

## ROLE OF WATER BODIES IN MITIGATING URBAN FLOODS: A CASE STUDY IN MYSURU CITY

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### ABSTRACT

Urbanization poses numerous challenges to city administrators, planners and policy makers, of which urban floods are becoming increasingly a major challenge. Certainly due to such unexpected floods there are records of loss of lives, shelter and many more damages that are unique to a particular floodplain and flood type. Many low laying areas in Mysuru City such as, Srirampura are frequently suffering from urban floods. Hence a study on urban floods has been taken up in Srirampura 2nd stage of Mysuru City. The main drain existing in the locality frequently overflows leading to flooding in the nearby areas. The study included collection and analysis of rainfall data from Karnataka State Natural Disaster Monitoring Centre (KSNDMC) and District Statistical Office Mysuru, field data and satellite images from United States Geographic Survey (USGS) website. The study reveals that flooding occurs only when the rainfall intensity exceeds 20mm/hour. The analysis in the present study indicates that the construction of large water body with the available land (4.6 acres) to a depth of 4.4m can mitigate flood up to a rainfall intensity of 32mm/hour or 170 mm rainfall in a day (The maximum daily rainfall recorded in the last three decades in that area). The construction of such water body not only helps in mitigating floods but also helps in improving ground water recharge and moderating microclimate in the surrounding areas.

**KEYWORDS:** ArcGIS, Kirpich, KSNDMC, Rational, USGS, Urban Flood

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### Article History

**Received: 15 Sep 2020 / Revised: 24 Sep 2020 / Accepted: 09 Oct 2020**

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