

Soil Organic Carbon Pool Assessment and Chemical Evaluation of Soils in Akure North and South Local Government Area of Ondo State

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Abstract : Aggregate soil carbon distribution and stock in the soil in the form of a carbon pool is important for soil fertility and sequestration. The amount of carbon pool and other nutrients statuses of the soil are to benefit plants, animal and the environment in the long run. This study was carried out at Akure North and South Local Government; the study area is one of the 18 Local Government Areas of Ondo State in the Southwest geo-political zone of Nigeria. The sites were divided into Map Grids and geo-referenced with Global Positioning System (GPS). Horizons were designated and morphological description carried out on the field. Pedons were characterized and classified according to USDA soil taxonomy. The local government area shares boundaries with; Ikere Local Government (LG) in the North, Ise Orun LG in the northwest, Ifedore LG in the northeast Akure South LG in the East, Ose LG in the South East, and Owo LG in the South. SOC-pool at Federal College of Agriculture topsoil horizon A2 is significantly higher than all horizons, 67.83 $\text{t}\cdot\text{ha}^{-1}$. The chemical properties of the pedons have shown that the soil is very strongly acidic to neutral reaction (4.68 – 6.73). The nutrients status of the soil topsoil A1 and A2 generally indicates that the soils have a low potential for retaining plant nutrients, and therefore call for adequate soil management.

Keywords : soil organic carbon (SOC), horizon, pedon, Akure

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