

Bangladesh's Deadly Wells



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SINCE tube wells became popular as a source of drinking water in Bangladesh in the 1970's, tens of millions of people have been slowly poisoned by arsenic. Exposure to arsenic from the contaminated wells is projected to double the number of cancer deaths in Bangladesh in the next two to three decades.

Potential solutions to the crisis have received less attention than the problem. It is time to plan a course of action that takes into account the current reliance on tube wells since a wholesale rejection of their use in Bangladesh isn't realistic at this time. For now, we should focus on a feasible strategy that is relatively inexpensive yet can greatly improve the lives of millions of Bangladeshis.

More than 10 million tube wells have been installed in Bangladesh since aid organizations started promoting groundwater as a safer al-

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ternative to polluted stream or pond water that exposed consumers to potentially life-threatening illnesses like diarrheal diseases. The vast majority of these wells are privately owned, demonstrating that Bangladeshi families have been willing to spend several months of income on a reliable, nearby source of water that is not contaminated by human or animal waste.

The data already is available to make the best possible use of those aquifers that are low in arsenic instead. This option is preferable to ones that are more costly, require more maintenance or are vulnerable to con-

Safe drinking water
is within reach.

tamination.

In a program sponsored by the World Bank, Unicef and other organizations, nearly five million wells in the most affected half of the country have been tested for arsenic. Approximately one-third of the tested wells are considered unsafe; but thankfully, in many villages unsafe wells are near a safe well. Follow-up surveys have shown that about one-third of the households with an unsafe well were able to switch to a neighboring safe well in response to test results.

What can be done to provide safe

water to the remaining 12 million people who continue to rely on their poisoned wells for drinking and cooking? It turns out that safe groundwater is reachable in most villages of Bangladesh. The information available from the testing program can distinguish those villages where local drilling teams can manually install a safe community well from those where a mechanized rig with the ability to go deeper will have to be called in. For the villages that do not already have enough safe wells that can be shared, the installation of roughly 50,000 community wells could alleviate much of the problem at a cost of approximately \$50 million.

The community-based structure of the large, successful nongovernmental organizations operating in Bangladesh is well suited to directing the installation of community wells by local teams of drillers, while a centralized government program may be needed for installing deeper wells.

An equally important task that could be taken on primarily by nongovernmental organizations is the establishment of a countrywide, permanent well-testing service available at the village level. A small fraction of safe wells will become tainted over time, not because an entire aquifer becomes contaminated but because shallow groundwater with elevated arsenic levels can enter through faulty connections between a well's plastic pipes. The cost of testing — about 50 cents per test — could be paid for by communities and households.

This plan does not rule out other op-

tions, including surface water treatment, removing arsenic from groundwater, shallow dug wells, or piped-water systems that could play an important role in the long term. Ideally, Bangladeshi villagers will one day also have access to safe water from a tap at home.

In the meantime, a safe, regularly tested community well in the center of each affected village provides the best chance of addressing the problem quickly throughout the country. □

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