

# **An Eight-year Study Report on Arsenic Contamination of Groundwater and Health Effects in Eruani Village, Bangladesh and an Approach for its Mitigation**

**Sad Ahamed<sup>1</sup>, Mrinal Kumar Sengupta<sup>1</sup>, Subhas Chandra Mukherjee<sup>2</sup>, Shyamapada Pati<sup>3</sup>, Amitava Mukherjee<sup>1</sup>, Mohammad Mahmudur Rahman<sup>1</sup>, M. Amir Hossain<sup>1</sup>, Bhaskar Das<sup>1</sup>, Bishwajit Nayak<sup>1</sup>, Arup Pal<sup>1</sup>, Abu Zafar<sup>4</sup>, Saiful Kabir<sup>4</sup>, Selina Akhter Banu<sup>4</sup>, Salim Morshed<sup>4</sup>, Tanzima Islam<sup>4</sup>, M. Mahmuder Rahman<sup>4</sup>, Quazi Quamruzzaman<sup>4</sup>, and Dipankar Chakraborti<sup>1</sup>**

*<sup>1</sup>School of Environmental Studies, Jadavpur University, Kolkata, West Bengal, India, <sup>2</sup>Department of Neurology, Medical College, Kolkata, <sup>3</sup>Department of Obstetrics and Gynecology, Institute of Post Graduate Medical Education and Research, S.S.K.M Hospital, Kolkata, and <sup>4</sup>Dhaka Community Hospital, Wireless Railgate, Dhak-1217, Bangladesh*

## **ABSTRACT**

Based on several surveys during 1997-2005 and visits of medical team to Eruani village, Laksham upazila, Comilla district, Bangladesh, the arsenic contamination situation and consequent clinical manifestations of arsenicosis among the villagers, including dermatology, neuropathy, and obstetric outcome, is reported here. Analysis of biological samples from patients and non-patients showed high body burden of arsenic. Even after 8 years of exposure known to the village, children were still drinking arsenic-contaminated water, and many of them had arsenical skin lesions. There were social problems due to arsenical symptoms. The last survey established lack of proper awareness among villagers about different aspects of arsenic toxicity. The viability of different options of safe water, such as dugwells, deep tubewells, rainwater harvesting, and surface water with watershed management in the village, was studied. Finally, based on 19 years of field experience, it was felt that, for any successful mitigation programme, emphasis should be given on creating awareness among villagers about the arsenic problems, role of arsenic-free water, better nutrition from local fruits and vegetables, and, above all, active participation of women along with others in the struggle against arsenic menace.