ABSTRACT

Detailed Soil Survey of Vadanappally panchayat (1318 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.

Vadanappally panchayat located in Chavakkad taluk of Thrissur district extends over 1318 ha. At present there is no paddy land area in the panchayat. The garden lands cover an area of 895.74 ha. Converted paddy lands account for an area of 349.29 ha. Coconut based mixed cropping system is generally followed in the panchayat, coconut being the major crop.

Two types of soils viz., Punnayurkalam series (659.70 ha) and Manathala series (236.04 ha) are identified in the garden lands of the panchayat. Converted paddy lands include those converted using transported soil either for raising coconut, arecanut etc or constructing buildings (294.20 ha) and those converted using in situ soil for raising coconut on mounds (55.09 ha). Based on the characteristics of the soils, land capability classes IIes and IIIs and land irrigability classes 2st and 3s are recognized in the panchayat. The major land capability class encountered in the panchayat is IIes. The major land irrigability class observed is 2st.

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 loamy sand. 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 thirty samples collected from each mapping unit shows that around 65% of the total area of the panchayat has high nitrogen availability and low potassium availability. Available phosphorus content is high in the entire area. Majority of the soil samples tested slight to medium acidity.

All micronutrients and sulphur are adequately available in Punnayurkulam series. Except boron, all other micronutrients and sulphur are adequate in the soil samples of Manathala series. Available magnesium is deficient in both the series of the panchayat. Information on level of plant nutrients in each land parcel may be gathered from the soil fertility map.