

# Mapping of soil problematic paddy fields of Matara district

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## *Abstract*

An extensive field survey was conducted to map soil problematic paddy fields in Matara district. Information related to the study area was collected from the Divisional Secretariat (DS) office at Matara. Global Positioning System (GPS) locations were taken at the paddy lands in the study area. 146 soil samples were collected from 103 GramaNiladhari (GN) divisions of the study area at a depth of 0-20 cm, and GPS locations were recorded. Further pH, Electrical Conductivity (EC) and temperature of water were recorded at 89 water logged sites and GPS locations were recorded. A developed software based on Visual Basic 6.0 (Temp.corr) was used to correct pH and EC values using temperature correction factor. ArcView GIS 3.2a software was used for the spatial analysis and mapping. Based on the results, problematic soil was found in area of paddy lands of 1495.74ha in Matara district. Soil pH was ranges from 3.96 to 7.9. Soil EC<sub>(1:5)</sub> ranges from 0 to 2mS/cm. 117.8ha of paddy land are affected by soil salinity. Water pH was ranged from 3.25 to 8.37. Acidic water was found in 874.57ha of paddy lands. Water EC was ranges from 0 to 2mS/cm. 473.11ha of paddy lands are affected by water salinity. The highest pH and EC values were recorded in the soil and water samples obtained from paddy lands near the sea.