

Urban Flood Risk and Vulnerability Assessment in Aba Urban. A Multi-Criteria Decision Making Approach Using Geographic Information System

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Key words: Remote sensing; Spatial planning; Urban renewal; Urban Flood risk; GIS; Multi-criteria Approach

SUMMARY

This paper aims at the application of multi criteria decision making approach using GIS to analysis, assess urban flood risk, and vulnerability in Aba Urban, Abia state. A flood is an overflowing of water onto land that is normally dry and its disasters can be attributed to the unnecessary risks people take when they encroach on flood plains. The objective include to identify area prone and vulnerable to flood risk in Aba, to produce hazard , vulnerability and risk map of the area, showing levels of hazards, vulnerability and risk and to recommend proactive measures for future occurrence of flood in Aba. The data set include the political map of Aba, soil map rainfall map, digital elevation model (DEM) and satellite imagery of Aba Urban. The result include the hazard, vulnerability zonation map of Aba Urban, risk level of the area due uncontrolled urbanization of the area. From the analysis, the use of GIS multi-criteria analysis should be emphasises and recommended for urgent need to put in place measures to facilitate effective management of the anticipated floods to prevent the re-occurrence of the damage and displace inhabitant which will eventually improve the socio-economic life of people for sustainability, and improve living standard.