

Meeting the human right to water — 1

In the 1990s Bangladesh achieved safe water coverage for 97%. Arsenic was then discovered in water in a quarter of the 10 million hand pump tube wells with a disastrous effect. Coverage fell back to below 75%.

Providing arsenic-free water remains a significant challenge while salinity in coastal areas is also a threat to people's human right to safe water.

By the end of 2013, BRAC WASH had enabled 1.92 million people to achieve access to safe water, focusing on hard-to-reach

areas and those with contaminated water. BRAC WASH drilled more than 5,600 deep tube wells and provided loans to almost 33,900 families to improve well platforms.

BRAC WASH has adopted three strategies to support communities where water is affected by arsenic:

- Take water from deeper aquifers
- Use surface water
- Treat the arsenic contaminated water

More piped water schemes are planned for rocky areas where deep wells cannot be drilled. BRAC WASH is stepping up support in coastal areas where water has been contaminated by salinisation.

Providing a lifeline where salinisation and arsenic threaten safe water



Meeting the human right to water—2

After arsenic was found in Adhara village, Munshiganj district, BRAC financed and installed a treatment plant supplying safe water through a 10 kilometre pipeline for 3,000 people, leading to a decline in waterborne diseases.

Households pay from Tk 90 a month, to cover operation and maintenance costs with cross-subsidies for the ultra-poor.



Salinisation continues to advance

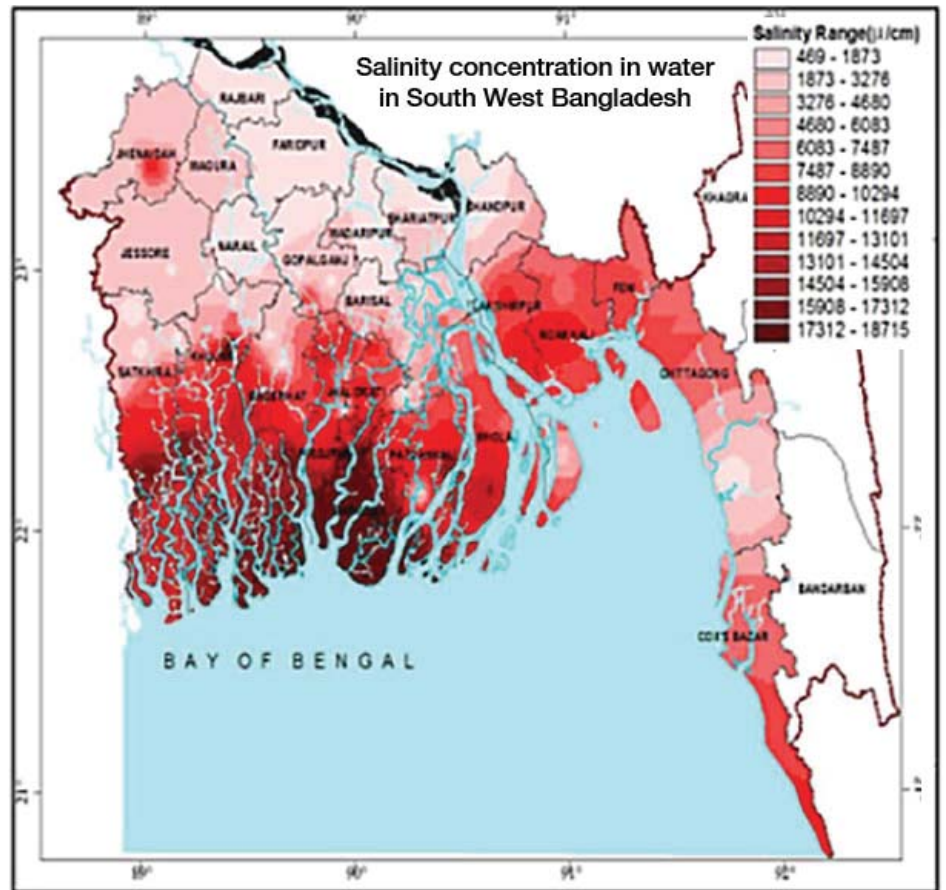
Salination intrudes 100 km into south-east Bangladesh and 250 km in the south-west and is still advancing.

Red areas on the map are salinated above Bangladesh drinking water standards—darker colours show more severe salinisation.

To provide safe water BRAC WASH has delivered tube wells up to 300m deep, pond sand filters and a small number of solar desalination units.

Where there is no safe aquifer available, piped water has been supplied from distant sources.

BRAC WASH and IRC have supported SWIBANGLA research by Deltares, UNESCO-IHE and Jahangirnagar University, into the impact on drinking water supplies.



For more on SWIBANGLA see <http://www.brac.net/node/1647> and <http://www.ircwash.org/blog/threat-salt-water-bangladesh-%E2%80%93-we-may-have-been-here-8000-years-ago>

Meeting the human right to water—3

Quality high but many latrines too close to wells

BRAC WASH and IRC used QIS to monitor the quality of piped water schemes and of handpumps and tube wells.

Piped water performs well

All 5 BRAC WASH piped water systems score in the top two QIS categories and 3 reached the highest standard: i.e. >80% of those connected receive water, the account has money for maintenance, problems resolved within a week and >90% of users have paid their tariff for the past 2 months.

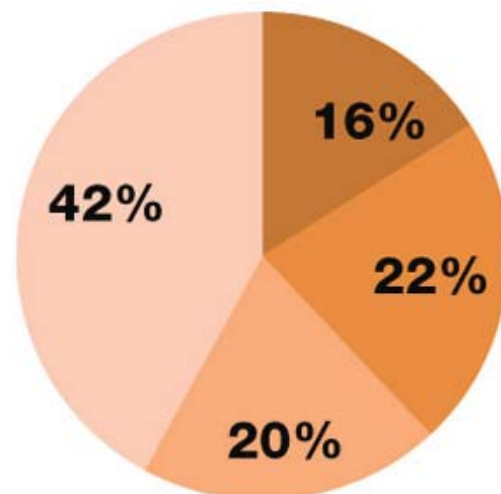


This two-headed tube well is safe but many latrines have been constructed too close to wells.

Handpumps and tube wells

- QIS examined water sources in 152 upazilas. 4 out of 10 met the higher standard but many were too close to the family latrine.
- The Bangladesh standard (1 water point for 50 people) is not always achieved. Multiple head units and piped water systems are more likely to meet the standards.
- Regular monitoring of levels of arsenic, salinity, iron and manganese and microbial quality are needed but BRAC WASH lacks an in-house testing facility.

Status of water sources



16% of wells unprotected or non-functional
 22% functional, arsenic-free and clean
 20% functional, arsenic-free, clean, and no cracks in platform
 42% arsenic-free, clean, no cracks in platform and more than 12 steps from nearest latrine

Meeting the human right to water—4

Solar desalination is one option for remote areas



Solar power can be harnessed to distil saline water and capture rain water.

BRAC WASH provided 20 ultra-poor families who live more than a kilometre from a safe water source in Bagerhat and Khulna, with household desalination units.

Families welcomed having water when they needed it and the savings in time and energy.

Units provided more than 45 litres a day in the rainy season and 8 litres a day in winter.

12 of the 20 families, considered this to be adequate. It is possible to mix in a small amount of saline water if output is low.

A review recommended that families should be trained on use and maintenance and how to protect units from theft or damage.

The way forward

More needs to be done to deliver on the human right to clean water. For BRAC WASH this means:

- Action research on low cost water technologies.
- Integrating support from other BRAC programmes for water supply to ensure economic efficiency and sustainability after BRAC WASH withdraws.



Collecting water piped from a pond sand filter at Barobaria village in Bagerhat.