

Urban Watershed Modelling-A Comparative Study

(A Case Study of Nazafgarh Drainage Basin)

M. K. Shukla

ABSTRACT

The movement of people from rural to urban centres or cities is called urbanisation. Urbanisation has been taking place at a very fast rate since early eighteenth century after the industrial revolution. In India also the urbanisation in major urban centres is progressing very fast. The present study area, the Nazafgarh drainage basin in the city of Delhi, the national capital is also experiencing urbanisation at a very fast rate. It is found during study from the published literature that the population of Delhi has gone up from almost 40 lakh to nearly 90 lakh during 1971 to 1991. With this massive increase in population a large part of fertile land has turned impervious for various uses such as residential buildings, roads, railway lines, airport etc. This changed land use practice has changed the hydrological scenario of the Delhi. In this study the land use pattern for year 1972 has been found using the topographic map of Delhi. The land use for 1989 was found out using the spot photograph and IRS imagery. The increase in runoff depth has been found using SCS model, the runoff peak and time to peak are found using SCS synthetic hydrograph and S hydrograph method. The possible depth of runoff, peak discharge and time to peak to be handled in year 2000 have also been found out in this study taking certain assumptions.

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