

Land Use Suitability Evaluation for Urban Planning Development in Umuahia Town, Abia State, Nigeria Using Geographic Information System (GIS).

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SUMMARY

Land suitability study is used to analyze the land characteristics, properties, and potentials in land use planning assessment and requirements. This research is aimed at evaluating the land use suitability for urban development projects using geographic information system. It entails the assessment of the geology, relief and soil description and its impact on the environment especially on the development project site. The objective includes the creation of database of recent development projects, evaluating the environmental impact of such project in relation to the any environmental problems that are associated with such projects upon completion. The datasets used includes satellite imagery of Umuahia, base map, digital elevation model (DEM) to obtain slope, aspect and contour, soil relief and geology map of Umuahia. The use of Geospatial system techniques such as Global Positioning System, Remote Sensing techniques to provide the projects accurate location, details and characteristics in Umuahia township. However, GIS zonal statistics single out map algebra and buffer analysis was used to measure environmental impact of these projects. The zonal map and land suitability map will assist the future planning and sustainability of development projects which will in turn aid in curbing environmental disaster in Umuahia township inherent in these projects.

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