

Soil Resources of Saboba-Chereponi District: An Assessment for Agricultural Production

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Abstract

Evaluation of the soil of Saboba-Chereponi District for agricultural purposes was carried out in May 1999. Field visits across most parts of the District were made to examine and sample the soil at selected locations. The soil environmental conditions and physical properties were examined and samples analyzed to determine their fertility status. The soils have severe physical limitations, which render them marginal for any heavy investment in agricultural production. Most of the soils are concretionary and underlain at shallow depths by iron pan or rock. Agricultural activities in the District seem to be enhancing the exposure of these iron pans and, hence, accelerating the degradation of the soil. A close examination of the problem shows that unless effective managerial practices are put in place, this irreversible degradation of the soil will render large tracts of land uncultivable with serious implication on the livelihood of the farming community. Based on the study, recommendations were made on discouraging the use of tractors to prevent widespread exposure of iron pan and rather encourage the use of bullocks for ploughing. Crop residue, manure and fertilizer should be judiciously used to improve soil productivity, and the possibility of creating water reservoirs along the Oti river to irrigate the vast plains for rice and vegetable cultivation should be exploited.

Introduction

This study was a request by the District Director of Agriculture to assess the suitability of the soil resources of the Saboba-Chereponi District for sustained and profitable crop production. The District is located in the Upper Oti basin in the Guinea savanna zone of Ghana. Low and erratic rainfall, long dry period of 5-6 months accompanied by intense heat and sparse vegetation subjected to annual bush fires are known constraints to savanna land use. Under these conditions, the soils are susceptible to severe degradation if not properly managed. In spite of these constraints, agriculture is the major economic activity for the people of the District. The soils are extensively used for the cultivation of various crops to satisfy the needs of the inhabitants. The major arable

crops are sorghum, millet, groundnut, maize, yam and cowpea, which are grown for both income and home consumption. The commonly grown income-generating, non-arable crop is cotton.

The common farming systems are mixed cropping and crop rotation. Mixed cropping mainly involves sorghum and millet. The major rotation crops are maize-sorghum-cowpea and maize-yam-cotton. The hoe, bullock and tractor ploughing are the main methods of land preparation. There is only one farming season, which coincides with the rains from May/June to October.

Recently, farmers have observed a decline in their crop yields. This, they associated with observed changes in the physical appearance of the soil, mainly the presence of ironstone gravels and ironpan, which have been increasing over the years.

