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# Assessment of groundwater arsenic contamination and associated health risks in village people of Darbhanga district of Bihar, India

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Environmental pollution is one of the most serious problems in present times. In India, groundwater arsenic contamination has been observed in the entire Gangetic basin. In Bihar 16 districts were affected with the arsenic poisoning which has caused severe health related problems in the rural population. The present study deals with the groundwater arsenic assessment in the villages of Darbhanga district of Bihar along with the health risks in these populations. Assessment of groundwater arsenic contamination and associated health-risks in the four villages of two different blocks of Darbhanga districts in North Bihar, India was undertaken. Paghari and Habidih-East are the two villages under Baheri block and Parri and Bairampur are the two villages under Biraul block of Darbhanga districts. Altogether 48 groundwater samples (12 samples from each village) were collected from hand tube wells (HTW) and were analyzed by field test kit (FTK) for primary confirmation while final confirmation was done through Graphite Furnace-Atomic Absorption Spectrophotometer (GF-AAS). Results revealed that maximum contamination of arsenic in the groundwater was found to be 911 µg per liter in Paghari village of Baheri block, similarly high incidence of cancer was also observed in the same village. Although all the four villages showed significant increased levels of arsenic in the groundwater which is much higher than the World Health Organization (WHO) permissible limits of groundwater i.e., 10 µg/l. Thus, from the entire study it can be concluded that arsenic contamination in groundwater has led to severe health related problem including cancer in these villages.

## Biography

Abhinav has completed his MSc Biotechnology from L.N. Mithila University, Bihar. He was awarded with Gold Medal in Post Graduate course (MSc Biotechnology). He has 1.5 year of Post-Graduate teaching and 2.5 years of research experience in the field of Environmental Biotechnology. He was awarded with INSPIRE Fellowship by Department of Science and Technology, Government of India. He is currently working as a Junior Research Fellow (JRF-INSPIRE) and purusing his PhD under supervision of Dr. Shishir K Verma, L. N. Mithila University, Darbhanga-Bihar (India) and Co-supervision of Dr. Arun Kumar, Scientist- I, Mahavir Cancer Institute and Research Centre, Patna-Bihar (India).

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