DFID/Eric Don Arthur

Participatory approaches to WS&S planning and implementation are very different from the supply-driven, technology-based approaches of the past:

- Their inclusive nature ensures that the voices of the poor and underprivileged are heard.
- They empower people to take responsibility for their own services.
- They respect the traditions and cultures of different societies and use them to develop appropriate solutions.
- They recognize that women have a beneficial influence on key decisions, and that gender considerations matter.
- They mobilize public and private resources and create partnerships to make optimum use of all stakeholders.
- They make user demand, demonstrated by willingness-to-pay, a primary criterion for selecting levels of service and technologies.

2.2 Social development perspectives

The days of solving water supply and sanitation problems with concrete and pipes alone are over. Integrated approaches to WS&S now have people at the centre. A social development perspective, which supports this approach, means understanding and involving users and responding flexibly towards their concerns.

Social development objectives in WS&S include ensuring that dialogue and interventions: are responsive to demand; reach poor or disadvantaged populations and socially excluded groups; promote empowerment, local voices, and ownership; and recognize the different needs and contributions of women and men. A social development perspective is supported by social analysis and by incorporating social issues and participatory approaches into development planning.

Principles

The response to WS&S which evolved during the 1980s was the basic services approach. It identified lack of access to basic services such as water, healthcare, and education as both a cause and a symptom of poverty and therefore a basic right (Jarman, 1997). The World Summit for Social Development held in Copenhagen in 1995 persisted with the point that over one billion people in absolute poverty live lives characterized by deprivation of basic human needs, including those of safe drinking water and sanitation facilities. The Social Summit urged that in formulating strategies for eradicating absolute poverty, governments and the international community should implement the commitment to meet basic needs including providing 'on a sustainable basis, access to safe drinking water in sufficient quantities and proper sanitation for all' (UNICEF, 1995). The DFID White Paper supports this commitment, along with an emphasis on demand responsiveness and participatory approaches.

2.2.1 Understanding the context

The priorities of donors and governments do not always coincide with those of primary stakeholders — women and men in rural and urban communities, particularly the poor. Prior to the 1980s, the practice of WS&S provision hardly ever involved consumers in decision-making and management. Recipients of WS&S projects were referred to as *beneficiaries* and to the extent that assessments were made of felt needs, they were not made on the basis of wide consultation and participatory methods. As a result, the services provided often did not reflect user preferences, were not maintained, and were used inappropriately or not at all, reducing potential benefits. It is now accepted that, for reasons both of equity and efficiency, programmes and projects need to be responsive to people's felt needs and based on genuine demand. Assessing demand before project preparation and design — whether it is expressed or latent demand — helps to achieve interventions which are socially acceptable. It is also a way of starting out with a genuine commitment to partnership and empowerment.

In summary, participatory approaches put people at the centre of the development process. The implications are wide-ranging. Government agencies, NGOs, donors, and communities themselves need new ways of working, new skills, and new attitudes. There is no doubt that the change is worth making; the legacy of past failures is reason enough. The challenge is to equip and empower people to take rational decisions for themselves, and to ensure that government and donor practices are able to respond effectively to consumer choice.

2.2.2 Custom and culture

Just as customary water and sanitation sources existed prior to WS&S projects, so the people involved do not come to projects as 'blank sheets'. People have existing notions of health and well-being, they have long-standing hygiene practices, and they operate within complex webs of formal and informal institutional arrangements and local power relationships. These include very specific arrangements for the management of common property resources. People generally act rationally and consistently, although often not in accordance with the expectations of engineers, planners, or officials.

A vivid example is that many villagers will not share Western notions of the germ theory of disease. They almost certainly have some other explanation of disease, and may regard pollution of a water source by animals, for example, with as much horror as would a medical officer of health — but for different reasons (ODA, 1995). When people are ignored and the local context is not taken adequately into account, WS&S schemes fail. So, as well as being technically appropriate and financially sound, WS&S projects need to pay particular attention to cultural factors and to the social and organizational context in which the schemes take place.

For instance, in countries with large Moslem populations it is essential to take account of *purdah*, the seclusion and/or veiling of women, in the design and siting of rural water supplies and sanitation facilities. In South Asia, waste and sanitation services cannot be designed without recognizing notions of ritual pollution and social relations influenced by caste. To illustrate the point, there is often great resistance to efforts to encourage community participation in waste and sanitation projects in contexts where the maintenance of these systems is seen to be the ancestral occupation and birthright of particular groups or castes (Beall, 1997b).

In recognizing culture it is important to be alert to two critical factors: first, culture is context specific; and second, it adapts to changing circumstances. So for example, caste taboos around water use are often more strictly observed in rural than in urban areas of India, while in Pakistan the pressure of unemployment means that caste-based jobs around waste removal are being taken on by other groups (Beall, 1997c).

2.2.3 Local-level informal institutions

WS&S is not just an individual or household issue. It is a collective concern and requires the active involvement of communities in planning, construction, or operation and maintenance. In any community, there are customary networks which form the basis of individual trust and co-operation, currently being referred to in broad terms as 'social capital'. They also underpin the way in which communities organize collective activities and pool resources such as water sources and communally owned land. In South India and parts of Africa, for example, entire villages manage community-based

irrigation systems and have developed monitoring systems to discourage water theft.

On the other hand, it cannot be assumed that people living in the same neighbourhood or village constitute a single community. They may be divided by caste, ethnicity or political factionalism, and do not necessarily possess institutions to resolve conflicts between those divisions and to reach and implement decisions, or to decide whose authority will be accepted.

It is not always easy for engineers to accept the validity of community decisions which seem to contradict their professional judgement. They may not appreciate the priorities related to land tenure, local power bases, or socio-cultural conditions. Only by working through existing local structures and recognizing the efficacy of community preferences, can development agencies design projects which are equitable and sustainable.

The priorities of user groups may well differ from those engaged in project design or implementation. Engineers or government officials may be concerned with providing water of an acceptable quality, but rural communities will choose their source for different reasons. These may indeed be based on the perceived quality of the source (often based on its taste), but also on factors such as the time, distance, and effort involved in collection. Other important factors may be who owns the land on which the source is located, the nature of the route leading to the source, or the others who use it. To appreciate these priorities and preferences it is vital to recognize who owns, controls, or has rights of access to land, and to understand how this relates to local power structures and arrangements for the use of common pool resources.

Attempts to speed up a community development process by circumventing existing or customary institutions and investing in new externally designed organizations have frequently failed in their aims. They also carry the danger of undermining and being sabotaged by local power brokers, and so diminishing the ability of community

Different approaches to care of water in Tanzania

In the varied ethnic groups and natural environments of East Africa, attitudes to and care of water differ within the family circle and of the wider community. Concepts of ownership and attitudes towards community or individual responsibility for water sources are important. Where there is sharing of sources there is usually some feeling of responsibility for keeping the facilities clean and in working order. The strongest tradition of co-operation is found among the Chagga in Tanzania, with their long record of irrigation from the streams of Kilimanjaro. Among other groups work crews and periodic cleanup operations tend to be informal and established in response to the initiative of concerned households. The Gogo do not improve sources much and there is no strong organization for this purpose. Among the Lango a group of women will dig and clean a small hole which constitutes a well. They will not prevent other women from using the well but will make remarks about their laziness in failing to build their own or to maintain the common one.

Where sharing of water sources has been the custom, the introduction of piped supplies serving only part of the population may cause a problem. At Karuri, one resident complained that people who own supplies are prevailed on by neighbours for water. Some owners of piped supplies solved this social dilemma by selling water to their neighbours by the tin, or by collecting rainwater from the roof in drums and letting their neighbours use this freely.

White et al., 1972

members to co-operate and organize effectively. Community-based programmes need to use and build on existing stocks of social capital and, where possible, to work through existing power structures and organizations. Examples of successful new organizations are those which draw upon what is already in place and are as much the creation of members as organizers. Working with existing leaders and building on indigenous principles of organization is the approach adopted by the Orangi Pilot Project (OPP) in Pakistan. OPP has taken an incremental approach to challenging local power relations and to developing women's empowerment in its work helping local people to attain sanitation services.

There are times, though, when creating new groups or structures is the only means of promoting the participation of disadvantaged people. Projects that wish to challenge highly inequitable social organization, which specifically target poor communities, or that have gender equity goals face this dilemma. After the first democratic elections in South Africa in 1994, it was recognized that new institutional arrangements were necessary to redress historical imbalances in the distribution of infrastructure and services. The Department of Water Affairs and Forestry (DWAF) in Eastern Province realized the structural limitations it faced in working with diverse communities at local level. Therefore it has developed an effective partnership with the NGO Mvula Trust. The NGO works at community level, both forming and building the capacity of local organizations to participate in district-level *indabas* or consultative fora.

The lifestyle of a young girl in Ethiopia

Elma Kassa is a thirteen-year-old girl from Addis Ababa, Ethiopia. Her father is a labourer and her mother is a washerwoman. She has one younger sister and a brother.

'I go to collect water four times a day, in a 20-litre clay jar. It's hard work! When I first started collecting water I was about seven years old. In those days we used to have to walk for over a mile to fetch water. Now there is a tapstand about 10 minutes from my home, which has made life easier.

I've never been to school as I have to help my mother with her washing work so we can earn enough money. I also have to help with the cooking, go to the market to buy food, and collect twigs and rubbish for the cooking fire.

Our house doesn't have a bathroom. I wash myself in the kitchen once a week, on Sunday. At the same time I change my clothes and wash the dirty ones. When I need the toilet I have to go down to the river in the gully behind my house. I usually go with my friends as we're only supposed to go after dark when people can't see us. In the daytime I use a tin inside the house and empty it out later.

If I could alter my life, I would really like to go to school and have more clothes.'

WaterAid, 1996b

DFID/Lorraine Chittock

Gender is a vital issue in WS&S programmes. It is not just a question of giving women a voice, though that is important. Nor is it right to make women more influential by increasing their workload — that is counterproductive. Fetching and carrying water for their families is a huge burden for millions of women. Relieving them of that burden is a laudable aim. Filling the time thus saved with other duties, such as hygiene education or community work, is a gender-blind approach which can undermine the benefits of improved WS&S facilities.

It is the decision-making role of women which can have the greatest impact on the sustainability of WS&S programmes, and that needs to be brought into play at all levels, not just community level.

2.2.4 Recognizing gender issues in water and sanitation

Women and men use water and contribute to water management in different ways. For example, it is mainly women and girls who use water for domestic purposes, while men and boys may compete for water from the same sources for farming and livestock purposes. What is meant by a gender approach is that the different responsibilities and needs of both women and men are taken into account in the design and management of projects. Gender relations need to be understood as context specific and efforts need to be made to ensure the fullest possible participation of both women and men in programme and project processes.

For millions of women around the world, fetching and carrying water is part of their daily routine. Water containers typically hold about 20 litres of water and weigh 20 kilograms. Carrying such a heavy weight on the head, back, or hip has severe health implications for women, who commonly experience backache and joint pains. In extreme cases, curvature of the spine and pelvic deformities result, creating complications in pregnancy and childbirth (WaterAid, 1996b).

Collecting water is not only physically stressful but also time consuming. Women in rural Africa often walk ten miles or more every day to fetch water. As well as travelling these long distances, women have to wait in line to collect water, sometimes for hours. In the dry season, customary water sources are depleted and it can take up to an hour for an East African woman to fill her bucket (White et al., 1972). Children and particularly girls are required to help their mothers with water collection and other domestic tasks. This means they are not able to attend school and often have little time left for play.

With regard to sanitation, women often have different privacy requirements from men. For example, in densely populated urban settlements without adequate sanitation, they are required to use public spaces by cover of darkness in the early morning and late evening, and can suffer health problems related to urine retention as a result. In a project in El Salvador it was found, for example, that women would not use the communal latrines designed by male engineers, because the toilets had been designed with a gap at the bottom of the door which exposed their feet and offended notions of privacy (Moser, 1989).

Although women play a major role as custodians of water sources and in the management of environmental hygiene and sanitary services at the household and community level, they have rarely been consulted in WS&S programmes and projects. A survey of 300 women in 30 villages, conducted in 1989 with the support of the NGO the Self-Employed Women's Association in Gujarat, India, found that:

- 42 per cent of women said they were never consulted about the site of the borehole or the water supply standpost;
- 63 per cent of women showed readiness to learn skills of water harvesting, drip irrigation, afforestation, and desalination; and

DFID/Howard J Davies

- in most projects women were not consulted on decisions concerning the site, budget, formulation of the scheme, and its operation and maintenance.

It is now recognized that the success of programmes and projects depends on the active involvement of women, because it is they who fetch and store water, dispose of domestic waste and children's excreta, teach hygiene habits to children, and provide much of the healthcare in the family. Women are thus invoked to participate in hygiene education schemes and are recruited as community mobilizers and healthworkers (see also Section 2.8). This can have a negative effect on women themselves however, as they are already busy with childcare, domestic tasks, and often income-generating activities as well. Time savings through improved water supply can easily be undermined by the opportunity costs and increased workload of ill-conceived and gender-blind efforts at involving women in community participation. Thus attention needs to be paid in project design not to over-burden women or to make them environmental custodians under conditions over which they have little control. The best way to do this is to involve women directly in decision-making from the outset, and for implementing agencies to employ women in positions where they can influence programming decisions.

In the poorest communities where sanitation is inadequate and water supplies are sufficient only for the bare necessities of life, decision-making, for both women and men, may come down to hard choices between water needs for the household and for income-earning activity outside.

These most hard-pressed groups are perpetually at greater risk of health problems and are often suffering from chronic poor health, impacting on their ability to earn a living.

Frequently, these conditions go hand-in-hand with poor environmental surroundings and such fragile existences are correspondingly more vulnerable to the exceptional climatic conditions that produce floods or drought.

2.2.5 Livelihoods, vulnerability, and the environment

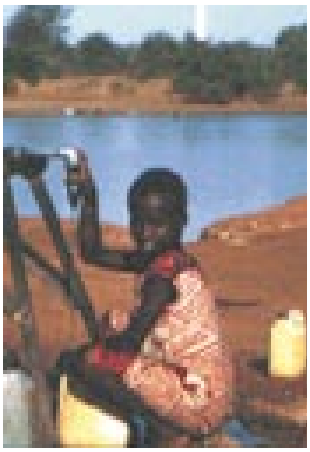
There is a substantial literature attesting to the impact of poor living and environmental conditions on people in poverty. As Douglass argues in the case of Asia, 'When viewing environmental distress and poverty together, the major conclusion to be drawn is that the consequences of environmental deterioration fall heaviest on the poor' (Douglass,1992: 11). Suffering comes as a consequence both of the environmental health risks associated with inadequate infrastructure and services, and because environmental degradation impinges negatively on livelihood strategies. Nowhere is this more evident than in the case of water supply and sanitation.

The health impact of absent or inadequate WS&S is discussed in Section 2.3. The impact on livelihoods results in part from the toll on the health of household breadwinners, dependants, and carers, and in part from the competition for scarce water resources between domestic and income-earning activities. For example, in rural areas decisions sometimes have to be made between water for domestic use or for keeping livestock alive. Such choices are often intricately tied up with gender relations and the gender division of labour.

Balancing the roles and relationships that make up household livelihood strategies is made all the more difficult in times of scarcity and risk. In relation to water supply, seasonality is an important factor. In rural areas, customary sources may disappear during the dry season, involving women in longer journeys to fetch water. In urban areas, water shortages can affect some sanitation options such as

pour-flush latrines, or can reduce the availability of water for some income-generating activities, leading to more hard choices.

In the wet season food is often in short supply because the harvest is not yet in, there is often more illness (especially malaria), and rural women's time may be in high demand for planting and weeding crops. If it is not feasible to provide improved water supplies nearby on a year-round basis, wet season wells and rainwater catchment may be more useful in these circumstances than they might seem.



DFID/Howard J Davies

This manual does not cover water supply and sanitation in emergency contexts. However, it is important to note that beyond poverty, some households or communities can be at particular risk. For example, households or settlements may be vulnerable to floods due to their location, or communities may be at risk through being prone to drought. In such cases, the natural and man-made components of such disasters need to be factored into both environmental (Section 2.4) and social impact analysis.

2.2.6 Achieving cost recovery and advancing equity

In such circumstances the obvious WS&S needs may be accompanied by the expressed willingness of households or communities to pay for improvements, but the ability to contribute to the associated costs will be strictly limited. The principle of cost recovery, bringing recognized benefits in terms of sustaining community interest in a programme, can still be pursued, but the charging regime must be carefully tailored and balanced with the assessed means of the users.

Making this assessment and linking household or community incomes to an affordable level of service improvement that meets community demands and aspirations can only come from early and ongoing discussion with these intended users.

Experience world-wide shows that water supply and more particularly sanitation programmes face sustainability problems if they are not based on genuine demand, conventionally expressed as willingness-to-pay. It is assumed that cost sharing reflects a commitment to the project in question, and in recent years cost recovery has become a feature of most WS&S programmes. It is further argued that while sharing capital costs fosters ownership, recovering recurrent costs helps programme sustainability. This is true, but there are caveats.

A causal relationship between cost recovery on the one hand, and project ownership and sustainability on the other, is by no means automatic. An influential study of rural water supply conducted in Lesotho during the 1970s (Feachem et al., 1978) demonstrated that the level of cash contributions collected from villagers was so modest and the administrative costs so high, that cost sharing had a negligible effect on project sustainability. Also, rather than instilling in villagers a sense of ownership and responsibility, contributing cash, labour, and local materials towards construction convinced them that they had already paid their fair share and that the government should take on the longer term responsibility of operation and maintenance.

This example serves to underscore the importance of on-going consultative processes and the development of a mutually agreed and shared agenda from the outset. It does not imply that water supply and sanitation services should be free to users. Some contribution from users is certainly desirable.

Cost-recovery policies can improve the position of poor people in a number of ways. For example, if collected revenue improves the sustainability and reliability of water supply systems, this benefits the poor, who are least able to cope with bad system performance. Cost-recovery mechanisms can also be used to charge higher income

consumers, determined by area, for example, according to the number of taps in a dwelling or by metering water use, so as to cross-subsidize lower income households and communities. Section 2.5 addresses this issue in more detail.

Private input has traditionally played an important role in service provision. It carries the danger that vulnerable groups may be sidelined for several reasons including poverty, geographical location, or local prejudices. If programmes are alert to these difficulties local private input can lower project costs and, where extended into operating and maintenance activities, can offer the additional benefits of increased activity and opportunity in the local work environment.

There are various means of pursuing cost recovery while at the same time being alert to issues of affordability. For example, the developing of financing mechanisms built on customary practices such as revolving funds can play a useful role. Affordable appropriate technologies, which accord with local demand and can be operated and maintained by local users, have a vital role to play (see also Section 2.7). Private entrepreneurship currently plays a significant role in service delivery to people in poverty and building capacity in the private sector can improve both affordability and livelihood opportunities, particularly when it includes local level and informal sector enterprises.

However, it should also be noted that risks and problems of equity are associated with private provision. While many low-income households and communities are able and willing to pay for the services they want, some remain vulnerable. In poor rural communities, for example, vulnerability may result from being cut off from existing or proposed sources of water or from sanitation services, due to 'social invisibility' or distance from centres of decision-making and investment. In urban areas certain households and communities may be excluded from services as a result of poverty or for reasons of social identity, for example ethnic marginalization.

Thus cost recovery from very poor households and communities must take into account their ability to pay. This is often different from expressed willingness-to-pay. For example, in low-income urban communities where people are reliant on vendors for their water, they may be willing to pay a relatively high price for water, so long as it is below the vendors' rates. However, this may result in them keeping their consumption at minimal levels, with increasing health risk. Even then, water payments may still absorb a disproportionate and far larger share of household incomes than the cost of water and sanitation to better off households (see also Section 2.5). Whereas the better off households can sacrifice non-essential expenditure to pay their water bills, poor families have little choice but to reduce their food budget, with obvious implications for their nutritional status.

For the poorer communities a degree of subsidy will nevertheless sometimes be necessary. Setting the level of subsidy needs care, not least because of the movement towards cost recovery in current and more recent programmes. This can lead to inequities in

A balance has to be struck when determining charging policy. The charging structure needs to take into account people's poverty as well as information from willingness-to-pay studies. It also has to be recognized that the higher the level of cost recovery, the more public subsidies can be directed towards extending basic services to more poor people, instead of subsidizing existing consumers.

Additionally, people need to know and agree to exactly which aspects of water supply and sanitation they are willing and able to pay for. It may be easier for members of low-income communities to reconcile

charges between these and earlier projects where cost-reflective charging was not a common feature.

The implications of this can be seen, for example, in established urban areas where the piped water mains and sewers of the central zone, laid some years ago under conditions of heavy subsidy, will typically serve higher-income families. Newer investments in the peri-urban zones, which will be seeking cost recovery, will usually be directed towards lower-income groups.

Setting a charge that is affordable and equitable to all can be achieved by a system of cross-subsidies, using the increased revenues from higher charges in the higher income communities to aid cost recovery in the less favoured areas, with an appropriate lowering of service charges to these households.

In the terms of the DFID's Poverty Aim Marker (PAM), actions targeted on specific areas of low-income households can be described as *focused actions*.

themselves to paying user charges for on-plot sanitation, for example, rather than for communal latrines, or for secondary or primary infrastructure where the benefits might not be immediately apparent. Members of low-income households also need to know how often, in what manner (for example weekly, monthly, or annually) and for how long they are expected to pay. Willingness-to-pay is not only tied to issues of household budgeting, which in themselves have important gender dimensions, but is closely linked to the legitimacy and effectiveness of the agencies and organizations responsible for service delivery. How people pay, and to whom, therefore influences *how much* they are willing to pay.

Subsidies are not a magic cure for poverty. Indeed, they do not necessarily reach poor households or communities. They can be both socially and politically motivated and have often been channelled to services rather than people. Urban areas may benefit from subsidized water supply at the expense of rural areas. Within urban areas, subsidized centralized water and sanitation systems reach only a minority of city dwellers, as mains water and sewerage are concentrated in middle-class and better-off areas. Moreover, new investments often tend to be in existing serviced areas. In developing countries, those who receive services are estimated by the World Bank to pay on average 35 per cent of the costs and, in effect, governments heavily subsidize urban élites (Black, 1994). As cost sharing and user charges usually characterize new investment in WS&S in low-income areas, inequities may be further compounded (Jarman, 1997) unless careful attention is paid to technology choice and means of cost recovery.

In order to avoid this inequity, policy approaches can target efforts specifically at low-income households, for example by discrete area-based interventions in deprived rural regions or in slums and informal urban settlements. In terms of DFID's Poverty Aim Marker (PAM) (see Section 1.5), this would constitute *focused action*.

In urban systems in particular, when services are being extended into low-income areas, steps must be taken to ensure that the unit cost of water to poor people does not exceed what better-off consumers pay. Mechanisms for doing this are discussed in Section 2.5.

2.2.7 From participation to partnership

During the 1990s it was recognized that extending access and sustaining service provision would demand a lot of human energy, including the efforts of local communities and local private sector actors. The role of governments in actual service provision is on the wane, their emphasis changing to the development of economies of scale, the co-ordination of wide coverage and multiple sectors, and building partnerships of service providers and service users. UNICEF (1995) also sees the public sector as having a role in ensuring equity, and in situations where local institutions and the private sector are weak, it sees government service provision as of continued importance.

In tandem with moves towards cost recovery, the 1990s has seen a transition in the respective roles of the various parties to WS&S improvements. Except in particular situations, perhaps where local government structures are lacking or weak, national governments have tended to distance themselves from service provision in favour of a broader co-ordinating and planning role.

The private sector, formal and informal, is therefore playing a bigger part and at the same time users, now required to contribute money as well as labour and time to improvement enterprises, have increasingly come to be recognized as programme partners rather than beneficiaries.

Where this leads to user input at the earlier stages of project preparation it has the positive result of relating project content more closely to community requirements. The increased involvement reinforces user commitment to the project and encourages a more questioning user relationship with the participating agencies — more demands are made on the successive layers of contributing groups and organizations — CBOs, NGOs, local, regional, and national governments.

The agencies most closely involved with users are therefore having to adjust

The role of the *private sector* is discussed in Section 2.6 and elsewhere but it is important to make two observations here. First, private involvement in water supply and sanitation spans a broad range of activities, which includes households and communities engaging in the private informal provision of infrastructure and services, in the absence of public or formal private sector provision (Batley, 1996; Beall, 1997b). Second, the private sector is not monolithic and embraces an informal economy, which is involved in construction, production, and service provision (Beall, 1997c). This in turn provides both services and livelihoods for low-income people.

Civil society organizations are diverse in both structure and motivation, from community-based organizations (CBOs) engaged in self-help activities or procurement (Cotton and Sohail, 1997), to non-governmental organizations (NGOs). NGOs are involved in activities ranging from service delivery, for example of low-cost water supply and sanitation, to intermediary activities such as negotiating with local government on behalf of communities. They can take on broader advocacy activities as well, such as issues related to poverty reduction, equitable service provision, or public health. It is not unusual for NGOs to establish themselves to perform one kind of activity, and to find themselves inexorably drawn into others, so that one organization may be active across a spectrum of activities.

Many national and international NGOs provide an important intermediary function, whether it is channelling development resources to community-based organizations, providing them with services and technical assistance, or helping them to strengthen their capacity to make demands on government.

NGOs have a number of advantages as intermediaries, not least because they are usually familiar with low-cost techniques and local innovations, and have field presence and good rapport with local communities. NGOs do not always solve the problem of linkages, but some try. The Orangi Pilot Project (OPP) model involves a multitude of small informal organizations, each of which takes responsibility for tertiary services in its own lane or immediate neighbourhood. Government, through a local government department or the appropriate line agency, continues to be responsible for ‘external services’ to use the OPP terminology. The OPP acknowledges that it has experienced difficulties in establishing linkages between internal and external services (Hassan, 1997).

Local and international NGOs have demonstrated that they are often well placed to reach low-income communities and households in terms of commitment, location, relationships, and planning methodologies. However, there are also a number of risks and assumptions relating to NGOs. The case of the World Bank’s JAKPAS project in Nepal is instructive. Up to 1996 this project provided funds to NGOs to organize the construction, operation, and maintenance of schemes with villagers, but experience showed that NGOs tended to

their roles and answer new questions arising from this evolution towards partnership arrangements that look beyond the base practical details of WS&S improvements and seek to integrate them with the associated aspects of social development.

This can present some difficulties for the partnering agencies. They now have to forge stronger links with users. The CBOs, NGOs, and local governments in particular must extend their interest beyond the initial focus on the technology-oriented needs of interested users and seek also to address gender issues and other aspects of culture and established social and hierarchical order in the target communities.
Only in this way can the welcome movement towards integration of social issues into WS&S programmes be expanded to the point where it becomes accepted as the norm.

take over the implementation (with diversion of funds) rather than to facilitate the process as intended.

In the end, there is no substitute for strong user involvement whatever the institutional mix. User participation has played a central role in meeting the challenges of the water and sanitation sector. Consulting and involving users in the design and preparation as well as management and maintenance of WS&S provides a means of revealing both expressed and latent demand and of ensuring that services match what people want, are able to pay for, and will strive to maintain. Participatory approaches can also help to resolve conflicts over water resource allocation among competing uses, and to ensure that choices are anchored in demand and not unduly influenced by contractors, consultants, or other secondary stakeholders.

Conventionally, participation in rural water supply has been through the development of village water committees, which in turn mobilize and manage people in providing contributions of cash and labour in self-help initiatives during the construction and maintenance phases of a project. Best practice examples also involve users in design, and work synergistically with existing formal and informal institutions and political structures. Previously the focus has been on the contribution

The Self-Help Rural Water Supply Programme in Malawi

The Malawi gravity-fed rural water supply scheme was one of the earliest examples of popular participation in large-scale, government-sponsored development projects in Africa, and it delivered sustainable benefits over a wide area. Forty-seven piped water schemes supplying over one million people have been completed since the Programme was first developed in the late 1960s. The popularity of the project lay in the fact that the piped water was brought to villages from a year-round source such as a spring or stream, located above the line of habitation, making the water both pollutant free and reliable.

New schemes were only undertaken at the request of local communities who were involved in system design and planning. Appropriate technology was developed that matched local needs and local resources. Sharing responsibility between the government and local communities, based on their respective comparative advantages, meant that communities were expected to perform only the tasks they could manage, given appropriate training, resources, and organizational and technical support. They were required to supply nearly all the labour for construction and to carry out continuing maintenance after construction.

The Programme devised appropriate institutional solutions. Working with existing patterns of organization appropriate to local conditions and with recognized local leadership, both traditional and political, enabled the programme to expand quickly and yet leave behind effective local management capacity. Political backing was an important factor. Initially the Malawi Congress Party was a constructive force at village level, providing a bridge between traditional leaders and the self-help committees. In later years the Party became alienated from its roots and its actions undermined the spirit of self-help, providing a reminder that the role of politics cannot be discounted.

Krishna and Robertson,1997

of people's participation to the efficiency and effectiveness of projects (Narayan, 1995), but increasingly it is recognized that asking people to contribute towards the costs of improved services means they will make more demands on the project. They will ask what benefits they will obtain from the investment of their time, energy, and money into the development, improvement, and operation and maintenance of WS&S services. 'The greater the contribution from users, the less they can be treated as beneficiaries, and the more they must be seen as partners' (Evans, 1992), and as partners, communities are likely to make more demands on governments and agencies. This poses new issues.

While projects such as the Self-Help Rural Water Supply Programme in Malawi were able to scale out horizontally with much success, existing institutional relationships were not tested beyond the community level. Moreover, just as there are risks and assumptions associated with NGOs, so there are with CBOs as well. Inequities and power relations within a locality can mean that communal rubbish bins are never placed outside the homes of high status families, while handpumps may very well be located next to the headman's homestead. Within a partnership approach, developing appropriate linkages between users and providers of services remains a challenge. It is often low-level field staff or workers who provide entry points for developing linkages.

Socially sensitive partnerships depend, in the end, on the attitudes and capabilities of local government to understand and undertake social development processes. This is a difficult problem given the limited capacity of local government departments and the technical orientation of most training provided to professionals involved in both rural and urban water supply and sanitation. An example of an organization trying to change is provided by Shrestha and Pyakural (1996).

Practice

DFID/Howard J Davies

How do the principles of social development translate into practice? How can they become an automatic part of good practice in WS&S? A social development perspective is supported by two key methodologies: social analysis, and the incorporation of social issues and participatory approaches into the process of development planning. *Social analysis* is particularly important in the identification, preparation, and appraisal of WS&S programmes and projects. It also provides socio-economic baseline data for on-going monitoring and subsequent evaluation. A *social development perspective in development planning* includes:

- responding to the demands and needs of those affected by projects and policies;
- reaching poor and disadvantaged populations;
- recognizing the roles and needs of women, as well as men;

- encouraging participation of all stakeholders in the development process; and
- creating an enabling environment for inclusive partnerships.

Adopting a social development approach is not a once and for all exercise, but a process which informs policy dialogue, programme and project formulation, design and implementation, as well as management and evaluation.

2.2.8 Conducting social impact analysis

If a social dimension is to be included in a project it must be introduced to all the partner groups at the outset (project identification stage).

It must be founded on a comprehensive baseline study (a social impact analysis) of social conditions applying at household, community, and local institution levels in the populations concerned. The study should classify information according to sex, age, class and, where appropriate, language, ethnicity, and religion.

Key outputs must include analysis of:

- cultural beliefs and sensitivities, particularly as they apply to water, water sources, and sanitation;
- community power structures and hierarchies; and
- current rights and practices concerning existing water sources and supplies, including water vending activity.

For reasons of equity and effectiveness and to avoid risks, attention to social issues needs to be built into programme activities as early as possible, ideally at the identification stage. This is particularly important in the context of a partnership approach. If DFID is to introduce and gain acceptance for social objectives and participatory approaches among all programme partners (including other donors and the private sector as well as government, NGOs, and communities), this has to be introduced before the appraisal stage when negotiations are usually already well advanced.

Primary and secondary data which describe socio-economic conditions and analyse social relationships in a proposed project location are collected at an early point in the project cycle, so as to provide benchmarks and indicators for planning, monitoring, and evaluation. Known as situation analysis, baseline studies, or — the term used by DFID — social impact analysis (SIA), studies are conducted during sector reviews and at the identification stage of all projects.

In social impact analysis, information collected should include *general demographic information* about the population, disaggregated according to sex, age, class, and settlement, and, where appropriate, religion, ethnicity, and language. Cultural issues with regard to water and sanitation are especially sensitive and may differ among different groups or on the basis of socio-economic status; gender, age and the life-cycle; and according to physical ability. Particularly important are: perceptions about the healing and health properties of traditional water sources; preferences around the taste and smell of water; customary hygiene practices and perceptions of ‘clean’ and ‘unclean’ water; customary sites for bathing, washing clothes, and ablution for women, men, and children; and issues of privacy with regard to sanitation. Analysis of social customs and norms will permit better dialogue about the siting of new water installations and sanitation facilities, for example, as well as facilitating appropriate hygiene promotion.

The household

Information about *households* should include residence patterns, their average or typical size, composition, and organization. There should be a solid understanding of the gender division of labour in the household, the tasks undertaken by children, and the hierarchies and

power structures within the household. Livelihood systems and strategies should be understood, including patterns of migration and who contributes to and controls different assets and areas of household budgeting. This information is crucial for understanding key water uses. It is also helpful in assessing how much time and resources different household members have for participating in WS&S provision, and whether all household members are willing and able to pay for it.

Jo Beall

The community

Socio-economic data on *the community* should include information on whether the community is rural, urban, or peri-urban, whether it is large or small, homogeneous or heterogeneous. Customary approaches to cross-subsidization within communities need to be understood along with the way in which care and social safety nets are provided. Economic information should include the type and size of enterprises and employment opportunities. This also provides an opportunity for understanding competing water uses at household and community level, as well as the impact of water supply projects on traditional water sellers or owners of traditional sources of water. They may stand to lose income or status in the community and they may play a dominant role in consultation processes as a result. Where possible, groups with a special relationship to existing water sources should be involved in the planning and possibly management and maintenance of proposed WS&S projects.

Local-level institutions

Participatory approaches need to be built on a thorough understanding of the *leadership and organization* of the community, including both formal and informal groups and structures. It is crucial, for example, to discern the importance of traditional leaders and other hierarchies, including informal power structures. These issues are important for identifying and analysing natural resource management, use of common resources, and the customary operation and maintenance of infrastructure. Understanding of community organization and informal institutional arrangements may influence the siting of installations, technological options such as pour-flush versus simple pit latrines, and cost-sharing arrangements.

Time spent on the initial study is time well spent. As well as describing current conditions it forms the basis for assessing user demand, defining appropriate improvements and estimating likely user participation and outcome benefits. Finally, when those benefits, the impacts of the improvements on user livelihoods, are evaluated, it provides the benchmark for doing so. In all these areas the results are directly affected by the quality of the initial analysis.

Monitoring and evaluation

Establishing both good baseline information which feeds into benchmarks and indicators for monitoring and evaluation allows for better social impact assessments when the project is finished. Traditionally assessment of improved WS&S provision was made against construction targets and the percentage of people with access to improved services. Then water supply projects came to be measured against the criteria of quantity, quality, accessibility, and reliability, using indicators such as distance to old and new sources of water, and time and energy saved in collecting water. It is only quite recently that evaluations have assessed the impact of WS&S provision on poverty, understood through the perceptions of poor people themselves. Combining participatory approaches with other methods

not only deepens understanding but also provides the conditions for developing inclusive processes and responsive projects. Indicators are discussed further in Section 3.5.2 and also in Narayan (1993). See the further reading at the end of Section 2.2.

2.2.9 Methods

Social analysis includes a range of methods which help to assess whether a community, sets of communities, or groups within a community, want a project or are likely to participate in and benefit from it. The extent of the investigation required will depend on how much is already known, for example from existing socio-economic studies or previous projects. The methodologies employed will depend on the size of the proposed location and budget, as well as the nature of the problem and the project. However, a combination of methods is often advisable so that robust benchmarks are identified. Indicators should be relevant, measurable, and comprehensible to all stakeholders and should be developed, probed, and checked with primary stakeholders.

Some of the following research methods may be useful:

- review of available information and previous projects
- formal surveys
- semi-structured and 'conversational' interviews with key informants
- observation
- group interviews with households, occupational groups, or segments of communities
- life, work, and organizational histories
- public meetings
- workshops
- participatory rapid appraisal (PRA) methods

The strengths and weaknesses of the three methods commonly used for demand assessment — revealed preference, contingent valuation, and participatory rapid appraisal — are referred to in Section 2.1.9 and Table 2.1.2. Participatory rapid appraisals, as well as being quick to implement, have the prime advantage of fully involving users in both information gathering and analysis, thereby promoting local capacity building and strengthening partnering attitudes.

A general rule of thumb is that quantitative methods are best suited to exposing what and how much, while qualitative methods are more appropriate for their explanatory value and answering the question 'why?'. They are also good for answering the question 'what next?' and feed well into policy decision-making processes.

Social impact analysis can be used to explore attitudes to water such as quality and taste, its use in domestic and livelihood activities, and whether water from certain rivers or sources is imbued with magical or spiritual qualities. Social impact analysis can also reveal whether water is considered a 'free' good in a particular context, and whether people are willing and able to pay for new or improved services. This is invariably related not only to issues of affordability, but to existing water supply or sanitation facilities and the improved options on offer.

Three main types of **demand assessment** are used within DFID. First, *revealed preference* (RP) methods measure demand indirectly by

examining current behaviour, such as time spent fetching water or the price paid to water vendors. Second, *contingent valuation* (CV) methods ask people directly what they would be prepared to pay for different or improved services in the future (see Section 2.5). Both direct and indirect assessments of demand can also be undertaken through a third approach, that of participatory rapid appraisal methods. These usually constitute a number of qualitative research methods used in combination and triangulated or cross-checked against one another. They usually take a participatory form and include indirect methods of assessing the services and practices people already have, what they currently pay for water and to whom, and what their perceptions are of proposed changes to services and charges.

In conducting demand assessment, different methods have different strengths (see Section 2.1.9). Large-scale CVM surveys of randomly selected households can give a reliable indication of what proportions of people might be willing to pay various prices for different levels of service, but focus groups might better tell you why. Care needs to be taken in drawing strategic-level conclusions from focus group or community meeting discussions, however, because the participants in these discussions may not be representative unless they are randomly selected (see Davis and Whittington, 1997).

Participatory rapid appraisal

Often resources and time do not permit extensive social research. Instead, participatory rapid appraisal (PRA) methods are used as a 'quick and clean' means of conducting social analysis and of ascertaining social impact. The advantage of including participatory methods of enquiry is that when they are well done, the research itself

The Community-based Environmental Management Information System (CEMIS) Project

On the basis of pilot work in Indonesia, the Community-based Environmental Management Information System (CEMIS) project advocates that communities themselves assess effective demand. The approach is to train communities to assess their own demand for services through self-survey of needs and community workshops. It uses community leaders and volunteers, uses locally available information and resources, and leads to local-level empowerment and self-determination.

At the beginning of the process local people are consulted at a community meeting held to prioritize environmental problems. If water supply tops the agenda, for example, the community may decide to determine effective demand. During the research, workshops are held with community volunteers to familiarize them with the methodology and develop a plan for the self-survey which they would then conduct. After the data is collated and analysed, the results are presented back at a community meeting. There consensus would be reached on the commitment of individual households to contribute to the provision, operation, and maintenance of the service.

UNCHS, 1996

belongs to local people, who contribute to its analysis as well. Facilitators help them to analyse and understand their situation in relation to a wider context, so that they can plan their role in projects and assess the impact on their future. In this way, PRA not only contributes to the process of information exchange but also to the goal of developing a shared agenda and to local capacity building.

PRA draws on the following menu of sources and activities:

- use of secondary data, maps, and reports for background information
- direct observation
- case studies, work, and incident histories from local experts
- semi-structured interviews with key people
- transect walks: systematically walking through an area with local guides, observing, asking, listening, and learning about water sources and uses, sanitation provision, settlement patterns, technologies, etc.
- group discussions of different kinds (casual, focus, community)
- mapping and modelling to show local world views
- matrix scoring and ranking exercises to compare preferences and conditions
- well-being grouping to establish local criteria for deprivation and disadvantage
- time-lines and trend and change analysis to show chronologies of events and to analyse local trends and causes of change
- seasonal calendars and daily time use analysis to show work patterns and activities

Information from PRA should be made available to all stakeholders as early as possible in order that it can feed into and facilitate participative processes. Further reading on PRA techniques is included in the references at the end of this section.

Stakeholder analysis and gender planning

Gender-separated statistics are an important output of the impact analysis, assisting the planning and implementation of WS&S improvements around the separate needs, functions, and responsibilities of men and women in the community.

Stakeholder analysis as outlined in DFID planning guidelines (ODA, 1995a; 1995b; 1995c) provides a means of identifying those groups who may directly or indirectly be affected by projects, both positively and negatively. It also ensures that not only users or primary stakeholders are recognized as having vested interests in the project and the planning process, but secondary stakeholders also, such as donors, governments, and project staff.

Once people as well as pipes are recognized in WS&S planning, it is easier to disaggregate all categories of stakeholders on the basis of gender or other important categories such as ethnic groups and rural–urban distinctions. Gender planning techniques include the use of sex-disaggregated statistics, task analysis in which the activities of men and women are defined, relational analysis which explores the relative position of women and men in society, and gender planning checklists

for project planning. Together these help respond to the different responsibilities and needs of women and men, and allow for gender differences in the way women and men engage in the planning, implementation, and management of programmes and projects.

2.2.10 Developing participatory practice

Participatory practice as now envisaged is a step forward from earlier examples where user input was usually limited to practical matters centred on the construction and subsequent operation and maintenance stages.

For a long time the case for community participation in WS&S was made simply on the grounds of cost effectiveness and efficiency. Participation provided the opportunity of incorporating indigenous technical knowledge into planning and design, of devolving responsibility for operation and maintenance to the level where there was most at stake, and of relying on community 'self-help' in the context of increased emphasis on cost sharing. In this case, participation was advocated on the grounds of long-term project or programme sustainability and this rationale remains valid.

More recently, as cost-recovery has become an important element of WS&S programmes, financial input has been added to the user side of the participation equation. These arrangements are valuable as aids to project affordability and sustainability, but fall short of giving users a full role in the earlier planning and design decisions on matters that can significantly impact on their future lives.

However, in WS&S provision as in many other sectors of development, there is a growing emphasis on building both individual and community level empowerment. This involves approaching the development process from below and increasing people's role in shaping their own development. It is closely linked to the shift away from 'supply-led' to 'demand-responsive' approaches, which advocate the active involvement of primary stakeholders at all stages of the project cycle. Empowerment is also linked to strengthening civic engagement and government responsiveness. There are a number of examples of WS&S projects, such as WAMMA in Tanzania, highlighted in the box at right, which are actively attempting to incorporate demand into their project planning, usually through the use of PRA methods.

Building capacity and shared agendas

Sometimes local groups or secondary stakeholders need help to raise levels of awareness and sensitivity. For example, professionals may need gender training or capacity building in participatory research and planning techniques. At community level capacity building may involve skills training and confidence building to ensure participation in project fora and partnerships.

Correcting this by developing user participation into meaningful partnerships is a slow process demanding patience and, in many instances, changed attitudes and new skills in the secondary stakeholder groups, such as CBOs, NGOs, and local governments.

Linking demand and participation

' "Demand" is concerned with defining *what* is done: participation concerns *how* it is done. Responding to demand is an important first step but does not in itself create a sense of primary stakeholder ownership. Even where project interventions are welcomed by and appropriate to the needs of primary stakeholders, their exclusion from continuing decision-making and planning processes often prevent community management or maintenance systems from working effectively, and prevent poor people from developing and sustaining any sense of control over their own lives.'

Derbyshire and Vickers, 1997

WAMMA: Empowerment and partnership in practice

WAMMA is an example of how, during the five years up to March 1996, an evolutionary partnership between the government of Tanzania, an international NGO (WaterAid) and Tanzanian villagers helped attain sustainable water and sanitation services among 86 communities in the Dodoma region of Tanzania. In that same period, the villagers concerned raised the amount of money in their village water funds from nothing in 1991 to UK£25,000 (US$40,000) in 1996.

Today the WAMMA programme has become a model of an integrated participatory approach to community water supplies. The four multisectoral teams at the heart of the programme were formed principally from junior staff in three departments (Water, Health, and Community Development). Most were unskilled and demotivated by low pay, poor job satisfaction, and a lack of practical experience. As fieldworkers and agents for change, they have become dynamic and committed teams, respected by the villages they work with and by the managers and directors of their departments.

Integrated, participatory partnerships require patience, flexibility, and long-term commitment and cannot be achieved from a rigid blueprint. WaterAid has been working in partnership with the Tanzanian government in Dodoma Region for more than a decade. Relationships involving government officers at national, regional, and district level, WaterAid staff, and local community representatives have progressed from cautious suspicion to mutual respect, but not without significant difficulties on the way. Throughout, approaches were modified in response to local conditions and attitudes. The end result was teamwork. Government staff, WaterAid, and the villagers share common goals and recognize the benefits of collaboration.

Jarman & Johnson, 1997

Professionals and workers in these groups must adapt, sometimes with (additional) training, to the increased interactions with users that must become the norm. These will extend into areas of the programme cycle not previously exposed to consultation processes.

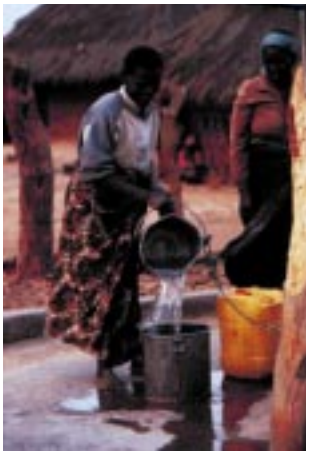
More consultation and interaction should ease the path to shared agendas, for example enabling professionals to illustrate and promote the substantial medium-term benefits seen to arise from a certain WS&S improvement which householders, with pressing daily concerns, might not see as an immediate priority.

In WS&S projects a balance has to be struck at times between an 'objective' assessment of aggregate need by professionals and the prioritized demands of communities themselves, not necessarily supported by all local people. An illustration is that sanitation provision is not always a prioritized demand among the urban poor, who may be more preoccupied with earning a daily income than with long- or even medium-term health risks. One approach to developing a shared agenda is to try and stimulate demand, for example through social marketing components of hygiene promotion, which might emphasize issues of dignity, status, and improved property values as much as health (see also Section 2.8). Another is to hold community-level or multi-stakeholder workshops. Whatever techniques are used, raising awareness to stimulate change in behaviour and attitudes is a long-term process which requires skill, resources, and time to work interactively at community level.

The demands of partnership

Not all stakeholders can or want to participate equally at all stages of a programme or project. Pretty et al. (1995) identify seven different types of participation ranging from low-level passive participation where people are simply told what is going to happen and what to do, through to functional participation and self-mobilization where people take initiatives themselves. DFID's guidelines (1995a) on enhancing

It should be borne in mind that increased participation does not mean continuous participation on the part of all interested partners. Programmes are fluid and can be complex and multi-faceted. They therefore require inputs from and interactions between different partners at different stages of the project cycle.



WaterAid/Jim Holmes

stakeholder participation provide a useful model to assist in thinking through at which points in the programme cycle information, knowledge, and decision-making processes might be shared.

This is particularly important in projects concerned with water and sanitation, where a shared agenda needs to be developed around several issues such as technology choices, the level and location of services, and the deployment of different kinds of expertise. DFID's participation matrix illustrated at the end of Section 3.2.2 (Figure 3.2.1) recognizes that the specific circumstances and purposes of primary and secondary stakeholder participation can shift over the project or programme cycle. For example decisions around the structure and involvement of community-level organizations at various stages, or the procedures for operation and maintenance, require on-going clarification and negotiation. Beyond the information-gathering exercise of many PRA methods, these can extend into decision-making processes and prioritization. 'Planning for Real' (Gibson, 1996) is a version of participatory planning particularly well suited to projects concerned with physical infrastructure and urban services, and it accommodates the steps towards successful partnerships elaborated below.

The starting point for successful partnership is for all participating groups to know that:

- they are recognized and valued;
- they can do some things alone but also need the help of others; and
- they are included in decisions that will affect their work or lives.

Seven steps towards successful partnerships in water supply and sanitation

Professionals and officials look to the ground

1. Learn about communities and the different groups within them, and learn how to relate to them

2. Learn from the knowledge and experience of local actors and respond to their views

3. Explain what you are doing and break down big plans to show local details and how they fit in

4. Negotiate options for technology, siting of installations, cost sharing, and operation and maintenance

5. Agree division of responsibilities with community representatives

6. Explain your limitations and lines of accountability

7. Be accountable to partner communities and stay in regular contact with them

Changes in Professional Training

Capacity-building in public and private institutions

Learning from experience of other projects and sectors

CATALYSING ROLE OF SOCIAL DEVELOPMENT FACILITATION

Learning from experience of other projects and other sectors

Capacity building towards participation for empowerment

Linking local groups and agreeing agendas

7. Be accountable to partner professionals and officials and explain to them who else you are accountable to

6. Agree on a division of responsibility with professionals and officials

5. Negotiate for respect for contributions of money, time, and energy

4. Learn from the knowledge and experience of professionals and officials

3. Share local knowledge with professionals and officials and understand their role

2. Develop local-level skills, self-confidence, staying power and credibility

1. Involve everyone in assessing needs, resources, and assets within the community involving everyone

Local communities set their sights higher

WaterAid/Caroline Penn

Further reading

Introductory texts

Cairncross, S., Carruthers, I., Curtis, D., Feachem, R., Bradley, D. and Baldwin, G. (1980) *Evaluation for Village Water Supply Planning*, Wiley, Chichester.

Feachem, R., Burns, E., Cairncross, S., Cronin, A., Cross, P., Curtis, D., Khalid Khan, M., Lamb, D. and Southall, H. (1978) *Water, Health and Development: An interdisciplinary evaluation*, Tri-Med Books Ltd., London.

White, G.F., Bradley, D. and White, A. (1972) *Drawers of Water: Domestic water use in East Africa*, University of Chicago Press, Chicago and London.

These three books represent early examples of interdisciplinary studies of rural water supply, which include a social development perspective. They were pioneering studies and continue to stand the test of time.

Poverty and social development

Beall, J. (1997a) 'Introduction' to J. Beall (ed.) *A City for All: Valuing difference and working with diversity*, Zed Books, London.

Jarman, J. (1997) 'Water supply and sanitation' in J. Beall (ed.), *A City for All: Valuing difference and working with diversity*, Zed Books, London.

A useful introduction to social development issues in an urban context. The chapter by Jarman examines the relationship between poverty and water supply and sanitation in the city, providing best practice examples of interventions.

Gender issues

FINNIDA (1993) *Looking at Gender, Water Supply and Sanitation*, Finnish International Development Agency, Helsinki.

SIDA (1996) *A Gender Perspective in the Water Resources Management Sector*, Swedish International Development Agency Department for Natural Resources and the Environment, Publications on Water Resources No.6, SIDA, Stockholm.

Together these provide a good overview of gender issues as they pertain to WS&S. The SIDA publication is particularly useful in that it provides a checklist in relation to gender at each stage of the programme cycle.

Participation

Dudley, E. (1993) *The Critical Villager: Beyond community participation*, Routledge, London.

Evans, P. (1992) *Paying the Piper: An overview of community financing of water and sanitation*, IRC Occasional Paper No.18, IRC International Water and Sanitation Centre, The Hague.

Narayan, D. (1993) *Participatory Evaluation: Tools for managing change in water and sanitation*, World Bank Technical Paper No.207, World Bank, Washington DC.

These texts are recommended for their analysis and application of participatory approaches in the context of infrastructure projects and water supply and sanitation respectively.