

NIGERIAN AGRICULTURE AND THE CHALLENGES OF THE 21ST CENTURY: NIGERIAN SOILS

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ABSTRACT

The cardinal roles of agriculture in Nigeria, her landmass, approximate hectares under different land uses, the national average cultivated land ratio per caput, soil studies, government policies on agriculture, soil constraints and problems and technologies of soil conservation and management in the 20th century were reviewed. Their implications on soil and agriculture are discussed. Nigerian soils are found to be of medium to high potentials. There is no class one soil and class two soils account for 5.5% of the total land area. Class three soils constitute 46.5% and they are of medium productivity and have a good potential for agricultural development. Over 48% fall into classes four and five and they generally have low productivity. Soil constraints and problems that militate against high crop yields are soil erosion, salinization, flooding, declining fertility, desert encroachment, mismanagement and misuse etc. Conservation and management measures include adoption of minimum tillage, crop rotation, fallowing, fertilization, mulching etc.

The expectations and approaches for the study and use of Nigerian soils in the 21st century are discussed. Some of them include establishment of soil research institutes, detailed characterization and mapping of the soils, production of land capability maps, zoning of crops based on land capability and the suitability of the soils; use of modern methods of acquiring, storing and retrieving data; proper formulation and use of inorganic and organic fertilizers etc. New technologies must be sought to handle the cultivation of the fragile soils. Irrigated agriculture and water conservation techniques should be encouraged at small to medium scale farming. Soils study should be approached from a multi-disciplinary viewpoint for sustained productivity and environmental harmony.