

Development of 1D Hydraulic Model to assess urban flood: A case study of Purna River

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Flood is the natural disaster which occurs as a result of extreme rainfall runoff event. In this study 1 D model of Purna River is performed using HEC-RAS. The Purna River passess through densely populated Navsari city which is more vulnerable to flood. In this study, cross-section and past observed flood data have been used to develop 1-D integrated hydraulic model of Purna River. The flow computations are carried out for Past flood events of 1968, 2004 and 2013 respectively. To developed 1D model of Navsari city 289 cross-sections on main river and 19 cross-section on tributary were taken into consideration. The result shows that selected study area is more affected by flood. To avoid the lossess due flood it is recommended to increase height of embankment along study reach to prevent flooding of adjoining areas.

Keywords: *Hydraulic Model, Purna River, HEC-RAS, Navsari city*