ABSTRACT

Detailed Soil Survey of Panjal panchayat was undertaken as a 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.

Panjal panchayat located in Thalappilly taluk of Thrissur district extend over 3039 ha. Present wetland area of the panchayat is 469.22 ha which constitutes about 15.44 percent of the total geographic area of the panchayat. 132.47 ha of wetland area has already been converted for cultivation of perennial crops and construction purpose. Garden lands occupy 1809.76 ha of the panchayat. Coconut, rubber, arecanut, etc are the major crops grown in the garden lands.

Nine soil series namely Koratty, Painkulam, Wadakkanchery, Thrikkur, Anjur, Koottala, Velappaya, Kizhapallikara and Mulayam were identified of which Koratty, Painkulam, Wadakkanchery, Thrikkur, Anjur, Koottala and Velappaya series are the garden land soils identified in the panchayat and Kizhapallikara and Mulayam are the wetland series. Soils identified in the wetlands converted for miscellaneous purposes are classified as Miscellaneous soils. The land capability class encountered in the panchayat is IIw in wetland area, IIle, IIles, IVe and IVes in the garden land area and Ile in the converted wetlands. The land irrigability class observed is 2d in the wetland, 3t, 3st, 4t and 4st in garden land and 2t in the converted lands.

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 micro nutrient 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 sandy clay loam in the wetlands and gravelly clay loam in the garden
lands. 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 were collected and tested for major plant nutrients. One hundred and three samples were analyzed for evaluating surface soil fertility. Majority of samples collected from the garden lands and wetlands are medium to strongly acidic in reaction. Surface samples collected from units of majority of the wetland soils have medium to high in availability of Nitrogen and Potassium and low to medium in the availability of Phosphorus. All the soil series of the panchayat are adequate in available sulphur content and are deficient in magnesium. Painkulam, Wadakkanchery, Kizhapallikara and Mulayam series are deficient in available Zn content. Mulayam series is deficient in available copper and boron content. All the series of the panchayat have far above adequate levels of available iron. Information on level of plant nutrients in each land parcel may be gathered from the soil fertility map. The major problems encountered in the panchayat and suggestions for improvement are also included in the report.