UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

BANGLADESH

Arsenic-free drinking water

Context

Among all natural elements, arsenic is one of the most harmful. In certain conditions, arsenic contained in sediments can dissolve in groundwater and occur in a wide range of concentrations from micrograms (µg) up to milligrams per litre. In the alluvial and deltaic aquifer of Bangladesh and West Bengal, the concentration of arsenic in groundwater is often 300 times higher than the World Health Organization (WHO) guidelines (10 µg/L). Long-term exposure to arsenic in drinking water produces a range of clinical manifestations, of which skin diseases are the most frequent. Other clinical symptoms are weakness, anaemia, liver enlargement and chronic lung disease.

Strategy

Based on its longstanding experience in water and effluent-related problems, UNIDO, together with the Government of Bangladesh and with the support of the United Nations Trust Fund for Human Security (UNTFHS), has implemented a project to remove arsenic in Hajiganj and Shahrasti, the two districts with the highest levels of intoxication. By providing appropriate technology to eliminate arsenic from drinking water, building capacity and raising awareness on arsenic-related issues, the project helped increase human security.

Posters, newsletters, discussions, film, TV and even folk song shows were part of the awareness raising campaign. After a thorough evaluation, the project introduced an innovative solution to remove arsenic from drinking water, with special attention paid to sustainable manufacturing through the local production of required equipment. In addition, a modern water-testing laboratory was set up for continuous monitoring and quality control. In collaboration with WHO and UNICEF, health camps were organized to treat arsenicosis-affected patients.

Results

- 1,500 households provided with simple arsenic-removal units
- 20 community-level arsenic-removal units transferred to local ownership
- Improved health in communities
- Increase of income-generating activities

Impact/Outlook

Two years after the project's launch, people in Hajiganj and Shahrasti are very much aware of the problems related to arsenic and are now in a position to avoid further contamination. This resulted in a recognition by the UN Foundation and a token prize of USD 20,000. Based on the lessons learned, UNIDO, in partnership with the WHO and the Government of Bangladesh, is preparing a proposal for the creation of national capacities to remove arsenic from drinking water and improve medical treatment for those affected with arsenicosis.

For more information on this project: L.Bernaudat@unido.org
For more information about UNIDO: communications@unido.org

At a glance:

Goal:	Improving human security by mitigating arsenic poisoning
MDG:	1. Eradicate Extreme Poverty and Hunger 7. Ensure environmental sustainability
Thematic area:	Poverty Reduction through Productive Activities
Donor:	Japan through the United Nations Trust Fund for Human Security (UNTFHS)
Partners:	Government of Bangladesh, The United Nations Children's Fund (UNICEF), World Health Organization (WHO)
Budget:	USD 1,200,000
Status:	completed
Duration:	2006 – 2008