

DEVELOPMENT OF RIVER BANK FILTRATION (RBF) SYSTEMS IN UTTARAKHAND

The quantity and qualities are two major hurdles in providing sufficient and safe drinking water to mass population of the State. Also, the methods currently being employed for providing potable water based on surface water abstraction, offer temporary solution.

With the above background, the project “Development of Riverbank Filtration (RBF) in Hill Regions for Sustainable Solution for Quality and Quantity Problems of Drinking Water in Uttarakhand”, funded by the “Water Technology Initiative Programme” of the Department of Science and Technology, Government of India, New, which was coordinated by Uttarakhand State Council for Science and Technology (UCOST), Dehradun and executed by Uttarakhand Jal Sansthan (UJS), Dehradun, in order to investigate the efficiency of using RBF as an alternative to direct surface water abstraction for drinking water production in the towns of Satpuli, Srinagar, Agastyamuni and Karnaprayag. Within the framework of this project, one production well for drinking water and one monitoring well were constructed each in Satpuli, Srinagar, Karnaprayag and Agastyamuni by the rivers East Nayar, Alaknanda and Mandakini. Nearly 100% of the drinking water supply to the town of Satpuli was supplied through RBF, thereby completely replacing the existing surface water based production. RBF accounted for nearly 18 – 20% of the drinking water production in Srinagar.

In brief, the investigations carried out show that the abstracted water, after minimal post-treatment of disinfection by chlorination, meets the drinking water quality standards of BIS. The investigations at the five sites have shown that suitable hydrogeological conditions exists for RBF in the hills, the main advantage lies in removal of pathogens and turbidity, especially during the monsoon, RBF sites, if properly sited and designed are better as compared to conventional surface water abstraction and treatment and Significant scope for replication of RBF in Uttarakhand exists.

Through the interventions of RBF project of WTI/DST, the RBF technique has been widely recognized and appreciated at Central Govt. as well as States levels. Ministry of Rural Water Supply and Sanitation, Govt. of India has recommended to various states for implementation of RBF for drinking water supply. In this regard, PHED/ departments of drinking water supply of various states including Tamilnadu, West Bengal, Jharkhand etc. have visited RBF sites of Uttarakhand to explore and learn about the knowhow of the technique. This nationwide popularization of RBF has been made possible by the WTI/ DST’s support through which different states got familiarized with RBF system and are now in the process of installing RBF driven drinking water schemes for public supply in their states. The horizon of RBF has now extended for supplying water in better qualitative and quantitative manners in sustainable way in difficult hilly terrains of Uttarakhand State.

R & D Achievements

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