Summary

Soil resource mapping of Papanasam Panchayat Union, Thanjavur district Tamil Nadu was carried out by Soil Survey and Land Use organization, Thanjavur for the development of proper land use model. Financial assistance was provided by the State Land use Board (State Planning Commission) for carrying out the study. The study area comprises 39 revenue villages covering 14,358 ha. The climate is semi arid sub tropical monsoonic type. The mean annual precipitation is 1046.6 mm. The study area comes under riverin land form of Cauvery deltaic plain. The moisture regime is “Ustic” and soil temperature is “isohyperthermic”.

Four soil series were identified in this Panchayat Union namely, Padugai, Adhanur, Kalathur and Manamodu. In the study area 13 phases (Soil mapping units) of soil series were identified. Soil map of this Panchayat Union in the scale of 1:25,000 without losing the information is annexed with this report.

To cater the needs of various user agencies, the thematic maps such as soil drainage, soil reaction, surface soil texture, soil calcareousness, water holding capacity, land capacity, land irrigability, fertility capability and land suitability for major crops were generated through GIS in collaboration with the Regional center, NBSS & LUP, Banglore.

In Papanasam Panchayat Union, the soil depth soil erosion and soil calcareousness were not a major limiting factor for crop growth.

The texture of surface soils varies from sand to clay. Sand and loamy sand occupied 4.54%; and needs judicious application of organic manures and tank silt. Heavy clay and alkalinity problems cover only 0.6% which warrants draining improvement measures and amelioration with gypsum or iron pyrite and bulk application and organic manures. About 2.86% of the total areas have very low water holding capacity which necessitates suitable water management practices.