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Hydrochemistry, ground water geophysics and water supply position in Bin Block, Pithoragarh District, Uttarakhand

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A detailed study was undertaken in Bin block, Pithoragarh district in eastern Kumaun Himalaya to know the groundwater chemistry, groundwater physics and urban water supply position in about 160 km² area including Pithoragarh town, the district head quarter. Hydrochemical studies included analyzing both the major elements and heavy metals from representative springs and India Mark-II hand pumps. Ten Vertical Electric Soundings (VES) with half electrode separation (AB/2) varying from 150 to 600 m were carried out to know the promising zones of groundwater occurrence. Preliminary quantitative interpretations of VES curves were attempted by using two-layer master and auxiliary curves. An attempt was made to analyze the present urban water supply position in and around Pithoragarh Township based on the data of state government agencies. Keeping in view the increasing gap of demand versus supply, it is suggested to augment the existing water supply schemes in order to gainfully utilize the surface water and groundwater resources in the study area. It has been estimated that about 83% coverage of a sustainable water supply scheme for every household in the area is achievable by the year 2016. A holistic groundwater management plan needs to be implemented for this hilly terrain with concerted effort from the water user groups, district planners, administrators and the local populace. Participatory groundwater management is the key factor for developing a scientific and holistic policy in Bin block, Pithoragarh district.

Biography

Debasish Bagchi is presently working in Central Ground Water Board, Uttaranchal Region, Dehradun, the national apex organization under the Ministry of Water Resources, Government of India. He has obtained his MSc degree from University of Calcutta. His work of interest includes groundwater management studies, remote sensing and GIS applications in the field of groundwater hydrology, artificial recharge and rain water harvesting, feasibility surveys for construction of tube wells in both soft and hard rock areas. He has authored more than twenty papers and technical reports and is a member of some prominent scientific societies in India.

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