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Arsenic Poisoning of Water in Bangladesh

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Synopsis

Arsenic poisoning of water is a serious problem in Bangladesh. It has significantly negative physical and social impact. There is an urgent need for the government to take effective steps to salvage the situation.

Commentary

ONE OF the major targets of the Millennium Development Goals (MDGs) is to halve, by 2015, the proportion of the global population without sustainable access to safe drinking water. While the MDG Report 2010 appears to indicate significant progress to this end, there are still parts of the developing world which do not have access to even basic needs like clean water and are exposed to serious health hazards. In locating such threats and concerns, particularly in South Asia, the most noteworthy problem is the presence of arsenic in drinking water in Bangladesh.

The Problem

A recent study published in Lancet in July 2010 amply corroborates the fact that 35 to 77 million people in Bangladesh are affected by arsenic through drinking water. The problem is also afflicting a number of other countries including India (West Bengal), Argentina, Mongolia and Chile. What makes this issue critical in Bangladesh is the fact that more than 90 percent of the dependence for drinking water is on groundwater, which remains highly arsenic-laced.

Arsenic - a toxic natural metallic odorless and tasteless substance - is released into groundwater in Bangladesh due to natural causes. It arises out of the aquifers of deltaic and alluvial sediments and deposits -- part of the country's geography. Groundwater is trapped in aquifers, which are layers of porous rock or sand between layers of non-porous rock. This arsenic poisoning is concentrated in shallow aquifers, not too deep beneath the earth's surface. In that sense, Bangladesh's planned transfer of dependence from surface water to shallow tube wells for drinking water in the 1970s did not prove to be the remedy it was meant to be.

The Bangladesh government, with UNICEF assistance, had turned to a massive programme for digging tube wells to provide safe drinking water in the 1970s, when there were widespread health-related problems like diarrhoea as a result of contaminated surface water consumption. While those problems seemed to have been resolved, bigger health hazards arising out of arsenic contamination plagues the populace today.

Magnitude

The UNDP Human Development Report 2009 ranks Bangladesh at 146 in the world on the basis of life expectancy, adult literacy, enrolment in education as well as purchasing power parity and income. Clearly, Bangladesh has yet to achieve development in many aspects. On the health front, the World Health Organisation acknowledges a decline in infant and child mortality and greater life expectancy at birth, even as it warns of other health issues like malaria, AIDS, heart diseases and cancer as areas of concern. A Country Cooperative Strategy drawn out by the WHO in conjunction with the Bangladesh government has called for “ensuring equitable and sustainable access to safe water supply....”

A 2008 UNICEF report reveals that of the total number of 4.7 million tube wells in Bangladesh, as many as 1.4 million had traces of arsenic -- more than the level delineated by the Bangladesh government which stands at 50 parts per billion. There are more than 8000 villages where 80 percent of all tube wells are contaminated. While these statistics speak volumes about the criticality of the situation, there is much more to be worried about. Apart from the problem of drinking water, arsenic also enters the food cycle through a number of ways like irrigation with the same water infecting agricultural produce. The situation gets compounded further by the fact that food – especially the main food grain, rice, is also cooked in the same water.

Impact

The physical and social impact of slow arsenic poisoning has been devastating. The principal fallout in terms of impact on health is in the form of arsenicosis. The symptoms of arsenicosis include lesions and hard skin, gangrene and in more serious exposure, can even lead to cancers of the skin, lungs and kidneys. The only remedy to reverse the process is to first ensure the supply of clean drinking water, followed by a nutritionally rich diet – a distant possibility for the already poverty-ridden and undernourished rural population.

The social impact can be as damaging as the physical one. Due to the relative ignorance of especially the rural population, a great deal of social disgrace is attached to the affected persons. The impact on women is even greater as the onset of related symptoms affects their married life with husbands choosing to leave them, even as the unmarried women find it difficult to find a match. The sufferers of arsenic poisoning are socially ostracised and the situation worsens in the poverty-ridden rural areas where treatment is either not available or is too costly.

Response

Bangladesh's predicament is clearly enormous. Even though the government is working in an integrated way with organisations like the World Health Organisation (WHO), UNICEF as well as NGOs towards finding a solution, much is left unaccomplished. This laxity is partly because the urban areas remain largely unaffected. Cleansing arsenic-laced water is both financially taxing and difficult on the ground for the government. Yet, it is essential to take a few steps to alleviate the quandary: At the grassroots level, there is a clear case for increasing awareness both about the presence, causes as well as impact of this arsenic problem in order to partly handle the physical and social fallouts. Besides, alternative sources of safe drinking water have to be devised. This can be done by cleaning surface water supplies wherever viable or through steps like rainwater harvesting and distribution.

There is clearly a need to give the highest priority to the supply of safe water. It is a critical factor for health and human security in the country. This urgency has to be incorporated into governmental plans and policies (especially health policy). There must also be effective implementation. Any delay would have disastrous consequences – both in terms of health and social impact.

There also remains a gap in the regional-level response to this serious problem. Organisations like the South Asian Association for Regional Cooperation (SAARC) address health problems like AIDS and tuberculosis. But it should also include basic problems arising out of lack of clean drinking water in their discussion matrix. Since Bangladesh and India are both members of SAARC, common efforts can be undertaken to solve the problem through technological and on-ground assistance.

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