

GEOMORPHOMETRI ANALYSIS AND PRIORITIZATION OF SUB CATCHMENTS OF SAVITRI BASIN IN KONKAN REGION OF MAHARASHTRA, INDIA USING GIS TECHNIQUE

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ABSTRACT

Hydomorphometric is the basic properties of the river catchment, which help to identified hydrologic response (runoff and sediment) from catchment and their management on watershed basis and estimation is basic for any watershed management programme. Remote Sensing (RS) and Geographic Information System (GIS) are most appropriate, cost effective and quick technique for estimation of hydromorphometric properties over traditional methods. In Present study, linear, aerial and relief hydromorphometric properties were estimated using ASTERGEOM DEM data in GIS environment using ARC GIS 10.1 software and prioritized the Savitri basin of Konkan region of Maharashtra. The Savitri basin has total of 994 Sq Km. It has four sub catchments viz Ganhdari, Savitri, Kal and Bhaovira with runoff contributing area of each 137, 354, 332 and 47 Sq Km respectively. The time series analysis of rainfall and stream discharge from 1992 to 2011 was in increasing trends. The time of concentration of runoff of the Savitri basin was 6.7 hr for stream length of 57 Km. The drainage pattern was dendrites with VIIth highest drainage order. The drainage density is high and texture is observed as course in nature. The relief of the basin is high to moderate. The basin was found to be highly runoff producing and moderate recharge capacity. The hypsometric analysis of basin indicates basin is mature in erosion process.

KEYWORDS: Aerial, Bifurcation Ratio, Drainage, Hypsometric, Relief