, land use, and evacuation behavior, and put forward corresponding improvement proposals. At the same time, for communities that are not damaged by flooding in the simulated scenario, there is also the possibility of damaging, so it is necessary to prepare evacuation measures as soon as possible.