

A STUDY ON SEDIMENT YIELD OF NAGARJUNA SAGAR RESERVOIR USING GEOSPATIAL TECHNOLOGY

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ABSTRACT

Sedimentation in reservoirs is due to the soil erosion occurring over the catchment area due to various factors like runoff, wind etc. Soil Erosion is a major problem throughout the world and most of soil erosion problem is in areas of agricultural activity where erosion not only leads to decreased agricultural productivity but also reduces water availability. Studies on soil erosion can be conducted using Universal Soil Loss Equations (USLE) and Geo-Spatial technologies. In the present study an attempt has been made to assess the annual soil loss in Upper Nagarjuna Sagar watershed using various factors Viz., Rainfall Erosivity factor (R), Soil Erodibility factor(K), Slope factors(LS), Crop management factor (C), Conservation practices factor (P) etc. The soil loss in the study area is estimated to be 79.735ton/ha/yr and the siltation volume in the Nagarjuna Sagar reservoir is estimated as 4.278 M ton/yr.

KEYWORDS: Universal Soil Loss Equation, Rainfall Erosivity Factor, Soil Erodibility Factor, Slope Factors, Crop Management Factor, Sediment Deposit

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