

# Agricultural Land Suitability Study for Rice Farming in Nigeria

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**Key words:** Land management; Remote sensing; Interpolate, Localized, Transition and Suitability

## SUMMARY

Agricultural products have contributed over the years to food security and rural economic development of transition countries such as Nigeria particularly in the aspect of localized farming. The Fadama (Hausa name for irrigable, low-lying plains underlain by shallow aquifers found along major river systems) farming scheme was introduced for sustained crop yield to help Nigerian farmers but evidence of crop yield decline year to year. The Fadama concept has been an old tradition in Northern Nigeria, where flooded and land liable to flooding are used for growing a variety of crops and small-scale irrigation sites. This research was aimed at identifying land suitability at Bansara in Ogoja Local Government Area (LGA), Cross River State employing Remote Sensing and Geographical Information System (GIS). The datasets were collected on various themes including climate map, soil map and satellite dataset. Image processing and interpretation skills were used to analyze satellite dataset to produce a digital elevation model, land cover/ land use and soil map. GIS was used to produce thematic maps, weighted ranking of attribute data and it was produced in three classes of suitability land (High, Medium and Low) through weighted overlay. Results revealed that some area were found to be high suitability land of 51.54% of total area of 17,024.580 hectares, the medium suitability land is 32.30% which the total area is 10,669.32 hectares and the low suitability land is 16.15% which the total area is 5,335.47 hectares. The results also revealed the capability of GIS and remote sensing as tools to analyze, interpolate, combine and compare the spatial data for land suitability study of Bansara, Ogoja LGA.

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