ABSTRACT

Detailed Soil Survey of Puthenchira panchayat (2229 ha) was undertaken as a part of the New Scheme “Detailed Soil Survey at Panchayat Level” to prepare an inventory of the soil, land and water 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.

Puthenchira panchayat located in Vellangallur Block of Mukundapuram taluk in Thrissur district is extending over 2229 ha. Wetlands occupy 553.29ha which constitutes about 25 per cent of the total geographic area of the panchayat. Garden lands occupy 1136.61 ha in the panchayat. Coconut, banana, arecanut, nutmeg, tapioca and other tree crops are the major crops grown in the garden lands. An area of 131.63 ha of wetland has been converted for miscellaneous purposes like rising of temporary crops like banana or permanently converted by raising perennial crops like coconut and construction purposes.

Nine soil series are identified in the panchayat of which four series viz. Kolazhy, Konchira, Ayyanthole and Manalur are wetland series and remaining five viz Anjur, Koratty, Velappaya, Pariyaram and Kozhukulli are garden land series. Major portion of wetland area comes under Konchira series (242.49 ha) and garden land comes under Koratty series (466.52ha.). The major land capability class encountered in the panchayat was IVw in wetland area and IIe in garden land area. The major land irrigability class observed was 5d in wetland region and 2t in garden land region.

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 clay in wetlands and gravelly clay loam in gardenlands. 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. Two hundred and thirty five samples were analyzed for evaluating surface soil fertility. Of the samples collected from uplands 34% exhibited extreme acidity, 44% very strong acidity and 8% strong acidity and the rest 8% medium acidity. In the wetlands 67% of the area showed extreme acidity and 32 % very strongly acidic and only 1% medium acidity. About 54% of the converted lands of the panchayat classified under miscellaneous soils exhibit extreme acidity and the rest 46 % very strongly acidic.

Surface samples collected from majority of the mapping units have low to high availability of Nitrogen, medium to high availability of Phosphorus and low to medium availability of Potassium. All soil series of the panchayat are deficient in available sulphur except Anjur, Pariyaram and Manalur series. Available magnesium content is inadequate for all series of the panchayat except Manalur series. All soil series of the panchayat are adequate in micronutrient status except Available Boron. Status of available iron is far above adequacy for all the soils. Information on level of plant nutrients in each land parcel may be gathered from the soil fertility map.