

## ASSESSING THE EFFICIENCY OF THE LAND TYPE MAPPING UNIT IN AGRICULTURAL LAND USE PLANNING IN A LOW LYING TOPOGRAPHY OF AKWA IBOM STATE, NIGERIA

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### Abstract

*The efficiency of land type (LT) mapping unit in agricultural land use planning, in terms of its ability to group soils into classes based on their suitability for particular crops in Akwa Ibom State, was tested. Four LTs, previously identified in the State, namely, Esene (LT.I), Etinan (LT.II), Uyo-Ikot Ekpene (LT.III) and Alluvial (LT.IV), each covering 858, 582, 771 and 581 km<sup>2</sup>, respectively, were used. Each LT was evaluated for oil palm (*Elaeis guineensis*) and three other crops using the FAO Land Suitability Evaluation (LSE) system. The result showed that the LT was not particularly selective in terms of crop suitability. The LSE result for oil palm showed that by the parametric method, potentially, 14% of LT I, and 10% of LT IV belonged to S2 class. Also 72, 80, 57 and 80% of LT I, LT II, LT III and LT IV, respectively, belonged to S3 class while 14, 20, 43 and 10% of these respective LTs, belonged to N class. The result of CV(%) determined for each soil property in each of the four LTs, showed high variation ( $CV \geq 35\%$ ) for most of the properties in all the LTs. About 63, 62, 49 and 61% of the properties considered in LT I, LT II, LT III and LT IV respectively, had CV values between 51 and 200% in each of these LTs, indicating that the LT as a compound mapping unit could not minimize the within – map unit variance of properties. Although some variation in land suitability for some crops was observed among the four LTs, there was no clear evidence showing that the LTs were particularly selective in terms of crop suitability. Therefore, in the landscape studied, the LT mapping unit is inefficient in agricultural land use planning because of its low predictive power in terms of crop suitability.*

**Key words:** Efficiency, land type, mapping unit, agricultural land planning, Akwa Ibom State.

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