



ILLUSTRATION: NAHFIA JAHAN MONNI

# SLOW POISON

Back in the 1970s, a failed aid intervention's impacts are still felt in parts of rural Bangladesh, where villagers continue to drink arsenic-laced water

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While Dhaka residents continue their ongoing protest against the poor-quality water that is piped into our homes by WASA, at least it is not slow poison. The same cannot be said for millions of villagers in Bangladesh who depend on water from tubewells.

The history of providing safe water in rural Bangladesh is fraught with contradictions. First, in the 1970s, people were told to start using shallow hand-pumped tubewells that the government and NGOs dug. With the tubewells, they would be less vulnerable to water-borne diseases such as cholera and other diarrhoeal diseases from the water they got from nearby ponds. People soon began digging their own wells. It was heralded as an efficient and cheap source of

"clean" water.

Then, in the early 1990s, the extent of naturally occurring arsenic in Bangladesh's groundwater was discovered and its exposure to millions over the decades realised. The World Health Organisation (WHO) called it "the largest mass poisoning of a population in history."

Arsenic levels in well water in many parts of Bangladesh were found to exceed both government (50 micrograms per litre) and WHO (10 micrograms per litre) limits upon large-scale testing. Beginning 20 years ago now, the government and donor agencies began a massive campaign in rural areas to stop people from digging and drinking from shallow tubewells. A World Bank-funded government effort, it tested five million shallow tubewells in 'contaminated' regions and their taps were painted red and green based on whether or not they were contaminated (according to national standards). This, in turn, was cited as a highly successful public health campaign in the country.

But around 20 million people still drink tubewell water with levels of arsenic above the national standard. The number is significantly higher if the WHO recommended standard is applied," says Dr Kazi Matin Ahmed, chairman of the department of geology at the University of Dhaka and researcher

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in groundwater.

A recent study showed that while people are still getting affected by arsenic-laden water, interventions to tackle the problem have also had adverse impacts on childhood mortality.

A paper by the U.S.-based National Bureau of Economic Research (NBER) published last month said that government/aid campaigns urging people to stop drawing water from shallow wells beside their homes to deep tubewells (farther away) essentially led to more

children dying. Villagers went to the well less, storing water for longer which led to it being contaminated with faecal matter and other waterborne diseases.

The team behind the research collected data on water use and mortality between 2007 and 2009 from households in Barisal encouraged to switch water sources, as well as those that were not. Those that switched away from arsenic-contaminated wells post-1998 to wells that were farther away, had 46 percent higher child mortality rates than households with arsenic-free wells. It was not just children getting affected—those households had increased adult mortality as well. Pre-1999 (before the campaign urging households to switch), "mortality rates were almost identical in contaminated versus uncontaminated households," states the report.

The NBER study concludes with the emphasis that while well-meaning, such a public measure urged people to change their established drinking habits and stop using existing wells without providing bacteria-free water sources nearby—which ultimately had fatal results.

This was essentially a double blow for this population—a 13-year observation by ICDDR,B of people chronically exposed to arsenic found that the heavy metal compromises immunity. The study found that young adults were five times more likely to die from different diseases at an early age when exposed to an average of 223.1 micrograms arsenic per litre of water. When aid interventions encouraged communities to switch to fetching water from the far-away deep tubewells, and storing it for longer, it introduced pathogens to a population whose immunity was already dampened.

There has been no concerted response to rectify the fatal mistake from public health and development practitioners and policymakers. Introducing villagers to drinking water laced with high levels of arsenic is not marked as a failed aid intervention in the country, which is largely presented as a universal development success story with one of the fastest growing economies and outperforming its (richer) South Asian neighbours in human development indicators.

In the meantime, funds have been diverted to more "pressing" concerns in the aid world, say experts in the field. Measures to reduce arsenic exposure, namely arsenic awareness programmes and testing of new wells, are not being taken on a significant level anymore, they say.

Villagers with no safe tubewells nearby have been left to take their own measures—either digging deep tubewells

*Continued to page 4*



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