

Taps and toilets for all - two decades already, and now a quarter century more

● Can the latest target of water supply and sanitation for all by 2025 really be met? **DUNCAN MARA** and **RICHARD FEACHEM** conclude that while there is a good chance of success as far as water supply is concerned, there is very little chance that this will be the case for sanitation.

First of all we had the International Drinking Water Supply and Sanitation Decade (1981-1990), with its aim of water and sanitation for all by 31 December 1990. This was followed by Safe Water 2000, with water and sanitation for all by 31 December 2000. And now we have an unnamed target of water and sanitation for all by 31 December 2025, with the interim target of halving the number of those without adequate water and sanitation by 2015 - the year the number of those living in absolute poverty is also to be halved.

These two decades and now this quarter century to 2025 are extremely important as deficiencies in water supply, sanitation and hygiene are second only to malnutrition as the principal cause of death and disability-adjusted life years (DALYs) lost: in 1990 malnutrition was responsible for 15 percent of all deaths and for 18 percent of all DALYs lost; and poor water, sanitation and hygiene together for 7 percent of all deaths and 8 percent of all DALYs lost

(Murray and Lopez, 1996a). Table 1 shows the global incidence and prevalence of two of the most important groups of water- and excreta-related diseases - diarrhoea and the geohelminthiases (Murray and Lopez, 1996b; see also Mara and Feachem, 1999 and Mara, 1999).

In November 2000 the World Health Organization published, in association with UNICEF and the Water Supply and Sanitation Collaborative Council, the Global Water Supply and Sanitation Assessment 2000 Report (WHO, 2000) - and what an alarming read it is. Alarming because vast numbers of people still need improved water supplies and sanitation. In 2000 some 1.1 billion people (18 percent of the world population) were without adequate water supplies, and 2.4 billion (40 percent) were without adequate sanitation. To meet the target of 'taps and toilets for all' by the end of 2025, some 2.9 billion will need improved water supplies and a staggering 4.2 billion will

need improved sanitation.

Due to population growth, these figures are actually getting worse. When the International Drinking Water Supply and Sanitation Decade started in 1981, it was estimated that 2.4 billion people needed both an improved water supply and improved sanitation - equivalent to 660,000 people needing improved water supplies and sanitation per day for ten years, and of course this number was not achieved. The estimated number of people who actually received improved water supplies in the 1980s was around 370,000 per day, and improved sanitation around 200,000 per day (Table 2) - impressive figures, nevertheless. The corresponding figures for the 1990s, the decade of Safe Water 2000, were 220,000 per day with improved water and 210,000 per day with improved sanitation (Table 2) - again, impressive figures.

The 2025 target

So can we meet the 2025 target? The WHO (2000) data indicate that some 310,000 people will need improved water supplies, and some 460,000 improved sanitation, per day during 2001-2025 (Table 2). So to meet the 2025 target we need to increase our current effort in water supply by just over 40 percent, and in sanitation by around 120 percent. Can we do this?

Accuracy of the numbers

Of course, the numbers of people served and unserved can only be a best estimate. WHO (2000) says its

numbers are 'calculated from service user information, rather than service provider information.'

However Satterthwaite (1995) and Jonsson and Satterthwaite (2000) make the point that urban - really, periurban - poverty is grossly underestimated, and access in periurban areas to adequate water and sanitation greatly overestimated, in official statistics. If this is indeed the case, then the numbers requiring improved water and sanitation per day during 2001-2025 (Table 2) are underestimates, and our task becomes even more demanding.

Water supply

In 2000 the number of people without adequate water supplies was 1,099 million, of which 84 percent were in rural areas. However, 94 percent of the projected population growth during 2001-2025 is expected to occur in urban areas. Thus the number of people in urban areas requiring improved water supplies is almost double the number in rural areas (Table 2). Moreover, most of these 'people in urban areas' will actually be the peri-urban poor.

Examination of the data in Table 2 indicates that we can most probably meet the 2025 target. We need to do better than we did in the 1990s, but in fact not as well as we did in the 1980s.

Sanitation

In 2000 around 2,403 million needed improved sanitation, and 83 percent of these were in rural areas. However, the numbers to be served with improved sanitation in rural and urban areas during 2001-2025 are the same (Table 2) - but they are staggeringly high: a total of 460,000 persons per day for twenty-five years. This is well over double what we've achieved in the past two decades. Is there any hope we can meet this 2025 sanitation target? The answer, we believe, is regrettably no. Why do we say this? Well, first the numbers, obviously. They're just too huge, over twice our best to date; and, as

Table 1 Global diarrhoeal disease and geohelminthiases statistics for 1990^a

Disease	Number	Remarks
Diarrhoea	4,073,920,110 episodes	56% in children aged 0-4 94% in developing countries
Ascariasis	61,847,000 persons with high-intensity infection	73% in children aged 5-14 All in developing countries
Trichuriasis	45,421,000 persons with high-intensity infection	79% in children aged 5-14 All in developing countries
Human hookworm infection	152,492,000 persons with high-intensity infection; 36,014,000 persons with anaemia	72% in adults aged 15-44 All in developing countries

^a The world population in 1990 was 5.3 billion, of which 3.9 billion (74%) were in developing countries.

noted above, the numbers we have may be significant underestimates (Satterthwaite, 1995; Jonsson and Satterthwaite, 2000).

Secondly, as noted by Chaplin (1999) for India (but her argument applies to most Asian and African countries), there is little middle-class pressure to provide adequate sanitation for the periurban poor. Chaplin notes that the Indian middle classes can effectively 'monopolize what basic urban services the state provides' and that 'modern medicine and civil engineering have lowered the health risks that they might face from the sanitation-related diseases the lower income groups suffer.'

Asia is the most important region in terms of sanitation needs - 70 percent of all those needing improved sanitation during 2001-2025 live in Asia (Table 3). To meet the 2025 target, Asia must double its 1990s effort, and Africa must treble its. Only Latin America and the Caribbean is likely to meet its 2025 target (Table 3).

Implementation

How are we actually going to get water and especially sanitation to these billions? The UK Department for International Development considers that power relations within societies must change, and voices given to the weak and excluded; people must come first, demand must be responded to, and water must be recognised as an economic good (DFID, 2001). Governments should act as facilitators, not providers; civil society, including NGOs, must be encouraged to play its part; and the private sector

needs to be involved - but well regulated so that it does not ignore the poor (a good example is the El Alto condominial sewerage project in La Paz; see Mathys and Komives, 1999). In short, action on a massive scale is needed, with governments, people and the private sector, supported by international and bilateral agencies, all playing their part to the full. But they need to play their part properly, recognising that in the past that they have not (Briscoe and Garn, 1995). And the clock is already ticking away (have 460,000 people received improved sanitation every day since 1 January this year?).

Who will pay? Most of the money will have to come from within developing countries themselves, and fortunately there is a huge amount of money already there. This may seem strange, even self-contradictory; yet a recent report in *The Economist* (Anon., 2001) indicates the value of property held by the poor in developing countries is some US\$ 9 trillions - but they cannot use this money as collateral as they do not have legal title to the land and housing they occupy. This lack of title also creates a strong disincentive for them to invest in their properties. Clearly governments need to sort this out, so that the poor can help themselves and be properly guided into making sensible investments in their own water supplies and sanitation services.

Sanitation needs champions. Victorian England had Sir Edwin Chadwick; the International Drinking Water Supply and Sanitation Decade had John Kalbermatten; the Orangi Pilot Project had Aktar Hameed Khan; and condominial sewerage in Brazil has José Carlos de Melo. Clearly many more champions are needed, but where will these 'tropical Chadwicks' come from? If they're out there, they're very well camouflaged!

We conclude by noting that there should be a good chance that the 2025 water target will be met,

Table 2 Numbers of people who received improved water supplies and sanitation during 1951-2000 and of those targeted to receive them during 2001-2025

Service category	Number ^a of people receiving, or to receive, services per day during		
	1981 - 1990 ^b	1991 - 2000 ^c	2001 - 2025 ^c
Urban water supply	100,000	130,000	200,000
Rural water supply	270,000	90,000	110,000
Total water supply	370,000	220,000	310,000
Urban sanitation	80,000	160,000	230,000
Rural sanitation	120,000	50,000	230,000
Total sanitation	200,000	210,000	460,000

^a Number calculated as (number served at end of period - number served at start of period) number of days in period. Numbers given are correct to two significant figures.

^b WHO data from Reynolds (1991).

^c Data from WHO (2000).

but almost none that the 2025 sanitation target will be. We might ask whether it is at all reasonable to expect the developing world to achieve sanitation for all in 25 years (or 45 years, if we include the past two decades). After all, it took the industrialised world a good 100 years or more to do this. ●

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Table 3 Sanitation achievements 1991-2000, and targets 2001-2025, by region^a

Region	Numbers served/to be served per day	
	1991-2000	2001-2025
Africa	27,000	91,000
Asia	160,000	320,000
Latin America/ Caribbean	23,000	32,000

^a Data from WHO (2000).