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Bangladesh: One pond in every village reserved for safe water

To combat the arsenic contamination across the country Bangladesh authorities are studying the feasibility of keeping one pond in each of the country's 68,000 villages reserved as a source of drinking water, with purification facilities. This was announced at the end of February by Minister Zillur Rahman, Minister of Local Government and Rural Development at a national conference on coordinated action for arsenic mitigation in Dhaka.

Until now, 4600 patients have been detected with arsenicosis, which leads to various cancers, as a result of contaminated groundwater. Experts predict that tens of millions of people might be affected within the next decade. The Department of Public Health Engineering with UNICEF and UNDP assistance has expanded the in-depth analysis of the arsenic contamination problem to cover 500 villages.

This environmental health disaster is also unfolding in West Bengal. Tens of millions of people in many districts are drinking groundwater with arsenic concentrations far above acceptable levels. Thousands of people have already been diagnosed with poisoning symptoms, even though much of the at-risk population has not yet been assessed for arsenic-related health problems.

Over the last two decades in Bengal, untreated tubewell water was heavily promoted and developed as a safe and environmentally acceptable alternative to microbiologically unsafe untreated surface water. In the 1980s, scientists began finding evidence of arsenic contamination, but only very recently (mid-1990s) has the crisis emerged into broad public awareness. In this case the origin of the arsenic pollution is geological. Recent investigations indicate that the arsenic is released into groundwater under naturally occurring reducing conditions in aquifers associated with specific sedimentary materials.

Tests on 50,000 wells in Bangladesh have shown that around 40 percent are too contaminated with arsenic to provide drinking water. Further tests on another 30,000 wells carried out by the UNDP-World Bank Water and Sanitation Program also showed arsenic in nearly 40 percent of the wells. The World Bank is supporting the Bangladesh Arsenic Mitigation/Water Supply Project with the help of a US$ 32.4 million (EUR 28 million) credit. The Bank estimates that Bangladesh will require US$ 275 million (EUR 238 million) in the next 10 to 12 years to fight the arsenic problem.

In a recent study of 10 villages in 8 districts in Bangladesh, carried out by the School of Environmental Studies of the Jadavpur University, Calcutta, and Dhaka Community Hospital researchers found new patients in districts where they had not been expected before. So far, this research team has found more than 0.05 mg/l arsenic in groundwater in 41 of the 64 districts surveyed. The researchers found arsenic patients in 22 of the 23 districts where they did preliminary hair, nail, urine and skin-scale analysis. One-third of the 7588 people investigated were found with skin lesions.

At the national coordination meeting, Health Minister Salahuddin Yusuf underscored the need for finding a common strategy for mitigation of this newly emerged public health problem. Various ministries should work together in coordinating mitigating activities in the country. To help address the emerging crisis the UN agencies in the country have taken the unusual step of forming a special theme group comprising the World Bank, UNICEF, WHO, UNDP and UNESCO. The World Bank had agreed to be the lead agency in view of the magnitude of its future involvement, as well as its role in executing the UNDP-funded regional water and sanitation programme.

UNICEF Representative Shahida Azfar said that each of the estimated four million handpump tubewells must be tested quickly and that this task ahead of Bangladesh is really an immense one. Health Secretary MM Reza said his ministry was soliciting support from all stakeholder organizations for mitigating this grave problem of national magnitude.

There are no easy solutions. Early in the year scientists at the Bangladesh Council of Scientific and Industrial Research claimed that they have developed a low-cost chemical compound to purify water contaminated with arsenic, but it will take a while before the chemical is marketed commercially. Other solutions such as rainwater harvesting are also being promoted. People living in villages where arsenic has been found in water from the pumps will change to drinking water from the ponds, even without treatment. Treatment of water from the ponds with sand filtration or chlorine requires local operation and management. Earlier, chlorine tablets were distributed to affected villages to disinfect water. It was later discovered that the concentrations of chlorine used were too high, which can be more dangerous than the arsenic. Other villagers were advised to boil the water, but few in rural Bangladesh can afford the required amount of fuel.

Sources: various news agencies

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Wanted: The next generation of water leaders

Potential water leaders of the next generation are now conspicuous by their absence in most international decision-making fora dealing with water. The situation probably is not dissimilar in non-water areas, but the fact still remains that if the future water problems of the world are to be reliably diagnosed, participation of the next generation of water leaders in these processes is absolutely essential. Equally critical is their active involvement in the analyses of the problems and identification of cost-effective solutions and their subsequent implementation.

In order to rectify this situation the Committee on International Collaboration of the International Water Resources Association (CIC-IWRA) and the Stockholm International Water Institute (SIWI) are launching a major effort to identify and then mentor the next generation of water leaders from different parts of the world.

Readers who are aware of any individual or individuals who have the potential to become future leaders, are requested to inform the organizers of their names, addresses, telephone and fax numbers and e-mails. Leadership requirements are not easy to define, and these are often somewhat amorphous and subjective. The candidates must be not older than 40 years of age as of January 1, 1999, and should have at least 5 years of work experience which would enable informed judgements to be made as to their future leadership potentials. They must also be fluent in English since it would be the language of communication and interactions.

The selected candidates will be mentored over a 3-year period. One of the tasks that would be entrusted to these potential leaders would be the preparation of a global vision for water from their perspectives and viewpoints. This vision could then be presented at two major world water events, both scheduled for March 2000. These are the World Water Congress of IWRA in Melbourne, Australia, and the World Water Forum in the Hague, the Netherlands.

The nominations should be sent to: Prof. Asit K. Biswas, President of Third World Centre for Water Management in Mexico City, a member of the World Water Commission: fax 52-5-754.86.04 and e-mail akbiswas@ri.redint.com or akb@pumas.iingen.unam.mx, or to Dr. Ulf Ehlin, fax 46-8-736.20.20, and e-mail ulf.ehlin@siwi.org.

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