

Rainfall analysis of the Kathmandu Valley

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ABSTRACT:

The daily average rainfall data from 1971 to 2000 of 14 raingauge stations in the Kathmandu Valley were used for rainfall analysis. Annual average rainfall of the valley is found to be 1755 mm. However, the rainfall in the hilly areas is found almost double to the rainfall in the valley floor. About 80% of the annual rainfall is found to be occurred in the monsoon season. No significant trend is seen in the rainfall in the valley over the last 30 years.

Rainfall at various return periods were also estimated assuming the total rainfall occurred in the valley follows the normal distribution. Availability of water in the valley has been quantified based on frequency analysis. Volume of rainfall occurred in the valley in an average rainfall year is about 3200 MLD. Out of this, rainfall of 1753 MLD occurs only in the hilly area of the valley. This analysis found that the possibility of having rainfall more than 2250 MLD in any year in the valley is 99%. It implies that if we manage the water resources of the valley properly, water available in the valley is quite enough to fulfill the water demand of the valley.

Key words: rainfall, frequency analysis, return period, Kathmandu Valley
