The adaptive capacity in flood hazards and enhancement of local knowledge among floodplain community in Beaufort district, Sabah, Malaysia

ABSTRACT

The community's ability to survive floods despite dealing with a high flood frequency is a unique phenomenon. Therefore, this article explores how the local community of the Beaufort district of Sabah deals with a high frequency of floods and the coping strategies it employs to mitigate flood hazards. This includes determining how the elements of adjustment capacity impacted the loss risks associated with flood hazards. This study uses Geospatial Information System (GIS) to analyze spatial data on flood hazards. GIS analytical techniques such as Fuzzy, Interpolation, Euclidean Distance Analysis, and Surface Analysis are employed to understand the flood risk levels in this area. In addition, a questionnaire technique as part of data analysis was used to understand the local community strategies to mitigate the risk of flood hazards. Data from the questionnaire was analyzed using cross-tabulation, average score, and chi-square test. Fuzzy analysis demonstrated that 8.33 percent, a minuscule part of Beaufort district's total area, is deemed high risk and very high risk. The high flood risk area comprises Bekalau, Bingkul, Malalugus, and Mempagar. This study discovered that the results of the mapping analysis was different from the findings of the questionnaire because the former did not take into consideration the factors of community coping capacity. Most villagers claim that the flood risk has been kept under control by their adjustment and adaptation strategies. This study thus demonstrates that the local community has adapted their survival strategy as part of disaster management in the aforementioned localities.