ABSTRACT

Detailed Soil Survey of Varavoor panchayat (2976 ha) was undertaken as part of the New Scheme “Detailed Soil Survey at Panchayat Level” to prepare an inventory of the soil and land resources of the panchayat. This report has been prepared with the objective of providing soil information system consisting of the soil type, depth, slope, erosion status, land capability class, land irrigability class, soil fertility status, soil conservation priority etc at panchayat level along with the cadastral details so as to serve as an authentic soil and land resource database for the formulation of micro level plans.

Varavoor panchayat located in Thalappilly taluk of Thrissur district extends over 2976 ha. The present wetland area of the panchayat is 367.65 ha. The garden lands cover an area of 1550.91 ha. Converted paddy lands account for an area of 118.45 ha. Paddy is the major crop in the wetland. Coconut based mixed cropping system is generally followed in the garden land. Rubber is also an important crop here.

Six soil series are identified in the panchayat of which Mulayam (196.68 ha), Kolazhy (96.40 ha) and Kizhapallikara (74.57 ha) series are found in the wetlands and Velappaya, Koottala and Kozhukully series extending over an area of 563.68 ha, 509.76 ha and 477.47 ha respectively are found in the garden lands. An area of 118.45 ha has miscellaneous soil, which are paddy land filled with soil transported from various locations for cultivation of crops other than paddy and for construction activities.

Based on the soil and land characteristics, land capability classes I1w, I1e, I1le and I1Ve and land irrigability classes 2d, 2t, 3t and 4t are identified in the panchayat. The major land capability class is I1le and the major land irrigability class 3t.
The soil management units indicating the soil series, texture, slope and erosion of the entire panchayat are described in this report along with supporting maps. The physicochemical properties including the major and micronutrient status of the soils of the panchayat are included with this report. The detailed descriptions of each management units are given with specific recommendations based on soil fertility analysis. The predominant soil texture noticed in the panchayat is gravelly sandy clay loam. Various interpretative maps are also prepared for easy understanding. The soils identified in the panchayat are classified as per the USDA Soil Taxonomic Classification System which enables information exchange and better understanding of soils.

Composite surface soil samples from every mapping unit was collected and tested for major plant nutrients and evaluation of surface soil fertility. Analysis of soil samples collected from 143 mapping units reveal that more than 95% areas exhibit medium to high available nitrogen status while around 75% areas show medium to high available phosphorus and potassium. The soil reaction status of the panchayat ranges from slightly acidic to very strongly acidic with major area falling under very strongly acidic class.

With regard to secondary nutrients and micronutrients, the sulphur content in the soil samples of all series are far above the sufficiency range. Available magnesium is adequate only in Velappaya series. Deficiency in micronutrients is noticed in the case of zinc in all soils except Kolazhy and Velappaya series and iron and copper in Kizhapallickara series. Miscellaneous soils in converted paddy lands have adequate availability of sulphur, magnesium and all micronutrients. Information on level of plant nutrients in each land parcel may be gathered from the soil fertility map.