

III.B.1. Arsenic Poisoning in Ground Water of West Bengal : Cause, Effect and Comprehensive Strategy for Sustainable Development

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Since mid 80s, number of villagers in the state of West Bengal were reported getting arsenic poisoning through ground water. Till now total eight districts are affected where more than 900 villages are declared arsenic contaminated. Two lakh patients are identified from two million exposed people and situation is worsening day by day. Many people died without proper medical treatment. It is considered, the biggest arsenic calamity in the world.

Arsenic is a toxic metal affect most of our body system like liver, nervous system, skin, blood, lungs etc & prolonged exposure might lead to cancer. In West Bengal arsenic is coming from ground water through pump used in irrigation & domestic hand pump. The arsenic is present as reduced insoluble form (arsenic pyrite) in subsoil rocks. According to the concerned scientists, due to over exploitation of ground water used in irrigation gave rise to vacuum in the aquifer which was filled by armispheric air instead of water from surrounding space. The pyrite gets oxidised and transformed insoluble arsenic into soluble and started coming out of pump and domestic hand pump as well.

Number of factors are identified with regard to over exploitation of water. Increase frequency of cultivation from earlier pattern of once or twice a year to thrice or four times a year. High yielding variety crops (like Boro rice whose production growth is 9.3% per year since 1977 to 1994, highest among all crops) require huge amount of water with comparison to traditional varieties.