

# Drops of gold

2005 marks the start of the United Nations' International Decade on Water for Life, beginning on World Water Day, 22 March. According to the least alarming projection, just under two billion people in 48 countries will face water scarcity by 2050. **Judith Rees**, a member of the UN's Advisory Board on Water and Sanitation, outlines some of the issues.

International concerns over water are by no means new. Forty years ago UNESCO initiated the International Hydrological Decade, the first World Water Conference was held in Mar del Plata, Argentina in 1977, and the UN International Drinking Water and Sanitation Decade began in 1980. Despite such concerns and initiatives, 1.1 billion people still lack access to safe water supplies, 2.6 billion (half of the developing world) live without proper sanitation, and every day some 30,000 deaths occur from water related diseases. The number of people at risk from floods and drought has continued to rise and at the same time risks from the degradation of water ecosystems have increased inexorably, wetlands have been destroyed, water tables have been lowered, some major rivers have ceased flowing to the sea, and both ground and surface waters have been grossly polluted.

There is now a widespread consensus that current water management practices are unsustainable in economic, social and environmental terms and that unless water issues are addressed there will be no effective social and economic development strategies. In 2000, 189 heads of state committed to the Millennium Development Goals which set time-bound targets to address the most pressing problems faced by developing countries. Not only was a specific target set for water – reducing by half the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015 – but improving water resources development, allocation and management was seen as critical to meeting other key goals: reducing poverty and hunger, promoting gender equality, reducing child mortality, improving maternal health, combating major diseases and ensuring environmental sustainability.

No one pretends that meeting the water challenges will be easy or that solutions to water problems can be implemented quickly. Major increases in the level of investment in water infrastructure will undoubtedly be required, and fundamental governance reforms will have to be

made not only in the water sector itself but also in other economic sectors which affect the effective supply of water and the demand pressures placed on the resource.

To meet the Millennium targets for water and sanitation will require finance from all sources to roughly double, to US\$30 billion per annum. This figure, however, includes nothing for irrigation, waste water treatment, industrial pollution control and other forms of environmental protection; when these investment needs are added the annual financial requirements escalate to an estimated US\$180 billion. An obvious question is where will this finance come from?

Despite commitments made at numerous world summits and the 2002 Monterrey conference on financing development, official aid from the donor nations for the water sector has actually declined in recent years and few rich countries are devoting anything near the promised 0.7 per cent of gross national income to their aid budgets. It is difficult to be optimistic that this situation will change rapidly given the public sector deficits of some major donor nations and the political priority afforded to Iraq and the war on terrorism. Moreover, the willingness of international commercial banks and private sector companies to invest in water projects in developing countries has always been slight and has plummeted to a negligible level since 1997. The long payback periods, the high level of indebtedness in the sector, the poor creditworthiness of many water providers and the political difficulties involved in increasing tariffs all make the sector an unattractive business proposition.

On current trends the only reasonable

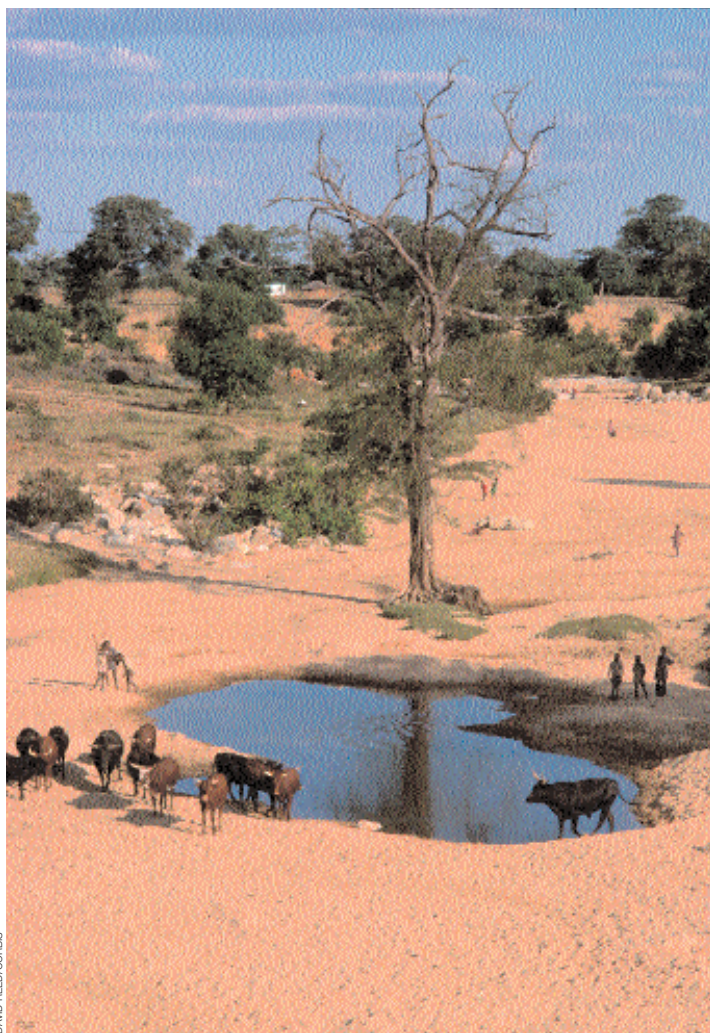


conclusion to come to is that the countries with the investment needs are going to have to find much of the finance themselves and ultimately either tax payers or water users will have to foot the bill. For many countries this will require major shifts in the priority given to the water sector among all the calls on limited national and community resources.

If we find the finance for new water assets, will that in itself solve water problems? No, new investments poured into old management bottles cannot ensure the long term sustainable development and management of the resource. There is a critical need to improve water management systems, both to increase the efficiency and productivity of the existing infrastructural asset base and to ensure that limited water resources are employed in ways which maximise their contribution to national social and economic development. Improving water use efficiency will mean reducing the high levels of loss (leakage) from irrigation and water supply systems, curbing productivity losses through the failure to manage pollution and sedimentation, promoting water recycling and reuse, maximising the crop value derived from irrigation inputs, and reallocating water from low to higher value uses. A more integrated, people-centred approach to water management will need to replace the traditional sectoral and technology-based approaches. Moreover, much greater attention will have to be paid to the interrelationships between water planning and developments in other sectors of the economy and society.

It is also imperative to increase the rate of return on existing water assets. The effective rate of return on many water investments is zero or negative, with revenue failing to cover even the operating and maintenance costs. For water and sanitation services, cost recovery rates as low as 30 per cent are commonplace which clearly means that existing users are highly subsidised. The situation in the agricultural sector, which currently accounts for 86 per cent of fresh water consumption, is no better, with high levels of subsidy encouraging wasteful and low value water uses.

Subsidies are commonly justified by the need to protect the poor who are unable to pay the full costs



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of service. This ignores the fact that the bulk of these subsidies is captured by the wealthiest sections of the community. The poor, unserved in urban slums and rural areas, gain nothing and pay significantly more for limited, potentially unsafe water than is paid for plentiful, safe piped supplies. The problems of the poor are compounded by the commonplace bias towards a 'one size fits all' approach to service provision which fails to provide appropriate affordable levels of service to different social/income groups.

Providing the water services needed by developing countries in ways that are sustainable is a monumental challenge. Progress in meeting the Millennium Development targets for water and sanitation is patchy. Current trends suggest that there will still be countries (predominantly in sub-Saharan Africa and Oceania) where 60 per cent of the rural population will lack access to safe water in 2015 and 2.4 billion people will go without basic sanitation (almost as many as do today). In addition, little progress has been made to tackle the problems of resource overuse and misuse which are driving more and more countries into water stress situations. It is inconceivable that the poorest countries will be able to solve their problems alone. They are stuck in poverty traps, bypassed by economic development, burdened by debt and disease and disadvantaged by the world trade system; they lack the financial, technological and human resources needed to make progress. For these countries a more focused, coordinated, committed and effective approach by all the key international actors will be vital. ■



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## Old water in new bottles

Out of the 1.1 billion people worldwide without access to clean water, 27 per cent are in Africa. Most water-borne diseases such as malaria, schistosomiasis (bilharziasis or snail fever) and diarrhoea-related diseases are largely prevalent in Africa, south of the Sahara.

My research aim is to look at the role of traditional water management systems in the Southern African region and assess how these can be integrated into larger development plans. How can broader initiatives link up with the traditional water practices of African communities?

In Zimbabwe, for instance, water is regulated by the government through the Zimbabwe National Water Authority (ZINWA) which took most of the functions from the Department of Water Development. Zimbabwe has a total developed water storage of nine billion cubic metres with an estimated yield of 3.95 billion cubic metres (Department of Water Development 1997). A number of NGOs and multilateral funding institutions have been actively involved in the water and sanitation programmes in Zimbabwe.

But the use of natural springs is moderated by specific beliefs and cultural practices. Until recently, some springs were associated with njuzu (mermaids or water spirits), and access, use and maintenance of these springs were carefully controlled. Some water sources were declared sacred, which meant that particular rules applied about how those water sources had to be protected and managed. People could not bathe or wash their clothes at sacred water sources. Neither were they allowed to cut down trees in areas surrounding the water source, as this would result in its drying up. Dirty or metallic kitchen utensils could not be used for collecting water, as this would anger the spirits. There were punishments for violating these regulations, including the threat of 'abduction by njuzu'. Traditional leaders and the spirit mediums in the local communities also enforced some punishments. In some instances, violations would result in having to pay a fine in the form of a chicken or a goat.

Such systems clearly benefit the overall health of the communities. Yet, despite the obvious importance of natural springs and surrounding tree groves for rural livelihoods, there are presently no published studies of the indigenous knowledge systems that govern

their use, although the water spirit has been portrayed significantly by Zimbabwean sculptors including Nicholas Mukomberanwa, Joseph Ndandarika, Claude Nyanhongo and Bernard Takawira.

Education has meant that now a number of people question traditional water management rules. In addition, the central government legal framework does not recognise the 'judiciary powers' exercised by traditional leaders. If a traditional leader asks a villager to pay a goat, the villager might refuse and conventional courts would not enforce traditional decisions. There are efforts to change this. There has been much migration within Zimbabwe, meaning that people with different totems and traditional rules are now living together and questioning each other's water management regulations.

But, in some parts of Zimbabwe, these rules are still being practised and will form part of my research studies. I want to discover more about why a water source is declared sacred, and by whom. How are the current sacred water points managed? And how does the quality of water in these sacred springs compare with that managed by more modern methods? Can indigenous management systems complement scientific, technical water testing and quality procedures? My research, ideally to be completed by 2006, will look at how integrating such traditional tools and beliefs into modern water initiatives could enhance water management and contribute towards policy-making within the water sector.

There are many worldwide proverbs about water, including from Russia: 'Don't spit in the well – you may need to drink from it'. A Ugandan proverb says: 'Water that has been begged for does not quench the thirst.' Good management is key. ■



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