

Water views

A newsletter for Sydney Water staff

Sydney
WATER

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working
today to create
a sustainable
future

NEWSLETTER ARCHIVE

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A different world in Bangladesh

by Peter Mills, General Manager Human Resources



Peter Mills getting to know the locals in Bangladesh.

As a director of WaterAid Australia, I recently went to Bangladesh as part of an international team. We went to review the results of a program, designed to improve access to water and sanitation, and to educate people about basic hygiene.

For one of the world's poorest countries, what impressed me most was how the program affected people's lives. Being in the first world we take water and sanitation for granted, even though it's the business we're in. Millions of people around the world don't have access to clean water and going to the toilet in the open is normal practice.

One man I met went from 'very poor' (one meal a day and no job) to 'rich' (three meals a day and a job) because he used the money he would have spent on medicines (because of drinking unsafe water) to buy food. He is now healthy enough to get a job as a rickshaw driver. The flow-on effect of our aid is amazing!

A school teacher told me more girls now attend school. The girls used to be absent for one week every month, but the education WaterAid provided about menstrual hygiene and having privacy means the girls attend school regularly.

In five years WaterAid has installed over one million toilets, 82,000 water points and held over 800,000 hygiene sessions. This has helped over six million people.

In one slum area they told us that no one had gone to hospital for two years because of WaterAid!

I guess here in Sydney, working in a water utility is not seen as glamorous. However, without the work everyone does here on a day to day basis, all our lives would be much worse!

www.wateraid.org/australia

Who is WaterAid

WaterAid is an international charity. Its mission is to overcome poverty by enabling the world's poorest people to access safe water, sanitation and hygiene education.

How does Sydney Water support WaterAid?

We have two WaterAid staff operating out of head office. Last year our customers raised over \$60,000 from a campaign in our water bills. Our graduates also raised another \$1,900 through a mobile phone recycling project.

You can donate by making regular payroll deductions through the Charities Aid Foundation on [ConnectNet](#)

When you fill in the form, put WaterAid as the name of your preferred charity.

About Bangladesh

Size

Bangladesh - 144,000 km2 - (Australia 7,617,930 km2)

18% of NSW

Population

153 million in 2008 (Australia: 21 million)

Water and sanitation issues

- 1 Flood prone/saline intrusion/natural arsenic in water supply
- 1 One quarter of total population in Bangladesh lives in urban areas
- 1 More than one third of people in major cities live in slums
- 1 No legal framework to ensure access to water or sanitation
- 1 No protection for slum dwellers against eviction

Did you know?

Between 28 and 35 million people in Bangladesh drink groundwater from deep tube wells, which are contaminated with high levels of arsenic.

'In many cases the tube wells were donated by aid agencies with good intentions. And, unfortunately, there appears to be no better alternative for safe rural drinking water supply, at present,' Helal Morshedi of Urban Growth says. Helal was born in Bangladesh.

The only way to prevent arsenic poisoning is to find alternative water sources or use arsenic removal systems.

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Alternatives to Arsenic poisoned water sources

Submitted by Anonymous on Wed, 06/10/2009 - 07:49.

My name is Mohammad Hassan and I graduated in BSc. in Civil Engineering from Bangladesh University of Engineering and Technology (BUET) in 2002. This article has drawn my attention because I was born in Bangladesh. The situation of groundwater arsenic contamination in Bangladesh is so serious that the immediate steps should be taken to find and deliver adequate potable water to all seriously affected areas for drinking and cooking purposes. I highly appreciate the initiatives taken by WaterAid, which I was not aware of before today. United Nations Children's Fund, UNICEF, is also working in Bangladesh since long and their report can be found at the following location, if anybody is interested:

http://www.unicef.org/infobycountry/bangladesh_35701.html

Once I read the proceedings of the 1st IEB international conference and 7th annual paper meet; 2001 November 2-3; Chittagong, Bangladesh: Institution of Engineers, Bangladesh, on this critical issue. The recommendations were as below:

1. Alternative sources of drinking water: innovative alternative sources such as pond sand filters, infiltration galleries, or Ranney wells, and in some places even rainwater harvesting can be adopted to alleviate the arsenic disaster.

2. Use of surface water: Existing surface water could be purified by filtration and chlorination, and even by ultraviolet disinfection or solar radiation and can be used in drinking and other house hold purposes.

- 3. Removal of arsenic by chemical precipitation: Coagulants such as the salts of aluminium and iron should be used to remove the arsenic from domestic drinking water.
- 4. Removal of arsenic by oxidation: Oxidants such as free chlorine, ozone, permanganate, hypo-chlorite, and Fenton reagent (H2O2/Fe2+) should be used to remove arsenic from drinking water.
- 5. Extraction and distribution of arsenic free groundwater from deep aquifers: If other alternatives are costly and complicated potable drinking water can be extracted and distributed from deep aquifers.
- 6. Removal of arsenic from water collected from the existing contaminated sources by filtration: Water filters should be used at drinking water treatment plant or at each individual household source.
- 7. Removal of arsenic from the existing water sources: The sources of arsenic contamination must be controlled and arsenic contaminated soil and shallow groundwater aquifers should be cleaned to prohibit the future contamination.
- 8. In-situ remediation of arsenic contaminated groundwater: This can be achieved by using iron filings permeable walls.
- 9. Implementation of efficient water supply system: A safe and long lasting efficient water supply system should be implemented for the whole country.
- 10. Development of sewage and waste disposal system: An efficient sewage and waste disposal system should be developed to prevent the contamination of soil and water supplies.

Principally, the best solution appears to be the restoration of natural river flow and groundwater level. The natural groundwater level that existed prior to 1975 should be restored. The flushing of arsenic contaminants may take a long time but these will be diluted by the restoration of natural rivers and groundwater aquifers. Thus, the severity of arsenic contamination will be reduced gradually. Besides, this will provide plenty of water for drinking, irrigation, and industry.

[reply](#)

Arsenic contamination in groundwater in Bangladesh

Submitted by Helal Morshedi (not verified) on Fri, 06/19/2009 - 12:35.

Research studies have established that arsenic contamination of groundwater is geological, therefore arsenic removal cannot be done at the source. Its remedies must be found and addressed at the water delivery stage.

A Bangladesh scientist Dr Abul Hussam has developed a scientifically proven SONO water filtering device, intended in making groundwater safe to drink in Bangladesh and affected countries, using sand. It is being trialled and increasingly being made available in Bangladesh by NGOs and there is potential for wider use to make groundwater safe to drink.

Indigenous method of treating arsenic contaminated water with sand has long been used in rural areas Bangladesh, but there is growing awareness about safety of drinking water and better filtering system is always offered.

It is hoped that the coordinated effort will continue to fully alleviate the curse of arsenic contamination in groundwater from Bangladesh and other affected countries throughout the world.

Want to know more? See CSIRO publication - Arsenic Contamination in Ground Water - of 2006 on the subject and the Sydney Water library has this publication. For more information, visit www.publish.csiro.au/pid/3478.htm

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