

Feature **Development**

Water Supply and Sanitation

by Rahat Fahmida

KULSUM Begum dreams of water. She sees it gushing out of a giant tap. She watches it filling bucket after bucket. She savours its coolness. Then she wakes up to a nightmare. For at her 'bari' in a remote village in Rangpur district, there is no clean water. The tap closest to the house has long been dry. The cruel exuberance of the recent floods washed away her crops and most of her belongings. During the last flood she lost two of her three children who could not survive after chronic diarrhoea. She now knows that the main reason is lack of pure drinking water. She strives to save her only living daughter of three. So she gets up with the light of dawn and laden with plastic pails, takes a twenty minute walk down to a hand pump. Distress signals are sounding everywhere.

In Bangladesh, more than in most countries water plays a major part in the social and economic life of people. Water does bring life and it also brings diseases. The same pond or river where people may use for bathing, washing clothes and cleaning utensils may be used for defecation, or may receive the wastes from village latrines. Such practices are indirectly responsible for

spreading endemic diseases like diarrhoea and worm infestation. Children belong to the especially vulnerable group. Hence mothers of these children should be given priorities while motivating pure water supply and sanitation programmes. In a male dominated society as in our country, women find it difficult to assert their needs and aspirations. Despite being the primary providers of health care to their immediate families, community or family decisions on water and sanitation seldom reflect women's

views. The role of women in development has been seriously undermined and their potential for contribution constrained by social, economic and cultural factors. The situation is not conducive to socio-economic development or sustainability of service provisions.

Rural sanitation programme was first undertaken in this country in 1950 with the co-operation of the World Bank, as was gathered from an UNICEF report. The main objectives of the programme were research on water supply

and sanitation methods, their practical application and utility in the prevention of cholera. However, the programme was very limited. Resource constraints and a lack of sound management capabilities soon brought the programme to an end.

Now for reasons of quality and availability, groundwater is the preferred source of domestic water. In view of the increasing demand of tube wells it was estimated that by the year 2000 the underground water levels of half of the villages of Bangladesh would fall below the suction limit, says an UNICEF report. It was, therefore, felt during the early 1980s that tube wells with a different technology were necessary for the continuation of the rural water supply programme. To reduce cost and ensure easy maintenance by users TARA hand pump made its first appearance in 1982 with the promise of meeting people's requirements. This pump can be operated by people of all age groups. This direct action PVC pump can be operated in water tables down to 12 metres, beyond which it becomes hard to pump. The pump has a high yield; it can be installed using the traditional sludger system, and can be easily maintained by users without hand tools. It accounts for half the cost of the conventional deepest pump, and can be manufactured in Bangladesh. It is convenient for the women to use, which leads them to have more time for leisure and other works. TARA hand

pump with its new technology will be able to provide the much needed water during droughts and irrigation season when there is an acute shortage of water.

Village sanitation activities in the public sector began in 1954. Early projects were not successful. Latrine slabs were distributed free, and a high proportion fell into disuse. In 1975, an experiment was carried out to test the willingness of the public to pay. Although sales were slow, a subsequent evaluation has shown that 60 per cent of latrines sold were in use, compared to 30 per cent of free latrines. A new programme was launched to construct a production centre in each upazila where by most villagers would have an access. The early trickle of demand was gradually transformed as the word of the advantages of the new latrines spread rapidly.

For the villagers or those of a very low income group, the most appropriate technology is the simple pit latrine made entirely of local materials. The 'slab' is made from wood or bamboo. To avoid collapse, the pit is usually shallow unless the soil is stable or the pit is lined.

The quality of the superstructure is an important factor in latrine use — adequate privacy is highly valued by women, while children are frightened if it is too dark.

The high water table in the monsoon is a complicating factor in any sanitation technology. The usual method to re-

The people of Bangladesh grow up from their very childhood with water all around them. Rivers cover one-third of the country even in the dry season. During the monsoon, half the remaining land is inundated and most of the rest is



TARA hand pump is a big relief to many.



The objective: To have one in every village 'bari' by the year 2000.

duce this is to build up the level of the slab, using soil excavated from the pit. As far as pit inundation by surface flooding is concerned, there appears to be no solution to the problem. Tube wells and water-sealed latrines for each home are a must for the health and survival of the people of Bangladesh. It is obviously necessary to make people aware of the importance and essentiality of pure drinking water and latrines. Health workers should be asked to work towards an increased awareness in the villages, which would protect them from diseases and will help them overcome from chronic health problems.

Social Mobilization Imperative for Better Sanitation

by Aasha Mehreen Amin

When you drink a glass of water do you think whether it is safe, whether it contains disease causing bacteria? If you are at home, probably not. That is because you are among the privileged few who have an abundance of running water which can be boiled, filtered etc for safe drinking. But what if you had to survive, let alone quench your thirst from a disease infested pond or lake? What if you belonged to the unprivileged majority who didn't even know that drinking such water was dangerous? You would probably have cholera, diarrhoea or some other fatal water borne disease and ultimately die much before your time and sadly, without ever knowing that it was the water you drank that resulted in your death. The same fate would befall your children and if they somehow survived, your children's children.

sanitation and water supply may be clear to a health worker but not so to the general public. Let us take the example of a person who draws water from a tubewell that can be classified as 'safe' but pours

answer — privacy, shelter or utility. Only a few will give health as a reason for buying a latrine!

With 80% of the population being illiterate the range of

cle rickshaw with a man describing the virtues of sanitation and hygiene through a loud speaker can also be very effective.

These marketing tools should be used to promote health and hygiene. In this regard the most important thing that should be kept in mind is that priorities should not be misplaced. More often than not health messages are either unrealistic, confused or their importance is minimalised by including other messages that should have less priority. For example if a health message says "wash your hands after having defecated and at the same time say "Remove your shoes before entering a house" the emphasis on cleanliness is totally lost. Health messages therefore, should be given first priority, and should be clear, concise and reproduce a picture with which the general target group can easily identify.

Campaigns should be conducted not only by public employees but also by existing media, social organisations, local community and women.

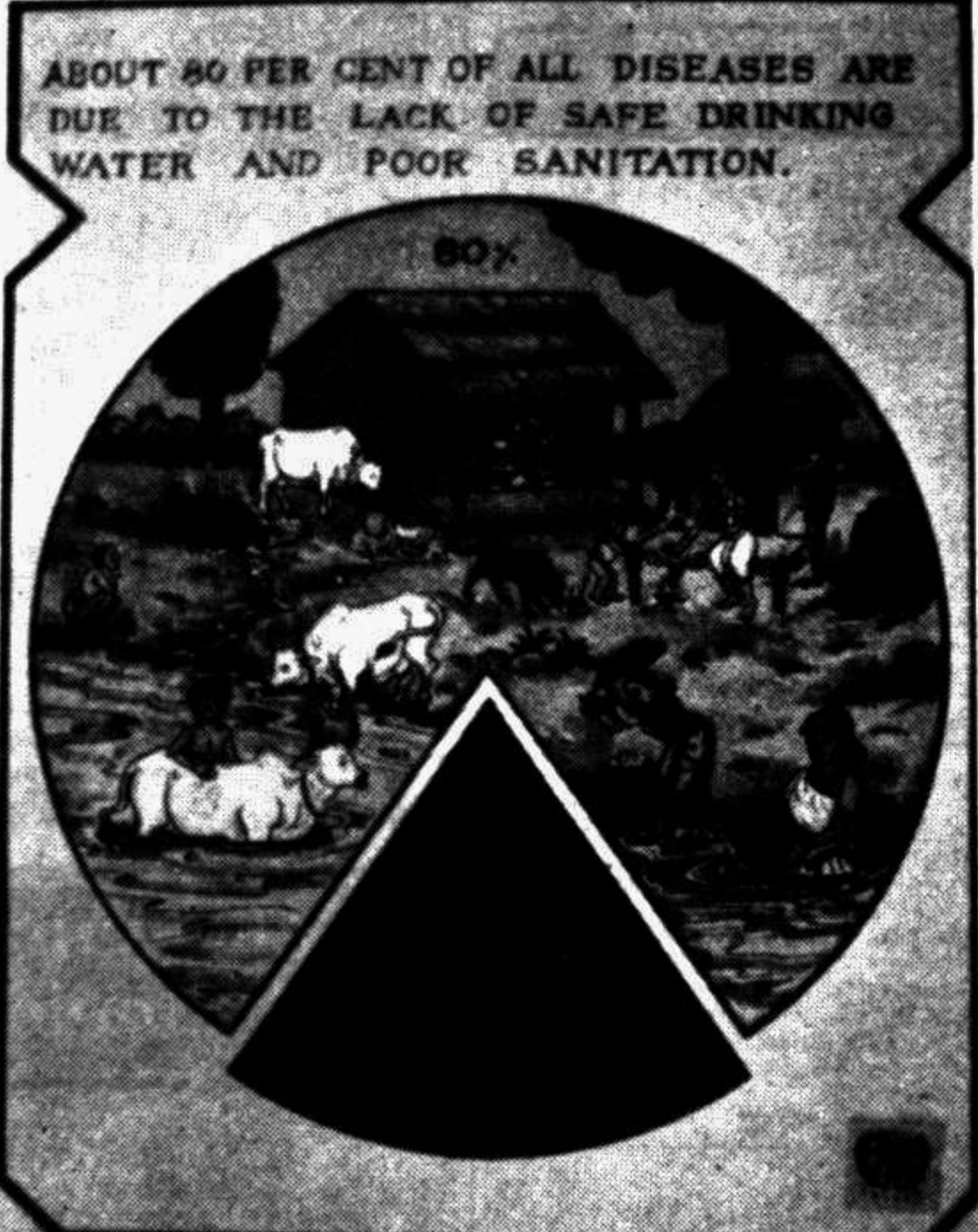
This brings us to the area of Human Resources Development (HRD). This includes both training and staff motivation. As far as training is concerned, it is not enough to train only the caretakers of tubewells. The masons and contractors who install tubewells and make low cost sanitary latrines should also be given training in developing the proper skills and technologies for water and sanitation. Hence the need for Training Centres.

To motivate staff, salaries and opportunities for self-advancement can be given. Conscious efforts should also be made to recruit and train more women.

Technical education provided by training centres should be relevant to the practical demands of low cost water and sanitation, to match practical situations.

UNDP/World Bank has proposed an International Training Network (ITN) for Waste and Water Management.

Since DPHE (Department of Public Health Engineering) is the largest agency in the sector, it should have a main training unit that would maintain links with similar training units in WASA (Water and Sewerage Authority) and LGEB (Local Government Engineering Bureau) so that a pool of resources, skills and experiences can be formed and shared. Needless to say, NGOs and social organisations can and often do play an important role in the area of social mobilization and HRD.



it into a dirty bucket making the water 'unsafe' for drinking. A latrine may be sanitary but if the user does not wash his/her hands with soap or ash after defecation the whole purpose of having a clear latrine is defeated. Health promotion campaigns are therefore, essential.

This is where social marketing comes in. Curiously enough, when asked the reason for buying a latrine, most low-income Bangladeshis will

print media is rather limited. One of the most effective way to reach the people is the radio and to a lesser extent, television, since only a limited number of people have the opportunity to watch television.

Another way of getting this idea of linking sanitation with health across is to have eye catching posters, bill boards and wall paintings and movable street signs that indicate the location of shops. Having a cy-

One day national seminar on the future strategies for water supply and sanitation sector in Bangladesh, is being held today. This is organised by local government division of Ministry of Local Government, Rural Development and Cooperative (LGRD), in cooperation with UNDP and UNICEF. The Prime Minister, Begum Khaleda Zia will be the chief guest.

Cost Reductions in Water and Sanitation

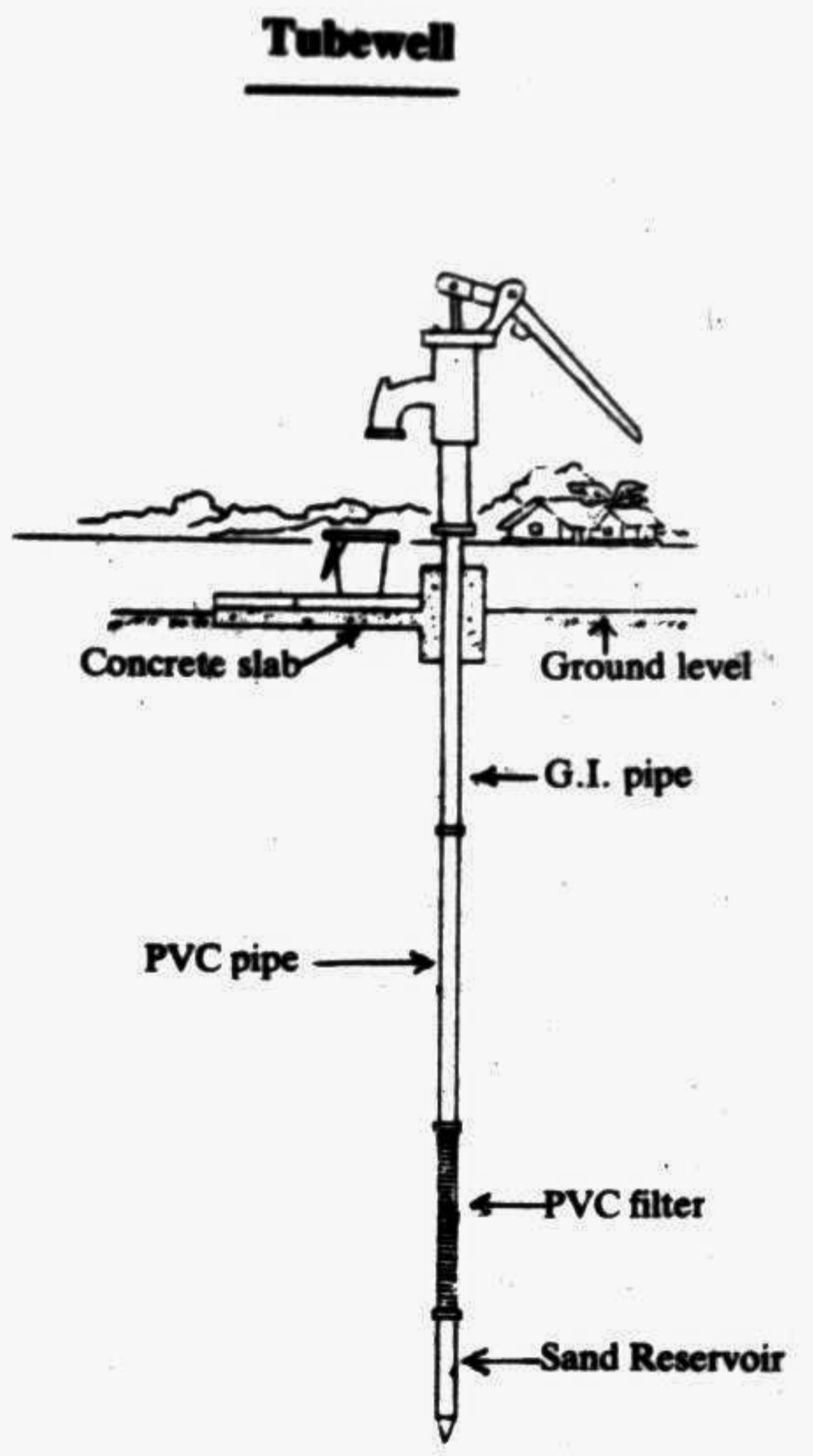
New technologies and better management structures can make a great contribution. The International Drinking Water and Sanitation Decade helped including gravity-fed water supplies which can decrease costs and widen coverage in hilly areas. Water can now be treated with slow sand filtration processes, which purify moderately polluted surface water more cheaply.

Wells and pumps have also been improved. Small diameter wells can be operated for costs that range from \$5.00 to under \$0.50 per user. In a project in India, water is pumped from a deep well for capital costs of less than \$1.00 per user per year — which operating and maintenance costs of about \$0.10 per user. Similar low costs have been achieved in programmes in

Ghana and Malawi. Several new kinds of water pumps have become available, including hand-pumps that allow communities to manage and maintain the water systems themselves.

Some governments and external donors have encouraged improvements in the area of cost control and financial management that are of vital importance to any water supply system. One of the ways to achieve these improvements is through the use of computers, facilitating billing and fee collection, in particular in urban areas.

The users themselves are one of the most important management resources. The involvement of the community and particularly the women — in decisions about the location of facilities, the most acceptable kinds of technology and the arrangements for use and maintenance — can help sustain a realistic programme of low-cost investment.



According to a 1981 health statistics report, nearly 80% of all illnesses were water related. Out of every thousand live births, 122 babies lived and over 25% of children below 5 years died. In 1990, despite the efforts of UNDP's Development Support Services (DSS) which increased coverage by water supply from 40% to 55% and sanitation from 1% to 10%, progress in health was not very encouraging. Infant mortality fell by an insignificant number of 110 per 1000 live births. In 1989, 79 million episodes of diarrhoea were recorded.

Even without such statistics it is obvious that next to our population problem is the problem of adequate water supply and sanitation.

But even before we think of solutions the first task we have ahead of us is to make people aware that there is such a problem and that their very lives depend on its solution. First of all, the direct connection between good health and



Community work in sanitation improvement.

What is Right...

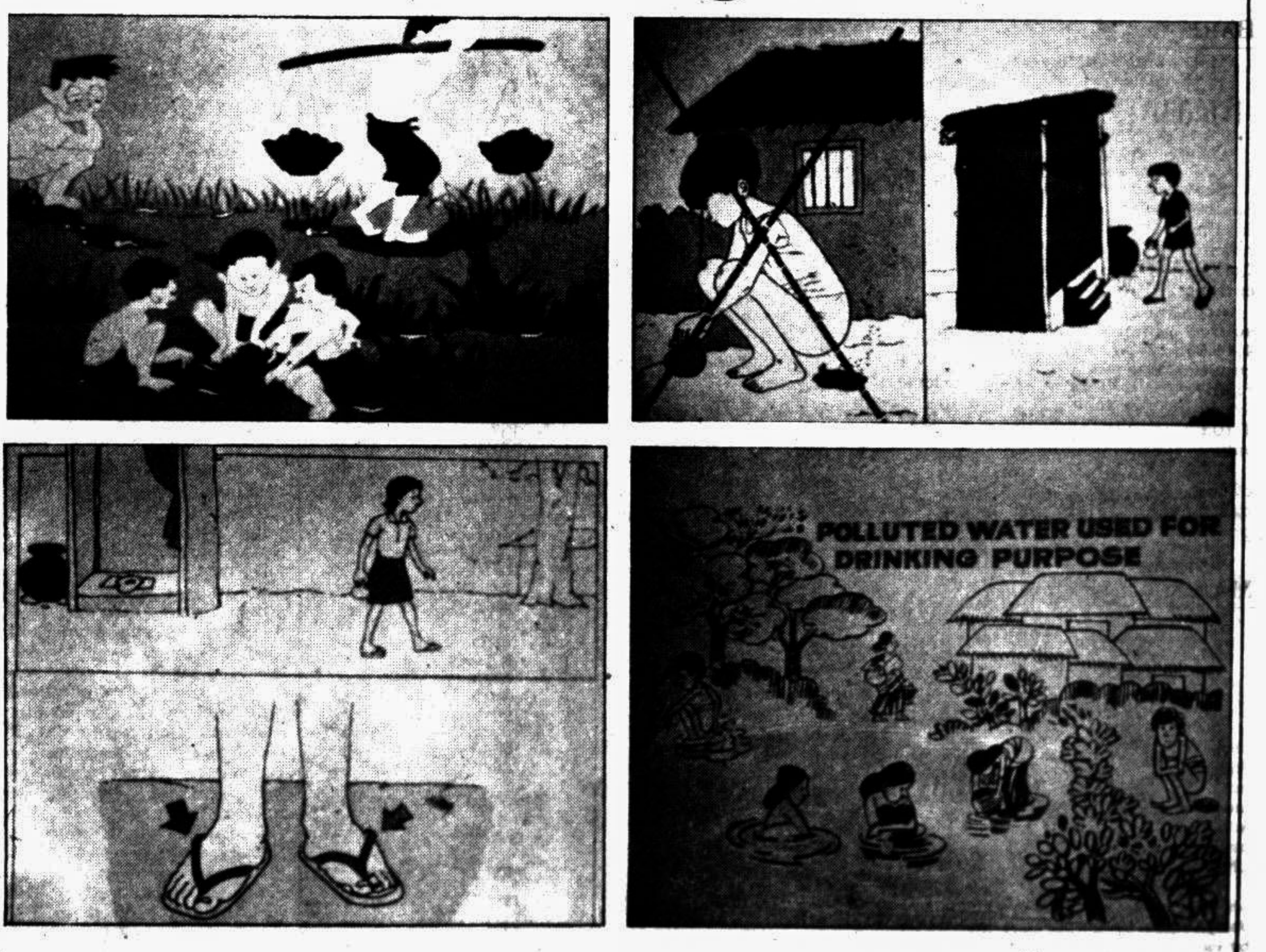


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