ABSTRACT

The management of a catchment area is a vital aspect in conserving water, forest and soil resources in a particular area. The catchment area selected for this study is located at Icepeella, Wellawaya shows potential interruption by people in the surrounding area through encroachments leading to depreciation. A quantitative as well as a qualitative degradation of the selected water body has already been recorded. The present study focuses on finding remedies to the current situation by using soil conservation structures on the catchment agricultural lands.

According to the experimental data of the catchment, Soil erosion is the present acute problem in the area. Sixty percent of farmlands have a slop of more than 30 % and it represents the sloping nature of lands in area. Most lands have moderately deep or shallow soils. In most cases, surface soils was clay loamy in texture and some cases it was gravelly sandy clay loam as a result of severe soil erosion. Information was collected thought field activities and questionnaires.

Using the XRF analytical instrumental method, the soil samples are analyzed to identify the various levels of soil cations in conserved and non-conserved lands in the catchment. In the case of there were analyzed exactly 20 samples from each type of lands.

To identify the weight percentages differentiate of ion Na, K, Ca and Mg of the conserved and non-conserved lands, samples were collected at 0 – 15 cm soil depth to clearly identify the runoff effect on the non -conserved lands and conserved lands separately.

The Decline of most of the cations from non-conservated agricultural land is more than from 25 % - 50 % that of conserved lands in the catchment.