

## EVALUATION OF MOUNTAIN SOILS FOR SUSTAINABLE AGRICULTURE AND FOOD SECURITY IN NIGERIA: THE CASE OF OBUDU

**Amuyou, U. A.**

\*Department of Geography, School of Arts and Social Sciences, Federal College of Education  
Obudu-Cross River State, **NIGERIA**

&

**Kotingo, K. E.**

\*\* Department of Geography, Environment and Disaster Management  
Coventry University, **UNITED KINGDOM**

### ABSTRACT

The study investigated the fertility status of Obudu Mountain soils as an instrument for sustainable agriculture and food security in Nigeria. Data for this study were obtained from direct field measurements, topographic maps and laboratory analysis of the area. Twelve soil samples were collected from six topographic gradients (2.5, 27.5, 22.5, 17.5, 12.5 and 7.5 percentages) located within the study area. The soil samples were collected with a soil auger at depths of 0-15 and 15-30cm, parceled, labeled and taken to the laboratory for analysis of selected soil fertility parameters. The different topographic gradients were deduced from the topographic map of the area and ground-truthed with an abney level. Using international guidelines for rating soil fertility indicators, the study shows that most of the indicators were low. It is concluded that soil fertility in the area is low and this has implication for sustainable agriculture and food security in the area. Therefore, there is need for increased use of organic matter and no-till-practice to boost the soil fertility of the area.

**Keywords:** Agriculture, food security, mountain, soils, Obudu.