Obstacles to Full Community Participation in Water Supply Programmes

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Introduction

At the level of rhetoric and international resolutions, including those which comprise the International Drinking Water Supply and Sanitation Decade,* it is easy to achieve agreement on the need for the fullest community involvement. In the case of water supply, this implies full community participation in the planning, construction, maintenance and administration of supplies together with parallel activities in sanitation and health education. The previous concentration of resources and power is widely recognized as having stifled local initiatives, and the need to redress the balance is often expressed as a need for community participation. This concentration has no precedent in the history of the now advanced countries where, in the past, local authorities built the public facilities they could afford. This kept pace with the overall development of wealth in the society since local resources remained largely in the locality, albeit in the hands of a local upper class. In the Third World today, there is an acknowledged need to return resources and power to the people of rural communities, at least to the extent of control over certain aspects of their own development.

However, when it comes to putting this into practice, there are a number of obstacles, problems and dilemmas. Here we examine the case of rural water supply which illustrates several of them. Perhaps most fundamentally, there is a dilemma as to whether the priority should be to allocate resources to maximize coverage with water supplies of a certain standard, or whether it should be to encourage rural communities in the self-reliant use of their own resources, and thereby restore a measure of control to them. Village resources being meagre, the water facilities will not then be of the same standard, but the use of appropriate technology might offer solutions which are both within local means and provide adequate access to safe water.

The Current Practice of Water Agencies

For most agencies responsible for water supplies there is no dilemma: the task is to extend supplies, and community participation is seen as a helpful means to that end, and a subsidiary goal at best. In fact, they often find it difficult or inappropriate to expand the element of community participation in their programmes. The resulting gap between accepted rhetoric and actual practice is not to be explained simply as a lag between new ideas and their execution, or as resistance to new approaches on the part of people who are more comfortable keeping to the old ways—though there is certainly some of this. Many, probably most, agencies have little which could be described as community participation at all.

*1981–1990 is the International Drinking Water Supply and Sanitation Decade. The World Health Organization has published a number of documents relating to national and international programmes.

In practice, the types of programme in which community participation is actually fostered on any wide scale by water agencies are the following:

— *Latin American piped systems with household connections.* The household provides labour in construction in lieu of a connection fee, and a community water board administers the installed supply under agency supervision, including collection of water tariffs from consumers and the use of this income to pay recurrent costs including the employment of a local man to operate and maintain the supply. This is a fairly uniform system followed by a number of rural water agencies in Spanish-speaking countries including Colombia[1] and Ecuador. It is probably made possible by the fact that here people can afford to pay for household connections, rather than by cultural features specific to the region.

— *African wells projects.* The pattern which is becoming typical is for a donor aid agency to finance the coverage of one region of a country with wells (and possibly other types of supply, but the aim is the cheapest mass provision which often means wells). Ideally the whole country will be covered by different donors. The wells are sunk by a specialist team, usually under expatriate management. Voluntary labour will often be used in construction, but with drilled wells it will not be a significant element. The concern for community participation is related to maintenance after the departure of the construction team, but this is proving problematic, as will be discussed below.

— *African piped systems with public standposts, not house connections.* The community provides extensive communal labour in trench-digging and pipe-laying, and may play a role in subsequent maintenance. These are usually gravity systems, and attempts to get African communities to pay regularly for fuel for pumped systems have proved unsuccessful.[2] (This type of programme is much less common than those previously described).

— *South Asian three-tier handpump maintenance systems.* Here a community volunteer as the lowest tier of the system performs the simpler tasks and contacts the agency when there are problems he cannot handle.

The extent to which community participation is pursued by the water agencies can be seen to be limited by the administrative structure within which they operate, by technical features of the water supply systems, and perhaps by socio-cultural considerations.

Participation in Planning and the Subsidy Problem

In all the types of programme mentioned above, the construction of the water supply is heavily subsidized. In Latin American piped systems the value of the householders' labour is generally not more than 20 per cent of the capital cost, while up to about 40 per cent more may be recovered as loan repayment through subsequent water rates. In African countries the community may or may not be asked to make a cash contribution in addition to manual labour, but if so, it is

1. Mora Ramírez, Jaime and Salazar Duque, Alfredo: "A community initiated water supply project in Colombia", Assignment Children 45/6, 1979 (3rd printing, 1982), 121–130; Whyte, Anne: The Colombian Field Manuals and Training Guides of the Promotion of Community Participation in Water and Sanitation Schemes, a translated and edited version in English of the materials prepared by the National Institute of Health, Ministry of Public Health, Colombia (International Reference Centre for Community Water Supply, The Hague, forthcoming).
2. Feachem, Richard et al., *Water, Health and Development*, Tri-Med, London, 1978; Mujwahuzi, Mark: "A study of rural water supply in Dodoma District," BRALUP Research Paper No. 57, 1978 (Bureau of Resource Assessment and Land Use Planning, University of Dar es Salaam, Tanzania).

usually less than 10 per cent of capital cost for piped systems or 25 per cent for wells, and there are no subsequent repayments. Communal labour itself may account at most for 30 per cent of the cost of gravity piped schemes, and less for other types.

These substantial subsidies to the favoured communities preclude any significant participation in planning. The agency offers a uniform set of conditions to each community, and the community will generally accept the favourable bargain. This means that the important decisions such as the selection of favoured communities and the level of service are in the hands of the agency. In practice such decisions as whether to chlorinate a piped supply, or whether to provide facilities for washing clothes, are taken by the agency as part of a uniform set of conditions offered to all the communities. Apart from agreeing to the conditions, the only choices left to the community are over such minor questions as the siting of standposts. (Even in this respect problems may arise since siting is pre-eminently a divisive question as to whose houses the supply will be placed most conveniently, and the agency may feel the need to take a neutral decision or avoid a dominant individual obtaining another personal advantage).

Participation in Construction and its Limitations

Whether or not an important role is played by community voluntary labour in the construction of water supplies depends on the type of supply, and this is largely a matter of what is physically feasible. Gravity piped supplies, which also present other advantages, require large amounts of unskilled labour to dig trenches, but they are not feasible where there is no suitable spring or mountain stream. At the other extreme, often the cheapest way to provide a "modern" water supply on a large scale is by a coordinated programme of drilled wells with handpumps. Then, even where manual drilling is possible, the requirement for unskilled labour is small. The only type of community labour used in construction is unskilled, given water agencies' priorities for completing their programmes rapidly.

A different type of limitation to the use of voluntary labour is the fact that in communities where a commercial economy prevails and where some people are considerably better off than others, there is a tendency for the day's labour to be seen merely in terms of its monetary value, and the positive connotations of participation are absent. Thus, in some Latin American programmes many of the householders fulfil their labour obligation by hiring a labourer. Indeed, wherever a section of the population is landless and underemployed, it is questionable whether the policy should be to use voluntary labour, or whether workers should be paid.

In some African countries in particular, one cannot ignore also political tensions which have arisen with policies of mobilization for communal work, since the terms of the implicit overall bargain between the state and the rural population are not favourable to the latter. The community may feel exploited by the national state and its bureaucracy. In some countries the main income of the state is the difference between what it pays rural producers, especially for their export crops, and what it receives for these crops on the international market. However, this fact may be disguised by the maintenance of an official exchange rate at an artificially high level out of line with the real purchasing power of the currency in any free market (then the rural producer can be paid what appears to be the full value of the crop, but only in an unwanted local currency). The main expenditure of the state is, however, generally concentrated in the capital city and

other towns and on the salaries of civil servants. If then, the government asks the rural people to provide their own services through more communal work, they may legitimately be resentful, and this may be reflected in a poor turn-out.

Participation in Maintenance and the Problem of Motivation

The problem is that maintenance jobs, particularly those which prevent trouble arising, have to be done by an individual on a regular basis, and they are "unglamorous." The Latin American system with its community water board collecting fees and paying an operator seems to work well enough. Reports from India indicate that a voluntary system can work there.[3] But in Africa there have been a number of failures which may also in some cases be related to the tensions mentioned above. For example, the project agrees with the village that one or two village men will be trained for maintenance tasks, they are then given tools and they agree to work voluntarily, but the work is not done and the village does nothing about it. The problem here appears to be that there is no reward either in money or status for doing the job, and the village is too amorphous and unorganized to take action over faults in one water point among several. It is the people who depend on a particular water point who are motivated to keep it operating, and a better solution might often be to hold meetings with the women who draw water from each well or standpost separately, so they can arrange for one of them to be primarily responsible for maintaining it.

An Alternative Policy of Greater Self-Reliance

(a) Appropriate technology not a solution by itself

Given that the scope of community participation in the programmes of water agencies is confined to the narrow instrumental role outlined above, many of those working outside these agencies have begun to suggest that the solution lies in the spread of techniques by which the rural communities can solve their water problems for themselves. Considerable hopes are placed in appropriate technology. The problem is that most of the technologies mentioned are actually too sophisticated to be adopted by villagers without considerable outside help, or more concentrated and expert help than is usual in the case of most of the water agency programmes. Slow sand filtration, for instance, an appropriate purification technique in that it relies on locally available materials, requires quite a high level of understanding of how it should operate, an understanding which is often not possessed even by water engineers in charge of such plants (they have not been taught such "outdated" methods). Successful examples of the use of appropriate technology, such as the example of the rainwater roof catchment system adapted in a Dogon village in Mali to blend in with local building styles,[4] are examples of where a dedicated expert has worked for a considerable time with the local people. There does not appear to be any simple technological solution for any of the types of supply system waiting to be perfected or disseminated in order to allow villagers better to solve their own water problems.

3. Subramanian, R. et al.: "Local caretakers for handpumps in Tamil Nadu, India," Assignment Children 45/6, 145–9.
4. Guggenheim, Hans and Fanale, Rosalie: "Water storage through shared technology: four projects among the Dogon in Mali," Assignment Children 45/6, 151–166.

(b) Simple technology and agency help

Given these practical constraints, what then are the ways in which the scope of community participation can be expanded beyond the subsidiary role outlined? Perhaps the main change in policy required on the part of water agencies is a further move toward low-cost simple solutions. This is also called for if the aim of improving health is seen as most important. Where the majority of the rural population is still using unimproved water sources which are grossly polluted, the most rapid improvement of health will result from reducing the gross pollution of these sources to a lower level of magnitude, and from making more water available, rather than by designing for standards of purity in a limited number of water projects.

Instead of choosing certain communities to which a highly subsidized supply will be brought in the next period of agency work, the agency could spread its resources more thinly to work with the communities whose supply is most inadequate, and through simple improvements (e.g., help with spring or well protection, or rainwater catchment), bring about a minimal level upgrading of all these supplies, before moving on to the next level of upgrading. The voluntary agencies and community development departments which concern themselves with helping communities already make simple improvements of this kind but rarely have the funds or orientation to do so on the extensive scale which is required. On the other hand, the water agencies which have the funds and the responsibility for extending water supply coverage, are generally unwilling to contemplate such a "lowering of standards."

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