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**Watershed Prioritization of Upper Mula-Mutha Catchment,
Maharashtra, India Using RS-GIS Techniques**



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Watershed prioritization is important in providing guidelines for natural resources management, especially in the context of watershed management. Delineation of watersheds within a large drainage basin in a hard rock terrain and their prioritization is required for proper ridge to valley planning as well as management of natural resources for sustainable development.

The present study attempted to analyze various morphological characteristics using Remote Sensing and Geographical Information System (RS-GIS) techniques for prioritization of watersheds of Mula-Mutha upper catchment, Maharashtra, India. The validation of the result of prioritized watersheds was performed based on thematic layers of geomorphology, slope and land use land cover. The morphometric characterization of watershed plays vital role in distinguishing the topographical and hydrological behavior of the watershed. Each morphometric parameter was ranked according to the value obtained and finally watershed priority values were divided into three categories (high, medium and low priority). On the basis of morphometric analysis the values ranging from 9.83 – 11.13 fall in the high priority, 11.13 – 13.031 fall in moderate priority and 13.03 – 14.91 in the low priority.

As per this classification, the high priority is indicated by seven watersheds namely Andhale, Dhangarwadi, Bhode, Nigade, Rajne, Atkarwadi and Dhenewadi. The high priority of these watersheds was validated and it has been observed that the slope, geomorphology and land use land cover thematic maps are supporting the results.

Keywords: Morphometry, watershed prioritization, RS-GIS, Mula-Mutha, Maharashtra, India.

