A Study on Integrated Community Based Flood Management with Remote Sensing Technique in Kelantan

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Abstract: Flood is a natural phenomenon that occurs in countries within the equator. Society have faced flood from far back in history thus giving them experience to adapt and survive through various flood events. Moving towards modernisation, conventional approaches have been introduced to encounter flood events technically but problem occurs when conventional approaches does not synchronise well with the local people's method especially in rural areas. This study is conducted to establish a community based flood management system that is integrated with remote sensing technique. To understand how the local knowledge exists, the demographic of the local society is obtained by using the survey approach. The local authorities are approached first to obtain the information of the society in the study areas such as the population, the gender and the tabulation of settlement. The information about age, religion, ethnic, occupation, years of experience facing flood in the area, are recorded to understand more on how the local knowledge emerge. Then geographic data is obtained such as rainfall data, land use, land elevation, river discharge data. This information is used to establish a hydrological model of flood in the study area. Analysis were made from the survey approach to understand the pattern of society and how they react to floods while the analysis of geographic data is used to analyse the water extent and damage done by the flood. The final result of this research is to produce a flood mitigation method with a community based framework in the state of Kelantan. With the flood mitigation that involves the community's understanding towards flood also the techniques to forecast heavy rainfall and flood occurrence using remote sensing, it is hope that it could reduce the casualties and damage that might cause to the society and infrastructures in the study area.

Keywords: *Flood mitigation, Local knowledge, Remote Sensing*