

Classification and Mapping of Rice Growing Soils in Tirupati Division of Chittoor District of Andhra Pradesh Using *ArcGIS*

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ABSTRACT

The scientific inventory involving detailed characterization of land resource base and ensuing classification are momentous in deciding the productive potential of soils for various land use. Similar soils with known soil characteristics proxy suitable crops could be propounded for scientific management of land, water and other input resources. Ten typical pedons representing rice growing soils of Tirupati division were studied for morphology, physical, physico-chemical properties and classified the soils based on keys to soil taxonomy and further mapping was done by using *ArcGIS ver. 10*. The soils of pedons 2 and 5 were classified under Typic Haplustepts with the extent of 4624 ha representing 14.0 per cent of study area. The pedons 3 and 6 were classified under Typic Haplustalfs with the extent of 6721 ha representing 20.3 per cent. The soils of pedons 8, 9 and 10 were classified under Typic Endoaquepts with the extent of 13172 ha representing 39.7 per cent. The soils of pedon 1, 4 and 7 were classified under Vertic Haplustepts, Typic Natraqualfs and Typic Ustorthents with the extent of 2404ha, 2716 ha and 3507 ha representing 7.3, 8.2, and 10.5 per cent of rice growing soils, respectively.

Keywords: *Characterization, Classification and Mapping and Geographic information system.*