

waterpoints

Not yet quenched

On 22 March, World Water Day 1996, WaterAid issued a new warning about the imminent danger posed by the burgeoning slums of cities in the South. *Thirsty Cities: Water, sanitation, and the urban poor* is Maggie Black's supplement to her 1994 report *Mega Slums: The coming sanitary crisis*. She details the action — and lack of it —

taken to cope with insanitary conditions, and outlines a course of action for the new millennium.

At or soon after 2000, the human race will pass a demographic milestone: a majority of its six billion-plus members will have

become urban dwellers. Around one-third of these urbanites will be living in conditions of environmental deficiency characterized by squalor.

The coincidence of acute human poverty, overcrowding, poor housing, lack of investment in civic infrastructure, job shortages, and environmental stress in many fast-changing settings are the ingredients of the sanitary crisis facing urban Asia and Africa.

Urban poor underestimated Research shows that the numbers of the urban poor have consistently been underestimated, that the provision of adequate water supplies and sanitary amenities to urban areas has been consistently over-stated; and that the ill-health suffered by inhabitants of crowded slums and shantytowns is far greater than standard statistics imply. Much of this sickness — as was the epidemic in Surat — is directly caused by the lack of clean water and hygienic waste disposal.

New principles Since World Water Day 1994, there have been signs of progress towards the new sanitary revolution WaterAid then called for. These include:

- increasing awareness of the plight of the urban poor and their burden of ill-health;
- some revision of underlying policies and practice by organizations concerned with water and sanitation services;
- some new partnerships between official and community bodies, often brokered by intermediary NGOs; and
- more examples of good practice to show that the principles of the new water and sanitation order are sound.

More momentum is needed. Mark Robinson, WaterAid's Head of Communications: 'If the necessary changes do not occur, the planet will start the millennium with upwards of one billion people living in the kind of urban squalor which produced the horror of the Surat plague epidemic. Failure to meet the challenge affects people everywhere.'

For a free copy of *Thirsty Cities*, contact: WaterAid, 27-9 Albert Embankment, London SE1 7UB, UK. Fax: +44 171 793 4545. E-mail: 101566.1612@compuserve.com

Caught in the web

Things have moved on since we took our first tentative steps onto the internet. Now, although still finding our feet, *Waterlines* is in regular contact with others in the water and sanitation

sector via the growing number of specialist electronic mailing lists. These fora enable geographically isolated individuals (and those of us stuck in a metropolis) to share information easily, and quickly.

We have picked out a few in the box below; don't be put off by their Northern origins — the discussions are wide-reaching and, our experience shows, a large proportion focus on finding out more about development in the South.

And here are excerpts from postings which have caught our attention:

'Apart from all the philosophical stuff written on the subject of 'integrated water management', I'm looking for concrete examples ... examples from developing countries would be especially welcome.'

'My thesis involves research in improving planning protocols for water resources projects in developing countries ... the failure rate has been as high as 40 to 50 per cent... I would welcome any suggestions ...'

'The central problem is the low-absorption capacity of the shallow (loss) top soil covering limestone rocks, making treatment of septic-tank effluent very difficult ... We are interested to hear the experiences of others dealing with low-cost, small-scale community and household sewage treatment in mountainous areas.'

'We used a method of hand-augering wells up to 12m deep in sandy soils in former watercourses ... I wrote a manual and would be happy to supply a text-only version via e-mail ...'

And finally, to the query 'Can anyone point me to information about water quality/drinking-water quality in C. or S. America?' came the reply, '*Waterlines* is a journal that may be of interest to you. Subscriptions are available from ...'

Selected water and sanitation electronic mailing lists

Dialog-agua is 'the information pipeline of the Inter-American Water Resources Network'. To subscribe, send a message to: Mailserv@acc.fau.edu. The body of the message should read: Sub Dialog-agua-1 Firstname Lastname.

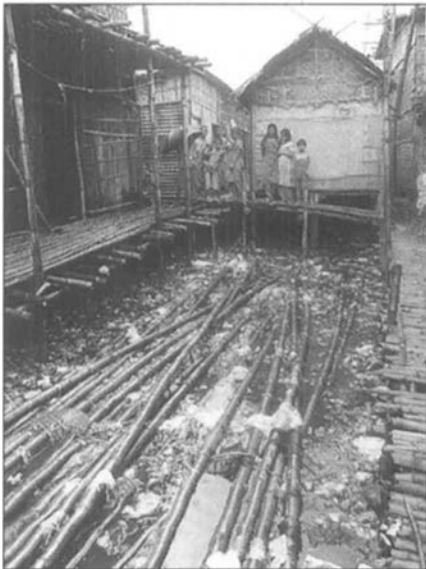
WASAR (Water and sanitation applied research mailing list) is, as you might expect, a list for discussion and information exchange relating to applied research in the water supply and sanitation sector. Aimed at those with research interests in the UK and developing countries, the focus is on priorities, funding, and a range of multi-sectoral topics. You can access:

- contact names and addresses for Topic Network Co-ordinators in GARNET;
- requests for papers to the WEDC conference;
- requests for 'successful' applied research projects;
- applied research publication details; and
- Safe Water International details.

To subscribe, send an e-mail message to: mailbase@mailbase.ac.uk. In the body of the message type: Join water-and-san-applied-research Firstname Lastname.

Homing in

In January's issue, we announced the launch of the *Waterlines* homepage, which allows e-mail users to access information about what is on offer in the current edition, plus subscription details. For those who missed it first time round, the address is: <http://www.oneworld.org/itdg/>



Life in Katasho Boartola, Dhaka. The bamboo poles give people something to hang on to if they fall into the floodwater.

The team concentrated initially on revamping existing wells, but soon came to realize that the equipment could be adapted to jet well-points from near the surface.

The tank for jetting water for the initial projects was filled from a borehole supply and transported by truck, but a temporary tank could also have been slowly filled on site from the very well to be improved. Approximately 2000 litres was sufficient to jet 5m.

Implications

The map opposite indicates areas in the Sub-District where the Okavango Water Department, after examining traditional water sources, has determined that this technology could be applied successfully. A shallow water-table is required, and the ground material must be sufficiently weak to allow excavation by the jetting stream. The possibility of using this technique in combination with an auger to cut through harder stratum was also considered.

Aside from the technological breakthrough, the crew's morale received a terrific boost! Team members gained an appreciation of the correct application of a new, but not overly sophisticated, technology and became more motivated by involvement in successful projects. Correspondingly, the team passed on much of this enthusiasm to user settlements, and enhanced community participation with the fencing and protection of well sites.

The cost-efficiency implications of labour using this technique are immense. A total well-refit job, including jetting and installation of a new handpump, takes only two days, compared to several weeks of digging

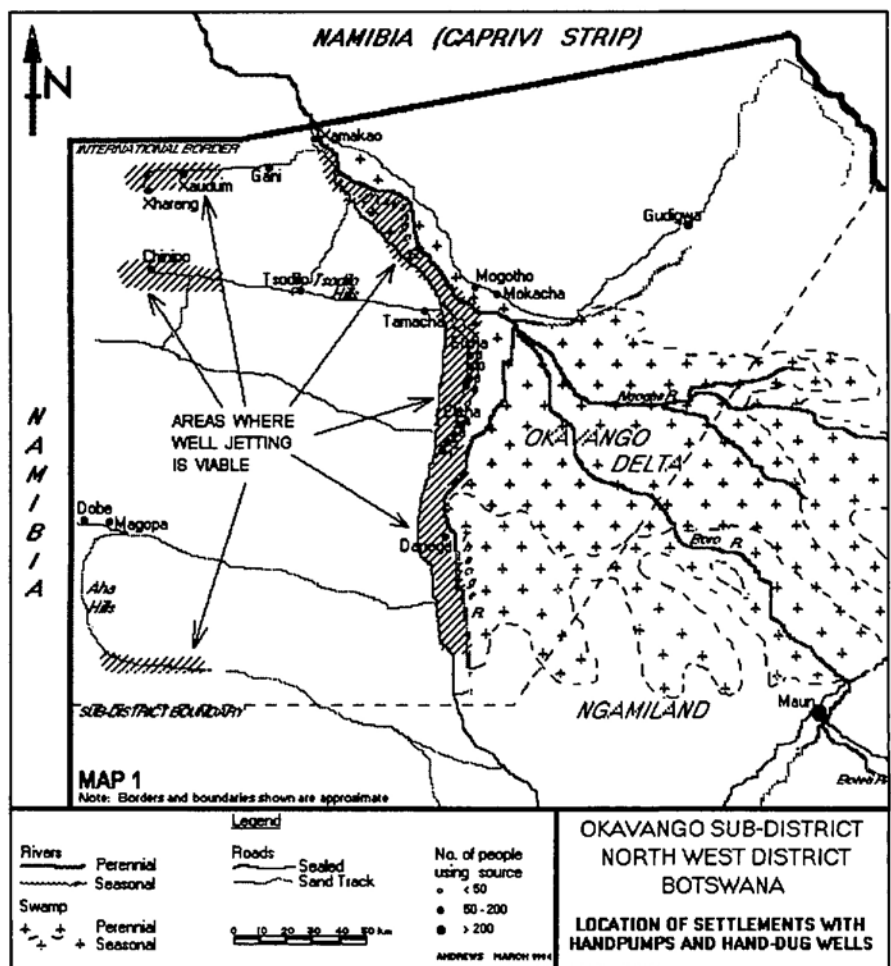


Figure 1. Areas of Botswana where well jetting is viable.

using the traditional method. It could be argued that the capital investment required to purchase a pump, tank and well-point materials is difficult to justify in many locations, but labour costs in Botswana, and the potential number of serviceable communities, are significant. Moreover, the technology produced results where past efforts had not.

If correctly applied, this method of providing water sources to remote communities living in similar geographical conditions holds tremendous promise. For both the Okavango Water Department and the remote area dwellers of Botswana's North West, it means a revolution in water supply, community development, health, and welfare.

References

1. Department of Water Affairs (DWA) records (1987-1994). Flows measured at Molembo.
2. The Okavango (Sub-District) Water Department is the local government-based body responsible for operating and maintaining water supplies in 20 rural villages, and more than 20 handpumps and wells in remote settlements. The Okavango Sub-District is a portion of the area administered by the North-West District Council and is based in Maun, Botswana.

Jonathan Andrews worked as a water engineer with Botswana's North-West District Council from 1993 to 1994. He currently works in



(Left) A well-point is lowered carefully into an opened well. (Above) A member of the team enters the well to position the well-point. The galvanized pipe through the centre of the PVC delivers pumped water to the cutting head during jetting, and is later removed to make space for a handpump element.

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