

Erosion Susceptibility Zoning and Prioritization of Micro-Watersheds: A Remote Sensing-Gis Based Study of Asan River Basin, Western Doon Valley, India

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Abstract : The present study highlights the estimation of soil loss and identification of critical area for implementation of best management practice is central to the success of soil conservation programme. The quantification of morphometric and Universal Soil Loss Equation (USLE) factors using remote sensing and GIS for prioritization of micro-watersheds in Asan River catchment, western Doon valley at foothills of Siwalik ranges in the Dehradun districts of Uttarakhand, India. The watershed has classified as a dendritic pattern with sixth order stream. The area is classified into very high, high, moderately high, medium and low susceptibility zones. High to very high erosion zone exists in the urban area and agricultural land. Average annual soil loss of 64 tons/ha/year has been estimated for the watershed. The optimum management practices proposed for micro-watersheds of Asan River basin are; afforestation, contour bunding suitable sites for water harvesting structure as check dam and soil conservation, agronomical measure and bench terrace.

Keywords : erosion susceptibility zones, morphometric characteristics, prioritization, remote sensing and GIS, universal soil loss equation

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