Flood Modelling and Water Harvesting Plan for Paravanar Basin

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Abstract: Water is one of the most important resources on this planet. Almost half a billion people live in countries where water is scarce. To overcome this situation, Water harvesting is the only solution. In this project, the plan for water harvesting in a sub-basin is developed with the assistance of HEC-HMS model and Remote Sensing and GIS techniques.HEC-HMS is a conceptual and semi-distributed model designed to simulate the rainfall-runoff processes in a wide range of geographic areas such as large river basin to small urban and natural watershed runoff..The objectives of this study are to carry out the flood modeling using HEC-HMS and also to develop flood water harvesting plan using GIS. This is an attempt, made to identifyfavorable zones for the application and adaptation of site specific artificial recharge techniques for the augmentation of groundwater through a Geographical Information System (GIS) based hydro-geomorphic approach in a Sub-basin. An extreme event for the year 2015, flood was simulated in the HEC-HMS model and the runoff potential map was arrived, which can be used for the development of rainwater harvesting plan. The harvesting plan is finally created using Remote Sensing and GIS Techniques. The study area chosen is Paravanar basin of Cuddalore district, Tamilnadu, India.
Key words: Flood modelling, HEC-HMS, GIS, Water harvesting plan.

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