

Monthly low flow analysis of Melamchi Basin and issues of urban water supply in Kathmandu Valley for the month of March

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ABSTRACT:

The existing water supply situation in Kathmandu Valley is insufficient to fulfill the water demand, which is the burning issue of Kathmandu. Surface and ground water production within the valley has failed to meet the demand. To solve this problem the Government of Nepal has been implementing the Melamchi Diversion Scheme.

This paper discusses the water demand and supply scenario for the period of 1995 to 2021 before as well as after the completion of Melamchi Project. Analyses of low flow data of Melamchi River for the month of March at Helambu for the period of 1977–2002 shows the monthly low flow for 20 years return period at Riberma is $1.93 \text{ m}^3\text{s}^{-1}$. After releasing 10% to the downstream riparian right the water potential of Melamchi during March will be 150 MLD which is 20 MLD less than that predicted by the Melamchi Water Supply Development Board. Besides present study reveals that, after completion of Melamchi project on 2010, the deficit of water will be 105.6 MLD and 204.0 MLD by the year 2016 and 2021 respectively.

Keywords: Return period, water demand, riparian release, low flow
