

## **Bangladesh Arsenic Contamination Research Update**

Arsenic was traced to aquifers in Bangladesh and West Bengal in the early 1990s. People developed skin lesions and internal cancer from drinking of shallow hand pumped wells sunk in the 1970s and 1980s which were supposed to provide safe drinking water.

It is predicted that about 85 million people in Bangladesh were already exposed to Arsenic poison. Exposure to high levels of arsenic can cause cancers of the skin, bladder, kidney and lung, and diseases of blood vessels of the legs and feet. It may also contribute to diabetes, high blood pressures and reproductive disorders. Scientists predicted that consuming Arsenic tainted well water could be causing 125,000 skin cancer and about 3,000 deaths each year in Bangladesh.

A recent research found that a type of bacteria (metal reducing bacteria) is responsible for the rising of arsenic levels in Bangladesh. Metal reducing bacteria use metals such as iron, or arsenic to get energy. It is believed that bacteria generally prefer iron as a source of energy and a reduction of iron brings a change in the mineral structure of the sediments, causing arsenic becomes more readily available to the metal reducing bacteria. This bacterial reduction process ultimately causes the release of arsenic in to the groundwater.

A further but more recent research concluded that Bangladeshi children may reduce their intellectual function if continually exposed to arsenic from drinking water.

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The above information was based on various sources including (a) National Geographic News: June 2004; (b) Environmental Health Perspectives 112 (13): 2004; (c) New Scientist (2004, 2005) and (d) Safe Drinking Water News (2004, 2005). The information was compiled by Dr Golam Kibria in May 2005 for <http://www.sydneybashi-bangla.com/>. Dr Golam Kibria, Ph.D is a Senior Environmental Scientist with the Australia's Largest Rural Water Authority and based in Victoria, Australia