PRESENT STATUS OF SOIL SALINITY OF PADDY LANDS UNDER "*SIYABALAGAMA WEWA*" IN *THABUTHTHA* AGRARIAN SERVICES DIVISION

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Soil salinity is one of the major environmental problems in command areas of minor irrigation systems in North-Western dry zone of Sri Lanka. High soil salinity negatively affects the paddy yield and deteriorates socio-economic condition of the farming community. This study was conducted in *Siyambalagama Wewa* in Thambuththa Agrarian Service area of Kurunegala District to find out the spatial distribution of soil salinity in the command area. EM-38 Electrical Conductivity (EC) meter, which is a promising method for rapid quantitative assessment of soil salinity distribution was used. Limited work has been done in Sri Lanka on the application of EM-38 EC meter for survey and mapping of salt affected rice soils. Electrical conductivity was measured in 12.5 m x 12.5 m grids in two different depths of 0-37.5 cm and 0-75 cm, respectively. Farmers who cultivate paddy under irrigation system were interviewed to collect historical, socio-economic and yield data. It was found that the soil EC values in the command area range from 1.00 to 5.46 dsm^{-1}. Relatively high salinity levels were reported in the middle part of the command area when compared to the salinity levels of head and tail ends and reason may be the existing poor drainage conditions. However, only about 6% of the total land extent was identified as salt affected. EC of soils in the rest of the area was less than 2 dsm^{-1} which is tolerable for paddy cultivation. It was found that the existing drainage system is not properly maintained and the drainage water has been reused at the tail end. Although, farmers often complain about low rice yield it cannot be attributed to soil salinity, may be due to other factors such as low soil fertility and inadequacy of irrigation water.

Key words: Electrical conductivity, Salinity, Saturated extract