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Determination of Erosion Proneness of WR-2 Watershed using Hypsometric Analysis

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Abstract

Hypsometric analysis of an over exploited watershed (WR-2), situated in a basaltic terrain of Amravati district, Maharashtra has been carried out to determine its vulnerability to erosion and prioritize it for treatment. The WR-2 watershed has been divided into Zari, Chudamani, Shakti, Dhawagiri and Kobi sub-watersheds. The hypsometric integral (H_{si}) values by elevation-relief ratio method are more accurate and easy to calculate within GIS environment. The H_{si} values of these sub-watersheds vary between 0.23 and 0.29, as calculated by elevation relief-ratio method and 0.23 to 0.26 by integration method. All the sub-watersheds are in monadnock (old) stage and H_{si} values of > 0.3 indicate that the watersheds are fully stabilized. The sub-watershed wise priority for the construction of artificial recharge and erosion control structures has been determined based on this study.

Keywords: WR-2 watershed, Hypsometric integral analysis, Erosion proneness, Amravati, India.