PHYSICAL AND CHEMICAL PROPERTIES OF SALINE SOILS UNDER PADDY IN THE SOUTHERN PROVINCE OF SRI LANKA

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Studies were carried out to examine the levels and types of salinity in rice soils along the coastal strips of Matara (Kiralakele Project) and Angunakolapellessa (Batatha and Hungama).

Soils under investigation in Batatha and Hungama areas were highly compact. Bulk density of the root penetrating layers of these soils ranges from 1.6 - 2.0 g/cm^3, but ill-drained soils of Kiralakele Project showed considerable low bulk density (1.0–1.2 g/cm^3). Electrical conductivity of the water from various resources of the area varied from 3.55 to 8.56 mmhos/cm.

Clay content of the Batatha soil was 31.3% and the soil was alkaline (pH 8.1). The alkalinity increased with depth. However the electrical conductivity of the soil was low (0.74 mmhos/cm). Similar characteristics were observed in Hungama soils,except for the high concentration of water soluble salts(Cl^-, SO_4^{--} ions) and the high electrical conductivity (8.68 mmhos/cm). The electrical conductivity of the Kiralakele soil was (8.68 mmhos/cm) and the soil was acidic (pH 3.5).

Results of the analysis showed that the soils in Batatha, Hungama and Kiralakele were non-saline alkaline, saline alkaline (solonetz) and saline of Mangrove type respectively. Further investigations and experiments should be conducted, in relation to reclamation practices of these soils.