ABSTRACT

Detailed Soil Survey of Vallachira panchayat (1019 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.

Vallachira panchayat located in Thrissur taluk of Thrissur district extends over 1019 ha. Present paddyland area of the panchayat is 124.55 ha. Paddy is the major crop here. The gardenland covers an area of 609.45 ha. Coconut, arecanut, banana etc are the major crops grown in the gardenlands. An area of 261.20 ha of paddyland has been converted for raising coconut, arecanut etc and for construction purposes.

Five soil series viz., Manalur, Velappaya, Wadakkanchery, Koottala and Koratty series are identified in the panchayat of which Manalur is wetland series and the other four are gardenland series. Soils in the converted paddylands are classified as miscellaneous soils. The major land capability class encountered in the panchayat is IIIw. The major land irrigability class observed is 3d.

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 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 the mapping units were collected and tested for major plant nutrients for evaluating surface soil fertility. In Vallachira panchayat, 75 % area exhibits medium to high available nitrogen status while 88 % area shows medium to high available phosphorus. 84 % area have low to medium potassium availability. All soils have adequate sulphur content. Available magnesium is deficient in all the soils. All the micronutrients and boron are adequate in the samples of all gardenland soils. In the wetland soil Manalur series, except manganese, other micronutrients and boron are adequate. The soil reaction status of the panchayat varies from slightly acidic to very strongly acidic. Information on level of plant nutrients in each land parcel may be gathered from the soil fertility map.