



Analysis and Mapping of Flood Line and Flood Zones within the Godavari River in Nasik Municipal Corporation

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Abstract

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the Godavari River in Nasik(Municipal Corporation Area)

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A flood is an overflow or accumulation of an expanse of water that submerges land when the discharge of a river can not be accommodated within the margins of its normal channel so that water spreads over adjoining area and creates havoc.

Problem:

Since last few years there has been a sudden increase in rainfall,quite intense during a certain period in monsoon,as a result of which the discharge in river Godavari increases and creates problems in low lying areas on the banks of river Godavari like: submergence of houses,major loss of lives,management failure(due to unexpected dimension of floods)and the disruption of normal life.

This paper attempts to analyse and draw an average flood zone and sudden flood zone on the basis of :

- 1) Actual field work and survey with the help of Dumpy level and GPS
- 2) Field interviews of affected people
- 3) Data available from Meteorological and Irrigation department

Among several districts that have flourished in the soils of Indian subcontinent the name of Nashik has drawn the attention of people all over the world. Geographical location of Nashik is 20° 01' to 20° 02' North and 73° 30' to 73° 50' East. Nashik city is situated on the banks of river Godavari and tributaries namely Nasardi, Waghadhi, Darna and Walvadi.The total area of Nasik is 264.23 Sq.km (102 Sq.mt) and height from M.S.L is 3284 feet (1001 Mt).

River Godavari originates in Western mountain range and flows towards East up to Bay of Bengal. On the upstream of Nasik city dams like Gangapur, Darna, Alandi, Kasyapi and Gautami-Godavari are constructed on river Godavari and its tributaries. Gangapur dam is the nearest storage dam constructed 15km away from Nasik city at source area in the year 1965. Due to moderation of floods and construction of dam there is encroachment in low lying areas of the river. If the discharge from Gangapur dam crosses 25000 cusecs then the flow affects low lying areas during recurring floods causing difficulty in rescue and evacuation operations. Heavy rains in 2005, 2006, 2007, 2008 and 2009 have created problems in the Municipal area of Nasik city due to large discharge which was around 35000, 18000,29000,42000,33000 cusecs respectively. Though the discharge is low than the discharge of 1976 which was around 48000 cusecs, thousands of people living in low lying area of the river are

shifted each year as many houses are under water at least once in a year.

In this paper an attempt has been made to trace the factors responsible for creating sudden flood situation in the areas of Nasik Municipal Corporation and to divide the river channel into two zones namely:

- a) Average Flood Zone
- b) Sudden Flood Zone