

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

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Project Report on

“WATER RESOURCE MANAGEMENT AT MINI WATERSHED LEVEL”

– A case study of Kerekottiganuru Mini watershed at Kumudvathy, River Sub Basin, Shivagange (4B3B8Q1).

Submitted in Partial fulfillment of the requirement for the Award

BACHELOR OF ENGINEERING IN CIVIL ENGINEERING

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ABSTRACT

Water is a life. Water is necessary for domestic, agricultural and industrial purposes. Water shortage has become a problem all over the world. Access to safe, dependable and sustainable water supply and sanitation facilities is a basic need and a human right. Water resource problem has resulted due to a mixture of climatic change and poor resource management.

In this project, an attempt to address the same issue, but at the mini watershed level is made. The main objective of project is to generate an action plan to rejuvenate the water resource at mini watershed level. The mini watershed chosen for our study is kerekottiganuru watershed (4B3B8Q1) located at shivagange, nelamangala (Taluk), Bangalore Rural. This mini watershed located between 13°8'36"N to 13° 12' 11"N and 77°13'14"E to 77°17'11"E.

A reconnaissance survey was conducted to identify the general features of the mini watershed. The latitude and longitude positions of various water bodies were noted. Thematic maps were generated by integrating satellite data and ground data with the help of remote sensing and geographical information system applications. With the help of soil maps and land use/land cover maps, the soils were classified. The antecedent moisture content with respect to the soil category was assigned. Using the soil conservation service curve number model (SCS-CN), the total volume of runoff is calculated.

Based on all above the results, an action plan has been proposed, by which the water resource at mini watershed can be rejuvenated. If similar action plan is implemented to the surrounding areas covering the kumudwathi river sub basin then the required runoff on the river sub basin is possible.