

# waterpoints

## Bangladesh: Arsenic crisis

Tests on 50,000 wells in Bangladesh have shown that around 40 per cent are too contaminated with arsenic to provide drinking water. Further tests on another 30,000 wells, carried out by the UNDP-World Bank Water and Sanitation Program, gave similar results.

Arsenic may be found in water which has flowed through arsenic-rich rocks. Drinking this water over a long period is unsafe. In Bangladesh, most drinking water used to be collected from rivers and ponds with little or no arsenic, though often contaminated with diseases such as diarrhoea, dysentery, cholera and typhoid. Projects to provide 'safe' drinking water have helped to control these diseases, but in some areas have had the unexpected side-effect of exposing the population to arsenic.

Hyperpigmentation, depigmentation, keratosis, and peripheral vascular disorders are the most common symptoms of chronic arsenic exposure. Skin, and other, cancers can also result, as can cardio-vascular and neurological diseases. It is estimated that at least 1.2 million people are exposed to arsenic poisoning, with some 40 million of

Bangladesh's population considered to be at risk.

The World Bank is supporting the Bangladesh Arsenic Mitigation/Water Supply Project with the help of a US\$32.4 million credit. It is estimated that US\$275 million will be required in the next 10 to 12 years to fight the arsenic problem.

Contact Babar Kabir, UNDP-World Bank Regional Water and Sanitation Group for South Asia-Bangladesh, GPO 97, Dhaka 1000, Bangladesh. Fax: + 880 2 863220. E-mail: < info@worldbank-bangladesh.org >

## Community participation in Kathmandu

Kathmandu Valley faces major water supply and sanitation problems, one being the ever-increasing pollution of its rivers,

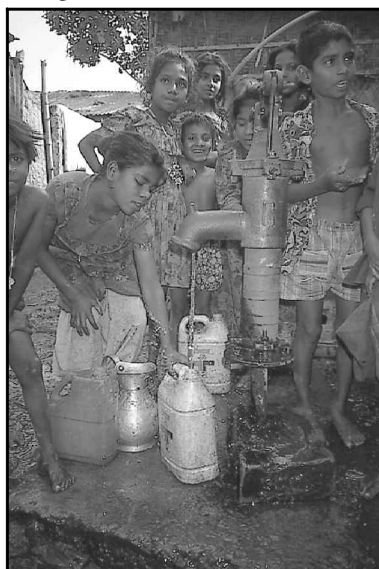
ponds and groundwater. With population growth 2.2 per cent per annum, increased amounts of untreated wastewater are being discharged into the rivers — rivers which also provide drinking water, and serve as bathing places for religious rituals. Households without access to sewage systems may have 'septic tanks'; alternatively people defecate in the open fields. Both options are equally dangerous since many septic tanks leak, polluting groundwater. During the monsoon, overflow from tanks, and faeces from defecation areas, pollute the water of ponds and rivers causing serious health risks.

The Nepal Water Supply Corporation, responsible for sewage treatment and disposal, does not have the capacity to deal with all of these problems. Conventional treatment systems are too expensive and require management and maintenance by highly trained staff. The

Environment and Public Health Organization (ENPHO), a local NGO, recently tested water from stone taps and dug wells, and found 68 of the 79 samples to be contaminated with *E.coli*. Groundwater quality studies in Kathmandu Valley during 1995-6 found faecal contamination in 58 per cent of wells; this percentage is even higher in the rainy season. Preliminary investigations indicated the potential for small-scale, community-managed methods of treatment and disposal of

wastewater. However, further information was required on the magnitude of the problem, and on options for the management of pollution-preventing facilities. In addition, consultation with local people and the public health authorities was necessary.

Roshan Shrestha of ENPHO was able to draw on the support of two Dutch water organizations, the Waterschap Friesland and IRC (International Water and Sanitation Centre). Through a knowledge-exchange programme, the Dutch Ministry for Housing, Physical Planning and Environment allocated a small amount of money for the organization of a workshop looking to map-out the magnitude of the problem, and develop a research proposal. The workshop brought together representatives of four semi-urban communities, facilitators of two Nepali



Peter Barker/Panos Pictures

## Free pumps offer

Some New Zealand shallow well pumps are being offered free of charge to water development projects by SWS Filtration Ltd., following their collaboration with The New Zealand Pump Company.

These direct action lift pumps should be of particular use in small communities and family compounds where water is currently drawn from shallow open wells where the water-table is no more than 10 metres below the ground surface. Firmly based on the VLOM principle, the pumps have a direct lift piston action, but do not require piston seals.

As previously, SWS Filtration are still able to provide SWS Rower Pumps and filters for protecting hillside springs through the same charity account.

For more details contact Richard Cansdale, SWS Filtration Limited, Hartburn, Morpeth, Northumberland, NE61 4JB, UK. Fax: +44 1670 772363. E-mail: < swsfilt@dial.pipex.com > Website: < http://ds.dial.pipex.com/swsfilt >

**Water rights conference**

By the year 2025, one third of the world's population will be living in a country affected by chronic water scarcity. This crisis, says Simon Roser of the Water Law and Policy Programme at the University of Dundee, is the most compelling of our, and our children's, future. The University is hosting a major conference entitled 'Securing Water Rights and Managing Water Scarcity', 7-10 June 1999, which will look to 'provide practical legal and policy solutions for securing water rights and managing water resources into the next century and beyond'. It is aimed at policy-makers in governments and industry, at those involved in water regulation and water specialists from all disciplines.

Contact: Patricia Wouters, University of Dundee. Fax: + 44 1382 322578. E-mail: <waterlaw@dundee.ac.uk>

NGOs — ENPHO and Nepal Water for Health (NEWAH) — and the Dutch NGO, IRC, and two experts from the Dutch Waterboards.

The communities selected participants for the initial workshop, including school-teachers, social workers, peasants, elected leaders and students. For two weeks they gathered and exchanged information about wastewater-related problems and potential low-cost solutions. Community mapping and field visits contributed to identification of information needs and information sources. The field visits increased understanding, not only about prevailing problems, but also about people's attitudes towards them, and available resources.

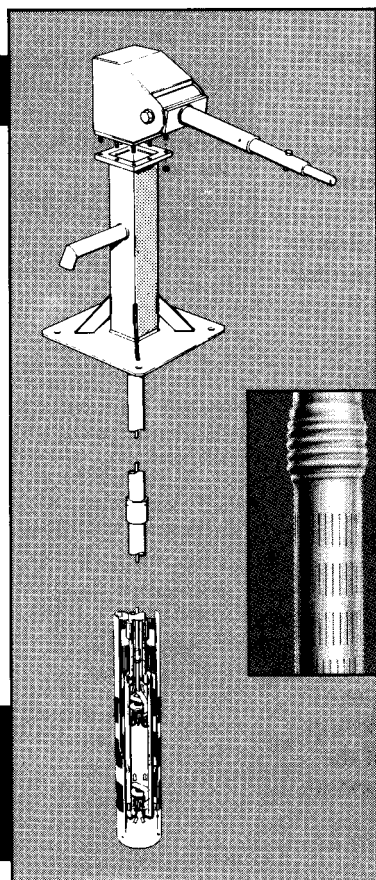
Problems the group came across included sewage pipes discharging into rivers, into agricultural fields and into heavily leaking collection tanks; a non-functional treatment plant; extremely dirty areas for open defecation; water scarcity, and totally blocked drainage channels. However, they also found that:

- sewage pipes had been laid through community efforts;
- a fair percentage of people had latrines;

- people were aware of the need for action to decrease pollution of surface and groundwater, and reduce risks to health; and
- people were prepared to make both a physical and a financial contribution towards bringing about improvements.

The workshop resulted in a proposal for community-managed, low-cost options in the four communities, on a trial basis. It includes activities for the dissemination of results, and combines experimentation through implementation and monitoring. The implementation goes beyond the construction of latrines and wastewater treatment plants. It also includes activities geared towards the management of facilities, through public awareness and improved communication between the various actors involved, in order to arrive at an appropriate management structure.

For more information contact: Eveline Bolt, Programme Officer, IRC, PO Box 2869, 2601 CW Delft, The Netherlands, E-mail: <bolt@irc.nl> Or Amresh Karmacharya, Executive Coordinator, ENPHO, PO Box 4102, Kathmandu, Nepal, E-mail: <enpho@enviro.mos.com.np>



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