**Sustainable Water Resource Development Plan preparation using Geospatial approaches**

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**Abstract**

Water is the natural resource which is facing the problems of scarcity, overexploitation and mismanagement. So the time has come to prioritise the needs and actions to be taken for water conservation and management. And watershed is the best approach in terms of executing development plans to provide the better management and development of an area. Watershed management directs the ways to cover the whole area for development alongwith uplifting the standards of living beings. The watershed analysis encompasses the conservation of land and water resources at a large scale with planning and monitoring the sustainability of natural resources, in return results in rural reinforcement and development. In the present study, the water resource development plans has been prepared using satellite data of LISS IV considering the various criterion and thematic layers. The Water resource development plans (WRDP) is prepared using the weighted overlay method. For WRDP, the various GIS thematic layers has been chosen as criteria for identification of different water conservation zones i.e. gully plugs, nala bunds, contour trenching etc. The conservation structure zoning provides the better use of natural resources and conserving both soil and water resources.

Keywords: watershed, weighted overlay analysis

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