

2 Planning and management

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The last two decades have seen big changes in the approaches to planning and managing small community water supplies. When this book was first published in 1981, community participation in water projects was certainly seen as important. Water agencies had recognised the benefits of involving local people in construction, operation and maintenance of their own water systems. There was an emerging trend, too, for decisions about the design and financing of water supply improvements to be taken in partnership with the community.

That trend has continued apace. It has evolved via participatory approaches that try to ensure that development is community driven, reflects the true aspirations of all sections of society, and is both gender and poverty sensitive. At the same time, there has been a growing recognition that water supply improvements alone do not bring optimum health and development impact. Better sanitation provisions, changes in hygiene behaviour and linkages with other livelihood inputs are the complimentary activities needed to yield the full benefits.

So, the institutional framework and organisational models for planning and management of community water supplies have to be inclusive in terms of both society and sectoral interests. The role of water agency staff is very much one of motivators, facilitators and supporters of community-led programmes.

2.1 Planning for community managed water supply systems

Project versus programme

The planning and design of water supply systems in large communities is usually approached as a single project. The term *project* encompasses all the preparations for the construction of a particular scheme or water supply system. Because each community and system is different, each project is unique. There is still a need for the inclusive approach, to avoid marginalising the poor, but the ways of ensuring sustainability in large urban settings are outside the scope of this publication. For planning with a large number of small communities, a programme approach is more efficient and effective than a project approach. A *programme* is a series of integrated activities directed at the establishment and continued functioning and use of a considerable number of similar water supply services. Because the communities themselves manage the services, the technologies on offer should fit the different levels of complexity and costs that the communities concerned can manage. Choices should also not be dominated by local political interests. The challenges of a programme approach are therefore social, organisational and administrative. This has implications for the manner of implementation and the kind of expertise required.

Planning will depend on strategies adopted by the supporting agency and on basic principles that are emerging in the water supply and sanitation sector. One principle is to involve the different groups in communities right from the start of the planning process. Support agencies, community groups and users should work together as partners, and plan their activities based on mutual agreement. The latter is particularly important in contexts where communities are taking more and more responsibilities for operating, maintaining and managing their water supply schemes. Experience shows that effective management is determined to a considerable extent by non-technical issues. Therefore, the agency staff involved in planning and assessing water supply systems should come from a wide range of disciplines – social development, economics, health, environment, management and engineering.

Demand-responsive programmes

Demand-responsive programmes give each community and the various groups in that community an informed choice of services and service management systems. This means that all locally relevant groups, or *stakeholders*, get information on all relevant aspects and implications of the various water supply options. The information may include: the amount and quality of water provided; the purposes for which this water will be adequate; potential implications for health and socio-economic development; investment and recurrent costs involved; approximate walking distances; requirements and possibilities for sharing of service and costs (for example, through group connections or by forming user groups); prospects for service regularity and reliability; and differences in ease of maintenance (for example spare parts and technical skills required) and administration.

Table 2.1 Comparative advantage of community managed projects

A comparative quantitative evaluation of small community managed water services showed that

- communities with demand responsive projects (i.e. community households, both men and women, involved in planning decisions) had better sustained and used water services; communities with more (owner) rights and with capacity building for local management had better sustained services;
- household contributions to construction were only significantly associated with better sustained services if coupled with more rights and capacity building for local management;
- having a local water management organisation composed of women and men members correlated with greater access for all, especially when there were more poor people among committee members;



- when there was better representation of women and people from poor families in the water management, poor women more often perceived themselves to have influence on the water service;
- the more directly democratic and gender sensitive the planning of the technology/service levels and maintenance system (that is, with men and women from the households), the better the services had covered their cost over the last three years;
- cost recovery was also better with more community control and accountability, i.e., when local water management organisations had had some control over design and construction, applied local rules on water use/management, accounted to users for management and had a legal position.

Source: Gross et al., 2001

Comprehensive planning

The eventual local solution for an improved water supply system is the product of comprehensive planning, considering all community, technical, environmental, financial and institutional aspects.

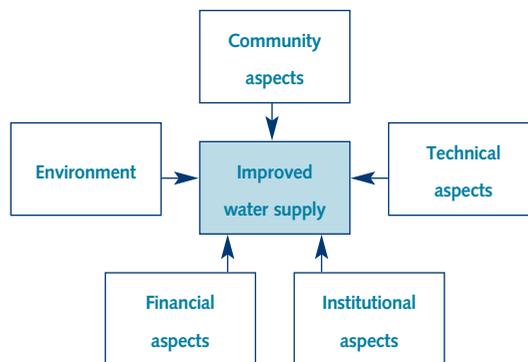


Fig. 2.1. Comprehensive planning

The stakeholders who make these choices are the groups that will use and sustain the service and thereby determine its success. At the community level, they are the local leadership, the male and female heads in each household who will be the future users and tariff payers, and the local organisation that will manage the participation process and possibly also the service after its establishment. The latter may be an elected committee or sub-committee, but other management forms are possible. It is thus very important that all these groups know what the implications of the various options are and can choose the option or combination of options that best fit their local needs, conditions and resources.

Linking water supply, hygiene and sanitation

We saw in chapter 1 that for sustainable public health benefits, 75-80% of the population have to use enough water of an adequate quality the year round and practise safe sanitation and good hygiene. It follows that small community water supply programmes need to cooperate with effective programmes for improved sanitation and hygiene behaviour.

In rural communities, households frequently have a choice between alternative water sources and women have developed criteria to choose which source to use for what purpose. This means that households will not automatically use and sustain an improved water supply. A strong demand for good quality water may initially only exist in situations of severe shortages or of heavy pollution of the water sources. In the same way, demand for sanitation in rural and peri-urban communities is often low, especially among men. Women and adolescent girls face more privacy and safety problems and so have a greater demand. However, often they can only express these needs within the family. For the true demand to be reflected in programming, there has to be gender sensitivity in the participatory planning.

Enhancing the demands for better water use, sanitation and hygiene is thus imperative to meet longer-term health benefits of environmental engineering. In the last decade considerable knowledge has been achieved on how to do this effectively. Part of this knowledge is that water engineers cannot consider local projects in isolation from the existing alternatives. To be accepted, used and sustained, the new provisions have to be and remain better than the other alternatives in terms of economic and social costs and benefits. It does not work just to tell people that this is so, or for programmes to "educate" villagers to do what outsiders consider best for them. Programme teams that support community projects must seek and value the local experiences and viewpoints, particularly from poor women and men, to understand better what local people really want and can use and sustain.

Planning and assessment

The comprehensive participatory planning illustrated in figure 2.1 involves assessment of and consultations on a wide range of different aspects. Some of the key criteria to be considered in planning are listed in table 2.2.

Table 2.2 Assessment criteria for effective planning

Assessment criteria	Key components
Community aspects	<ul style="list-style-type: none"> • Demand for water supply improvement and desired service level (men and women, including marginalised groups) • Perception of benefits related to an improvement of water supply (men and women, including marginalised groups) • Responsibility and ownership feelings • Culture, habits, beliefs related to water and hygiene • Presence of alternative water sources • Organised and elected community group to be responsible for operation and maintenance (representative of the community social structure, including men and women) • Managerial and technical capacity of the community group, and availability of tools • Possibility of grouping several communities for a single water supply scheme (in the case of small piped systems)
Technical aspects	<ul style="list-style-type: none"> • Present and future water consumption • Need to include water treatment • Technical standards and complexity of O&M procedures, with a preference for technologies that can be operated and maintained at community level • Quality, longevity and cost of equipment • Cost and availability/accessibility of spare parts, and potential for local manufacture of spare parts, as well as standardisation • Dependence on and cost of fuel, power and chemicals, if needed, with a preference for reducing this dependency
Environmental aspects	<ul style="list-style-type: none"> • Quantity and quality of water resource, including the need for water treatment, water resource management and seasonal variations • Water source protection and wastewater management
Financial aspects	<ul style="list-style-type: none"> • Cost – benefit analysis • Ability and willingness to pay • Tariff structure (covering O&M and replacement costs), with due consideration for marginalised groups • Cost-recovery procedures and financial management capacity • Alternative financial mechanisms, in case of major problems • Economies of scale



Institutional aspects

- Legal framework and national strategy
- Training availability and capacity
- Follow-up support, including monitoring
- Availability of technical assistance to the communities (NGOs, municipal and/or district level)
- Availability and capacity of local craftsmanship
- Involvement of formal and informal private sector
- Capacity of technical staff to deal with community development and knowledge of participatory processes

All communities have at least one form of water supply. From the perspectives of all these criteria it is wise to consider all forms of improvements, from improvement or upgrading of existing traditional and/or improved water supplies to the establishment of one or more supplementary provisions. Building a new system that replaces all others is not the only and necessarily best choice. On some dry plateaus with low density settlement for example, a sequence of water supplies, starting with rainwater harvesting and surface water use at the peak of the rainy season, and followed by using protected wells on the plateau and, when these dried up, handpump wells in the river valleys (sealed and with the pumps kept by the committees when they were not used) has been the agreed option.

Designing for current and future needs

To serve the needs of all groups, small community water supply designs must further be holistic, expandable and upgradable.

In a *holistic* design, the local water supply system or combination of systems meets all the basic water needs of the people. In small communities, separating water between domestic and productive uses is often unrealistic. As well as the family needs for drinking, cooking, bathing, sanitation and hygiene, both women and men often need domestic water for small-scale productive uses within the household, such as raising animals, growing vegetables and trees, processing food and making bricks. Alternative water sources are not always available for such uses. Even if there are several sources it is unlikely that there will be clear enforceable arrangements made on which source will be used for which purposes. Unless local design, management and financing arrangements encompass all the different needs, competition and conflicts over water are the result.

Designing for *expandability* is required because programmes seldom can go back to communities some years later to install new water points for new households and neighbourhoods. Social and health benefits may be lost unless service coverage levels

can be kept up and newly settled families also have access to the improved water supply. It is therefore important that, in choosing the technology and service levels, the community and its advisers also consider the system's expandability within the locally available technical and financial means.

Upgradability is an issue because improvements in basic services can be expected to lead to socio-economic growth. Communities may therefore wish to design for the future and accept the implication of some extra community investments upfront to increase the possibilities for later upgrading.

Rehabilitation of defective water supply schemes can be an alternative to investing in a new project, but that decision should not be taken lightly. The rehabilitation option has to be evaluated, as one would do with a new scheme, by taking into consideration the community's needs, preferences and capacities to sustain whatever is undertaken, as well as the support capacity of water agencies. In assessing the scope for rehabilitation, community members and support agencies should use a participatory problem analysis to review the reasons why the system needs to be rehabilitated, and carefully examine other feasible options. Rehabilitation should not simply be a matter of replacing defective equipment or repairing damaged infrastructure. The most common causes of failure are poor organisational/financial capacity and inappropriate choice of technology.

Standardisation

Several countries have chosen to standardise their choice of technology. There are positive and negative aspects that should be carefully considered before making a decision to standardise (see table 2.3). Standardisation can only last a certain number of years, as technological progress, price factors and new life styles/patterns will influence the level of service and choice of technology.

Table 2.3 For or against standardisation

For standardisation	Against standardisation
<ul style="list-style-type: none"> • Wide use of the same type of equipment encourages agents and shopkeepers to store and supply spare parts because of an important and foreseeable demand • Proliferation of brands and technology makes it difficult to organise an efficient spare parts availability system • Prices and markets can become more accessible 	<ul style="list-style-type: none"> • The chosen technology does not respond to the needs and preference of the users • The market is closed for new, innovative and cheaper technologies • Poor incentive for the involvement of the private sector • Possible conflict between country and donor policy on choice of technology



- Users become familiar with one type of technology and product
- Training of personnel can be standardised
- Competition between different brands can help prices to go down and improve efficiency

2.2 Participatory processes

How are demand-responsive programmes implemented? A number of new approaches are emerging for community planned and community managed water services, with more participatory and gender and poverty sensitive strategies, organisations and methods.

Participatory planning and design is an intensive and crucial process. It is continually necessary to consult separately with the different community groups about the different options. Because of the great technical, socio-economic and cultural variation, each programme will need to work out its own range of options and the information and tools that it will use with the groups concerned. Decisions on community financing alone, for example, cover a wide range of choices: how much should be paid to reflect local costs and age of systems; equitable payment systems; division of responsibilities and work in collection and administration; accounting and accountability; etc. There is an increasing amount of field experience in the literature about what works best under what circumstances. There are also a growing number of reference documents and advisory services that help identify the kind of choices that programmes may consider.

A programme fund to (co-)finance locally planned projects

Small communities frequently find it difficult to obtain the capital to construct improved water supplies, so local efforts seldom develop into larger programmes without some sort of outside support. The initiative for organising and financing multi-community programmes usually comes from the central or provincial government. Establishing such a programme, and creating a programme fund, facilitates the local initiation of a succession of small community water supply projects. The fund may be partly revolving, that is, it is a centrally established fund that finances new projects using repayments on earlier loans.

The communities that agree to take a loan, or qualify for a grant, or a combination of the two, contribute to the costs of planning, design and construction with their time, cash, local knowledge and expertise, materials and labour. They also manage the local planning process through their own organisation (not necessarily specific to water supply). This organisation makes the arrangements for the construction of the installations, involving community women and men, artisans and/or local contractors. It has to account for the use of the funds to the programme agency and to the women and men from the community.

Participatory assessments during the pre-planning stage

Using a demand-responsive approach implies that, before obtaining a loan or a grant, individual communities have the opportunity to assess the demands within their households and submit a pre-proposal to the programme. Candidates for funding may be all interested communities in selected programme areas, although programmes also sometimes formulate eligibility criteria.

Communities are not homogeneous entities. They consist of different groups broadly representing those that are better off, the middle classes and the worse-off/marginalised groups. In each of these groups, women and men have their own needs, knowledge and potentials. To help and get support from all, it is important to identify the various groups at the very start of the process and ensure their equitable participation. It is often necessary to meet separately with each group, because in many cultures women and poor people cannot or will not attend and speak out at large meetings. Their views have to be obtained through gatherings where they can participate in an uninhibited way. Trusted individual local men and women then convey the views to a larger general meeting and report back to a second gathering later.

The local organisation that organises the pre-planning and planning process is the heart and soul and the driving force of the whole participation process. It must be able to represent the interests of all community groups. From the beginning, it needs to have an equitable representation of both women and men from the major groups in the community. External agency staff assist this organisation to assess the existing conditions and needs for improvements and to prepare a pre-proposal for improvements. The organisation also needs to be able to submit the proposed plan for approval to all the women and men in the different socio-economic (and sometimes also different religious and ethnic) groups.

Preliminary project selection

No community exists without having some kind of water supply system. Projects can therefore not be planned in a vacuum, but must be based on the assessment of existing conditions. Assessment of existing water supplies and their technical, financial, administrative, social and environmental shortcomings is therefore a part of any rapid feasibility/baseline study. Rapid participatory appraisal methods such as the *Methodology for Participatory Assessment of Community Water Services* (Wijk, 2001) facilitate such an evaluation.

Having assessed the existing conditions and laid down the demands, needs and potentials for improvement, each community submits its resulting preliminary plans, or pre-proposal, to the programme level. At this level, the first prioritisation and selection of preliminary proposals takes place, followed by the allocation of financial and human

resources to help with detailed planning and design. In a participatory programme, such decisions are ideally also a joint process, in which women and men community representatives from the concerned communities participate. In the process, special care is needed to ensure that weaker communities are not disadvantaged. Those with less development, weak leadership, or suffering social conflict often require more assistance and/or more time to complete the process. Already advantaged communities may otherwise dominate the competition for project resources.

Detailed planning and decision-making

Once a proposal has been selected and resources have been assigned, the next stage is detailed planning and design. Programme support teams (discussed later) now use their social and technical know-how to help the communities to consider the pros and cons of different technical and organisational options and make informed choices. The choices cover a wide range of issues:

- the types of technology and the levels of service that best suit the different sections of the community;
- the number, physical design and precise location of the facilities;
- the extent to which women and men in the different community groups will participate with cash, materials and labour – including cooking and collecting water – during construction and maintenance and how the participation will be managed, monitored and controlled;
- monitoring of the quality of the work;
- local arrangements for maintenance and repair;
- the local financing system for sharing the investment and recurrent costs;
- the statutes and regulations needed for management of the water system and of water and land use to protect the quantity and quality of the water resource(s).

For the support team, most of the options and even the choices will be the same from project to project. That does not mean that they can be prejudged. The future sustainability of the new systems depends on the whole community sharing information and accepting responsibilities based on full involvement in planning decisions.

Example of a planning process

An effective planning process leads in stages from the demand of the community, to an initial service level assumption, a participatory base-line survey, an assessment of support capacity, and an analysis of results with the communities, and ultimately to a formal agreement on the water supply system chosen. The steps are:

Step 1 Demand from the communities for support in improving their water supply. This step may well have been preceded by promotion campaigns.

Step 2 Initial service level assumption, during which the support agency makes a preliminary overview of hydrological, population, technical and institutional aspects, including an inventory of theoretically potential water supply options, based on existing data and information.

Step 3 Participatory community baseline survey, during which a situation analysis is done with the communities, in order to assess the following points:

- Demand (of poor, middle class and better-off men/women)
- Consumption patterns and desired service level (men and women)
- Perception of benefits of an improved water supply system (men and women), including distance, comfort, time gains, health, income generating activities, status
- Culture, beliefs and habits of different user groups regarding water supply, sanitation and hygiene, including an assessment of experiences (good and bad) in past community projects
- Housing distribution (rich, intermediate and poor)
- Income and willingness to pay (rich, intermediate and poor)
- Present and future availability of water resource (yield and treatment needed, including seasonal variations)
- The importance of alternative and traditional water points
- Presence, capacity and representativeness of organised community groups, as indicated by men and women, and the poor
- Managerial and technical capacity within the community, by class and sex
- Managerial and technical capacity outside the community, including follow-up support
- Link with local/municipal/district authorities
- Potential technical options that match users' preference, ability to pay, management capacity, availability of spare parts and environmental conditions
- Capacity and willingness to pay for capital costs, including contributions in kind
- The need to integrate sanitation, hygiene and wastewater management

Step 4 Assessment of operations support capacity, during which an investigation is made among local, municipal and district public bodies, private formal/informal bodies or individuals, and NGOs in order to assess their present and potential future role and capacity in supporting the management, operation and maintenance of water supply schemes. The support agency will subsequently need to

- define a division of responsibilities together with the main stakeholders involved;
- promote the involvement of the private formal and informal sector not only for design and construction purposes, but also for maintenance, repairs, supply of spare parts, water quality monitoring (in conjunction with public health services), community mobilisation, etc.;
- plan for capacity building activities according to the needs that have emerged at all levels (community, public authorities, private sector).

Step 5 Analysis of results with the communities, during which the agency that implements the overall programme makes a preliminary overview of the results of the participatory baseline survey. This is then discussed with the communities, with an emphasis on all implications and long-term commitments of various technical options. Clarification should be made on the necessary organisational adjustments, as well as on the managerial and financial responsibilities, and tariff levels that are emerging. The sanitation and hygiene component is as essential as the water supply one, as it could jeopardise any effort in improving water supply schemes if not properly dealt with. Communities need enough time to consider the various options and implications, and may have to be organised in a formal group (association, cooperative, etc.). Women and the poor sometimes need help to organise separately and so gain equal influence.

Step 6 Formal agreement between the community, the local authorities and the support agency, once the community has made an informed choice on the desired water supply system, location and sites, and it has formally decided to contribute to the capital costs (in cash and/or in kind), as well as formed a community group. The agreements clearly define the responsibilities and rights of each party and spell out the sanctions and procedures in cases of violation.

Implementation

When each community has developed its own detailed plan, the same publicly accounted decision-making process at the programme level serves to decide which plans are financed through a loan, a grant or a combination of the two. Advisory services from the programme teams are made available to each community project and the project funds are transmitted in instalments to the special project bank account that each community has established.

Under this approach, procurement and construction are fully community implemented and controlled. This presumes that the capability to monitor the quality of construction and manage the contract is locally available or that training is provided. During this stage the local project committee also monitors and accounts for the fair implementation of contributions from individual householders. Care and monitoring ensure that both women and men from the different sections are trained and that women, as primary users, are not given only the low level physical work, but can exercise control over the quality of facilities.

The post-construction stage

Small community water supplies are often more difficult to keep running than to construct. The need for proper maintenance and management is generally recognised, but the actual maintenance work is frequently neglected. Building local management organisations and management capacities needs careful attention.

The local management organisation manages the water service according to locally agreed regulations and statutes that do not conflict with national water regulations. Users generally make payments that, as a rule, cover local operation and maintenance costs. Depending on the arrangements with the government, community financing may further cover primary repairs, repayment of the loan and the costs of keeping up local service coverage. Proper budgeting and financial management are crucial for a satisfactory service. Being a service for all, the local management organisation should also be accountable to all. That means reporting from the start and at clearly agreed intervals on its management, including its financial management, to the male and female household heads.

For small water supply systems, selected technicians and the management committee greatly benefit from technical and managerial experience and training during and after the construction. For larger and multi-village systems with a community-based management, the technicians and management staff are generally professionally trained and hired by the community water board. Other management options exist with roles for local authorities, such as municipalities and districts, and the private sector.

2.3 Programme organisational aspects

Small community water supplies developed under a large programme depend for their success on combining local skills and energy with proper programme support. This third section addresses some of the main organisational and staff requirements, and management models, for the kind of programmes that help communities to establish and run small, decentralised water services.

Function divisions

In large programmes in which many small community water supplies are decentrally planned, implemented and managed, success depends on the degree of completeness and clarity in the division of functions and on the standards to which those functions are carried out at each level. Table 2.4 gives the principal functions that may be carried out at the higher (national or state), middle (provincial and/or district) and lower levels. The national and local governments, with their supporting institutions, are one category of actors in the complex context of water supply; the community-based (management) organisations, NGOs and the private sector are other key actors, as, of course, are the men and women users.

If certain links in this chain are weak or missing, the overall chain is at risk. Decentralisation cannot, for example, be limited to the delegation of responsibilities to communities to manage their own water services. They also need authority and rights, such as a legal status and procedures for claiming liability in case of substandard

construction or mismanagement of funds. And they need capacity building and technical support that does not stop at the completion of a project.

Table 2.4 Functional divisions among different levels of government

Level	Functions
National/state	<ul style="list-style-type: none"> • Establishment of technical and administrative policies • Formulation of measurable objectives, strategies, guidelines and standards • Long-term programme planning • Legislation • Regulation • Management of national funds, and matching these to local contributions • Monitoring and evaluation • Accounting to Parliament, etc. • Adjustments to policy, strategies, etc. based on evaluation and public accountability • General financial control. • Interdepartmental coordination • Donor coordination • Adjustment of education curricula • Provisions for in-service training
Provincial/District	<ul style="list-style-type: none"> • Planning and execution of implementation programme(s) • Allocation of individual community projects • Resources support (financial and human) • Capacity building and training • Monitoring and evaluation of implementation and post-implementation results in relation to support approaches, with corrective action • Financial and quality control • Backstopping of established community services • Coordination for water resources management
Community	<ul style="list-style-type: none"> • Planning and implementation of local water projects • Process management • Service management (incl. O&M and financial management) • Monitoring and evaluation of services, with corrective action • Accounting for project implementation and service management to community male and female household heads • Coordination with other communities/water resources management

Management models

There is a worldwide trend to decentralise management responsibilities as well as to involve the private sector to a greater extent. This decentralisation trend has resulted in municipal councils and local governments being endowed with the responsibility of ensuring the provision of public services at local level. In some countries this has even become a constitutional prerogative. However, many local government organisations do not have sufficient capacities to assume this responsibility. Along with this trend, the great majority of national sector strategies, especially those designed for rural and peri-urban areas, include the principles of community participation and management of water supply services and gender and poverty sensitive approaches as a basic condition for sustainability. How can these trends (municipal management and community management with gender and social equity) work together without competing with one another? How can the public and private sector cooperate for greater efficiency with preservation of social justice?

In most cases municipal and local government bodies remain legally responsible, and they will delegate part of their responsibility to the communities within their borders in the case of community managed water supply systems. It is important that this is spelt out in a written contractual form, giving water committees a legal status and clearly defining the boundaries of responsibilities of each party. Unfortunately, in many countries, water committees do not have a proper legal status. There are several possibilities:

- The municipality/local government officially registers the water committee, and acknowledges the constituting act of the general assembly of the community
- The water committee operates under the legal mandate of a village development association
- The water committee is registered with the chamber of commerce as a non-profit making user association
- The water committee is registered with the chamber of commerce as an organisation with an economic interest as a cooperative, or private firm

The private sector generally intervenes as a provider of services, for a specific activity (repair, construction, etc.), or under a time-bound service contract or management contract. Remuneration corresponds to the service provided. In urban areas other contractual arrangements are made, under which the private contractor is remunerated via water fees from users.

The choice of a particular management model is influenced by issues such as: capacity of community organisations; complexity and type of technology; possibility of multi-village scheme; links with local authorities and other stakeholders; capacity of the private formal and informal sector; national policies, (on institutional arrangements at local level and decentralisation for instance).

The following management models can be applied for community managed water supply systems:

- **Tap or neighbourhood committee** responsible for operating and maintaining a specific water point
- **Water committee** responsible for all managerial, financial and technical activities of a scheme that covers a larger area than a neighbourhood, and possibly the whole community
- **Water committee contracting a private body.** The committee remains responsible for general management and control, but contracts a private body (an individual, a mechanic, a group of artisans, a firm) to operate and maintain the system
- **Multi-village water committee,** responsible for the management of water supply in several communities, where each community has also its association. This option is sought in the situation of a piped scheme serving several villages
- **Village association,** responsible for all development activities concerning the village, including overseeing water and sanitation

Sanitation and hygiene either fall under one of the above-mentioned bodies or are managed by a separate health or sanitation committee.

The committee or association may have the ownership of the assets but more important is that it is in control of the decision-making and management. For larger and more complicated piped water supply schemes, the actual management including the daily financial and technical functions is best done by a professional team consisting of a manager, accountant and technicians.

Supporting the process of change

Because of their limited size and experience in running water services, community-based management and governing boards of most small water supply systems need external support and advice in areas such as planning, implementation, management, accounting, audits, monitoring, training, special repairs, etc.

One possibility is to have special multidisciplinary government teams with expertise in all aspects of community projects. In a variation of this approach, technical and social units from different departments work together, or a government technical team cooperates with a social NGO. In such cases, teamwork is generally more difficult to achieve, but a team approach is vital for good results.

A further possibility is the involvement of multidisciplinary teams from local NGOs and consultancy groups on a contract basis. Finally, in regions in which small communities have capable local development organisations and technical expertise, it is possible to organise training programmes for these groups that include hands-on learning in and across local communities.

Forming an association of community-based water supply organisations can create a strong structure of mutual political, financial and technical support. Such associations act as bridges, facilitators and protectors of small water organisations in their relationships with the private sector and government departments.

In the spectrum of actors, an independent national and regional water regulator is required to protect the public interests. This function of regulation cannot be combined with the national and regional water departmental tasks.

Supporting communities to plan and implement their projects is quite different from planning and implementing projects oneself. In all models, the organisational arrangements will therefore be quite different from those of conventional engineering programmes. Selection criteria for staff who volunteer or are recruited to work in a support programme must include good communication skills and attitudes to work as a team, with local women and men as colleagues. The members of the team must want and be able to combine the specific knowledge, expertise and skills of local people with those of the team. Knowing and having used participatory methods and tools such as PRA (participatory rural appraisal) and SARAR (self-esteem, associative strength, resourcefulness, action planning, responsibility) are an advantage. All team members must be gender and poverty conscious, and recognise and be able to overcome or reduce inequalities between women and men and rich and poor. Teams must also have the opportunity to stay together for at least five years.

In participatory, demand-responsive and gender and poverty sensitive programmes, job descriptions of technical staff differ from those in conventional engineering programmes. Technical staff need to be aware of and take into account the socio-cultural and organisational implications of technical options. In the same way, social staff need to have a basic understanding and appreciation of the technical implications of community choices. Both types of staff often need joint training on community management aspects of the services, the use of participatory tools and techniques and the application of gender and poverty perspectives.

The *private sector* has a number of possible functions in new-style programmes. At the support level, a programme may decide to give contracts for support work with communities to technical-social teams from the private sector. It is important that these teams are chosen for their expertise and field experience and will work together for a prolonged period. A trial phase with indicators of performance (not just quantitative, but also qualitative) and the judgements of different community groups on the quality of the work further help to achieve good results. Similar procedures can help to secure good training for communities from private and semi-private sector agencies.

For technical work, the communities may decide to do their own procurement, use their own artisans and/or hire contractors. Typical help from the support programme will consist of guidance on required skills, materials and equipment, making and managing contracts, and monitoring of the quality of the work. Criteria of success are not construction rates, but the degree to which the services are sustained and used and the overall coverage levels within communities.

At the higher level, managers and other superiors need to appreciate, support and reward participatory and gender and poverty-positive work styles from social and technical field personnel. Staff performance evaluations and new contracts cannot simply be based on achieving physical and financial targets, but must take into account the quality of process work and the nature of longer-term results. Ideally they should also take into account the feedback from different community groups. It is the attitudes and behaviour of the higher management levels towards participation, gender and poverty programmes, which co-determine the overall atmosphere and results of small community water supply programmes.

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Web sites

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