

## LAND SUITABILITY EVALUATION OF BLOCK IV OF THE *UMA OYA* IRRIGATION PROJECT

D.M.S.A Dissanayake<sup>1</sup>, G.R.S Karunaratna<sup>2</sup> and D.M.S. Duminda<sup>1</sup>

<sup>1</sup>*Dept. of Soil and Water Resources Management, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura, Sri Lanka.*

<sup>2</sup>*Land Use Division, Dept. of Irrigation, Colombo 07, Sri Lanka.*

The land suitability research was conducted at block IV of *Uma Oya*, close to *Wellawaya* of *Uva* Province. Major soil physical and chemical properties were determined using soil profiles and laboratory analysis. Land suitability evaluation was carried out using FAO Framework by giving special attention to soil fertility and drainage parameters.

A detailed medium intensity soil survey was conducted by using engineering survey sheets (1:2000) as base material in the study area. The soils were recognized at series level namely *Walawe*, *Ranna*, *Mahagal Ara*, *Moraketiya* and *Kachchigal Ara*. The soils of upper catena levels were identified as Reddish Brown Earths while bottom of the catena as Alluvials. The land characteristics data tables for every land unit were prepared using soil and meteorological data. By comparing the land characteristic data of soil units and the crop requirement data of different crops, overall land suitability classes for each crop were estimated. GIS software (ILWIS) was used to prepare the soil map.

Ground nut was the most popular crop while maize, paddy, mung bean, cowpea, black gram have been cultivated by farmers. The results revealed that land productivity can be improved by following appropriate crop recommendations, introducing crops like soybean, sugar cane and by implementing appropriate land management practices. Major threat for the farming practices was wild elephants.

**Key words:** Crop recommendation, Crop requirement, Land suitability, Soil properties, Soil series