
Prioritization of Erai River Sub-Basin Using Remote Sensing and GIS Techniques

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Abstract

Erai river is one of the major tributaries of Wardha River in central India which palace on the sedimentary landscape. The Erai river basin is divided into four sub-watersheds viz. EWL-I, EWL-II, EWR-I and EWR-II. Quantitative approach of watershed development of the Erai river basin and its four sub-watersheds was carried out using Survey of India Topographical Sheets No. 55P/3, 55P/4, 55P/7 and 55P/8. Geologically, the area is covered with Kamthi and Barakar sandstones, shale and quartzite. The geomorphological study reveals that there are mostly pediments in the central and northern part of the study area as well as highly dissected plateau in eastern part, pediplains. Based on the morphometry and weightage assigned, the sub-watersheds have been grouped into three categories, as per priority needs, high priority, medium priority and low priority. EWL-1 and EWR-1 shows low priority, EWR-2 shows high priority and EWL-2 shows medium priority. It is proposed that high-priority sub-watersheds may be taken up for development and management to conserve natural resources on sustainable basis that will ultimately lead to soil and water conservation in the study area.

Keywords: Prioritization, Erai River, Sedimentary landscape, Remote Sensing and GIS