REPUBLIC OF GHANA

COMMUNITY WATER AND SANITATION PROJECT

REVISED IMPLEMENTATION MANUAL

GHANA WATER AND SEWERAGE CORPORATION
COMMUNITY WATER AND SANITATION DIVISION

DRAFT

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Acronyms and Abbreviations

CBO	Community-based organisation
CTC	Construction Technician's Certificate
CWSD	Community Water and Sanitation Division
CWSP	Community Water and Sanitation Programme
DA	District Assembly
DMC	District Management Committee
DWST	District Water and Sanitation Team
ESA	External Support (donor) Agency
FMP	Facilities and Management Plan
GCC	General Certificate of Construction
GWSC	Ghana Water and Sewerage Corporation
IACC	Inter-Agency Coordinating Committee
IDA	International Development Association (World Bank)
KfW	Kreditanstalt für Wiederaufbau (German international development bank)
KVIP	Kumasi ventilated improved pit latrine
lcd	Litres per capita per day
MIS	Management information system
MWH	Ministry of Works and Housing
NCWSC	National Community Water and Sanitation Committee
NGO	Non-governmental organisation
PAMSCAD	Programme of Action to Mitigate the Social Costs of Structural Adjustment
PO	Partner Organisation
RCC	Regional Coordinating Council
RWST	Regional Water and Sanitation Team
SBDU	Small Business Development Unit
TREND	Training, Research and Networking for Development Group
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
VLOM	Village level operation and maintenance
WASAG	Water and Sanitation Group (representing private sector interests)
WSDB	Water and Sanitation Development Board
WUA	Water Users' Association

1. POLICIES AND GUIDELINES{PRIVATE }

1.1 Objectives

The objectives and policies of the National Community Water and Sanitation Programme (CWSP) were defined through a long process of dialogue between government, funding agencies, service providers and users, taking as starting points the 1990 New Delhi Global Declaration on water supply and sanitation and the 1991 sector workshop at Kokrobite. The objectives of the CWSP are summarised below:

- Provide basic water and sanitation services to communities that will contribute towards the capital cost and pay the normal operations, maintenance and repair costs of their facilities.
- Ensure sustainability of these facilities through community ownership and management, community decision-making in their design and active involvement of women at all stages of individual projects.
- Promote efficient, cost-effective and sustainable delivery of improved water supply and sanitation facilities through private sector provision of goods and services, and public sector promotion and support.
- Maximise health benefits by integrating water, sanitation and hygiene education interventions, including the establishment of hygiene education and latrine construction capabilities at village level.

The minimum basic service for water supply is defined as a protected, year-round supply of 20 litres per capita per day, within 500 meters of all households and serving no more than 300 persons per outlet.

The CWSP is aimed at rural communities and institutions (markets, health clinics etc.) and small towns. There is no hard and fast upper population limit; CWSP will be differentiated from the urban programme by the type of management adopted for each system. A specific component of the CWSP will also focus on sanitation and hygiene education for schools.

1.2 Sector Organisation

CWSP policy is based on increasing the currently low effectiveness of investments in the water supply and sanitation sector by making ***sustainability*** a primary goal, and shifting away from dependency on government towards greater self-reliance by user communities. The CWSP provides the framework within which community demand for services in the planning, design, construction, operation and maintenance of improved water supply and sanitation facilities can be met, and through which financial assistance for capital costs can be channelled.

The CWSP is therefore a programme to provide ***capacity to meet community demand***, rather than water supply and sanitation facilities themselves. To be effective the programme itself must be sustainable and ***accountable*** to the client communities, and ***decentralised*** as far as possible, so as to be accessible to them. Progress in the sector is currently limited by the lack of implementation capacity and funding, so the CWSP has a second major function in establishing and maintaining a ***planning and regulatory framework*** ensuring optimum use of

these limited resources. A programme agency, the Community Water and Sanitation Division (CWSD) has been set up within GWSC to supervise and coordinate this work, and manage government funding for the sector. Roles and responsibilities within the sector have been redefined in an overall structure that can be broken down into four levels:

(a) Community Level

To exercise their responsibilities in planning and managing water supply and sanitation systems, communities will need to organise themselves, forming community groups and associations, collecting and managing funds and tapping their own human resources.

(b) Service Delivery

The private sector has the greatest potential and flexibility to respond to community needs for design and construction services, and support for planning, operation and maintenance. The provision of community support (extension services) has traditionally been a government sector activity, but is usually only effective in the context of projects which can improve staff motivation and mobility by providing allowances and transport, making it essentially a contract activity. Outside the government sector, the NGOs in particular have shown themselves to be good at this type of work, based on an informal approach and highly motivated staff, and both they and the commercial private sector have already shown interest in taking on these activities. This work will therefore also be carried out under contract, by what have been designated Partner Organisations (POs).

(c) Implementation Management

Current capacity to provide most of the required services is weak, and must be built up. This is the primary responsibility of the CWSD. Because capacity-building is only a transitional activity, much of this work is contracted out to specialised agencies and consultants. However, as coordinator of the CWSP, the CWSD also participates directly, particularly where programme management is concerned, to ensure that programme guidelines and sector policy are followed under the decentralised structure of the CWSP. The CWSD also supervises, monitors and evaluates service delivery activities in order to achieve satisfactory levels of quality, and provide feedback for improving and consolidating the programme. The District Assemblies (DAs) will share an increasing proportion of this management role as they become stronger.

(d) Programme Management

An overall framework is required to plan, regulate, set standards and guidelines, and provide resources for the capacity-building effort. This is provided by the CWSD in its monitoring, evaluation and management role. Where appropriate, work will be contracted out to specialised agencies and consultants, to study specific issues or develop improved technologies and training materials. A second area of activity at the programme level is the formulation of sector policy, and the promotion and monitoring of convergence by sector projects towards these policies.

In effect, the CWSP aims to establish a market for water supply, sanitation and hygiene education services, with the initiative coming from the consumers rather then the providers of these services. The CWSP provides support to the consumer communities through POs, who

promote and facilitate the level of community participation necessary to achieve long term sustainability, and through subsidies to capital costs. Contractors and POs providing the services are supported by a major capacity-building effort and the development of improved methodologies and resource materials through continuous monitoring and evaluation of the programme.

Because community capacity for contract management is weak, contracts must be managed on their behalf. The DAs are uniquely qualified for this role, as their elected representatives, and with general responsibility for development activities assigned to them by government. The DAs themselves also currently lack some of the necessary skills and experience, and the CWSP will build these up by assisting the DAs to establish District Water and Sanitation Teams (DWSTs) consisting of 2-3 people with skills in community development, hygiene education, sanitation and water supply, and the provision of training for these and other DA members and staff.

As a purely interim arrangement, some contract management will be undertaken directly by the CWSD, but with a clear commitment to transferring responsibility to the DAs as soon as possible. This will be done incrementally, starting with latrine construction and moving rapidly to project preparation and hand dug well construction. In the longer term it may be possible to transfer responsibility for borehole and small piped system contracts, although the minimum viable size for drilling contracts or the technical complexity of piped systems will limit possibilities in this area.

In the long term, communities will be fully responsible for operating and maintaining their own water supply and sanitation facilities, through their own efforts or by obtaining the services of specialised petty contractors such as pump mechanics directly in the private sector. The provision to communities of technical assistance for project preparation through contracts with a fixed duration will reduce their tendency to develop an attitude of dependency on outside assistance, and this should be reinforced by the DAs adopting a deliberately low profile in the post-construction phase. The DAs should thus limit themselves to offering, when requested, technical advice or information on where to obtain specific services, and to basic monitoring and evaluation activities.

1.3 Sector Policies

1.3.1 Planning

A demand driven approach is essential to ensuring that limited funds are channelled only to communities that will maintain their new or improved water supply and sanitation systems. Such a demand driven strategy is based on individual communities first deciding whether or not they want to participate in the programme, and then deciding the type of water supply and sanitation system that they want and how to manage it. In order to facilitate community decision-making, technical and management options are presented to communities that have shown their interest and commitment, in a way that allows them to make informed decisions from the range of options available.

These extension services are provided by POs contracted to help communities plan and train them in the subsequent management of their systems, including operation, maintenance,

revenue collection, accounting and record keeping. Particular attention must be paid to the training of these extension agents, as they are key to the success of participatory planning and community management. In order to promote effective community participation in decision-making, POs carry out general community mobilisation work in addition to facilitating participatory planning, including the promotion of linkages with other community development and income-generation projects.

(a) Channelling Funds

In the long run, districts will play a major role in pre- financing rural community water and sanitation facilities and supervising planning and construction contracts. This is not feasible, however, until they have the financial and human resources to do this and private sector capacity to help communities plan and construct their systems is available. District Assembly participation will therefore build up in stages according to the capacity available.

Initially, DAs will be encouraged and assisted to form a DWST to coordinate all water supply and sanitation activities in the district. They would then set up a district sanitation fund to pre-finance sanitation facilities, with reimbursement through the CWSP (subject to meeting construction specifications) and coordinate the conversion of handpumps to community management. These activities will serve in part as a measure of their interest in and ability to carry out their responsibilities in the water supply component.

As the DWSTs gain experience, DAs will be encouraged to pre-finance and supervise planning and hand dug well contracts. However, certain technical factors, such as the need to package borehole drilling contracts covering a larger number of communities than will be prepared for construction within a single district at any one time, and the level of technical sophistication required to supervise borehole and piped system construction, require that such contracts be let through the CWSP.

(b) Community Contributions to Capital Costs

Sustainability of water supply and sanitation facilities is based on community participation. In financial terms this means that the beneficiaries must pay part of the capital cost and all of the recurrent costs of their water and sanitation facilities. These community contributions also encourage effective resource allocation by making communities weigh up costs and benefits. Higher levels of water and sanitation service are encouraged, but the beneficiaries are required to pay a substantial part of the added cost.

Community contributions should be paid at least partly in cash, but may also be contributed partly in kind (labour and local materials). Such contributions may have several benefits:

- If proportional to the capital costs, they serve as a guide to help communities choose a system that is within their financial means.
- Being about the same amount as a community would need to raise in the future to cover recurrent costs, they provide an indication as to whether or not beneficiaries will be willing and able to raise the funds required to maintain their systems.
- They provide a basis for community ownership of the system.

Communities are reluctant to give cash in return for a promise of a new water supply, while government is reluctant to invest time and money to help a community obtain an improved water supply system if it will not meet its commitments. To build confidence, community contributions will be collected and deposited in their bank account in instalments during the planning process, starting with an initial deposit at the beginning of the planning and design phase, and ending when their full capital cost contribution has been deposited, at which time construction contracts can be prepared. Actual cash transfers will be required only after the water source has been tested for capacity and quality.

For piped systems, the cash equivalent of the total community contribution (cash plus kind) must be deposited in a joint signatory account. If a community meets its obligations on schedule, the cash equivalent of its in-kind contribution will remain in its account and can be used to help pay for operations and maintenance; if not, the contractor will be free to hire labourers using these funds. In the case of spring catchments and dug wells, cash to cover the in-kind contribution is encouraged but not required. If it is not deposited, and a community's in-kind obligations are not met on schedule due to negligence, construction should be suspended until payment is made.

Whenever possible a community's cash contribution should be made for something tangible like its handpump or piping. This would also establish a precedent for the community replacing its handpump or adding to its piped distribution network. Consideration will also be given to providing a fixed government contribution for handpumps to communities through a voucher system and allowing communities to purchase the pump of their choice from a local distributor. The CWSD, together with ESAs active in the sector, could ensure that recommended handpumps are available locally.

All grants will obviously be subject to the availability of funds, and will be given only when designs are in accordance with standard CWSD specifications. Community contributions are presented in the following table:

Community Contribution Levels

{PRIVATE }Facility Type	Basic Service Level	Community Contribution	
		Basic service level	Incremental cost of higher service level
Communal water supply	20 lcd	5%	50%
Individual connections	-	-	100%
Public toilets	VIP latrines	5%	50%
Household toilets	VIP latrines	50%	100%

(c) Recurrent Costs

Beneficiary communities are required to pay all recurrent costs.

(d) Rehabilitation Fund

A Rehabilitation Fund, managed by CWSD, will be established, to which individual communities may apply through their DWST. The fund will provide for cost sharing between the government and communities for expensive interventions such as borehole flushing or replacement or complete overhaul of water supply facilities. To be eligible for assistance communities would be required to show records that all preventive maintenance inspections had been carried out. While the principle of the fund has been established, it will only be financed when existing rehabilitation activities are complete. It is important now that communities understand their maintenance obligations if they want later to draw on the fund.

1.3.2 Technology

(a) Water Supply

It is important that communities are able to choose the technology that will give them the highest service level that they want, can afford, and can maintain. It is particularly important that a higher service level, as defined by a number of factors including the quantity and quality of the water, the amount of time needed to collect water, and the reliability of the system, accompany any increase in consumer costs.

Groundwater has a number of advantages over surface water for the provision of water supply and is recommended as the source of supply whenever possible: it is available within the community, is more reliable throughout the year and in periods of drought, and generally does not require treatment. Springs and hand dug wells are preferred sources of water because they are relatively inexpensive and provide a good basic service. More expensive machine drilled boreholes should not be encouraged if springs or hand dug wells are available. In all cases care must be taken that the source provides a year round supply of water. Surface water treatment for small piped systems should be based on slow sand filtration preceded by roughing filters and should make use of hydraulic rather than electro-mechanical processes. Infiltration galleries can provide even better and more reliable treatment at lower cost and should be used whenever technically feasible.

The CWSP offers a full range of different priced water supply options for both point sources and piped systems. Corresponding information materials easily understood by community groups, showing typical designs and costs (capital and recurrent), will be used to facilitate community decision-making. Standard options include: dug wells with and without handpumps; boreholes with either direct-action or high-lift handpumps; and small piped systems utilising either groundwater or surface water with appropriate pumping and treatment units. Pumping options include electric submersible pumps powered by the electric grid, photovoltaic cells or diesel generating units. Lower cost surface-mounted, diesel-powered centrifugal pumps with locally made storage tanks are also an option. Generally, hand dug wells are the least cost option, regardless of the community size. Where hand dug wells are not feasible due to hydrogeological constraints or a community wants a piped system, the least cost technology will depend on the population size, well yield, and proximity of the water wells to the national electric grid. The following table shows the typical ranking of systems in terms of capital cost.

Ranking of Water Supply Options by Capital Cost[1]

{PRIVATE }Type of System	Community Population			
	< 500	500-1000	1000-2000	> 2000
Hand Dug Well[2]	1	1	1	1
Borehole + Handpump[3]	2	3	5	5
Borehole + Grid[4]	3	2[5]	2	2
Borehole + Solar	4	4	3	4
Borehole + Diesel	5	5	4	3

Notes:
1) 1 denotes the least cost option and 5 the highest.
2) Hand dug wells have capacity to serve up to 200 people.
3) The dynamic pumping level is less than 45 meters.
4) The water wells are in close proximity to the electric grid.
5) A single well has sufficient capacity to serve the community.

(b) Latrines

The demand for latrines has in the past been a problem because of the high cost; it is therefore important that a range of different cost designs for improved household and public sanitation be promoted through the CWSP to allow communities and individuals to choose the options most appropriate to their particular needs and resources. Technologies include the single pit VIP latrine, the sanplat and Mozambique type latrines with and without a vent pipe, and in some cases the twin pit VIP latrine. Multiple pit VIP latrines (privately operated) should be used at health centres, markets and other public places. Standard designs and technical specifications will be prepared for each including drawings, bills of quantities, construction and quality control procedures, sample bidding documents and contracts.

1.3.3 Construction

Construction should be carried out by private companies and awarded through competitive bidding, following pre-qualification to identify contractors with a record of high-quality work. However, contracts should be arranged to maximise the use of in-kind community labour. For example, communities should be given credit for the construction of hand dug wells, spring catchments, and pipe trenches as part of their capital cost contribution. Of particular importance is the establishment of the local capacity to construct hand-dug wells and latrines, to distribute spare parts, repair pumps, and to establish the local manufacture of a direct action pump.

1.3.4 Operations and Maintenance

(a) Point Source Water Supply Systems

Maintenance of wells and spring catchments is the responsibility of individual communities, under the day-to-day management of their Water and Sanitation (WATSAN) committees. The WATSAN Committees should supervise handpump use, collect revenues for recurrent costs, keep accounts, and make repairs themselves or hire the services of a private mechanic. Several WATSAN Committee members in each community (normally women) should be trained to perform all normal repairs on handpumps, which should all be of VLOM (Village Level Operation and Maintenance) types, and several local mechanics, including representatives of handpump suppliers, trained to make all types of repairs.

In those districts where GWSC's 3,000 Wells Maintenance Unit operates and community based maintenance is being introduced, the way in which communities pay for maintenance services will be changed from the current tariff system to payment-for-services-rendered. An action plan for this transition has been prepared by GWSC with the support of consultants financed by KfW and the participation of ESAs active in the sector. Introduction of the new payment system and follow-up monitoring and evaluation during the change to community based maintenance will be executed in a similar way as for new systems. The new service charges will be set such that maintenance services are self sufficient.

(b) Piped Water and Sanitation Systems

Where these serve more than one neighbourhood group, a Water User Association (WUA) will typically be formed to own and manage the system. In this case the Water and Sanitation Committees formed around one or more standpipes will normally be responsible for revenue collection and supervision of facilities use and drainage in their area, and the WUA for managing the system. WATSAN Committees will be charged by the WUA on the basis of water delivered as metered at individual outlets (standpipes and house connections). Depending on community size and the complexity of the technology, operations and maintenance and service of major equipment may be contracted to private companies or urban water supply operators.

(c) Spare Parts

To maintain their water supply systems communities must have access to spare parts and replacement components. Currently equipment and spare parts are imported and distributed by GWSC and external assistance agencies. In the long run, the best way to ensure that communities have access to replacement components and spare parts is to distribute them through private retail outlets. To this end, equipment and spare parts procurement will be through local distributors providing services including distribution, sales from regional centres, installation, warranty and service. Careful consideration must be given to the standardisation of handpumps, with the aim of reaching a compromise whereby the viability of private sector participation can be promoted by restricting the number of models in use, whilst at the same time maintaining sufficient flexibility to allow competition and innovation.

2. PROGRAMME MANAGEMENT

2.1 Institutional Structure

As outlined in the previous chapter, the CWSP relies on a distribution of tasks and responsibilities amongst a large number of different parties. Although many of the resulting relationships are defined by contracts, the CWSP can only work effectively if these contracts are seen also as partnerships, with the clients providing support and cooperating in the resolution of problems as they occur, rather than purely supervising the contracts. This applies particularly to "software" activities, such as project preparation by the POs or training, monitoring and evaluation work, but also, to a lesser degree, to petty contracts for hand dug well construction or handpump maintenance. The participatory approach to project design and implementation at community level must be reflected by participatory attitudes at all levels of CWSP management.

The decentralisation of the CWSP and its devolution of responsibilities to communities, DAs and contractors also requires good coordination and clear definitions of the responsibilities of each party. To this end, the overall institutional structure is summarised in the chart on the following page, and the functions of the various parties are briefly described in the following section.

2.1.1 Community Level

(a) Community

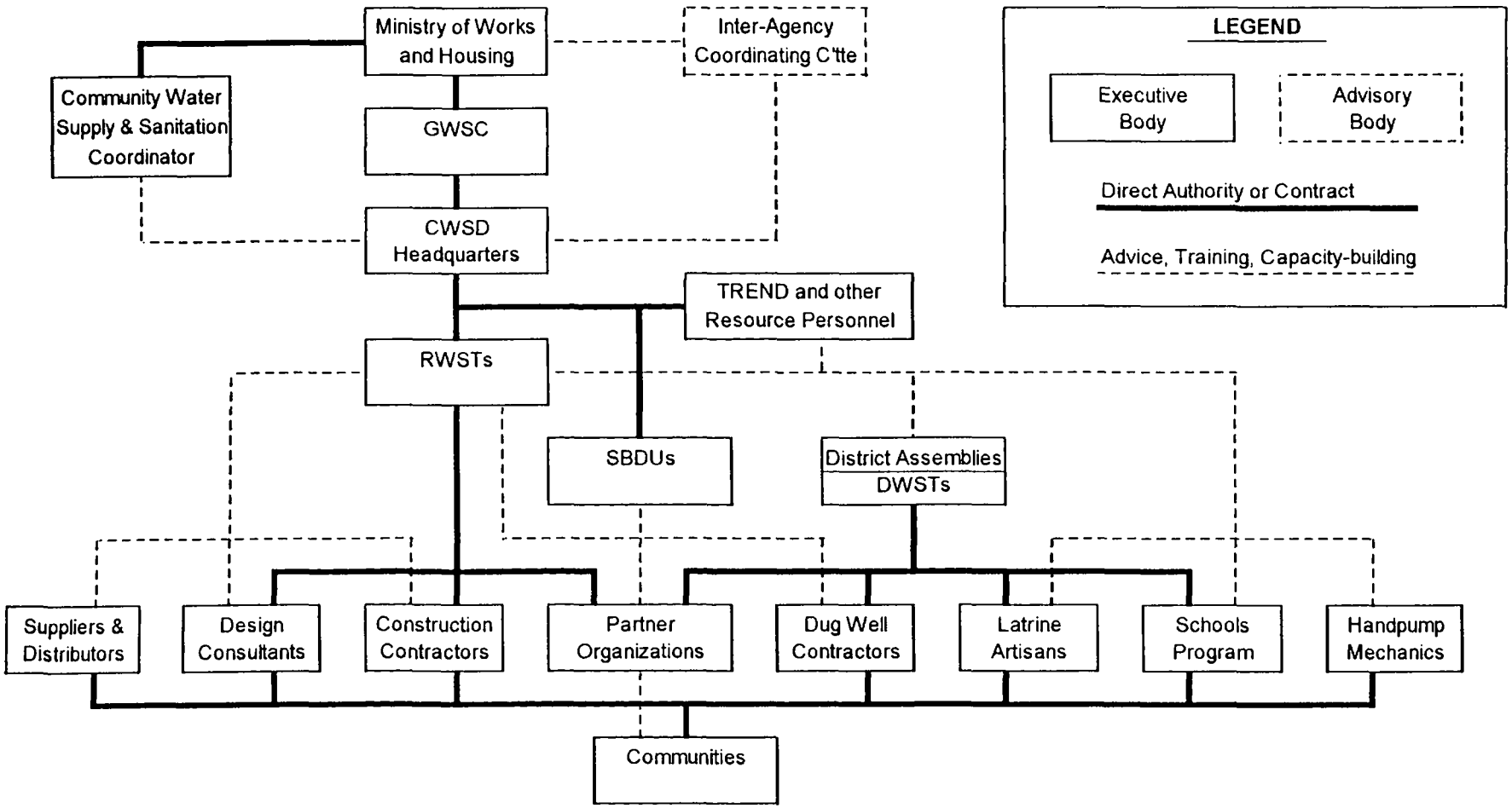
Communities participate in the planning, design, construction, operation and maintenance of their improved water supply and sanitation facilities. During the planning, construction and follow-up period they participate in hygiene education and self-help environmental sanitation activities.

(b) WATSAN Committee

The basic unit for the planning and management of facilities is a village or neighbourhood group of households which collectively plan and own their water supply facilities. Each group forms a Water and Sanitation committee, which may be an entity specially formed for the purpose, or have its functions incorporated into those of an existing community organisation. The WATSAN Committee requires legal status to be able to run a bank account and own facilities, and this can be achieved by having it formally registered as a sub-committee of the local Unit Committee. The WATSAN Committee represents the community during the planning process, manages community inputs to the programme, facilitates hygiene education within the community, and is responsible for long term operation and maintenance of the improved facilities, including revenue collection and cash management.

In small towns, a number of WATSAN Committees may delegate representatives to a Water Users' Association (WUA) to manage a jointly-used piped system. Alternatively, a single Water and Sanitation Development Board (WSDB) may be elected, instead of a number of WATSAN Committees, to serve the whole town.

CWSP Institutional Structure



2.1.2 Service Delivery

(a) Partner Organisations

Typically small NGOs or commercial sector organisations, they will be contracted to provide one or more locally-based teams of 2-3 persons each, to work in about 10 communities at any one time, strengthening community organisational capacity, leading the planning and design process, implementing hygiene education and establishing community operation and maintenance capability. They will provide these services both in the case of new facilities and the conversion of existing facilities from centralised to community maintenance. They will also be encouraged to associate themselves with latrine artisans, who will offer their services in communities where the POs are working.

(b) Contractors

Construction of facilities according to plans produced by the communities and POs will be carried out under contracts with the CWSD or DA. At present, all contracts are with the CWSD, but simple hand dug well contracts will be able to be managed by the DAs within a year or two of joining the programme. Borehole contracts will have to be packaged at regional level to provide viable drilling programmes, and contracts for small piped systems, with their greater level of technical complexity, will always be directly supervised by the CWSD. Specialised services, such as hydrogeological investigations for borehole siting and piped system design, will also be provided under contract, supervised directly by the CWSD.

(c) Parts Suppliers and Mechanics

Communities, responsible for operation and maintenance of facilities, will purchase spares directly from suppliers, or through qualified mechanics, who will provide services against payment. Handpump distributors will be encouraged to provide installation and repair services. Training and certification by the CWSP will be available for handpump service companies and individual mechanics.

(d) Latrine Artisans

Artisans trained under the CWSP will package contracts to build five or more units at a time in a community, and receive a subsidy from the DA, reimbursable by the CWSP, equivalent to the price (up to a fixed limit) of materials that have to be procured commercially, with clients providing the balance in cash or kind as agreed with the artisan.

2.1.3 Implementation Management

(a) District Water and Sanitation Team (DWST)

A permanent team consisting of two or three people representing skills in community development, hygiene education, sanitation and water supply, will be established and employed by each DA to manage water supply and sanitation activities in its district. This team will form an integral part of the district administration, reporting to the District Chief Executive under the aegis of the works committee. The works committee may also co-opt personnel as and when required to ensure good coordination with other related sector activities.

The DWST disseminates information on the CWSP, coordinates the vetting of construction grant applications and Facilities and Management Plans, supports, supervises and monitors the service delivery agencies, and provides day-to-day contract management assistance to the DA or CWSD. They manage the sanitation and schools elements of the programme, administering latrine subsidies, providing logistical support for training latrine artisans and teachers, and supervising the construction of household and school latrines. In the longer term, they will monitor completed projects, and provide communities, on request, with technical advice or information on where to obtain specific services. They are also responsible for data collection and record-keeping.

A fuller description of DWST functions is given in Annex 1.

(b) District Assembly

Accountable to community members in the district, the DA supervises the DWST and maintains a dialogue with CWSD, and other agencies supporting water supply and sanitation in their district. They are responsible for coordinating sector planning within their area, prioritising communities for inclusion in the national programme, defining those to be served with their own funds, and coordinating with NGOs independently active in the sector. As their capacity increases, the DAs will gradually take on responsibility for PO and hand dug well contracts under the national programme, pre-financing them from a revolving fund, with reimbursement from the CWSD, as for household latrines.

DA members have a key role to play within the demand-driven structure of the CWSP, disseminating information and advocating the interests of the communities they represent. Their initiative and leadership will help to establish a sense of ownership of the programme by the district and its people. However, NGOs and other organisations working in the communities will also be encouraged to help them to make grant applications. This will allow the CWSP to complement other on-going development activities, and may also help to direct the project at poorer communities, which are often prioritised by NGOs.

(c) Small Business Development Units (SBDUs)

The NGO sector, which has been particularly successful in implementing the demand-driven approach and the construction of dug wells, already has the human and institutional resources needed to develop the necessary implementing capacity. NGO and commercial sector organisations with relevant experience will provide training and support services for POs and hand dug well contractors, under contract to the CWSD, as well as continuing with independently funded work in this area. The SBDUs receive basic orientation on the CWSP, but may also themselves contract further outside assistance on specific matters, to enable them to carry out their work. The SBDUs also have a key role in methodology and training materials development, which are included in their contracts with the CWSD.

(d) Regional Water and Sanitation Team (RWST)

The regional CWSD offices are staffed by small multi-disciplinary teams consisting of specialists in community development, training, rural water supply and sanitation technologies, contract management and administration. They enjoy a considerable degree of autonomy, and have overall responsibility for CWSP implementation and management in the region. These

functions include the coordination, planning and budgeting of CWSP activities in the region, the preparation of annual workplans and budgets, and the management of CWSP funds, provided through an imprest from headquarters. The RWST coordinates its work with that of other agencies active in the region and disseminates information on the CWSP to promote a uniform approach. It takes an active role in monitoring, evaluation and programme development, and manages the MIS, including maintaining inventories of communities and water supply and sanitation facilities, and tracking programme activities and progress.

One of the RWST's most important tasks is to assist the DAs in forming the DWSTs, to train them, calling where necessary on outside assistance, and to backstop their activities. The RWSTs coordinate all training activities in the region, some of which they undertake directly, but often with outside support, especially from the SBDUs, with whom they liaise closely and whose activities they supervise.

The RWSTs will prioritise and bring districts into the programme over a 3-5 year period. They will select and prequalify POs and dug well contractors, and manage the construction grants programme in each region, including the review and approval of Facilities and Management Plans and management of planning and construction contracts. These latter functions will gradually be devolved to the DAs as they gain experience. However, they will retain responsibility for the more complex construction contracts for boreholes and piped systems. They will oversee hygiene education activities, also including some direct involvement in the schools hygiene education and sanitation programme, and take the lead in the process of handpump conversion to community management and the development of sustainable operation and maintenance support services in the private sector.

Some services are not enough in demand to justify the employment of specialised staff in each Region. Thus, three strategically-placed RWSTs (Tamale, Kumasi and one other in the southern zone of the country) will house staff with responsibilities spread over several Regions. These include a zonal hydrogeologist to backstop the drilling programme, collate data on deep and shallow groundwater availability and provide general supervision of well siting contractors, and one or more staff to supervise the small towns water supply and sanitation programme.

2.1.4 Programme Management

(a) CWSD National Office

This consists of a small professional staff, divided into a programme coordination group with specialist knowledge of the water supply and sanitation sector, and an administrative group. They are responsible for overall long and short term planning, budgeting and coordination of CWSP activities, and the preparation of annual workplans and budgets. Equally important is external liaison and coordination of CWSP activities with those supported by other government agencies, NGOs and ESAs, including resource mobilisation (funds, equipment and human resources) from both national and international sources. The CWSD headquarters team also has an active role in policy evaluation and development, and acts as the secretariat to the Inter-Agency Coordinating Committee.

The national office is responsible for managing and coordinating the formulation and development of CWSP methodologies and technologies, training materials, guidelines and

standards, partly in-house and partly with outside consultant support. A key element of this is management of the Training Forum, which brings together sector personnel to exchange information and experience, promote a consistent approach, and support this effort through the activities of working groups focused on specific subject areas. A second element is the identification and management of small applied research projects where new ideas can be tested and developed in the field.

CWSD headquarters performs continuous monitoring and evaluation of the programme (also including specially commissioned studies), and manages the MIS. They should ensure that conclusions and analyses arising from this work are systematically disseminated amongst all CWSP personnel. Whilst most operational functions are decentralised to the regional offices, CWSD headquarters supervises contract management procedures, including the development of standardised contract documents, coordinates the training programme and maintains a national training resources database. All piped water supply system designs are also reviewed at headquarters.

Day to day administration is managed in the regional offices, but headquarters exercises overall supervision of budgeting, accounting, procurement, contracting and disbursement. Because the CWSD staff is relatively small, formal personnel management functions are centralised at headquarters, with minor issues such as payment of allowances being administered in the regions. The headquarters staff includes an internal auditor for formal supervision of all CWSD accounts. External audit is carried out independently from that of GWSC.

(b) Training and Technical Assistance

In addition to the SBDUs, the CWSP will contract the services of a number of other outside consultants. A major input in this regard will come from TREND (formerly TNC), specifically in the areas of trainer training, latrine artisan training support and hygiene education for the schools programme. TREND will also provide support to the Training Forum. Other groups or individuals will be contracted as necessary for various tasks. Most of the ESAs involved in the sector will continue to provide some technical assistance within the framework of the CWSP.

Of particular note is the planned assistance from IDA in the provision of an external monitoring team. This team will make periodic visits, working with CWSD personnel and local consultants, to review specific issues affecting the CWSP.

The Training Forum is divided into three main groups focused on CWSP management, participatory methods and technical matters. These will be supported by some inputs from technical assistance personnel. Whilst it is important to ensure focused action in each sub-group, the groups should meet together occasionally, to ensure that developments in these areas are mutually supportive.

(c) Policy-Making Bodies

Whilst the CWSD will formulate policy recommendations based on its experience, sector policy is the responsibility of government. An inter-agency coordinating committee representing key sector institutions and ESAs will also provide advice to government, and will

take a leading role in promoting the convergence of sector projects to CWSP norms. Within the Ministry of works and Housing, a full-time Community Water Supply and Sanitation Coordinator will support this effort, promoting the exchange of experience and convergence of methodologies between the various agencies and projects in the sector, supporting the establishment and consolidation of the new institutional structure and mobilising human and institutional resources (particularly from the NGO sector) for the CWSP.

Initially, the CWSD will be a division of the GWSC, but in the longer term it may be more appropriate to establish it as an independent body, possibly reporting to a board, as the GWSC does now. Whether within the GWSC or not, the CWSD will render services to the government under a performance contract. To promote accountability to CWSP beneficiaries, the CWSD should also establish a board or committee with real powers, representing users, POs, contractors and other sector agencies.

2.2 Management of Individual Community Projects

The management of projects for individual communities, which form the core of the CWSP, is the most complex part of the programme, as it involves a number of different parties. Their roles and responsibilities as they fit into the project cycle are set out in Chapter 3, whilst in this section they are presented from the perspective of project management. The table on the following page summarises the role of each party in the various activities which make up an individual project, whilst the flowchart on the next page summarises the steps, also described below, in managing a community project as it moves through the project cycle.

2.2.1 Information and Request

Information booklets provided by the CWSD will be disseminated by DA members, government and non-government field workers, schools and the National Literacy Programme. They will identify interested communities and help them make an application for a construction grant. The DWST will visit the communities to verify and, if necessary, supplement the information given. All applications will be reviewed by the DA sub-committee responsible for overseeing the CWSP, which will endorse and forward them to the RWST office. The RWST will then divide the applications into packages for assignment to POs.

2.2.2 Mobilisation and Participatory Project Planning

A project preparation contract will be drawn up for each package of communities and signed by the relevant PO, which will also receive an advance payment. Copies of the contract will be forwarded to the DWST, which will make regular visits to the communities concerned to supervise and support the PO activities, and also promote coordination of this work with other related activities being carried out in the same communities by other agencies. The POs will provide bi-monthly reports which the DWST should forward, along with any other comments and observations, to the RWST, which will be responsible for overall progress monitoring.

The second contract payment is conditional on community mobilisation criteria set out in the project preparation contracts being fulfilled. This will be assessed by the DWST, with RWST support. If the criteria are met, payment will be made and the PO will continue with the participatory project planning phase. Otherwise, the PO will be required to carry out further

mobilisation work until the criteria can be fulfilled. If it can be shown that the extra work is required because of exceptional circumstances such as natural disaster or unusually intractable social problems in the community, additional payment may be made for this work under an addendum to the contract.

Roles and Responsibilities in Community Water Supply and Sanitation Projects

Organisation	Initial Contacts	Mobilisation and Planning	Hygiene Education	WS Siting and Design	WS Construction	Latrine Construction	WS Maintenance	Finance
Communities	Applications	Participation		Decision-making	In-kind inputs (if any)	In-kind inputs plus 50% of cash costs	Contribution of funds	100% of O&M and 5-10% of hardware
Community Volunteers		Assist WATSAN Committee	Support hygiene education program	Sanitary surveys		Promotion		
Caretakers					Involvement in construction		Basic maintenance	
WATSAN Committees		Leadership	Conduct hygiene education program	Coordinate community inputs	Assist supervision	Promotion	Management	
Partner Organisations		Leadership and technical assistance	Establish hygiene education program	Technical inputs	Assist supervision	Promotion	Organisational support & training	
Latrine Artisans						Promote & construct latrines		
Hand Dug Well Contractors					Hand dug well construction			
Handpump Mechanics							Repairs and spares distribution	
Drilling contractors					Drilling		Borehole rehabilitation	
Hardware suppliers					Handpump supply and installation		Spares supply	Working capital
Small Business Development Units		Identification, support and training of POs Production of reference and training materials			Training for dug well contractors			
TREND	Prepare information materials					Produce reference & training materials		
District Assemblies	Setting priorities Promotion	Endorsement of applications and Facilities and Management Plans Letting PO contracts			Letting hand dug well contracts	Sanitation revolving fund		DWST pre-finance for some contracts
District Water & Sanitation Teams	Advise on needs	Coordination, supervision and support Review of applications and Facilities and Management Plans			Supervision and support	Subsidy management and supervision	Provide information on services	
Regional Water & Sanitation Teams		Identification and prequalification of POs Manage training programme for POs			Let larger contracts DWST support	Artisan training DWST support	Train handpump mechanics	100% of software, 90-95% of hardware

CWSD National Office		Coordinate improvements to methodology and policy Coordinate improvements in training and training materials	Coordinate technology development		

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Management of the participatory planning phase will be the same as for mobilisation, except that the need may arise for specialised services such as hydraulic design or hydrogeological investigations. In these cases, the PO will make a request through the DWST, which will pass it on to the RWST for assignment to a prequalified consultant. Under the terms of such contracts, the consultants will be required to coordinate their activities with the PO, since they will often involve socially sensitive work such as borehole siting, where the presence of the PO will be critical.

The final product of participatory planning is a Facilities and Management Plan setting out the design of the water supply and any communal sanitation facilities, as well as details of how the facilities are to be managed and financed and who is to undertake continuing hygiene education. This will be checked by the DWST for completeness and any obvious errors, and, if found satisfactory, endorsed by the DA's sub-committee before being forwarded to the RWST office for final review and approval. Incomplete or otherwise defective Facilities and Management Plans will be returned to the POs for correction. Once final approval is given, the third contract payment will be made.

2.2.3 Project Implementation

The RWST will package approved Facilities and Management Plans into contracts for implementation and verify that the communities have deposited their agreed cash contribution in the WATSAN Committee's bank account (or, in the case of communities too remote from the banks, that the WATSAN Committee has collected and is holding the cash). For systems other than hand dug wells the cash deposit should also cover the value of any in-kind inputs, and a joint signatory account with the DA must be established to hold it until construction is completed. Once the RWST has verified the cash deposits, the contracts will be forwarded to the contractors for execution. Contractors will be required to give communities advance notice (through the POs) so that they will be ready with their inputs.

During construction, the DWST will supervise and report on the progress of work both by the contractor and the PO, whose project preparation contract continues with hygiene education and community level capacity-building until a year after completion of the works. When a borehole is drilled, the yield test may show a substantially greater or lesser yield than that planned for, in which case further planning work with the community will be necessary. This can be arranged under an addendum to the project preparation contract negotiated between CWSD and the PO. On substantial completion of works, the RWST will prepare a certificate of satisfactory completion, and the community will formally take over the system and sign the certificate at a ceremony on site. The RWST will then pay the contractor any outstanding sums, excluding the retention fee, which may be due.

2.2.4 Follow-Up

During the first 12 months after completion of the works, whilst the community now has full responsibility for the system, the contractor must make good any defects arising from faulty workmanship or materials, and the PO must finalise its work, leaving the community able to continue managing operations and maintenance and a continuing hygiene education programme, having achieved the hygiene targets set during mobilisation. This will be assessed in a participatory monitoring and evaluation session in the community with the PO, DWST and RWST. If the work has been satisfactorily completed, a certificate of final completion will

be drawn up and formally signed by the WATSAN Committee, after which final payments will be made to the contractor and PO.

After the 12-month warranty period is over and the contractors and PO discharged, the DWST will continue to monitor the project, focusing particularly on the length, frequency and causes and remedies for interruptions in water supply, key factors which will be needed for evaluating sustainability after five or ten years have passed.

2.3 Information Management

The coordination and management of the many diverse inputs to the CWSP is impossible without an effective management information system (MIS). The DAs and DWSTs have a key role to play in providing input, as most of the information will be generated in the field; the MIS will only be as good as the information it contains, in terms of quality, completeness and timeliness. As regards its operation, it will only be useful to the extent that its outputs are available in a convenient form and regularly used by CWSP managers at all levels. The MIS should operate at the district, regional, and, in a consolidated form, national levels, and cover five main areas:

(a) Contractual Matters

This includes the procurement, delivery and costs of the goods, works and services under the CWSP, and the progress of individual projects through the project cycle. Managers should be able to know the number and status of current projects, and consult summary data on completed or failed projects.

(b) Quality Control

Records should be kept of the performance of POs and contractors, including both problems encountered and good or innovative work. In particular, the quality of Facilities and Management Plans and completed works, as evidenced by interruptions in service, should be monitored.

(c) Administration

Administrative delays will reduce the overall effectiveness of the CWSP and may also lead to demobilisation of communities if they are forced to wait too long. Information must therefore be available on the time taken to process documents or obtain necessary approvals so that bottlenecks can be identified and removed.

(d) Programme Targets

This is of prime interest to government and the funding agencies, but also a useful yardstick for managers to assess overall progress. Principal information includes the number and type of facilities constructed, human resource development (training provided), and disbursements.

(e) Resource Data

This includes basic information on water resources, human and institutional resources (eg. POs, small contractors, mechanics), and water supply and sanitation service levels, whether provided under the project or not.

Standard input forms should correspond as far as possible with standard working documents such as contracts or progress reports, and in many cases it should be possible to design these working documents so that data can be entered directly from them. A systematic effort must be made to achieve this identity between working documents and those used for the MIS.

The main focus of the MIS is on computerised systems at the regional offices of the CWSD. The DA/DWST offices will keep manual records and send regular abstracts of information to the regions if original documents are not to be forwarded to the RWST. The RWSTs will input and process the data, producing monthly and annual reports for the districts and the national headquarters, which latter will also receive data abstracts from the regions for consolidation into the national MIS.

Information on contractual matters, quality control and administration will be provided by whoever is supervising the work concerned. Data on programme targets regarding facilities constructed will be provided by the districts, whilst that on disbursement and training will be provided at regional level. Most of the resource data will also come from the districts, but hydrogeological information should be coordinated by the zonal hydrogeologist, one of whose first tasks will be to consolidate information on all existing boreholes and prepare maps of shallow and deep groundwater potential in the zone.

2.4 Policy Review and Management

2.4.1 Programme Review

It is of prime importance for community participation that the CWSP be accessible by and accountable to its target beneficiaries; this is built into the programme by its decentralisation and the methodology for project planning, implementation, monitoring and evaluation. However, there is also a need for more formal channels for dialogue between managers and beneficiaries where individual problems or more general matters relating to policy can be discussed. Such a channel exists at district level, with elected DA members being directly involved in the initiation of new projects. CWSD Regional Coordinators will also hold annual meetings with each District Assembly to discuss progress and issues, and meet District Chief Executives whenever they are visiting a district.

To provide accountability and review progress at the regional level, an annual meeting will be held every October, with representatives of the RCC, RWST, DAs, line agencies, SBDU, POs and the private sector. Consultants or members of the external evaluation team may also be invited to these sessions. In addition, the Regional CWSD Coordinator will meet at least monthly with the GWSC Regional Director to discuss progress and any current issues.

At national level, an annual review will be carried out every November following the regional meetings, to monitor CWSD's compliance with its performance contract, assess how well the

CWSP is serving its intended beneficiaries, review any major issues, and identify and formulate recommendations for any necessary improvements. More specifically it will:

- Monitor project implementation, with particular regard to distribution among target groups in different areas and with different economic levels, and if necessary formulate strategies for improved targeting.
- Monitor the application of guidelines and standards and recommend changes or areas for improved control.
- Recommend areas for improvements in CWSP methodology to increase the effectiveness of community participation.
- Review and make recommendations on community contribution levels.
- Review the capacity-building element of the CWSP and identify needs and strategies for meeting them.
- Review complaints from beneficiaries and service providers and formulate recommendations for action.

This list is not exhaustive, and is subject to continuous review.

Within the CWSD, internal review and workplanning meetings will take place three times a year in March, July and November (prior to the annual review) with senior headquarters and regional staff. These will be followed by meetings between senior CWSD staff and the Ministry of Works and Housing to discuss progress and policy issues. Draft annual budgets and workplans for the following year will be presented at the July meeting and finalised at the November meeting.

2.4.2 Policy Management

After one or two years it may be appropriate to set up a formal independent body to oversee the CWSP, with representation from users and service providers as well as programme managers. A possible form for this might be a National Community Water Supply and Sanitation Committee (NCWSC), with some policy-making powers. This committee might also subsequently become the board of directors if the CWSD becomes independent of the GWSC once the CWSP is fully established nationally. It would meet 2-4 times a year, and might consist of representatives from the following agencies:

- Ministry of Works and Housing (chair)
- Ministry of Local Government
- Ministry of Health
- Department of Community Development
- WASAG (representing contractors)
- A national NGO with strong linkages to POs
- Two POs (rotating)
- One representative from a regional administration (rotating)
- Two DAs (rotating)
- Two community representatives (rotating)
- GWSC (one staff representative and one Director)
- CWSD (secretariat)

The detailed composition of the NCWSC and the mechanisms for selecting the non-government participants can be agreed if and when it is formed, and may differ somewhat from the above. With the increasing role of the DAs in the CWSP, it may, for example, become appropriate to pass the chair to the Ministry of Local Government. However, it should maintain a similar balance between government, service providers and beneficiaries, and should not be allowed to become much larger than the 16 representatives suggested, so as to allow for genuine discussion.

The other main policy-making body at national level already exists in the form of the Inter-Agency Coordinating Committee (IACC), initially set up to monitor the formulation of the sector strategy, and representing the main government, ESA and non-government agencies active in the sector. Its role is to:

- Review overall sector policy
- Coordinate and promote convergence between sector agency activities
- Promote appropriate changes in the policies of individual sector projects

Whilst these committees will provide effective fora for policy-level discussions, follow-up at this level will be weak without a full-time Community Water Supply and Sanitation Coordinator. This post should be established in the Ministry of Works and Housing, and would include the following:

- Monitor CWSP performance and collate and disseminate information on sector activities
- Follow up on recommendations made by the NCWSC and IACC by advising and assisting the relevant sector agencies and ESAs
- Maintain close links with the Ministry of Local Government and support the development of the role of the DAs
- Maintain close links with the NGO sector to promote their observance of CWSP norms and develop a collaborative approach with the government-funded programme
- Coordinate efforts to develop sector financing mechanisms, particularly at District level

The importance of this post cannot be overemphasised; experience has already shown that within the broad focus of the Ministry of Works and Housing or the regional and sectoral focus of individual agencies and projects, the necessary information exchange and promotion of agreed policies will inevitably take second place to immediate operational concerns. Without it, the CWSP runs the risk of adding yet another strand to the web of sometimes conflicting activities in the sector.

2.5 The Role of NGOs

The NGOs have a strong presence in the rural water supply and sanitation sector, and many of the approaches in the CWSP are based on work carried out by NGOs. They play an important role within the CWSP, acting as POs and SBDUs, and also have their own sources of finance for independently-executed projects. It is clearly in everybody's best interest that these projects and the CWSP work be mutually supportive and complementary.

NGOs, almost by definition, are wary of government regulation, and exist exactly to pursue an independent line of action. To ensure their maximum participation, therefore, they need to be allowed as much freedom of action as possible. There are, however, certain minimum conditions that should be fulfilled by independently-funded projects:

- They must have sustainability built into them, as in the CWSP, to avoid long term dependence on the NGO or an eventual need for public sector support
- Community contributions to capital costs must be of the same order as those in the CWSP, and full operation and maintenance cost recovery must be required
- They must be executed with the full knowledge of the DA and DWST, to allow effective local planning of other interventions

Within these limits, the NGOs should be allowed to act with full autonomy. However, there is major potential for cooperation, and the NGOs should be encouraged to work together with the CWSP. On its part, the CWSP can offer training sessions for field staff, and reference and resource materials for use at community level. It may also be able to enter into co-financing arrangements, for example funding construction work on projects prepared to the Facilities and Management Plan stage by an NGO. On their part, the NGOs can afford to invest in developing implementing capacity (POs and dug well contractors) which will be utilised at a later stage by the CWSP. In some instances it may be possible for an NGO to take on full responsibility (planning, design and construction) for a whole area containing several communities. Various modalities for cooperation will emerge over time, and it is the job of the CWSD and the DAs to promote, explore and develop these possibilities.

3. IMPLEMENTATION METHODS

3.1 Implementation Strategy

3.1.1 Sustainability Through Community Participation

Past experience worldwide and in Ghana, in particular shows that water supply and sanitation facilities provided directly by institutions without the active participation of the end users are often not properly operated and maintained, and hence unsustainable. This arises from a variety of factors, including technological inappropriateness, incorrect location, lack of social acceptability and lack of affordability. Additionally, ownership of the facilities is neither perceived to be, nor in fact legally, vested in the user communities. Taken together, these factors lead to a lack of commitment to operation and maintenance of the facilities by their users. National and local government institutions are also ill-equipped for the immense logistical task of running numerous, widely scattered and often remote water supply systems, in addition to the ever-present problems of lack of funds and personnel motivation. Hence, the sustainability of investments in rural water supply and sanitation to date has been poor.

Against this background, there is ample evidence to show that most communities have both the willingness and capability to contribute substantially to the planning, funding (in cash and in kind), implementation, operation and maintenance of improved water supply and sanitation facilities. The CWSP aims to incorporate these resources, which have been so long ignored in the past, under a policy of ***community ownership, control and management of water and sanitation services***, including community responsibility for long term repair and maintenance. It is important to note that ownership in this context refers to more than just the legal status of any facilities, but also to a sense of ownership developed through genuine participation in planning and investing in facilities to respond to real needs. By thus assigning responsibility for water supply and sanitation services to user communities, who have most at stake in their efficient functioning, sustainability will be improved.

More specifically, this strategy includes:

- ***Ownership and control of facilities*** being clearly vested in the community, including formal written agreement
- ***Community selection of service level*** to correspond with what they want, can afford and can sustain with the human and financial resources at their disposal
- ***Siting of water points by the community***, within technically feasible limits
- ***Significant cash contribution by the community*** as part of a total cash and in-kind contribution of about 5% of the capital cost of facilities
- ***Establishment of a committee or board*** representative of all social groups of users (particularly women), accountable to the community and responsible for all aspects of management of the services
- ***Complete community responsibility for operation and maintenance*** of water systems, including the collection, management and safekeeping of funds, and the purchase of those goods and services required for the system to continue to function

- ***Designation by the community of caretakers*** fully responsible for all preventive and simple corrective maintenance of the facilities, with training and tools being provided as part of the capital investment
- ***Community self-help action*** to assist with repairs and maintenance, and to clean and maintain the areas around water sources
- ***Continuing technical and organisational support*** to communities

In order to implement this strategy, a fundamental change in policy has been made, away from the supply-driven ***provision*** of water supply and sanitation facilities towards the creation of an ***enabling environment*** within which communities can meet their own demands. In practice, this means that actual services such as support to community planning, design, construction and supply of materials and equipment are provided by the private sector, which can respond to (decentralised) community needs more effectively then a (centralised) government agency, whilst the CWSD restricts itself to co-financing, the promotion and development of the required services, and general orientation and regulatory functions.

The strengths of communities mentioned above are often unorganised, scattered and hidden, and thus not available to play a dynamic role in the provision of facilities. External inputs are therefore required to mobilise and empower user communities to take the lead in these activities and take on full responsibility for long term operation and maintenance. This can only be achieved through a ***partnership*** between the user communities and those wishing to help them, rather than the traditional donor-client relationship existing in the past. Such an approach requires considerable effort by sector agencies, as well as the communities themselves. The effort will, however, be cost effective if it results in long term sustainability of water and sanitation services.

While the support and overall co-ordination of programme activities is the responsibility of the CWSD, the identification, development, planning and implementation of projects for individual communities is entrusted to community organisations, supported by Partner Organisations (POs). The POs supply small teams of people with the necessary technical, communications and organisational skills to bring out and supplement the communities' own inputs. The core of the CWSP strategy is contained in the activities designated as ***project preparation***, to be carried out by POs prior to project construction, and aimed at achieving two end results:

- ***Mobilised and empowered communities*** ready to improve and maintain their water supply and sanitation facilities with minimum outside help.
- Sound project proposals ***(Facilities and Management Plans)*** prepared by POs with active participation and decision making by community members, for submission to the programme agency for co-funding.

It is only through thus developing a ***high level of community involvement and organisation*** that sustainability of projects can be attained, and it is this overall objective that must be taken into consideration at all stages of the project cycle. ***Community participation, decision-making and ultimate ownership of the improved facilities*** are the foundation on which the CWSP approach is built.

3.1.2 Benefits Through Integration of Programme Elements

In addition to a commitment to genuine and active community participation, the other fundamental aspect of the CWSP approach is the ***integration*** of three complementary elements, without any one of which improvements in health, potentially the most substantial benefit arising from the programme, will not be achieved. These are:

- Improved water supply
- Improved sanitation
- Hygiene education

The hygiene education is intended to lead to improved health-related behaviour, and water supply and sanitation facilities are two of the most important tools required for applying the lessons learned. Excellent excreta disposal facilities without ready access to water for handwashing are a nonsense, as is clean water when the household environment itself remains heavily contaminated, or promoting improved personal hygiene in the absence of readily available water supplies. Additionally, hygiene education has a role to play in generating demand for improved facilities and commitment to their long term operation and maintenance. These three elements are therefore promoted within an integrated and interrelated framework, rather than as separate activities, which has been common in the past.

In order to achieve effective integration of these three elements it is not enough simply to formulate three programmes and coordinate them under the umbrella of the CWSD; the focus for integration must be at community level, under community management. This has important implications for the delivery mechanisms to be employed; whilst water supply construction is a "one-shot" activity (or at most a two to three step incremental process), sanitation and hygiene education are directed at households and individuals rather than communities, resulting in individual decisions over time to build a latrine or change hygiene-related behaviour. Thus, it is critical to coordinate outside support for improvements in water supply with the continuous process of hygiene education and the promotion of latrines from within the community. This can only be achieved through strong community organisation and decision-making, and close partnerships between communities and POs acting as the primary channel for all technical assistance.

3.2 Programme Components

As stated above, the CWSP has three main elements: water supply, sanitation and hygiene education. These, in turn, need the support of additional and interrelated capacity-building efforts in training for decision-makers, CWSD and private sector personnel, trainers and community members, and a programme of promotion and support to expand the capacity of the private sector to provide services within the context of the CWSP. These latter activities are described elsewhere in this Manual.

Assistance for improving water supply and sanitation, coupled with the provision of hygiene education, is targeted at three groups:

- ***Rural communities*** of up to 5,000 population
- ***Small towns*** above 5,000 population

- ***Rural institutions***, principally schools and health clinics

Because of the demand-driven and participatory approach of the CWSP, all such communities or institutions taking the initiative of applying for assistance, making a commitment to share capital costs and accepting responsibility for subsequent operation and maintenance will in principle be eligible. However, communities which already have at least the minimum level of service will not qualify for assistance. Small communities (typically those of less than 150 people) where per capita water supply costs are high, and all communities where it is clear that the request originates from a single faction or individual, without broader community support, will also generally be excluded, unless there are other pressing reasons for their inclusion. Where acceptable requests exceed available project preparation and implementation capacity, all should eventually be included in the construction grants programme, with selection of communities to be assisted in the current year based on outstanding applications from previous years, and poor health conditions or low water supply and sanitation service levels in new applicant communities.

3.2.1 Rural Water Supply

Excessive emphasis has been placed in the past on the provision of boreholes, which are an attractive option for supply-driven projects because they lend themselves easily to implementation through large contracts. Even where communities have been consulted on siting, sustainability has been impaired because communities did not have the opportunity to choose the technology according to their ability to maintain it, whilst centralised maintenance depends on continuing subsidies. The transfer of donor country attitudes towards water quality through ESA-supported projects has also led to an undervaluation of simple technologies such as hand dug wells, which are less expensive and easily sustainable, and can contribute to significant health improvements. Conversely, the higher service level offered by a piped system may sometimes provide a community with the extra motivation, leading to sustainability, that a simpler system would not.

The water supply component therefore aims to provide communities with sufficient technical assistance to make an informed choice on the technology to be used. A major part of this decision-making process must be full discussion of the financial and organisational implications of possible technologies for those who will eventually own and use it. Applied research will also be carried out to develop previously neglected options, for instance in techniques for digging deeper and more reliable wells, improving water quality in hand dug wells without recourse to handpumps, and the practical application of hand-drilled borehole technology.

The conversion of handpumps currently maintained by GWSC's centralised maintenance unit to community management is the second element of the water supply component. This will combine work with individual communities to assist them in setting up WATSAN Committees and in organising revenue collection and management, caretaker training, and support to the development of private sector operation and maintenance support services and spare parts distribution. Where tariffs have been paid up to date, or any arrears cleared, the pumps will handed over in good working order with a years' supply of wearing parts.

3.2.2 Small Town Water Supply

This will be approached in much the same way as for rural water supply. However, the larger community sizes mean that community organisation needs to be treated in a slightly different way. Technology choice and design will also be more complicated, with a mix of different technologies, and of new construction and rehabilitation, being used.

To date, most small town water supplies have been under GWSC ownership and management, with user inputs limited to the payment of tariffs. The most effective way of organising community participation must be determined through experience, and may vary from town to town. In principle, however, a two or three layer structure can be envisaged, with neighbourhood groups represented by WATSAN Committees responsible for planning, management and hygiene education as in rural areas, and a Water Users' Association (WUA) made up of representatives from all the WATSAN Committees, responsible for headworks and distribution in piped systems, and also for overall strategic planning to define the service areas of piped systems. Part of this responsibility might be delegated to a third layer constituted by the District Assembly or GWSC, with responsibility for bulk supply from the headworks and possibly the primary distribution system. The WUA could take one of a number of forms, for instance a private company, cooperative or simple committee. Alternatively, all these functions might be aggregated in a single Water Supply and Sanitation Board for the whole town.

Central and market areas may opt for piped systems, with peripheral areas preferring wells or boreholes. The exact mix would depend on the users' decisions, within the technical limitations of water resource availability and the need to avoid subsurface sources subject to pollution. Multiple small piped systems, typically supplied from boreholes, may be used, or a larger system common to several neighbourhood groups. Existing systems might be rehabilitated or partially or even totally abandoned. As with the rural systems, the objective is to plan and install water supplies that meet community needs and preferences whilst being within their capacity to sustain.

Project preparation for small towns will be undertaken by firms with a main focus on community development. They should have, or develop, some in-house engineering capability so as to ensure satisfactory integration of the software and hardware elements of their work. Sub-contracting or joint ventures with engineering consultants should be restricted to the more highly technical aspects, such as electrical/mechanical engineering and structural design, with the system design and layout the responsibility of the prime contractor.

3.2.3 Hygiene Education and Sanitation for Schools

Schools will be eligible under the CWSP for construction grants to improve their latrines, and also their water supplies if necessary, generally by installation of a single well or borehole. As in the case of community water supply and sanitation, hygiene education is an essential complementary activity, but the nature of schools as educational institutions, and their young communities of pupils, demand a slightly different approach.

The role of the WATSAN Committee will be taken by the Parents and Teachers Association (PTA), with selected teachers responsible for the educational inputs. Teacher training and support will be provided by the RWST, with assistance from TREND. The DWST will

coordinate between RWST and district education authorities, provide logistical support to teacher training sessions, and manage and supervise latrine construction. If any Partner Organisations are working in the area served by the school, they will be asked to attend relevant planning sessions for the school project, so as to coordinate activities and enlist the help of teachers in reinforcing hygiene education and latrine promotion within the community.

School latrines are communal facilities, so management and financing should be specified in much the same way as for water supplies in Facilities and Management Plans. School contributions for water supplies will be calculated on the same basis as for communities, whilst contributions for latrines will be limited to in-kind inputs, including excavation and superstructure materials. Latrine construction contracts will be let directly by the DWST to licensed artisans.

The content and methods for hygiene education will follow the same pattern as in communities. Thus, the initial focus will be on the linkages between water, sanitation and health. Children can be a highly effective means of introducing messages to adult household members, and are particularly sensitive to peer pressure; they may thus be an important element in persuading their parents to construct household latrines, or to support a water supply project. Once the improved facilities have been constructed, the accent will be on adopting improved hygienic practices, such as handwashing, and cleaning and maintenance of water points and latrines, including a clearly-defined schedule and responsibilities for the latter. The development of the training materials, and indeed the whole schools element of the programme, will be closely coordinated with the education authorities, so as to build on existing initiatives.

3.2.4 Rural Sanitation

This component will support the provision of various types of household and public latrines for rural communities, schools and health clinics. Although many thousands of latrines will be built under this component, it is essentially a demonstration programme, designed to introduce domestic latrines to a large number of rural communities where they are little known or used, and to create contacts between communities and qualified latrine builders whom individual householders can subsequently approach. The ultimate objective is to establish a market for latrines, with buyers and suppliers acting independently of any continued public sector support.

The CWSP will promote latrine construction through direct marketing by latrine artisans and POs, as well as through the schools water, sanitation and hygiene education component. The CWSP will establish private sector capacity to respond to the resulting demand by training individual artisans.

As in the case of water supply, technology choice by the users is fundamental, and householders will be encouraged to choose from a number of options ranging from a basic slab with an unlined pit to a double pit VIP latrine. Designs include: basic pit latrines using traditional building materials; Mozambique-style latrines (ie. non-reinforced concrete slab) with and without vent pipes; and Sanplat style latrines (ie. reinforced concrete slab) with and without vent pipes. Further development of cheaper sanitation options is a high priority, and

the CWSP will support applied research into innovations in design and the increased use of local materials.

The main technology envisaged for public facilities is the multiple (10-unit) KVIP, which is by now a tried and tested facility in Ghana. The management of public facilities requires special attention, and as far as possible, should be undertaken as a commercial enterprise by a contractor charging controlled user fees, similar to the approach adopted in urban areas. In smaller settlements this may not be feasible, but it may also be inappropriate to install public facilities at all. Proposals for the management of public facilities will be rigorously examined before granting any subsidy. Public latrines will only be supported by the CWSP in heavily used public places such as markets, lorry parks, etc. and definitely not for use in residential areas.

Schools and health centres will benefit from the programme under a slightly different cost-sharing arrangement whereby they will provide labour, and materials such as sun-dried bricks only. As with water supply, the schools may serve as demonstration projects, and as entry points for hygiene education and community action.

3.2.5 Small Towns Sanitation

Sanitation in small towns will be approached the same way as in rural areas, with latrine artisans collecting five or more applications for household units and submitting them to the DWST for co-financing. Because of their lower costs, single pit latrines that can be relocated when full will generally be used in small towns. However, they may be of more sophisticated construction than in rural areas, and where space constraints do not allow relocation, permanently-sited twin pit latrines may be necessary.

3.3 Regional Level Cycle

Within each region, regional decision-makers will be consulted, offices for the RWST will be secured, staffed and equipped, the CWSD head office will contract a SBDU, and a CWSP launch workshop will be held under the auspices of the expanded Regional Consultative Council. The launch workshop should include at least three key decision-makers from each District Assembly, key directors of decentralised as well as other complementary departments operating at the district level and NGOs active in water supply and sanitation in the Region, and cover at least the following:

- Programme scope and underlying principles, emphasising the community's role and the demand-driven approach
- The roles of the public and private sectors
- Basic elements of the project cycle
- Financial arrangements
- Criteria for the selection of districts, and selection of the first two
- Timetable for programme implementation

Initial RWST tasks will include an assessment of water supply and sanitation services and water related disease levels on a District by District basis, establishing contact with DAs and

other sector-related agencies, and identification, prequalification and training of hand dug well contractors, with SBDU support.

Development of dug well construction capacity requires contractors to obtain equipment as well as being trained. The RWST should therefore identify and take control of any well construction equipment available in the region, from programmes such as PAMSCAD, UNICEF, UNDP, Guinea Worm Eradication etc. This will then be available for lease-buy by contractors if necessary. However, in principle, contractors should have enough financial resources to procure the necessary equipment themselves if they are to be prequalified.

The CWSP will spread across the region in stages, with each district gradually taking on more responsibilities as its capacity increases. Districts will be selected on the basis of criteria defined by the CWSD, broken down into responsiveness to the CWSP (60%), need as assessed by the RWST (30%) and the level of existing community activity (10%). Responsiveness will include an assessment of the DA's level of interest as expressed by concrete actions, and of its success in implementing CWSP activities prior to full participation in the construction grants programme. Need assessment will be based on water supply and sanitation coverage, and water related disease reportings as a percentage of all reportings. The increasing levels of district involvement are summarised below:

- The District Assembly takes an active role in coordinating water supply and sanitation activities in the district.
- The DA signs a Memorandum of Understanding with the RWST and establishes a DWST with staff, an operating budget and an office, and training support from the RWST. At this stage the DWST should be able to support a programme for the conversion of existing handpumps to community maintenance, with PO teams assisting individual communities. Once the DA establishes a sanitation fund for pre-financing sanitation work, the DWST can embark on artisan training and latrine construction.
- Once it has shown capacity for managing the above programme elements, the district team can move on to coordination and management of the water supply construction grants programme and the schools hygiene education and sanitation programme.
- After a further one or two years' experience the district should be ready to take direct responsibility for hand dug well and project preparation (PO) contracts, pre-financing them out of its own resources.

The rate at which districts reach these successive levels will depend partly on their own abilities and partly on the capacity of the RWST to support them. It is estimated that the RWST will have the capacity to support about two districts per year in starting the water supply construction grants programme (full participation) and another two in sanitation and conversion of handpumps to community maintenance (partial participation).

Annual workshops involving the same institutions as the launch workshop, including any newly-identified Partner Organisations, will be held, to discuss the experiences of the districts already involved in the CWSP, introduce any new developments and choose the new districts for the following year.

3.4 District Level Cycle

The RWST's initial contact with a District Assembly not yet participating in the programme should be in a meeting with the District Coordinating Director, where the CWSP would be briefly outlined and a meeting with the District Chief Executive planned. At this second meeting, more details of the programme can be discussed, and an information package handed to the DA. The information package should, apart from explaining the programme, set out the basic conditions for DA participation, which include:

- Assignment of office space to the DWST
- Recruitment of DWST staff of suitable calibre
- Establishment of a sanitation fund (at least ₵1.5M)
- Assignment of an operating budget for the DWST
- Establishment of a District Management Committee to coordinate all water supply and sanitation activities in the District

Following the meeting with the District Chief Executive, RWST personnel should meet the District Assembly or the relevant committee (probably the Works Committee) for further discussion of the programme and presentation of a draft Memorandum of Understanding between the DA and the CWSD.

Once the RWST has verified the DA's compliance with the conditions for participation, the DA can proceed to the nomination of a DWST. The RWST should provide support in obtaining national service personnel, either as team members or as extra support in the DWST start-up year, and should be represented on the interview/selection panel. The RWST will provide briefing notes on the level of required personnel; technical staff should be of CTC or GCC level, whilst other staff might be qualified as Environmental Health Assistants, Public Health Nurses or Community Development Assistants. Other qualifications may also be acceptable, and will be defined by CWSD. Basic skills required by all staff include:

- Ability to communicate effectively at community level;
- Ability to maintain records, produce reports and systematically manage water supply and latrine applications;
- Workplanning and basic management skills;
- Basic technical knowledge of latrines and hand dug wells;
- An understanding of basic health issues.

Following recruitment of the DWST, their office should be set up, again with RWST support in the form of funds for rehabilitation (painting and minor repairs). A District CWSP launching will also be held at this stage, with full discussion of the CWSP, at a normal DA session extended by one day for the purpose. The Memorandum of Understanding will be signed at this meeting.

Having been formally established, the DWST will attend orientation and training sessions organised by the RWST, and receive a standard package of office equipment and consumables. The CWSD will also provide two motorbikes for the DWST, and a third once the District reaches full participation.

The DWST has an overall brief to supervise and support all community water supply and sanitation activities in its district, but there are also some specific tasks for which it has direct responsibility. These are discussed in the following sections.

3.4.1 Sanitation Delivery

Whilst water supply is a community-wide activity, household latrines involve only individual householders. Even in a highly mobilised community, complete sanitation coverage is likely to take a number of years to achieve, whilst in other communities this may take several decades. Thus, whilst the promotion of latrines can and should be undertaken continuously at community level, it will only be viable to provide latrine building capacity at the district or sub-district level. For this reason, the DWSTs will be the main focus of activity for the sanitation component of the CWSP and the DWST will have direct responsibility.

(a) Domestic Latrines

The DWST should seek nominations from village leaders, District Assembly Members and the PO active in the district, for about 40 candidates (who should be experienced masons) to be latrine artisans. The RWST will assist in selecting 20 of these, with a good geographical spread across the district, for a preliminary 3-day training session. The ten most promising artisans will be selected for a subsequent 10-day training session in construction and marketing of latrines, to be held 2-3 weeks later. After constructing several batches of household latrines, the five best artisans (also selected with some reference to their geographical spread) will receive further training in more advanced latrine types and entrepreneurial skills.

The logistics of the training sessions will be the responsibility of the DWST, whilst the RWST will provide the training with TREND support. Practical sessions will be held in a village near the district capital, where a number of demonstration units of various types and finished to various degrees (pit excavated, slab cast, superstructure partly built, etc.) will be available.

The procedure for individual latrines will be as follows:

- Licensed artisans accumulate packages of at least five orders in a community, establishing sites and designs in consultation with the potential users;
- DWST checks the validity of the orders and releases to the artisan half of the estimated cost of materials which have to be purchased commercially;
- The latrine is constructed, with the owner paying the artisan a mutually agreed rate and providing agreed labour and materials inputs;
- If completed within three months, DWST inspects the finished latrine and pays the other half of the cost of commercially-procured materials to the latrine artisan;
- If not completed within three months, the latrine artisan must show reasonable cause, and if this is not possible, return the initial subsidy paid; and
- DWST obtains reimbursement from CWSD for grants paid on all works completed to specification.

Monitoring and evaluation of this work should be established right from the start, with the close involvement of the District Management Committee, and should include not only quality control of latrines constructed, but also the effectiveness of user education, and the

identification of any problems or innovations emerging at field level, which would be shared with the RWST.

Promotion of latrines will be a long task, and must include the development of carefully researched messages and marketing tools. The main promoters will be the artisans themselves, who have a clear motive for obtaining customers. Latrine promotion will also be undertaken by POs and other field workers cooperating with the programme, and possibly supplemented at a later stage by mass media such as leaflets, posters and local radio. Promotion should not rely entirely on the hygiene education rationale, but should rather emphasise social marketing messages such as status, ownership, privacy and convenience, to reinforce the health messages disseminated at community level by Partner Organisations. The development of the social marketing campaign will be undertaken with the support of TREND.

(b) Public Latrines

The construction of public latrines for heavily used public places will, at least initially, only receive support from the CWSP in conjunction with a water supply project. This is because such facilities require the community organisational base developed with the assistance of Partner Organisations during project preparation. As the CWSP is consolidated it may be possible in special instances to draw up special project preparation contracts just for communal latrines, but at the beginning this will divert scarce resources away from the water supply component.

Planning of such facilities will follow the same procedure as for water supplies, and the proposed design and management arrangements (which should be by contract, unless special circumstances can be demonstrated) will form part of the Facilities and Management Plan. Construction will be contracted out to licensed latrine builders under similar arrangements as for water supply construction.

3.4.2 Schools Hygiene Education, Sanitation and Water Supply

Soon after its establishment, the DWST should undertake a sanitary survey of all schools in the district, which will also serve as an opportunity for disseminating information on the programme. PTAs will make their requests on standard forms similar to those used for community applications for construction grants, with an additional undertaking to provide all labour and superstructure materials (principally sun-dried bricks) for the latrines. Information given will be confirmed by the DWST, and the applications will be endorsed by the District Assembly before letting a contract to a fully trained artisan. The RWST will provide support in the first few cases in each district until the DWST can manage on its own.

Each school should select four teachers for hygiene education training, which will be provided in workshops of one or two weeks' duration for groups of up to 30, during holiday periods, where they will also be provided with reference manuals and teaching resource materials. These workshops will be organised by the RWST, which will supplement its own staff with resource persons from TREND or other specialists involved in the hygiene education programme. During the first subsequent school term, the main activities will be focused on gaining an understanding of water and sanitation related disease and its importance, particularly diarrhoea, intestinal parasites and, if relevant, Guinea Worm. This should be

coupled with some basic epidemiology about how small quantities of faecal matter are transmitted through the environment, and how this can be reduced by containment of faeces in latrines, protection of water sources and improved personal and domestic hygiene.

Within the school, the trained teachers will conduct participatory classroom sessions and organise surveys of pollution and health risks in the school environment. Outside the school, the PTA, pupils and any Partner Organisation active in the area will carry out similar surveys in the community, and the trained teachers will be encouraged to make themselves available to support any other on-going hygiene education work.

During the following term, these educational activities should be continued, and project planning can begin, led by the PTA and facilitated by the trained teachers. For the latrines, this will consist of site selection, with the assistance of the DWST, initiating the collection and production of building materials, and making a detailed maintenance plan. If a water supply is to be constructed, a Partner Organisation will be contracted to provide technical assistance in a streamlined planning process. A Facilities and Management Plan should be drawn up for the latrines and (if required) the water supply, and submitted. In general, the CWSP will fund the upgrading of existing facilities, or the construction of new ones consisting of a block of 5 units (2 for boys, 2 for girls and one for teachers) with a urinal and a handwashing facility, whilst water supply would typically consist of a single well or borehole fitted with a handpump.

On completion of the improved facilities, the teachers will lead a campaign to promote improved hygiene related behaviour, such as handwashing. In particular, a cleaning and maintenance roster for the latrines should be established and strictly enforced. Other regular activities such as care of the water point, regular filling of the water tank for handwashing, and general environmental hygiene such as solid waste control and the maintenance of watercourses and other water bodies can also be scheduled. These activities can be backed up by individual or inter-class competitions and the like.

3.4.3 Partner Organisations

One of the first tasks when a district progresses to full participation in the CWSP will be the identification and assessment of Partner Organisations. The main skills required by POs are in the areas of community development, hygiene education and basic technical aspects of water supply and sanitation systems design. More complex technical tasks such as hydrogeological surveys or piped system design will be subcontracted to specialists.

There are two main types of potential Partner Organisation: larger NGOs or religious organisations already doing this type of work, often combining it with hand dug well and/or borehole construction, and small village or district level associations usually oriented towards self-help or minor construction activities. Such potential POs will be identified in the field by the SBDU, DWSTs, RWSTs and by advertisements in the press. Candidate groups will be invited to a session where the CWSP is explained to them, and group activities designed to show some of their communication and organisational skills carried out. Each organisation will be interviewed by a RWST/SBDU interview board, which will make the selection based on:

- The skills and attitudes demonstrated during the group session
- A basic commitment to carry out community work

- Previous experience of carrying out small community projects
- Ability to manage the work asked of them
- Adequate educational levels to enable their being trained
- Readiness to take on new members with specific skills if necessary

Field staff should be based in the district where they are working so as to reduce costs, and linguistic and cultural problems. Political sensitivity should also be exercised when POs move away from their home district; in particular, the "host" DA and DWST should be consulted, and PO names should not refer to any particular district or cultural/religious system.

The SBDU will provide such help as may be required to the selected PO, with registration, establishment of a bank account, locating an office, and obtaining any specialised staff required, following which the RWST will negotiate a contract with it, for an initial batch of 10 communities.

Experience shows that whilst three main skills (community mobilisation, hygiene education and technical skills) are necessary, a team of two field workers, at least one of whom should be a woman, and who have overlapping skills in the three key areas, is all that is required. In a first contract, two teams of two would be appropriate, sometimes working together so as to mix their skills. Depending on the managerial capacity of the PO, further contracts may be let in a readily accessible neighbouring district or districts; on average a PO might work in two adjacent districts, although stronger ones might take on three, and weaker ones remain based in their own district. An extra team or teams of two field workers each could be taken on to carry out the additional work. POs that fail to perform in their first contract will be substituted and dropped from the CWSP.

3.5 The Community Level Project Cycle

The CWSP aims to change the provision of rural water supply and sanitation from a supply- to a demand-driven process, with communities taking the lead in planning, constructing and operating water supply and sanitation facilities that best respond to their needs and their physical and financial ability to operate and maintain. Most communities have neither the organisational nor technical abilities to discharge these responsibilities unaided, so the CWSP will establish an institutional structure to provide support from a wide variety of sources (see Chapter 2). The guiding principle in building this broad series of partnerships is to assign responsibilities to whichever institution is best qualified to provide each particular service cost-effectively and flexibly in response to community needs.

Because of the complexity of this system involving many different actors and contracts, a clearly defined sequence of activities and responsibilities, which has been termed the "**Community Level Project Cycle**", is required as a framework. This is a systematically structured process designed to ensure that CWSP beneficiaries will be able to understand and directly influence project preparation, and to avoid lack of necessary action because of undefined responsibility or simple omission. Although presented in considerable detail, it is not intended or expected that this framework will provide answers to all the problems and issues which may arise during implementation of the CWSP, which must itself be flexible,

continuously adapting to meet real community needs through a process of feedback from field workers and the communities themselves.

In particular, this flexibility should be applied to the content and timing of PO activities. The project cycle is a series of elements that should follow each other roughly in sequence, but each community will progress at its own pace. POs must be sensitive to this, and adjust their inputs accordingly. Activities may not always be in parallel and at the same stage in different communities. Frequent visits may be required at a certain stage in one community, whilst another needs time to carry out certain agreed actions, debate a decision, or simply to engage in other (eg. agricultural) activities. It is likely that a total of 6-12 visits over 2-6 months will be required to complete project planning to the Facilities and Management Plan stage, but this will depend entirely on how the work progresses in the communities.

3.5.1 Summary of the Project Cycle

The project cycle can be broken down into five phases as follows:

(a) Promotion

The RWST will provide printed and other material for use by DA members, DWSTs, other government and non-government field workers, schools and the National Literacy Programme. They will identify interested communities and help them apply for construction grants. The DWST will visit the communities to verify and, if necessary, supplement the information given. All applications will be reviewed by the DA sub-committee responsible for overseeing the CWSP, which will endorse and forward them to the RWST.

(b) Mobilisation

Requests are packaged and assigned to Partner Organisations, who send field teams to work with the communities to lay the foundations for future sustainability of any facilities constructed. The main activities which the POs facilitate at this stage are:

- Hygiene education
- Mobilisation of women
- Community organisation
- Management of self-help activities
- Assessment of community needs and priorities

If water supply and sanitation is agreed as a priority, the community will be required to establish a bank account with a deposit amounting to₡ 100 per person (subject to annual review by the CWSD) at this stage, as part of their eventual contribution to project costs and to demonstrate their commitment to planning and executing a project. Where banks are very inaccessible, communities may contribute to a fund held by the WATSAN Committee. The level of mobilisation achieved is also assessed before proceeding to the next phase, and, if necessary, more mobilisation work carried out, so as to ensure genuine and effective community participation in the planning process.

(c) Participatory Planning

During this phase, hygiene education and strengthening of community organisation continues in parallel with participatory planning of the water supply facilities. The basis of this process is the provision of technical assistance to the community to formulate and explain the feasible options, with their associated costs and implications for community management. This allows the community to take the design decisions, arising at various stages throughout the process, which ensure that the system is best suited to their needs and capabilities. The work includes, where necessary, the contracting of third parties to make test holes for assessing dug well feasibility, or to execute of geophysical surveys for borehole siting. All activities are coordinated by the same Partner Organisation that carried out the initial mobilisation.

The Project Preparation Contract culminates in the production of a Facilities and Management Plan setting out clearly:

- Design and layout of the proposed water supply facilities
- Proposed arrangements for management of the completed system
- Community commitment to pay their share of the capital cost and to cover operation and maintenance expenses

The Facilities and Management Plan should also include other relevant information collected during project preparation. It is formally signed by community representatives and forwarded to the DWST and RWST to check its conformity with CWSP norms and standards. It can be returned to the community for further development if found to be incomplete, or passed on to the relevant District Assembly for final approval. Upon submission of the Facilities and Management Plan to the RWST, the community must show proof that its agreed cash contribution has been deposited in its bank account, or, in the case of piped systems, in a joint signatory account with the District Assembly.

(d) Project Implementation

Throughout the construction of the facilities the PO continues to provide support to the community, particularly on the organisational side, so as to ensure a smooth transition to community management. PO support may also be required in guiding the re-planning process which might become necessary if a borehole has insufficient yield for a planned system, or has a high enough yield to enable a mechanically pumped system to be considered instead of a handpump (although in this latter case the community may already have rejected the piped option; they can, however, note its feasibility for future reference).

Construction is monitored by the District Assembly or RWST, with DWST assistance, and on completion both the DA/RWST and the community sign the certificate of completion, thus giving the community the power to ensure that the facilities have been installed according to the plan agreed by them.

(e) Follow-Up

During the first year after completion, contractors and suppliers are liable for defects and malfunctions not caused by improper system operation and maintenance, which are the community's responsibility. The PO also continues to make a few scheduled visits to guide and assist the community in the establishment of sound system management.

When the year is up, all responsibility of the contractors, suppliers and PO ceases. The DWST will monitor the system, and be available to the community to give advice on where to obtain any outside services they may require to supplement their own operation and maintenance efforts. The DWST will also be the community's route of access to the rehabilitation fund for major items such as borehole maintenance and additional water points.

The cycle set out above is summarised below in tabular form and explained in more detail in subsequent sections. It is presented with decision-making power divided between the RWST and the community. However, as mentioned elsewhere, it is a clear objective of the CWSP progressively to involve the District Assemblies in these decisions, and it should be understood that where Project Preparation and dug well construction contracts are involved, most of the decision-making powers attributed to the RWST will subsequently pass to the District Assemblies.

Community Level Project Cycle

{PRIVATE }Phase	Activities
Promotion	• **Publicity**: District Assembly Members, line agencies, NGOs and other POs disseminate information about the CWSP and promote community participation. • ***Construction Grant Application***: *Community requests assistance through DA for* financial assistance to improve its water supply facilities. • **Verification and review**: Need and interest verified by DWST, endorsed by DA, and passed on to RWST.
Mobilisation	• **Project preparation contract**: RWST contracts PO to provide training and technical assistance to communities. • **Community mobilisation**: POs mobilise communities ensuring women's and minority group involvement in planning, strengthen/establish WATSAN Committees and facilitate community needs assessment. • **Commitment fee**: Community deposits ₡100 per person in WATSAN bank account. • **Action plan**: Community takes self-help action on improved hygiene and environmental sanitation goals it sets for itself. • **Mobilisation assessment**: DWST/RWST give approval to proceed with planning, require further mobilisation or terminate support for community.
Participatory Planning	• **Preliminary design**: Technical option and service level chosen by community with technical assistance from PO. • **Water source siting**: After community shows proof of ₡500 per person deposit to WATSAN bank account, CWSD authorises contractor to confirm feasibility of proposed water source and to site the proposed boreholes. No additional cash deposit required for hand dug wells. • **Continued mobilisation**: PO continues support to community hygiene/environmental action programme, strengthening WATSAN Committees and formation of WUAs for piped systems. • **Facilities and Management Plan**: With PO assistance, community prepares FMP giving proposed design, expected cost and management/financing plan and submits it to DWST with proof of deposit in WATSAN bank account of required community cash contribution. • **Appraisal of FMP**: After endorsement of DA, FMP appraised by RWST. Dug wells and boreholes approved for construction and piped systems approved for detailed design. • **Design:** Piped systems designed.
Implementation	• **Community support**: PO continues with hygiene education and strengthening of WATSAN Committee or WUA. • **Construction**: Wells and boreholes assigned to construction contractors previously selected, piped system works packaged for local tendering after community cash contribution is paid in full. • **Certification**: WATSAN Committee, DWST and RWST sign certificate of completion after system tested and commissioned.
Follow-up	• **Warranty**: Equipment suppliers, contractors and POs all on 12 month retention. • **Follow-up**: PO consolidates WATSAN Committee or WUA and supports establishment of community management. • **Monitoring and Evaluation**: PO, DWST and community carry out participatory evaluation one year after works are commissioned to check progress and sustainability. DWST makes occasional visits to communities and is always available to support them.

CWSD	Community Water and Sanitation Division	RWST	Regional Water and Sanitation Team
DA	District Assembly	DWST	District Water and Sanitation Team
FMP	Facilities and Management Plan	PO	Partner Organisation
NGO	Non-governmental Organisation	WUA	Water User Association

3.5.2 Promotion

The demand driven approach to the programme requires that communities take the initiative in requesting support from the CWSP. To do this, they must be informed of the opportunities for subsidy and assistance that are available. In order to avoid an excessive number of requests beyond the programme's capacity to fulfil, and the inclusion of communities whose felt need may not be sufficient to ensure the sustainability of subsequent investments in water supply and sanitation, a balance must be struck between active information dissemination and a purely passive approach of responding to community-initiated requests. The most appropriate procedures will only be established through experience of actual programme implementation, and may differ between areas. The basic elements outlined below should, however, be similar across the whole CWSP.

(a) Information Dissemination

Information will be presented at the district CWSP launch workshop, on the objectives of the programme, its approach and the process by which communities can apply for assistance. Sufficient copies should be provided to enable distribution to community leaders.

All those having direct contact with rural communities, including field workers from the public sector (particularly the departments of Health, Community Development and Agricultural Extension), Partner Organisations, other NGOs, religious bodies and other organisations with a rural presence, as well as the District Assembly members themselves, will be asked to take note of communities mentioning improved water supply and sanitation as a priority need, and answer their basic questions on how assistance would be available from the CWSP.

In follow-up visits to interested communities, more detailed information on the programme can be provided, and the community helped to prepare a formal application for assistance. Certain areas or communities may be identified, through the initial contacts, or otherwise, as being in particular need of improved water supply and sanitation services, but also poor and thus with limited capacity for sustaining operation and maintenance. These may be selected as targets for more concentrated promotion of the CWSP. However, it may be appropriate to do this later in the programme, when community development and support methodologies have been more fully developed in "easier" communities. Villagers from these disadvantaged communities would then also be able to learn through spending time in communities where community mobilisation had been achieved and systems completed.

(b) Application for a Construction Grant

The printed information material will set out the basis on which the programme operates, including the commitments required from communities and made by government, and should include a simple form for a community "Application for a Construction Grant" (see Annex 2) on which they will provide basic data such as:

- Location
- Approximate population
- Existing water supply and sanitation arrangements
- Experience with self-help development activities

Because of the high illiteracy rate among the target population, communities will generally require assistance in filling out these request forms. This may be provided by a literate community member such as a teacher, a line agency or NGO field worker, or the District

Assembly member assisting with the application. Whatever the case, the application should be discussed and the form filled out with a group of perhaps 5-10 villagers, including one or two community leaders; the DWST will subsequently visit and assess the interest and commitment of the community as a whole. Communities will formally request assistance from the programme by signing the Application for a Construction Grant and forwarding it to the DWST.

(c) Verification and Review by District Assembly

On receipt of Applications for Construction Grants, the DWST should visit the communities concerned to verify and supplement the information submitted, make a rapid preliminary assessment to confirm community interest in participating in a water supply and sanitation project, and further explain what the community can expect to obtain from the programme and contribute themselves. It will be important to obtain the opinions of both community leaders and ordinary villagers, through a combination of individual and group discussion with members of all social groups, as well as confirming physical data by observation. Many communities are not homogeneous, and may contain ethnic or settler minorities who frequently have little influence in community affairs. Particularly where the minorities reside in a distinct area, it may be appropriate to treat them as a separate community. It will be the task of the DWST to identify such splits, and key community leaders, so that projects can be successfully delimited from the start.

Information collected at this stage should be summarised by the DWST in a 2-3 page report including:

- Location (how to get to village)
- Population:
    - no. of households
    - no. of people
- Economy:
    - main sources of income
    - land ownership and land use patterns
- Standard of living
- Infrastructure:
    - roads (motorable, non-motorable)
    - bus service
    - electricity
    - schools
    - medical facilities
- Health profile of village (general health/nutrition status, water related disease, etc.)
- Villagers' expressed needs and priorities
- Water supply:
    - existing facilities (range of different facilities and who has access to them)
    - people's perception of facilities (problems - eg. source distant, unreliable)
    - is water seen as a priority need?
    - if so, has the community already done something to solve their problem?
- Sanitation status:
    - number of families with access to public or private latrines
    - state of repair and cleanliness of the latrines
- Historical background of community
- Level of community unity (coherence) or conflict

- Level of community organisation; what are the active community based organisations? For each one:
    - activities/projects carried out recently, and how effective?
    - how many people were actively involved?
    - level of organisational ability (leadership, mobilisation, finance etc.)
    - relationship with other leaders and organisations

Once it is verified that there is substantial community interest in addressing a real and felt need for improved water supply and sanitation, the DWST will report its findings to the District Assembly for review and endorsement, and forward the Applications for Construction Grants, along with any other information collected, to the RWST office for packaging into Project Preparation Contracts.

3.5.3 Mobilisation

The mobilisation phase has two main objectives: to ***motivate*** the community through a group analysis of their needs and preferences, and raising awareness of the potential impact of improved water supply and sanitation facilities on their health; and to ***increase their capacity*** to achieve this by mobilising those most concerned with the improvements (women) and strengthening the community's organisational capacity for self-help activities. This motivation and capacity is needed to enable ***full and effective community participation in planning*** the facilities, thereby creating a sense of ownership and further motivation for long term operation and maintenance, and the capacity to carry this out. Work to be done during this phase is therefore focused on more detailed information dissemination, hygiene education, women's mobilisation and organisational development activities in programme communities. These tasks are assigned to Partner Organisations, and closely supervised and supported by the DWST.

(a) Project Preparation Contracts

Packages of Applications for Construction Grants will form the basis for Project Preparation Contracts. The principal output of the contracts will be a Facilities and Management Plan from each community specifying the facilities to be constructed and the community's arrangements for managing and financing them. Contracts between POs and the CWSP will take a standard format, specifying the target communities, payment details, estimated timing and proposed staff inputs. The rates used will be negotiated with each Partner Organisation, but should be close to norms estimated by the CWSD. The programme will also make equipment and materials required by Partner Organisations available under lease/buy arrangements, reimbursed through deductions from contract payments.

Work to be carried out under these contracts will cover the four remaining phases of the project cycle: Mobilisation, Participatory Project Planning, Project Implementation, and Follow-up. Payments will be made in tranches on successful completion of:

- Mobilisation, as assessed by a set of established criteria
- Participatory project planning, with the production of an acceptable Facilities and Management Plan
- Follow-up, as assessed by the existence of an established system for managing the water supply facilities and providing long-term hygiene education

(b) Community Mobilisation

In order to successfully manage the improved water supply and sanitation facilities in the long term, and also to participate effectively in planning and design, communities must be organised, and minority groups whose voices are often ignored, particularly women and poorer people, encouraged to participate actively. Hygiene education and community needs self-assessment activities can in themselves help achieve these objectives, but other specific actions, grouped here under the heading of community development, will generally also be necessary to reach the desired level of community mobilisation, empowerment and self-reliance.

(c) Leadership and Organisational Development

Effective and representative leadership is essential for community organisation. The field workers must therefore identify and work with leaders who command the trust of community members. A formal organisation will be required to take on ownership and management of communal water supply facilities, and this should be, if possible, an existing community based organisation (CBO) which will have a better chance of survival once the intensive phase of project planning and implementation is over. If necessary, a new CBO may be formed, or an existing one expanded to increase its representativeness, including a requirement for women to hold some of the senior positions. These issues must be sensitively handled, as they will affect the balance of power between community subgroups, and adequate time and consultation must be allowed. The field workers will hold training sessions to develop leadership, communication and, subsequently, management skills within the CBO (hereafter referred to as a WATSAN Committee).

Once selected or established, the WATSAN Committee will need to be formally registered so as to be able to sign contracts, operate a bank account and own the completed facilities. This can be most easily achieved by incorporating it as a sub-committee of the local Unit Committee.

One factor that can have a positive influence on the sustainability of both the WATSAN Committee and the water supply facilities it will eventually manage, is its involvement in income-generating activities. This will give the organisation a more substantial on-going role once the intensive phase of project planning and implementation has been completed, and may also serve to generate funds within the community, which would increase the affordability of operation and maintenance. Whilst it is not an objective of the CWSP to support income-generating activities, Partner Organisations should make themselves aware of such projects in their area, and encourage them to become involved when they consider that they could make a useful contribution in a programme community. In the short term, specific one-off fund-raising activities such as a "harvest" of contributions from richer community members now living in the cities, or a sale of produce etc. can also be useful for raising the community cash contribution for a water supply.

About three volunteers should be selected with community consensus, to collaborate closely with the WATSAN Committee (of which they would be members) and the field workers, and carry out hygiene education work. These will typically be younger, dynamic people with good communication ability, and able to give their time to the project. Again, some of these must be women. As far as possible, they should be selected to represent different age, social and geographical groups within the community. They will participate in all the work carried out by the Partner Organisation, acting as a bridge between them and the community, assisting

them directly, and providing continuity between their visits. The volunteers should also provide support and initiative within the WATSAN Committee as it establishes itself. The field workers will train or brief them on specific tasks as they arise, with supplementary training on hygiene education being provided by the DWST.

(d) Promotion of Women's Participation

Women are the managers of water and sanitation at household level, and must therefore participate actively in any water supply and sanitation project. Their traditionally inferior social position may, however, cause them to defer to the men against the better interests of the project. Specific measures, still requiring further development, must be taken to combat this. However, for the time being, in addition to requiring women's presence among field workers, volunteers and WATSAN Committee managers, recommended measures include:

- Facilitation of community meetings by field workers to deliberately draw out women's contributions, and holding them at times when they are not occupied in daily chores
- Working with women's groups on self-help activities
- Choosing community self-help projects with high potential for women's involvement

(e) Community Action

Finally, a small community self-help project should be planned and executed. This will help to develop community capacity for planning and organisation, self-confidence, and a sound working relationship with the field workers. It should address real needs in the community, involve women, and be pitched so as to be achievable. Typical options might be a clean-up campaign or improvement of infrastructure such as an existing water point or access road.

(f) Hygiene Education

To have maximum impact in association with the other project activities, hygiene education should be implemented on a phased and gradual basis in manageable doses, with specific objectives for each phase in the project cycle. The approach adopted makes a break with didactic, lecture-based methods, which treat villagers as passive objects for one-way information transfer and are largely ineffective for bringing about behavioural change. Instead, the participatory techniques of modern adult education, which are much more effective in inducing behavioural change should be used. This approach emphasises learning through doing, discussion, peer group interaction, demonstration, and visual reinforcement. Villagers will be encouraged to identify and analyse health problems and look for solutions and ways to meet goals.

In this phase, the focus will be on creating awareness of the importance of actions to reduce or mitigate the negative effects of environmental pollution on health. The objective is to stimulate actions which all community members can take to reduce the burden of water-related disease, promote the demand for improved water supply and sanitation facilities, and generate enthusiasm for community action to achieve this. The main messages will be those relating to:

- The ***causal linkages*** between contaminated water, personal hygiene and sanitation habits, and diarrhoea
- The ***transmission routes*** whereby faecal matter passes through the environment and is ingested by others
- The prevention of ***Guinea worm*** where this is a problem.

At this time, community organisation may be weak so the PO field workers will take the lead in providing hygiene education, in a participatory process involving open discussion based on simple visual aids, identification of health and pollution problems within the community's own environment, and action to reduce identified risks. This would be done in the context of:

- Sessions with ***community leaders*** to establish a commitment to, and a plan for, including hygiene education as an integral part of the project
- Training of ***volunteers*** on content and methods for hygiene education
- ***Demonstration*** of hygienic practices by volunteers through their own day-to-day behaviour ("modelling")
- ***Community meetings***, where a selected hygiene education topic would form a standard agenda item
- Sessions with ***smaller groups***, particularly ***women***
- Making ***home visits*** to help householders identify poor hygienic practices and health risks, and adopt improvements
- ***Survey work*** carried out by community members
- ***Community actions*** related to hygiene (eg. cleaning around water points) based on a community analysis of health risks in their environment

Initially, the PO field workers will train WATSAN Committee members and volunteers in the basic hygiene messages and assist them in working out plans for hygiene education in the community. The field workers will then start to train the volunteers on hygiene education content, methods and materials. They will help the volunteers plan their work, and provide support and training as it proceeds, as well as participating themselves in some of the hygiene education sessions.

The volunteers will conduct educational sessions with women's groups, make home visits, organise hygiene-related community action (eg. cleaning around water points), and demonstrate improved hygienic practices through their own day-to-day behaviour ("modelling").

The Partner Organisation team will work with the WATSAN Committee to set a number of targets for the hygiene education programme over time. These should be based on a community self-survey of environmental and behavioural health risks facilitated by the volunteers as their first task. The goals should be clearly described and easy to measure; for example: "one year from the start of the programme 100% of the households will have water storage jars with their own lids". Each community should set itself about ten targets of this type and measure its own progress against them. The indicators for behavioural change should be publicised and the community encouraged to take part in monitoring the changes.

(g) Community Self-Assessment of Needs

Once leaders and volunteers have been identified and rapport established, the PO team will lead the community through a self-assessment exercise. If a project is to be sustainable in the long term, it must address the real needs of the community. Conversely, the process of identifying these needs can be a powerful tool in raising awareness and providing motivation. For both these reasons, the team will actively involve the community in identifying and prioritising their own problems through data collection and self-assessment.

(h) Mobilisation Assessment

As mentioned above, participatory planning will not be effective without a mobilised community. At this juncture, therefore, an assessment of the level of mobilisation attained will be made by the RWST, according to the criteria set out in Annex 3, summarised below:

- The WATSAN Committee is fully established and representative
- Women are involved in all aspects of the project and in specific group activities
- A substantial proportion of households are participating in community meetings and self-help action
- Hygiene education has reached most households, and the WATSAN Committee and volunteers have been trained
- Environmental health risks have been identified, targets set and action initiated
- The community needs self-assessment has been carried out according to CWSP guidelines
- A water supply and sanitation inventory and map have been completed, and a bank account or fund established with at least the minimum per capita amount deposited

If the community has decided not to proceed further, the Project Preparation Contract will be terminated at this point. If the level of mobilisation is not satisfactory, the Partner Organisation will carry out further mobilisation work, with extra payment only if it can be shown that the extra work is necessary as a result of exceptional and unforeseen circumstances. If all is as planned, the PO will continue with Participatory Project Planning.

3.5.4 Participatory Planning

In order to respond effectively to community needs and preferences, and engender the community's sense of ownership and long term commitment to operating and maintaining any new water supply and sanitation facilities, technical assistance to project planning must be provided in such a way as to allow community decision-making at all stages in the planning and design process. To this end, a structured process has been designed based on the following principles:

- Use of a mixed team of technical and community development field workers
- A structured series of small and large group meetings, data collection and field visits with specified objectives
- Specified tasks to be carried out between these activities by both field workers and community members
- Allowing time for community members to think and reflect at each stage
- Not proceeding from one stage to the next until consensus is reached
- Use of participatory techniques to maximise community decision-making and promote a close working relationship between field workers and community members

Although the main mobilisation effort will have been completed by this stage, it will be necessary to continue emphasising hygiene education, which typically takes a considerable time to produce concrete results in terms of behaviour change. Integrating this work with project planning will also help to create the desired linkage between health and improved water supply and sanitation. A basic understanding of the linkages between water, sanitation and health should have been achieved during the mobilisation phase, and now is the time to reinforce this by focusing on the identification of the transmission routes and mechanisms for faecal pollution in the environment, a subject also related to the selection and siting of water points.

This starts with a community meeting to discuss the exercise and its objectives, after which several different interest groups (including a group of women) will conduct their own assessments according to a standard format. This will cover:

- Ranking of major needs
- Water supply problems
- Sanitation problems
- Health problems
- Community experience with collecting and managing funds
- Physical and human resources in the community
- Means of and constraints to women's involvement in a community project

The results will be collected and discussed by the WATSAN Committee and the field workers prior to a second meeting, where the whole community will review the assessments and the different perspectives of the various groups who carried it out. This meeting will also reach agreement on whether water supply and sanitation is a real priority; if not, the whole process can be abandoned at this point.

The Partner Organisation's technician should be introduced to the community at this meeting, if this has not already been done, as (s)he will be playing a major role from here onwards. Although technicians have specific technical tasks to perform, they will only be effective if they understand the participatory approach being used, and enter into active contact with the community. This is not hard to achieve, but POs must be conscious of the possible tendency for technically qualified personnel to concentrate excessively on technical matters and even to adopt the role of a high status "expert". They must therefore ensure that technicians receive orientation and training in participatory techniques.

If water supply and sanitation is agreed to be a priority, the community should reach agreement in principle on the resources to be used and give the WATSAN Committee its endorsement to continue to coordinate the work. At this stage an initial contribution to the water supply fund should be collected. It should be a significant but not prohibitive sum capable of showing the community's commitment to the project, fixed annually by the national CWSD (provisionally ₡100 per person in August 1995). This money should be deposited in the WATSAN Committee's bank account, which should be opened at this stage if it has not already been established.

After the meeting, volunteers will follow up with small group discussions on what to do about improving water supply and sanitation. The Partner Organisation team, with the support of the volunteers, will collect further data, including inspection visits to households and water sources, to prepare:

- A water supply and sanitation inventory of the settlement specifying the water sources and the type and standard of latrines (if any) used by each household
- Detailed descriptions of existing water sources, including estimates of the yield of existing wells, the depth to water in wet and dry seasons, and water quality
- A map of the settlement showing all houses, the location of roads, topographic features such as streams, existing water sources, and existing community facilities such as schools or clinics

A second area for practical application of improved awareness of hygiene issues at this time is the promotion of latrine construction and use. The construction of latrines by community leaders would be a strong motivating factor, so the WATSAN Committee members and volunteers should be encouraged to take the lead.

The WATSAN Committee should also be further strengthened, in leadership and organisational skills. The Committee would also be expected, with the support of the Partner Organisation, gradually to take a more active role in managing the planning process, arranging and chairing meetings, and keeping records.

(a) Feasibility

As the first stage in the participatory planning process, a community meeting led by the PO's technician will identify possible water sources, technical options and service levels, using the water supply and sanitation inventory and map as a reference. The alternatives will be discussed in the light of their potential costs and maintenance requirements. The community will give the technician a mandate to further investigate selected options.

When dug wells are to be considered (which will generally be the case), the PO should check to see if the village is situated in an area of high potential for this technology. If not, or if the state of nearby dug wells gives rise to doubts, the Partner Organisation should arrange for assistance (via the DWST) for making a test hole. Even if the test hole is successful, the community may still decide to select a borehole, but this should only be done after a full discussion of the capital and operational costs, and alternatives such as dug wells with handpumps.

If a borehole source is being considered, the RWST will supply a contractor on request to perform a geophysical survey. However, it will generally be preferable to try for a dug well before considering a borehole.

In the few cases where springs or surface water sources are being considered for piped systems, flow measurements should also be started at this time, and continue throughout at least one full dry season. This work can be given to the community to carry out, with basic orientation from the PO.

(b) Preliminary Design

Once the water resources assessment has been made, the PO draws up preliminary conceptual designs for the selected option(s), including draft layout, approximate capital and operational costs and operation and maintenance requirements. In the case of piped systems, this will be done by a specialised consultant provided to the PO through RWST. A second community meeting will review this and select an option and service level for draft engineering design.

The PO will then collect any further technical data required, and prepare the draft engineering design and costings, which will be submitted at a third community meeting for final agreement. The community will discuss in detail their future obligations to construction (cash and in-kind contributions) and define arrangements for the management and financing of the completed system. Siting of water points should also be defined in detail prior to preparation of the final design, and any outstanding conflicts over land or water rights resolved. If a borehole is to be drilled and it has not yet been sited, the PO will forward a request to RWST for well siting

services. It may be a challenging role for the PO to act as mediator between the community and the contractors, who may be used to more autonomy in defining borehole sites. Care should also be taken to mark the chosen site clearly and unambiguously for the drilling contractor, to avoid future conflicts.

At this stage, the community must make a final commitment to the selected option. If this is not possible, time should be allowed for further discussion, and, if necessary, draft designs for other options prepared.

(c) Final Design

The Partner Organisation will now prepare the final draft design and detailed costings, and present it to a fourth community meeting for final agreement, establishment of the community's commitment to their share of the construction inputs and acceptance of full responsibility for subsequent operation and maintenance. If it is agreed that any final adjustments to the design are be needed, these will be made and submitted to a further meeting.

Community contributions to capital cost, part of which can be made in kind, will be based on a standard sum for each technology type, corresponding to about 5% of the total cost, set annually by the CWSD. In cases where a service level higher than the basic CWSP minimum (in general, protected dug wells where possible, otherwise boreholes with handpumps) has been adopted, the community contribution will be half the difference between the total cost and the standard amount of subsidy (i.e. about 95%) for the basic system, for communal facilities, and the full difference for individual connections. In all cases, the amount of the commitment fee paid during the mobilisation phase will be deducted from the total contribution payable.

The WATSAN Committee, with the assistance of the field workers, will then prepare a Facilities and Management Plan (see Annex 4) containing engineering designs, costings, an operation and maintenance plan, and a clear statement as to what the community inputs will be. This will be presented to a final community meeting for agreement, in a standard format, summarised below:

Technical

- Description and plan of the proposed facilities, clearly indicating location relative to houses
- Population data
- Data on the estimated minimum yield and quality of the proposed water sources, and, where relevant, the depth to water for existing wells in the wet and dry seasons
- Drawings, bills of quantities and cost estimates
- Certification by the Partner Organisation's water engineering technician of the design, water source assessment and cost estimates for the new facilities

Organisational

- Proposed arrangements for managing the system
- Brief description of the WATSAN Committee and names of office-holders
- Names of volunteers to carry out continued hygiene education (in general these should be the existing volunteers)
- Names and educational levels of proposed caretakers

- A statement signed by the WATSAN Committee members, volunteers and Partner Organisation team certifying agreement on the Facilities and Management Plan at a meeting where at least 75% of households were represented.

Financial

- Procedures for collecting and managing funds
- Specification of agreed cash and in-kind community contributions to construction
- Estimates of operation and maintenance costs per household and the agreed mode and level of contributions sufficient to fully cover these

(d) Facilities and Management Plan Appraisal

Completed Facilities and Management Plans will be reviewed in the first instance by the DWST. If found to be complete and with no obvious errors, they will be forwarded to the District Assembly for its formal approval and signature by the Chief Executive. This will ensure that the plans are noted by the District Assembly and taken into account in their own development planning. The DWST will then forward them to the RWST for final appraisal, including a field visit. If found complete, technically viable and in accordance with CWSP norms, the RWST will accumulate them for packaging and assignment to prequalified construction contractors and pump suppliers/installers. Facilities and Management Plans not meeting the required standard will be returned to the relevant PO for reformulation.

Once a Facilities and Management Plan is approved, the community will be informed through the Partner Organisation. Before the construction contract can be signed, the agreed community cash contribution must be deposited in the WATSAN Committee's bank account. In the case of piped systems and boreholes, a joint signatory account should be established with the District Assembly, and the deposit should also cover the value of proposed in-kind contributions. If all in-kind inputs are made as planned, the remaining funds revert to the WATSAN Committee on completion of the contract. Where banks are inaccessible and it is not practical to set up a bank account, the cash will be held by the WATSAN Committee, verified by the DWST.

3.5.5 Construction

(a) Community Support

As during the project preparation phases, the PO will continue to provide support to the community during the construction phase. The focus of hygiene education will now shift from water-sanitation-health linkages to achieving behavioural changes by the users of the new facilities, so as to realise the potential health benefits. The messages will be introduced on a gradual, incremental basis to avoid overloading the learners - both volunteers and community members. If this is successful, sustainability should also be improved, as the users come to regard the improved facilities as an integral part of their lives, and react accordingly when any failure occurs. The specific behavioural objectives will be to encourage:

- Prevention of pollution at the water point
- Hygienic handling of water at the water point
- Proper storage of drinking water
- Handwashing after defecation and before preparing food
- Personal and domestic hygiene
- Proper use and maintenance of latrines

Community leaders and volunteers will have a key demonstration role to play, adopting the new behaviours as an example to others. This will be combined with a series of community meetings, group sessions and home visits led by the volunteers, to introduce and discuss ideas on how to take maximum advantage of the new facilities. The promotion of latrines is important, and may be linked with the message that poor excreta disposal is not an individual but rather a community problem; many transmission routes for faecal material exist within a household, but latrines can make a substantial impact on transmission between households. Having made a major investment of time and money in improving the water supply, community members can be motivated to exert pressure on their peers not to confound their efforts by continuing to feed pollution into the environment. The PO should bring any latrine artisans associated with it into the community at this time.

Strengthening of the WATSAN Committee will continue, again with practically-oriented subject matter such as book-keeping and financial management. The caretakers chosen by the community during the project planning phase will be trained, both by the construction contractor and the Partner Organisation, with exchange visits to communities already operating similar systems, if possible, so that caretakers can learn from their peers.

(b) Construction Contracts

When a number of Facilities and Management Plans proposing the construction of the agreed number of dug wells or boreholes to make up a contract package has accumulated, contracts will be drawn up by the RWST or District Assembly (whichever has responsibility for contracts for the type of facilities to be constructed). The contracts should include a clear definition of what cash and in-kind community inputs are expected and when they are to be provided, and whenever possible, community cash contributions should be tied to the purchase of specified materials. The contracts will then be signed by the RWST or District Assembly with prequalified contractors.

For all boreholes, the community will receive a guarantee from CWSD that, in the event of substantial failure of the well within 10 years due to circumstances beyond the community's control, the well will be rehabilitated at Government expense.

(c) Borehole Yield Assessment

Borehole yields can only be established with any certainty after they have been drilled and developed. This may necessitate re-planning of the whole water supply system, which would have to be done under an extension of the Project Preparation Contract. There are three possible scenarios:

- A borehole designated to supply a piped system yields only enough for a handpump. In this case, the community would return to the planning phase and decide whether to try for additional dug wells or boreholes, or no extra sources.
- A borehole designated for a handpump yields enough for a mechanised pump. In this case, the community may wish to opt for a piped system, after re-examining the options. This is unlikely, as the piped option would probably have already been considered and rejected. They should, however, be made aware of this possibility for possible future exploitation.
- No borehole with any appreciable yield can be drilled. In this case, the community may wish to examine an option such as a dugout, or abandon the project altogether.

(d) Construction

Contractors will be instructed to inform communities well in advance of the proposed construction schedule, so as to allow them to prepare their cash and in-kind inputs. These will be made according to the schedule set out in the construction contract, and any costs arising from delays in providing the inputs will be chargeable to the community by the contractor subject to arbitration by the RWST or District Assembly, whichever is party to the contract.

During construction the community, with the assistance of the water engineering technician of the Partner Organisation, monitors progress and quality of construction. Further quality assurance will be provided both by DWST inspections and monitoring by the RWST Water Engineer.

In the case of dug wells, the contractor should be encouraged to employ labourers from the community if available. In any case, the WATSAN Committee should ensure that the designated caretakers are actively involved in construction, so as better to understand the system they will operate and maintain.

On completion of a satisfactory borehole, or a dug well to which a handpump is to be fitted, the contractor should inform the RWST, which in turn would pass the request to the prequalified local supplier of the chosen pump, for installation. The Partner Organisation, with collaboration from the supplier, will then complete the training of the selected pump caretakers.

(e) Certification

On completion of works, any wells will be tested by the RWST and their performance and water quality recorded for the district data base. Similarly, piped systems will undergo a complete test from headworks to standpipes. Once any defects have been rectified, there will be a final inspection and handover ceremony, attended by all members of the WATSAN Committee, the Partner Organisation field team, the DWST and a District Assembly representative. A Certificate of Satisfactory Completion will be formally signed by the WATSAN Committee on behalf of the community, and by the CWSP (represented by the District Assembly or RWST as appropriate).

3.5.6 Follow-up

(a) Warranty

Twelve months after the Certificate of Satisfactory Completion has been signed, a Final Certificate will be issued to the contractor and, if relevant, the pump supplier, subject to any defects arising from faulty workmanship or materials having been rectified. This certificate should also be signed by the WATSAN Committee on behalf of the community. Any retention money due under the contract(s) will then be paid.

The contractor will be required to return to all dug wells at the end of the dry season following their construction, to deepen the well to provide sufficient infiltration and storage. Final certification of the well will not be given unless it can be shown that it meets CWSP norms in this respect.

The terms of the Partner Organisation contract will require the provision of follow-up support to the community through visits at specified intervals for 12 months after completion of the

new facility. Final payment will be released after this period, if the facility and WATSAN Committee are still functioning satisfactorily, as monitored by the DWST, and hygiene education targets set during mobilisation have been substantially achieved.

(b) Follow-up

During this period, the WATSAN Committee and volunteers should continue to be supported in implementing hygiene education and sanitation activities. The programme is essentially in their own hands by this stage, and the Partner Organisation's role will be more in reinforcement of community-led activities and solving specific problems. Of particular importance will be the continued promotion of latrine construction and use, and practical measures to protect water quality at the source.

Training will also continue during this period to strengthen the capacities of the WATSAN Committee for long term management of the water supply, sanitation and hygiene education. This training should be done both in the community and with other WATSAN Committees from nearby communities. This will promote networking amongst them, information exchange about different suppliers and mutual assistance for problem resolution. Again, the accent at this stage should be on providing support in response to specific problems, although some of these may only become apparent to the WATSAN Committee after self-evaluation facilitated by the Partner Organisation.

(c) Monitoring and Support

After the withdrawal of Partner Organisation support, the DWST will make occasional visits to monitor the WATSAN Committee, the water system and related activities. Communities will be increasingly expected to identify for themselves the external resources they require and access them through the private sector or District Assembly. Zonal meetings of WATSAN Committees to discuss their water supply systems and other sector activities will be encouraged.

It is of particular importance to the long term development of the CWSP towards its overall objective of supporting the establishment of sustainable water supplies that detailed data on breakdowns, repairs and maintenance be conscientiously collected by the DWST, allowing subsequent technical and financial analysis; it is only after five or, better, ten years of operation, that reliable conclusions will be able to be drawn on these matters. In the intervening period, the DWST will be able to make a valuable contribution by ensuring that as much information as possible is fed back from the field to the RWST.

3.6 Timing of the Project Cycle

The project cycle must be adapted to the annual cycle of rural activity, which is in turn linked to the seasons; the rainy season is the peak agricultural season, when communities may not have much time available for project preparation or voluntary labour, and in many communities, cash is only available in the period following the harvest. The rains also affect the feasibility of field work and construction, and dictate the timing for the assessment of surface and spring water sources.

The promotion phase is not very intensive on field work or community inputs, and can take place at any time. In practice, it will probably be a continuous process, with the DA maintaining a list of interested communities. The only implication for project timing is that

district launchings would be better carried out during the first quarter of the year, so that the first communities can be identified and a PO contracted by the end of the rainy season.

The mobilisation phase demands intensive field work by the PO and active participation by communities, and should thus coincide with the beginning of the dry season. This phase will probably last around 3 months, but could be more or less, depending on the individual communities. The timing is also convenient for fund-raising to establish the WATSAN Committee bank account.

The above timings will be similar for all types of projects. When it comes to participatory planning, there will, however, be differences according to the technology type used. Planning for dug wells should be completed in about 2 months, from feasibility to the finalised Facilities and Management Plan. Boreholes may take a little longer, as there could be delays in getting the geophysical contractor on site. Planning for piped systems with spring or surface water sources will extend into the next rainy season, as the source's dry season flow must be assessed before the design is prepared.

Dug well Facilities and Management Plans will start to be completed in the fifth month of the dry season. Allowing for appraisal and contract packaging, actual construction will thus probably not start until some time in the sixth dry month. It is thus likely, especially for those communities whose plans take longer to finalise, that some construction may have to be carried forward to the next dry season. They may also be short of cash for their contribution to capital costs at the end of the dry season, causing them to delay construction until after the rains.

Due to the slightly longer time taken in planning and contract packaging, the rainy season will generally have arrived by the time borehole contracts can be let. They will thus in general have to be constructed in the following dry season. Community contributions for boreholes are more substantial, which may be another reason to delay construction until funds are available in the community.

For piped systems, with participatory planning continuing through the rainy season, construction will follow naturally in the next dry season.

These scenarios are presented graphically in the following chart.

*** tt-water.xls ***

4. MONITORING AND EVALUATION

4.1 Principles

Monitoring and evaluation must be integrated into the everyday running of the CWSP at all levels and used to encourage innovation, team building, and ownership of the programme by all stakeholders, as well as to promote their active participation and a sense that their ideas and initiatives are valued. To do this, monitoring and evaluation must be ***participatory***, drawing out people's ideas and encouraging them to be active partners in change. It should also be ***structured***; this is because issues and options need to be clearly defined and tested through comparative studies between different regions, districts and communities, particularly if a ***National*** Community Water and Sanitation Program is to be established. The advantage of this approach is that change and diversity can be introduced while avoiding the development of different implementation strategies in different regions at the whim of individual project managers and advisors. Communities and districts should be encouraged to identify important issues in terms that are as clear as possible, brainstorm to come up with different options for addressing them, and then try them out. Similarly RWSTs and national planners/advisors should identify issues and options and design experiments to see what works best.

Performance at all levels (community, local, regional and national in both the public and private sectors), ***options*** (policy and implementation), and ***resources*** (numbers of facilities and water quality/quantity) need to be monitored. Each requires a different approach. Performance evaluations must be internalised, as top down assessments lead to reports but not change; here participation and self assessment are most important. Options work both ways - new ideas/approaches should be encouraged from the bottom-up but there is need for comparative assessments from the top-down. Monitoring resources is essentially a counting exercise, with data aggregated from districts, to regions, to the national level.

4.2 Actors

All sets of stakeholders in the project should be actors in the monitoring and evaluation exercise. This is important because individuals representing different interests need to be involved if the project is to be successfully scaled up and sustained. Individuals that should be involved in the programme, and hence in monitoring and evaluation, are listed in the following table. Practically, they can be divided into two groups at each level: programme and advisory. Both groups should deal with performance, policy and implementation options, and resources, but from somewhat different perspectives; programme groups from the point of view of a contractor, and advisory groups as clients. Programme groups should include WATSAN Committees at the community level, Water and Sanitation Teams at the district and regional levels, and headquarters based CWSD personnel at the national level. Advisory groups, representing all other stakeholders, should include government officials, community representatives and private sector participants.

Monitoring and Evaluation Actors

Level	Stakeholders	Groups
Community	Women, men, children, households; chiefs, elders and leaders; women's and minority groups; WATSAN Committees and village volunteers.	Community Advisory Committee WATSAN Committee
District	District assemblymen, district works committee, district management committee, department heads, line ministry staff, partner organisations, latrine artisans and pump mechanics.	District Advisory Committee DWST
Regional	Regional Minister, department heads, NGOs involved in water sector; partner organisations, dug well contractors and equipment suppliers; Regional Water and Sanitation Team.	Regional Advisory Committee RWST
National	Government ministries including Finance, Works and Housing, Local Government and Health; NGOs involved in the water sector; private sector water association, and CWSD	National Advisory Committee CWSD

The monitoring of ***performance***, ***options***, and ***resources*** requires different approaches and different groups of evaluators at each level. The monitoring of performance should go on at all levels in the form of self-evaluation and training, rather than traditional external criticism. For this purpose WATSAN Committees, DWSTs, RWSTs and CWSD personnel at headquarters should all hold regular meetings to evaluate their performance and identify ways of overcoming problems and improving the way they do things, with facilitators and resource persons from higher levels often joining the discussions and sharing ideas.

Policy and implementation options will generally be discussed by these same groups but there is also a need for a more coordinated effort to synthesise ideas, agree on options, set up a testing program and track results. While DWSTs and RWSTs should be encouraged to discuss these issues and try out new ideas, the issues should be taken up more formally at district, regional and national workshops held every year to assess progress and improve performance. The Training Forum will also play a major role in developing implementation options.

Resource monitoring, that is the tracking of coverage and facilities constructed, should be a joint effort by the DWSTs, RWSTs, and CWSD headquarters. Data should be collected and recorded in the MIS system starting at the district level and aggregated at the regional and national levels. Checking should be carried out both by the RWSTs and CWSD headquarters.

In summary, there should be two types of monitoring and evaluation group at each level: one programme-related (WATSAN, DWST, RWST and CWSD), and the other advisory (community, district, regional and national). Programme groups should meet regularly, with monitoring and evaluation being an integral part of work planning. Advisory groups should meet at least once a year to discuss performance, policy and resources. The CWSD, with any

consultant assistance that may be required, should coordinate this effort and ensure that key issues are brought to the attention of CWSP workers and advisory groups, and that the consensus emerging from discussions at all levels is recorded and disseminated.

4.3 Indicators, Targets and Methods

As noted above, two important principles in monitoring and evaluation must be followed in the CWSP: participatory evaluation and structured learning. Participatory evaluation encourages bottom-up dialogue, while structured learning facilitates systematic definition of options and field testing. Measurable indicators of project objectives, and data collection methods for each, need to be identified. Indicators and corresponding targets, data collection methods and monitoring groups for each project objective are listed in the following tables.

Monitoring and Evaluation Indicators and Targets

Objective 1: Provision of Water and Sanitation Facilities to Rural Communities and Small Towns

Indicator	Targets	Methods	Monitoring Group
No. rural water points constructed No. rural communities with improved water supplies No. small towns with planning complete No. small towns with construction complete No. household latrines constructed No. schools participating	To be set annually, in accordance with available implementing capacity and finance	MIS Records	DWST RWST CWSD DAC RAC NAC

CAC	Community Advisory Committee	DWST	District Water and Sanitation Team
DAC	District Advisory Committee	RWST	Regional Water and Sanitation Team
RAC	Regional Advisory Committee	CWSD	Community Water and Sanitation Division
NAC	National Advisory Committee	PO	Partner Organisation

Objective 2a: Sustainability through Community Management of Water and Sanitation Facilities

Indicator	Target	Methods	Monitoring Group
Use of water supply facilities	100% of new water supplies in good operating condition with proper sullage control.	Inspection	DWST RWST
Use of sanitation facilities	100% of household latrines being used and kept clean.	Inspection Observation	PO DWST
Affordability and willingness to pay for water and sanitation facilities.	Communities are willing and able to pay 5% of the construction cost of their water supply facilities in cash and kind (with the cash contribution equal to or greater than the normal recurrent costs). Households can pay at least half the capital cost in cash and kind and all of the maintenance costs of their latrines	Discussions Interviews Case study	DWST RWST CWSD CAC DAC RAC NAC
Community management	Community, including women and minority groups, decide the type of system they want and how to manage it. Community group can effectively operate, maintain, repair, collect revenue, keep records and accounts, evaluate and resolve problems, and can arrange for assistance as required.	Discussions Interviews Case study	DWST RWST CWSD CAC DAC RAC NAC

Objective 2b: Sustainability and Replicability through Private Sector Provision of Goods and Services

Indicator	Target	Methods	Monitoring Group
Planning	4-8 qualified partner organisations per region. 1-2 POs added each year.	Discussions Observation	DWST RWST RAC NAC
Construction	3-5 qualified dug well contractors per region. One contractor added each year. 5 qualified latrine artisans per district by the end of year two of a district's participation.	Discussions Observation	DWST RWST RAC NAC
Operation and maintenance	2 qualified handpump mechanics per district by the end of year two of a districts participation. Handpumps available at regional centres and fast moving parts at district centres. Qualified companies available to provide O&M services for piped systems in all regions. Manufacturers' representatives of motorised pumps and power supplies available to provide after sales service in all regions.	Discussions Observation	DWST RWST CWSD DAC RAC NAC

Objective 2c: Sustainability and Replicability through Public Sector Promotion and Support

Indicator	Target	Methods	Monitoring Group
Number of DWSTs	2-4 added per region per year in accordance with CWSP plans		
CWSD and DWSTs	Personnel knowledgeable about the CWSP and their area of speciality. CWSD and DWSTs relatively autonomous and fully accountable. Leadership visionary, participatory, and builds individual initiative and capacity. Procedures for self-evaluation, problem solving and flexible work planning used regularly. Permanent institutional framework and budget security. Clear administrative and implementation procedures	Discussions Interviews MIS records Case studies Reports	RWST CWSD MWH DAC RAC NAC

Objective 3: Improved Health through Integration of Water Supply, Sanitation and Hygiene Education

Indicator	Target	Methods	Monitoring Group
Water quantity and quality	All individuals in the community use improved sources. Measure water use by season including sources, quantity and time required to collect it. Check water quality by season including colour, taste, odour, turbidity, and level of protection. Numbers and characteristics of users an non-users.	Observation Measure Interview Discussion	PO DWST RWST CAC DAC RAC NAC
Hygiene	All persons in community use good water hygiene practices. Check water use practices between source and mouth including drawing, carrying, storage and use. Also, check hand washing before cooking and eating and after defecation.	Observation Measure Interview Discussion	PO DWST RWST CAC DAC RAC NAC
Environmental sanitation	Improved excreta disposal in households, including handling of infant faeces. Improved management of solid waste and drainage in community. Proper water use at outlets, including keeping surrounds clean and drainage preventing muddy areas and excess water. Distances between water supplies and latrines sufficient to prevent contamination	Observation Measure Interview Discussion	PO DWST RWST CAC DAC RAC NAC

5. TRAINING

5.1 Background and Approach

The underlying approach of the CWSP, as stated elsewhere in this manual, is to provide an enabling environment within which community demands for improved water supply and sanitation services can be met. This means building the capacity of existing institutions or establishing new ones, and this training and capacity-building is a major component of the CWSP. Additionally, the interactive nature of the programme means that the methods used for project implementation must evolve continuously in response to field experience, incorporating feedback from fieldworkers and participating communities. The training and capacity-building programme is therefore not only directed at building capacity to deliver specific inputs, but is also a major tool in CWSP management and implementation, continuously involving personnel at all levels from communities to senior management. In particular, CWSD staff need to see themselves as trainers rather than supervisors, spending a large proportion of their time in the field, focusing on on-the-job training and working together with the other agencies participating in the CWSP.

Fundamental to the CWSP approach is ***training as a two-way process***. The training provided must communicate CWSP methodologies and norms, and impart the skills, confidence, and awareness needed by project implementers at various phases of the project cycle; at the same time it is the means by which fieldworkers, and, through them, communities, can raise the practical problems and concerns of trying to implement the CWSP in the field, and give their ideas on how to make it work. Additionally, the large number of actors involved in the CWSP may easily lead to conflicting messages and approaches, and the training programme is the means by which all participants can share the same set of ideas. Training activities can bring these perspectives together and provide an opportunity for joint learning, evaluation, problem-solving, and planning.

This two-way partnership has implications for the way in which training is conducted: it must have a ***highly participatory, interactive, and problem-solving form***, in which participants are treated as responsible and capable of critical analysis, creative thinking, problem-solving, and action planning, and not mere objects of skill and information transfer. By giving trainees a role in defining solutions to practical problems in project implementation, evaluating their own performance, and shaping the strategies used in project planning and implementation, an effective and realistic system can be created, ensuring a ***greater sense of commitment and ownership*** from the CWSD's partners in the programme, the POs and communities. Through this two-way process and bottom-up feedback, training activities will contribute to the ***evolutionary development of the CWSP methodology***.

5.2 Structure of the Training Programme

The training and capacity-building effort extends across the whole programme, aimed not only at those providing services to communities, but also at programme managers, those with special responsibilities within the communities, community members in general, and decision-makers at all levels. The training needs of all these different actors, and the agencies with prime responsibility for providing the necessary training, are summarised in the table on the following page.

Lead Agencies for Training

Training Content	Target Group													
	Leaders		Community					Managers		Service Providers				
	Decision-makers	DA Members	WATSAN Cttes	Vols.	Care-takers	Comms.	School Pupils	DWST	RWST	POs	Dug Well Contr.	HP Mechs.	Latrine Artisans	School Teachers	SBDU
Basic Information and Skills															
Programme Information	CWSD	RWST	DWST			DWST		RWST		RWST					CWSD
Participatory Skills								RWST	TREND	SBDU					
Trainer Training								TREND	TREND	SBDU				RWST	
Hygiene Education			PO	PO	PO	Vols.	Teachers	TREND	TREND	SBDU			RWST	RWST	
Community Support															
Community Development			PO							SBDU					
Participatory Planning										SBDU					
Community Management			PO		PO					SBDU					
Technical Services															
Dug Well Construction											SBDU				
Latrines								RWST	TREND				RWST		
Handpump Maintenance					PO							RWST			
Business Management										SBDU	SBDU	RWST	RWST		
Management and Procedures															
Implementation Manual									CWSD						
DWST Manual								CWSD							
Project Management								RWST	TREND						

Abbreviations

CWSD	Community Water and Sanitation Division staff
DWST	District Water & Sanitation Team
PO	Partner Organization
RWST	Regional Water & Sanitation Team
SBDU	Small Business Development Unit
TREND	Training Research and Networking for Development Group (ex-TNC)
Comms.	Communities
DA members	District Assembly members
Dug Well Contr.	Dug Well Contractors
HP mechs.	Handpump mechanics
Vols.	Community Volunteers
WATSAN Cttes	WATSAN Committees

This training effort will obviously be concentrated in the first few years of the CWSP; within 5 years it should be possible to establish all the DWSTs, POs and private sector service providers required to implement the CWSP. However, a training programme will persist in the longer term to provide a continuing forum for information exchange, problem-solving and programme development.

At community level, the key players are the POs, whose functions and integration into the programme are described in chapter 3. They in turn are developed and trained by the SBDUs, who are also responsible for building capacity for dug well construction. Other service providers will receive support from the CWSD. As the overall manager of the CWSP, the CWSD is responsible for building programme management capacity in the DWSTs, and for promoting the active participation of decision-makers (politicians and senior administrators) in the CWSP at national, regional and district level. Support to many of the CWSD's activities is provided by TREND (the recently-formed NGO successor to the TNC), the leading national institution supporting training and research in the sector.

5.2.1 Role of the SBDUs

SBDU activity is focused principally on capacity-building at regional level, but they also have national level functions in the development of training materials and methods for POs and dug well contractors. In order to achieve consistency of approach and reduce duplication of effort, as well as to contain costs and the complexity of managing the SBDU contracts, a limited number of SBDUs is envisaged, between three and a maximum of five for the whole country. Contracts will be let for two-year periods on a region by region basis, with SBDU selection based on staff experience, the proposed approach to the work and the need to maintain a limited number of SBDUs. The contracts will be with CWSD headquarters, but primary responsibility for supervision will be with the RWSTs.

SBDUs are expected to assign about two well-qualified trainers on a full time basis to each region to carry out the bulk of the work. Their time input would be expected to make up about two thirds of the total, the balance coming from specialist staff used for focused inputs in training programmes, materials development, or SBDU management. They will nominate one of the regionally-based staff to be responsible for liaison with the RWST, although they will generally be working closely together.

SBDU work is directed towards the development of POs (4-8 per region) and dug well contractors (3-5 per region) by:

- Assisting the RWST in identifying and selecting POs and dug well contractors
- Assisting those selected to consolidate, by employment of extra personnel, registration, office establishment, equipment purchase etc., as may be necessary
- Providing on-the-job training including support to activity planning, observation and debriefing of activities carried out, provision of examples for field staff to observe and subsequently debrief, etc.
- Supporting management with advice, training and joint problem-solving in project, financial, personnel and office management
- Developing and producing training materials for these groups of trainees
- Providing resource personnel for workshops held by the RWST at Regional level for PO or contractor staff

PO training needs to follow a cycle of short (maximum one week) workshop sessions interspersed with fieldwork, of perhaps one month's duration. This will allow the workshop sessions to provide a forum for problem-solving and work-planning, and create direct linkages with the field. On-the-job training and support should be given in periods of around a week at a time (rather than one or two days). The SBDUs should observe, intervene and demonstrate where necessary, and systematically debrief and discuss the activities carried out. Whilst the SBDU is in an essentially supporting role, it should be flexible and sensitive to the POs' requirements, working directly with them when necessary.

Dug well contractor training should consist of an initial workshop, followed by on-the-job training during construction of the first five wells. Time should be allowed and SBDU support given if necessary for contractors to secure any necessary equipment before going on site.

Management training for both groups should be separated from implementation training. Both POs and dug well contractors may also apply for equipment (including vehicles) under lease-buy arrangements. CWSD may offer equipment from its existing stock, or purchase equipment identified by the lessee, subject to reasonable prices and specifications.

CWSD will hold orientation sessions for all SBDUs entering the CWSP. These should cover at least the following:

CWSP Information

- Overall demand-driven participatory approach and community ownership and management
- Integration of hygiene education, sanitation and water supply
- Community selection
- Roles of the DWST, DMC, DA, RWST, CWSD-HQ and SBDUs
- Procedures for obtaining CWSP support for water supply and sanitation improvements
- Technical norms
- Community contributions

PO Development and Training

- PO selection, and the SBDUs' role in it
- Establishment of POs not yet formally registered
- PO proposal preparation
- Content, target trainees and methodology for management and CWSP implementation training

Project Cycle and PO Inputs

- Detailed discussion of the project cycle at community level, emphasising a structured sequence of activities and definite objectives for actions to be taken by communities in between PO visits and by POs during their visits
- How to approach questions of developing community leadership, consensus-building and ensuring that the interests of sub-groups (women, youth, traditional leaders etc.) are taken into account and reconciled
- The number, timing and duration of community visits required to achieve stated objectives before, during and after facilities construction
- The breakdown of activities between working with the community, the WATSAN Committee and the volunteers

- Requirements for resource materials for use at community level

Underlying this should be an understanding of the need for a structured sequence of PO activities, but one which responds to the needs of individual communities rather than a mechanical sequence of pre-determined visits. Excessive regular visits should also be avoided; the community has to learn to work on its own, and PO visits should be strategically timed to support this. Whilst these will be orientation sessions, existing SBDUs should also contribute their understanding and experience in the participatory spirit of the programme.

5.2.2 Role of the CWSD

Although responsible for overall management of the CWSP, the CWSD has an equally, if not more important role in training and capacity-building. Nowhere is this more important than in its relationship with the DWSTs, which, although responsible for programme management at district level, are not subordinate to the RWSTs, but are rather their clients; the RWSTs exist to support and build up what will eventually become a district-based programme.

Most of the training given to the DWSTs will be on-the-job; all RWST staff should be accompanied at all times by at least one DWST member when in the district, and RWST staff should have regular problem-solving sessions with the whole team. The main focus of this training should be in programme management (processing of applications and subsidies for water supply and sanitation, managing artisan and teacher training, data management, PO and contractor supervision, etc.). In addition, two or three formal workshop sessions should be held where the CWSP and the DWST's role within it can be explained in detail, as well as management procedures. Other skills such as a basic ability and understanding in training, participatory communication and hygiene education should also be developed, with assistance from TREND (see below).

The other main training activity of the RWST is in the organisation of regional workshops for Partner Organisations and dug well contractors. These will be closely coordinated with the SBDU, which will advise on timing of the PO workshops, and provide most of the resource personnel for both PO and dug well contractor training. RWST personnel will also participate and ensure uniformity of approach and observation of CWSP norms.

RWST staff will also take the lead in training teachers for participation in the schools sanitation and hygiene education programme, latrine artisans, and handpump mechanics. Again, they may call on outside resource persons to assist in training events. Latrine artisans and handpump mechanics are private sector undertakings, and their training will include promotion and business management. The development of operation and maintenance and spare parts support services is a long-term task for the CWSD, and will demand close collaboration with handpump suppliers, who may eventually take on some of the training responsibilities themselves. One important step in establishing a spare parts distribution network is the CWSP policy of purchasing all handpumps from in-country suppliers, near their point of final use.

5.2.3 Role of TREND

Over the years, the now extinct TNC developed a sound base of knowledge, skills and training materials which it used for supplying training services to the sector. The TNC has now become an independent NGO (TREND), so as to continue providing the same services without the operational restrictions imposed by its previous status within the University of

Technology in Kumasi. It will focus on building the capacity of CWSD staff at regional level (RWSTs), provide some support for DWST training and the schools hygiene education and sanitation programme, and participate actively in the Training Forum. It will also be able to provide expertise and capacity for training and reference materials development.

Support to the RWSTs will include training in participatory communication, background knowledge on hygiene education, team-building and client consultation, trainer training, basic management skills and workplanning. Specific support will be provided to the RWST sanitation engineers to help them develop training methods and a programme, including on-the-job follow-up training for newly-trained artisans, as well as progress monitoring and quality control procedures. All the above will be accompanied by appropriate documentation (see below).

Support to DWSTs will mostly be provided by the RWSTs, with TREND providing a single workshop for each district team on basic skills (trainer training, participatory communication and hygiene education), again producing relevant documentation for this and also the work carried out by the RWSTs.

TREND will provide resource persons for teacher training events in the districts, and develop materials for the schools hygiene education and sanitation programme, as well as hygiene education materials for use in small towns.

In a more general supporting role, TREND will continue to collect and make available relevant training materials, and maintain close contact with CWSD staff. It will provide support for the Training Forum, providing facilitators and resource persons (including assistance with identifying third parties) as required for meetings and working groups, supporting the preparation of meetings and working group sessions, and providing materials preparation support to working groups.

5.2.4 Technical Assistance

In addition to the foregoing in-country resources, various ESAs are providing, and can be expected to continue providing, technical assistance to the sector. It is the task of the CWSD to make sure that this corresponds with needs in the sector and the development of the CWSP. In general, technical assistance personnel should not be in management positions, but rather providing focused assistance on particular problems or issues, be they managerial, technical or methodological.

5.2.5 The Training Forum

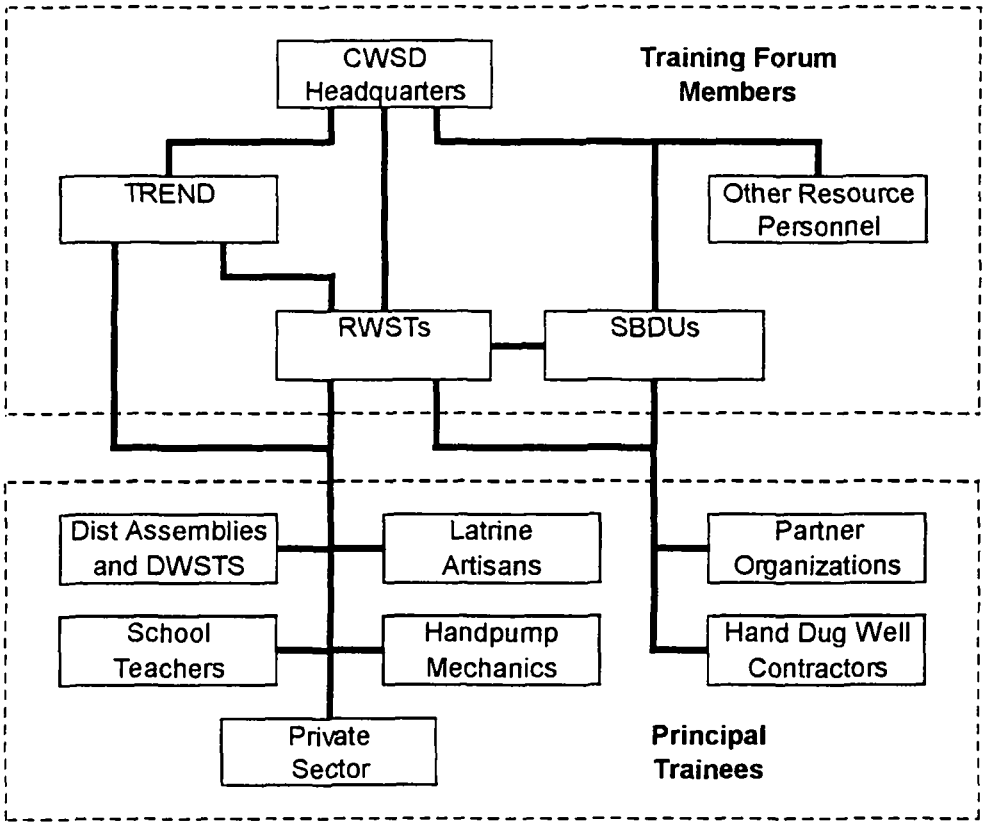
The CWSP is a national programme with many participants, both within the officially-funded programme and the ESA- and independently-funded projects. It is thus important to promote convergence between the various approaches, norms and methods in use. The CWSP is also an innovative programme, which therefore needs to draw upon as many resources and as much accumulated experience as possible to become effective. For both these reasons, it is important to draw as many people as possible into the development of CWSP norms, methodologies and training materials.

The mechanism established for doing this is the Training Forum. Overall coordination is provided by CWSD's Training and Management Coordinator, who should aim to draw in as many of the key sector workers as possible. Once a year the full forum meets for 2-3 days to

discuss issues in programme management, development of approaches, strategies and training materials and to plan for the year ahead. Every quarter, working groups, each with a designated coordinator (not necessarily a CWSD staff member) meet to focus on specific issues; to date, three working groups have been set up to work on participatory methods, technical issues and management. These work by pooling training or other resource materials, exchanging experience and formulating new materials or applied research activities. Additional special workshops may be held from time to time to focus on specific issues; these may be held in conjunction with the external monitoring team.

The structure of the training programme described above is summarised in the following chart.

Training Support Structure



5.3 Methods

Participatory training can mean many different things to different people, and attitude is as important as technique in its implementation. It is thus hard to define closely. However, some general strategies are set out in this section. One fundamental point is that participatory methods cannot be applied to only one part of the programme; the participatory approach must extend from the communities to CWSD headquarters. This means that all those involved in the CWSP need to develop a habit of teamwork, the ability to listen and communicate across traditional social and professional demarcations, and a pool of shared knowledge and attitudes.

It is, however, possible to enumerate some factors that will promote the participatory approach if applied to all training work. These are set out below.

5.3.1 Training Course Structure

(a) On-the-Job Training

As part of the participatory, problem-solving approach to training, considerable emphasis is placed on on-the-job training. Formal workshops and training courses should be reduced to the minimum necessary, and then be geared to what trainees will be confronting in their daily work at that particular time.

(b) Action/Re-entry Planning

At the end of each training course trainees will develop (with advice from the trainers) an action or re-entry plan to guide their field practice of the skills learned during the course. The action plan will include a list of tasks to be completed (eg conducting a village survey, organising meetings, mobilising the community for self-help action, etc.), each with clear objectives and a timeline. Trainees will carry this out in the period between training events. The action plan will ensure that training is not a theoretical activity but instead closely and functionally geared to practical work in the field. The action plan will also serve as a useful tool for trainers providing on-the-job coaching and support for trainees, and as a frame of reference for evaluating each training course.

(c) Action-Reflection Cycle

At the start of each succeeding training course trainees will reflect on what they have learned in the field (eg constraints on participation, organisational strengths and weaknesses, approaches which work, etc.) and help each other solve problems encountered in the field. This is important to ensure that trainees learn from their field experience. In this way training will become an **action-reflection learning cycle**, each training course leading to action (in the field) which would in turn provide a focus for critical analysis at subsequent training. Through the action-reflection learning loop training will become a practical, experience-based and problem-centred process.

(d) Mix of Prescriptive Training and Problem-based Learning

Training therefore will consist of two types of activity:

- Prescriptive training, teaching the guidelines, concepts, and skills which the training curriculum covers.
- Problem-based learning, in which trainers and trainees analyse problems raised by the trainees out of their field experience and search for appropriate solutions.

Many of the problems encountered in the field will be situation-specific, related to the difficulties of implementing the programme in a specific context. In these sessions there will not be any prescribed or pre-arranged answers; the answers will emerge out of collective analysis and problem-solving.

5.3.2 Training Techniques

(a) Simple Teaching Methods Used Uniformly

There is often a temptation to look for the most sophisticated, creative, or complex teaching methods. This tendency should be resisted; the training programme should rather aim for simple "teacher-proof" methods that are straightforward to use and suited to the levels of

understanding and skill of the trainers. The challenge is to identify not the perfect approach but the feasible approach, accepting imperfection as the price to be paid for designing a system which works for those who are implementing it. The same training methods will be used at each level in the training system. People need to experience these methods and see their validity first, if they are to begin to use these methods effectively. Usually people teach in the same way they themselves were taught. Modelling the use of these methods in their own training will go a long way towards ensuring that these same methods are used at the next level down the training hierarchy.

(b) Keeping the Content Simple

The training content will be kept simple, geared to the capacities of the learners. Instead of trying to teach everything about a subject, training should focus only on the essential skills needed by each cadre to do its job. Where possible, skills will be simplified, as, for instance, with book-keeping for WATSAN Committee treasurers or small businesses.

(c) Participatory, Learner-Centred Approaches

Villagers are adults, yet in much development work they are often treated as children. They are lectured at rather than involved, and expected to listen passively rather than encouraged to contribute. They are treated as if they know nothing, as if they are empty containers to be filled up with learning. Their life experience and knowledge are neither respected nor recognised as a vital starting point for learning. This approach undermines their self-confidence and makes them dependent for everything on the development worker. They sit and listen passively, the development worker talks.

This "lecturing" approach is unhealthy, especially given the CWSP's aim of developing villagers' capacity to make decisions and act on their own behalf. A training process that includes passivity and dependence will not produce the active, responsible, self-motivated, and self-confident leaders and organisations needed to implement community water supply management. This applies equally to those working on the CWSP, who must show a high degree of initiative in the open-ended demand-driven process.

The CWSP therefore adopts the learner-centred, participatory, and interactive approaches of modern adult education. These approaches place responsibility and initiative on the learners, reinforcing their ability to think for themselves, make their own decisions, and take action. According to this approach, adults learn best when the learning:

- Starts with the ***learner***, respecting and building on his/her needs, concerns, problems, knowledge, and experience as a focus, resource, and motivational factor for learning.
- Promotes ***active participation*** in the learning process, rather than passive listening: people learn 20% of what they hear, 40% of what they see, and 60% of what they do.
- Is focused around the ***analysis and solving*** of the learners' problems.
- Encourages interaction (two-way communication) between the trainers and the trainees; the key vehicle for this is ***discussion***.
- Facilitates the sharing of ideas and experience among the learners (***peer group learning***) and the development of teamwork and mutual support.
- Provides an opportunity for learners to ***practice*** what they have learned.
- Uses a ***variety of learning activities***, eg. discussion, demonstration and practice, role-playing, etc.

- Provides a ***relaxed atmosphere*** in which the learners feel a sense of belonging, acceptance, and encouragement.
- Provides the learner with a ***sense of achievement***.

(d) Learning in Small Groups

Most of the training will take place in small groups, the most conducive environment for the use of learner-centred, participatory methods. Working in small groups creates a relaxed, informal atmosphere in which members feel free to contribute and participants can learn from each other (in contrast with large group sessions where only the more vocal are able to take part). The operation of the training groups ideally should model the processes and techniques which are expected to operate at community level: informality, clear purpose, maximum participation, appropriate breaks, and team-building.

(e) Modelling

The new behaviours to be learned will be "modelled" by trainers and where possible built into the general activities of each training course. Trainers, for example, will be expected to demonstrate in their own day-to-day behaviour the egalitarian, non-hierarchical attitudes and active listening skills needed for participatory, human-centred development. On residential courses, trainees should be given responsibility for some of the logistics, such as organising meals for the participants or cleaning and rearranging the training space at the end of each day.

5.3.3 Role Development for Trainees

(a) Every Trainer a Trainee

Each level of personnel in the CWSP system (managers, field workers, community leaders) is expected to play two roles: at one stage a trainee, at another a trainer. After each training event those being trained are expected to pass on what they have learned to others. Even at the village level, community leaders and volunteers are expected to share their learning with WATSAN Committee members and other villagers. This dual role and the trainer training which should form an element of every course will ensure that skills are disseminated down through the CWSP system to all levels. Having to pass on the skills to others (after being trained) is an important part of field practice.

(b) Team Building and Network Building

The CWSP's implementation process requires extensive teamwork at various levels; technical and CD field workers are expected to work closely together and the same is true of community leaders. Teamwork will be consciously developed through the training; those who are expected to work together will be trained together, learn how to work as a team, practice their skills together, and plan post-course follow-up action together. The training will also attempt to build up collaboration on a lateral basis among all of those potentially involved in community-based water development. This is particularly needed at the village level where there is a large number of different people and institutions involved; WATSAN Committee leaders and members, volunteers, water system caretakers, handpump mechanics and latrine builders.

5.3.4 Training Implementation

CWSP training will use a combination of:

- Initial training with a total duration of several weeks, depending on the cadre
- Refresher training of shorter duration (a few days) organised on a regular (often annual) basis
- On-the-job training

The initial training will provide the basic orientation to the job and be reinforced with practical experience. Most of this training will be organised on a gradual basis involving short (3-5 day) courses. This incremental and phased approach to training will give the trainees new concepts and skills in manageable doses, avoiding information overload, and will provide opportunities for field practice in between training events so that field experience becomes a key component of the training; trainees will learn through doing (the best teacher) and then return (to subsequent training) to review their experience, identify and analyse problems, and learn new skills and knowledge to cope with the field situation.

Refresher training will update personnel on new issues and respond to operational problems and issues identified by trainees. In the case of community volunteers and caretakers, refresher training will be part of the continuing support needed to maintain their interest and motivation; it will also help to orient the new volunteers required to replace those who will inevitably drop out.

On-the-job training will be provided principally by project managers (the RWSTs and DWSTs) in the course of the initial establishment and subsequent supervision of CWSP activities. These personnel will be expected to work closely with those they supervise, providing support and actively participating in problem-solving and work planning.

The basic format for the initial and refresher training will be workshops. Training for latrine builders and dug well contractors will also include practical construction of facilities. It is vital that workshops are planned well in advance, so that bookings for venues are confirmed and resource personnel, transport and funds can be made available. A few days before each workshop, the facilitators should meet, run over the training plan and make detailed preparations for each session, including planning and the organisation of resource materials.

5.4 Training Materials

Information and training materials are needed by all those involved in the CWSP. These include decision makers, beneficiaries (communities, schools and clinics), programme personnel (CWSD, DWSTs and SBDUs), and service providers (Partner Organisations, hand dug well contractors, handpump mechanics and latrine artisans).

The various types of training materials include: ***promotional materials***, or brochures, for decision makers and for communities, schools and health clinics, setting out information on the programme; ***handbooks*** providing reference material for trainees' use after completing their training; ***resource materials*** such as visual aids and exercise kits for use both in training sessions and as tools for field workers to use in communicating with target groups; and ***trainers' guides*** providing more detailed background information than can be included in a field handbook, resource materials designed for use specifically in the training sessions, and outlines of recommended contents, methods and scheduling for courses and individual training sessions. A summary listing the training modules required for the various target groups and

the entities responsible for preparing them is given in the following table. More detailed specifications of relevant modules are given subsequently.

Training Materials

Target Group	Module Content	Prepared by	Material Type *			
			H	R	T	B
Decision-Makers	CWSP Brochure	TREND				●
Communities	Information Booklet	TREND				●
RWSTs	Implementation Manual	TA *	●			
	Management Participatory Skills Trainer Training Hygiene Education	TREND	●	●	●	
DWSTs	DWST Manual	TA/TREND	●		●	
	Management Participatory Skills Trainer Training Hygiene Education	TREND	●	●	●	
Partner Organisations	Community Mobilisation Hygiene Education Participatory Planning Community Management Business Management	SBDUs	●	●	●	
WATSAN Committees	Community Management Hygiene Education Water Supply O&M	SBDUs	●	●		
Teachers	Hygiene Education Sanitation	CWSD/TREND	●	●	●	
Latrine Artisans	Latrine Construction Promotion User Education	TREND	●	●	●	
Dug Well Contractors	Dug Well Construction Business Management	SBDUs	●		●	
Handpump Mechanics	Handpump Maintenance Business Management	TREND	●	●	●	

* Note: H: Handbook; R: Resource Materials; T: Trainers' Guide; B: Brochure
TA: Technical Assistance Personnel

A fuller description of the training modules listed above is given in Annex 5.

The iterative materials preparation process will typically consist of the following steps for each module, although the suitability and completeness of existing materials may allow for the omission of one or more steps in any particular case:

- ***Initial review*** of the module covering content, objectives (knowledge, skills and/or behavioural change) and a clear definition of the target group in terms of educational level, present knowledge and practices, socio-economic conditions, anticipated role in the CWSP, etc.
- ***Preliminary draft*** consisting of selected existing material plus rough drafts of any new text or resource materials needed, which will be field tested on an initial group of end users.

- ***First draft*** refined according to the results of the field testing, which will be fed back to the CWSP for further use.
- ***Second draft*** incorporating field experience and feedback from a training materials review workshop, and produced to camera-ready status with revised layout and graphic materials. This will be reproduced in batches as required.
- ***Continuous revision*** of the materials coordinated by the CWSD, with inputs from Training Forum participants, as and when field experience or periodic review shows it to be necessary.

Materials preparation by the SBDUs will require extra coordination due to the parallel nature of their activities in this area. Individual SBDUs will be encouraged to adapt materials to local conditions and cultures, and to incorporate their field experience in improved materials and methods. However, a balance must be struck between diversity within overall CWSP norms and inconsistency within the programme. All new materials produced by the SBDUs must be submitted for clearance by the relevant RWST, and CWSD staff, with Training Forum support, must endeavour to maintain consistency and avoid duplication of effort. All materials will be made available to all SBDUs once they have passed through initial field testing.

The CWSP manual was initially drafted and updated with assistance from consultants provided by IDA-funded technical assistance, but further revisions should be undertaken by the CWSD. The DWST manual will also be drafted by IDA-funded consultants, with support if necessary from TREND. Again, further revisions should be carried out by the CWSD. These manuals should reflect current CWSP approaches and procedures

TREND has accumulated expertise in the production of training materials and manuals, particularly with regard to graphics production. Thus resource should be used whenever useful to supplement efforts by others working on materials development.

Annexes{ TC "Annexes" \l 1 }

Annex 1: DWST Functions

{ TC "Annex 1: DWST Functions" \l 2 }

Secretariat to the District Assembly on matters relating to water supply and sanitation:

- Disseminating information on the CWSP to the District Assembly and other relevant agencies at District level, and promoting coordination of other agencies' activities with those of the CWSP.
- Participation in community selection, especially the verification of service levels and perceived needs in communities making applications for assistance, and the initial vetting of Facilities and Management Plans (FMPs).
- Preparation of batches of applications and FMPs for submission to the District Assembly, and maintaining records of progress on individual projects.
- Long-term support to communities and WATSAN Committees, with follow-up visits and provision of information on the availability of further support from the CWSP and from local service providers (eg. pump mechanics).
- Maintenance of accessible records on data collected and on CWSP or other water supply and sanitation activities in the District, and transmission of data to the RWST or others requiring it.
- Workplanning and internal evaluation of DWST activities.

Data collection and monitoring:

- Collection of baseline data and assessment of community water supply and sanitation service levels.
- Sanitary survey of schools as an element of the schools sanitation and hygiene education program.
- Collection of monitoring and evaluation data as defined by the CWSD.
- Participation in the identification of POs in the District.

Supervision of POs, contractors and latrine artisans:

- Regular and systematic visits to communities where POs are working, to ensure that CWSP messages and strategies are being followed, and to provide early warning of problems that should be tackled by the SBDU or RWST.
- Supervision of hand-dug well construction, initially in the company of the RWST's Rural Water Supply Engineer, who should provide on-the-job training.
- Support and supervision (with RWST backup) of the program for conversion of handpumps to community management.
- Provision of support to the District Assembly and RWST in the preliminary screening and selection of latrine artisans.
- Support to the RWST in organising latrine artisan training sessions.
- Processing of applications for latrine subsidies, and management and supervision of latrine construction.

Support to schools sanitation and hygiene education program:

- Coordination between RWST and district education authorities.
- Logistical support to teacher training sessions.
- Management and supervision of schools latrine construction.

Annex 2: Application for a Construction Grant

{ TC "Annex 2: Format for Application for a Construction Grant" \l 2 }

Settlement Name: _____

District: _____

Region: _____

Number of households: _____

Approximate population: _____

Nearest town: _____ Distance: _____km

Sketch map of access route:

Currently Used Water Sources

Type [1]	Distance (m)	Good quality? [2]	Adequate yield? [2]	Perennial? [2]
Communal Sources				
Individual Sources				

Notes: 1 - eg. stream, unprotected well, protected well etc. 2 - yes or no

Number of households with latrines: _____

Brief description of any public latrines:

Brief description of any community self-help projects undertaken in the last three years:

District Assembly member: _____ _____
(Name) (Signature)

Community member/Chief: _____ _____
(Name) (Signature)

Community member: _____ _____

(Name) (Signature)

Annex 3: Mobilisation Criteria

{ TC "Annex 3: Mobilisation Criteria" \l 2 }

(a) Community Development

- WATSAN Committee accepted by community and all major CBOs
- WATSAN Committee meets at least monthly
- WATSAN Committee registered
- At least half of senior WATSAN Committee officers are women
- At least two female and one male volunteers selected and active
- Women's groups involving at least half of all households are undertaking self-help projects
- A self-help community project involving at least three quarters of all households has been carried out
- At least half of all households represented at community meetings

(b) Hygiene Education

- At least three quarters of all households have been exposed to basic hygiene education messages
- WATSAN Committee and volunteers have received hygiene education training
- Hygiene survey completed and hygiene education targets established
- At least 20% progress towards hygiene education targets
- Currently used water sources clean and well maintained

(c) Community Self-Assessment of Needs

- The self-assessment has been carried out by at least three different groups, including a group of women
- A summary has been produced of the groups' assessment of at least the following:
    - Major needs, in order of priority
    - Water supply problems
    - Sanitation problems
    - Health problems
    - Listing and ranking in order of effectiveness of CBOs
    - Community experience with collecting and managing funds
    - Physical and human resources in the community
    - Means of and constraints to women's involvement in a community project
- Agreement has been reached at a community meeting on needs and priorities. If a decision is made to improve water supply and sanitation:
    - Agreement in principle on the resources to be used
    - Endorsement of the WATSAN Committee to continue to coordinate the work.
    - Initial deposit made in WATSAN Committee bank account
    - Comprehensive water supply and sanitation inventory of the settlement specifying water sources and standard of latrines (if any) used by each household
    - Description of existing water sources, including estimates of the yield of existing wells, the depth to water in wet and dry seasons, and water quality
    - Map of the settlement showing all houses, roads, topographic features such as streams, existing water sources, and existing community facilities such as schools or clinics

Annex 4: Facilities and Management Plan

{ TC "Annex 4: Facilities and Management Plan Format" \l 2 }

GHANA WATER AND SEWERAGE CORPORATION

COMMUNITY WATER AND SANITATION DIVISION

FACILITIES MANAGEMENT PLAN
FOR WATER SYSTEMS
IN

.....

(Community ID No.....)

.....
.....
.....
.....

Rural Water Supply Engineer
Regional Water and Sanitation Team
P.O. Box .....
.....

August, 1995

(For official use only)
PROJECT INFORMATION

	Name	Signature	Date
FMP received by DWST			
DMC approval			
RWST approval			
Project contract [1]			
Project contract [2]			
Contract award [1]			
Contract award [2]			
Contractor [1]			
Contractor [2]			
Commencement [1]			
Commencement [2]			
Estimated completion [1]			
Estimated completion [2]			
Commissioning			

OPERATION AND MAINTENANCE COSTS FOR VARIOUS WATER SYSTEMS

Communities accepting assistance from the Community Water and Sanitation Programme for the construction or rehabilitation of any water supply system must complete this Facilities and Management Plan [FMP] form with the assistance of the Partner Organisation [PO] operating in the zone, and submit the completed form to the DWST.

Community members are advised to take note of the following operation and maintenance cost estimates for various types of water systems. Communities are strongly advised to make provision to contribute adequate funds, as indicated on this page, towards the systems they are opting for. The stated amounts are the minimum requirements for a normal year's operations.

No.	WATER SYSTEM	OPERATION AND MAINTENANCE COST PER YEAR
1	Hand dug well with bucket and rope	90,000 cedis
2	Hand dug well with handpump	150,000 cedis
3	Borehole with handpump	200,000 cedis
4	Piped systems: a) Diesel pump b) Electric pump c) Solar pump	 4,500,000 cedis 2,000,000 cedis 1,500,000 cedis
5	Spring development: a) Catchment reservoir b) Pipe network	 60,000 cedis 500,000 cedis
6	Rain catchment reservoir	100,000 cedis

A. BASIC INFORMATION

Community Name:.....

District:.....

Region:.....

Contact person(s) in community: 1. .....

2. .....

Number of houses:.....

No. of adults (18+ years):.....

No. of children
(below 18 years):.....

Number and type of existing water points
(Include information on traditional sources)

Type	No.
.....	.....
.....	.....
.....	.....
.....	.....

Nearest town:..... Distance:.....kms.

Partner Organisation:.....

Sketch map of access route to settlement from the nearest town

B. CHOICE OF WATER SYSTEMS

Water System	No. new	No. rehab.	Total no.	No. of people to be served	Capital cost contribution	Operation & maintenance cost	Total cost
Hand dug well with bucket and rope							
Hand dug well with handpump							
Borehole with handpump							
Piped Systems							
Diesel pump							
Electric pump							
Solar pump							
Spring Development							
Catchment reservoir							
Pipe network							
Rainwater							
Rain catchment reservoir							

C. COMMUNITY CONTRIBUTION TOWARDS CAPITAL COSTS

Item	Unit	Quantity	Rate (in cedis)	Amount (in cedis)
1. Materials				
Large aggregates	**Head pans**			
Medium aggregates	**Head pans**			
Sand	**Head pans**			
Others				
2. Labour				
Unskilled labour	**Days**			
3. Totals				
Total agreed in-kind contribution (cedi equivalent)				
Agreed cash contribution (cedis)				

TOTAL CONTRIBUTION	

D. GENERATION AND MANAGEMENT OF FUNDS

1. Generation of Funds

Fund Generation Activity	Who [1]	How [2]	Frequency [3]	Expected Annual Revenue (cedis)
Water levy				
Harvest				
User fee (tariff)				
Community farm				
"Kilo" contributions				
Donations and grants				
Royalties				
Fines				
Any other (specify)				
TOTAL				

Notes:

[1] **Indicate the name of the specific person in charge of collecting the funds**

[2] **Indicate modality of collection - eg. through family head, table collection, etc.**

[3] **Show if quarterly (Q), monthly (M), weekly (W), daily (D), market days (A), etc.**

2. Management of Funds

Type of Account [1]	Address of Account	Account Number (if applicable)	Signatories
			1. 2. 3.
			1. 2. 3.

[1] **State if Bank (savings or current) account or "Domestic" account**

E. WATER-POINT COMMITTEE ACTIVITIES

Activity type	Who	To Whom	Frequency
Meetings	WATSAN Community		
Submission of accounts	WATSAN	Community	
Hygiene education	WATSAN	Community	

F. DECLARATION

This **Facilities and Management Plan [FMP]** for the proposed water system(s) in this community was adopted at a meeting held on ...../...../..... and attended by ..... residents of the community present and accepting to adopt it for the common good of the members of the community.

In this regard, the elected WATSAN Committee members, whose particulars appear below, were authorised to sign the document as a seal of the community accepting the information contained in the document as from the date indicated.

	Name	**Position**	**Signature/Mark**
1.	.....	.....	.....
2.	.....	.....	.....
3.	.....	.....	.....
4.	.....	.....	.....
5.	.....	.....	.....
6.	.....	.....	.....
7.	.....	.....	.....
8.	.....	.....	.....
9.	.....	.....	.....
10.	.....	.....	.....
11.	.....	.....	.....
12.	.....	.....	.....
13.	.....	.....	.....

Witness (Partner Organisation Team)

1.	.....	.....	.....
2.	.....	.....	.....
3.	.....	.....	.....

G. (*For official use only*)

CAPITAL COSTS

Item No.	Item	Cost (cedis)
Total Costs		

RWST RECORD

Received by: ..... Position: ..... Date: .....

Checked by: ..... Position: ..... Date: .....

Certified by: ..... Position: ..... Date: .....

Annex 5: Training Modules

{ TC "Annex 5: Training Modules" \l 2 }

1. CWSP Brochure

Format: Brochure

Target Groups: Decision-makers at national, regional and district level

Content: A promotional brochure for decision makers that provides an overview of the National CWS Programme including:

- CWSP objectives
- Institutional arrangements
- Opportunities open to communities, schools and health clinics to obtain improved water and sanitation facilities
- Procedures for acquiring improved facilities

The presentation should be clear and concise (4-pages) with a balance of text and colour graphics capable of making a rapid impact on the target audience.

2. CWSP Information Booklet

Format: Brochure

Target Groups: Various, at local level

Content: Communities participating in the CWSP will have greater rights and also greater obligations than under the old supply-driven system. The brochure is directed at District Assembly members, community leaders, local organisations, contractors, Partner Organisations and others charged with informing communities about the programme. It should have about 10 pages of clear and simple text, and should include information on:

- Opportunities offered by the CWSP to communities, schools and health clinics for improving their water and sanitation facilities.
- Community rights and obligations under the programme.
- Criteria against which applications will be assessed.
- Where and how to obtain further assistance and information.
- A blank form for making an application for a construction grant

3. CWSP Implementation Manual

Format: Handbook

Target Groups: CWSD personnel, SBDUs and other senior sector professionals

Content: Description of all CWSP components, institutional structure, management and training programmes. It should be revised periodically to reflect the developing methodology of the CWSP. It should serve as a general reference for those already involved in the CWSP, and as a comprehensive introduction to those who wish to familiarise themselves with it.

4. Basic Skills for RWSTs

Format: Handbook with Trainers' Guide and Resource Materials

Content: This module will basically consist of a compilation of session plans and handouts from a series of workshops provided to the RWSTs by TREND. The CWSP demands initiative and understanding from its staff if it is to respond flexibly to community demand, moving away from the hierarchical structures traditionally seen in public service. The underlying objective of the training to be given is to develop the necessary participatory attitudes in RWST staff. The main components are:

- ***Participatory Communication Skills***: This is a combination of techniques and attitudes to improve RWST personnel's ability to listen and communicate effectively, conduct meetings and discussions that draw out participants' views, reach decisions based on consensus and promote conflict resolution.
- ***Teamwork***: In the CWSP, Partner Organisations, District and Regional programme staff need to work together. Within the RWSTs, staff need to communicate across barriers of gender and professional background. In the former case, client relationships based on mutual respect and support rather than hierarchical supervisory attitudes need to be developed, whilst in the latter, a sense of the complementarity of team members' roles and the need for all to participate on an equal basis must be developed. This will be achieved through group exercises, analysis and problem-solving.
- ***Trainer Training***: RWST staff are trainers and promoters more than supervisors, and need to master basic participatory training techniques in addition to developing their communication skills. Staff will be introduced to simple procedures, methods and exercises for use in training sessions.
- ***Management***: While annual work plans for districts and regions are important, support activities need to be constantly updated to reflect actual progress. Consequently, flexible goal-setting, work planning and problem resolution techniques are required. Skills in data collection and quality control, reporting, monitoring and evaluation should also be developed to enable effective supervision of programme work. In addition, basic organisational, operational and personnel management skills should be strengthened through specific exercises.
- ***Health and Hygiene***: The CWSP approach to hygiene education is as an integral part of all activities, rather than a separate sub-component. RWST staff need a broad understanding of how the environment and human behaviour interact with health, and how the combination of improvements in water supply and sanitation, and behavioural change through hygiene education, can improve health. The objective is to raise trainees' awareness of hygiene issues so that they are always taken into account in project implementation, and to enable them to judge the best mix of water supply, sanitation and hygiene education interventions in any given situation. In this way, they will be able to reinforce the programme health messages in the course of their every day interactions with communities according to circumstances as they arise, as well as making sound programme management decisions.

5. DWST Manual

Format: Handbook with Trainers' Guide

Content: This module should consist of detailed operational guidelines for DWSTs and a trainers' guide for establishing and training them. Operational guidelines will incorporate in a very practical form the general procedures set out in the CWSD implementation manual, based on extensive fieldwork with the DWSTs in developing the procedures and providing associated training. The manual will cover at least:

- Establishment of the DWST
- Information dissemination and coordination with other line agencies' work
- Procedures for vetting construction grant applications and Facilities and Management Plans
- Supervision and support for POs and dug well contractors
- Conversion of handpumps to community management
- Long-term community support
- Management of the household sanitation and schools sanitation and hygiene education components
- Financial record-keeping
- Data collection, filing systems and maintenance of the MIS for water resources and facilities coverage
- Workplanning and internal evaluation

6. Basic Skills for DWSTs

Format: Handbook with Trainers' Guide and Resource Materials

Content: This module will consist of a compilation of session plans and handouts from the workshops provided to the DWSTs by the RWSTs with TREND support. It should cover areas similar to those covered in the RWST basic skills manual, but on a more basic level suitable for the intended target group.

7. Community Support and Hygiene Education for Partner Organisations

Format: Handbook with Resource Materials and Trainers' Guide

Content: This module is critical, setting out the way in which the CWSP interacts with its target population. It can be expected to undergo a series of revisions as the CWSP methodology develops in response to field experience. It will set out in practical form the general procedures described in chapter 3 as the community project cycle, including:

- ***Community mobilisation*** training materials and methods intended to draw all segments of the community into the planning process, to develop community leadership and organisation, and to build the basic communication skills required by WATSAN Committee members. The main topics should include:
  - Training, participatory communications and conflict resolution skills.
  - Work planning and problem-solving.
  - Development of community leadership and community organisations, including identification of a group to coordinate planning and management of the community's water supply facilities.
  - Specific activities to bring women into the community development process.
  - Community mobilisation for self-help.
  - Participatory community needs assessment.
  - Hygiene education focusing on the linkages between water, sanitation and health, including practical participatory exercises in the village environment.
- ***Participatory planning*** covering the project cycle from the start of the participatory planning process through to the end of construction. It should lay out in detail:
  - Procedures and the sequence of activities.
  - Technical options for water and sanitation facilities including their description, construction and recurrent costs, and O&M requirements.
  - How to make the best choice of a sustainable technology.
  - Basic hydrogeology and water resources assessment.
  - Water supply planning and design, and preparation of Facilities and Management Plans, including criteria for their acceptance.
  - Construction supervision, and how to organise community inputs.
  - Hygiene education focusing on the linkages between water, sanitation and health.
- ***Community management*** covering the organisational, financial and technical aspects of community management of water supplies. It should include:
  - Organisation of WATSAN Committee and community meetings.
  - Maintenance and repair options.
  - Revenue collection, accounting, savings, and record keeping options.
  - Where to go for help and materials/spares.
  - Water point, handpump and standpipe maintenance.
  - Hygiene education focusing on behavioural change to make best use of the improved facilities in improving health.
- ***Business management*** covering financial management, banking, registration and any other matters required for the PO to be fully autonomous and self-sustaining.

Resource materials will include a large amount of visual material, extensively field tested and adapted for local use in different cultural zones.

8. Community Support and Hygiene Education for WATSAN Committees & Volunteers

Format: Handbook with Resource Materials. Many of the resource materials will be the same as those developed for Partner Organisation training, whilst the trainers' guide will be the PO handbook. The handbook for this target group will contain simple reference material for WATSAN Committees, volunteers, caretakers etc.

Content:

- ***Community management*** involves the organisational, financial and technical aspects of community managed water supplies. The training materials and methods should cover the information described under Community Management for Partner Organisations above but should be presented in a format that is suitable for WATSAN Committees. It should be noted that the handbook supplements but does not replace a community's facilities and management plan in which the management procedures that the community has decided to follow are described.
- ***Hygiene education*** materials and methods should facilitate the process of communities assessing their problems, identifying solutions and preparing a plan of action. Topics should be limited in number, and should focus on water, sanitation and hygiene practices that most directly affect health. They should be integrated into the project cycle in a community.
    - Mobilisation and planning phases - linkages between water sanitation and health, latrine promotion, and planning for solid waste and drainage.
    - Construction and post-construction phases - handwashing, food preparation, water collection, storage and use cycle, signs and treatment of dehydration, and continued latrine promotion.

The handbook should serve as reference for the volunteers, and should list possible activities as well as providing guidance on the use of the resource materials. Hygiene education may also be a useful focus for some women's activities, and suggestions for this should also be included.

9. Schools Hygiene Education, Water Supply and Sanitation

Format: Teachers' Handbook with Resource Materials and Trainers' Guide

Target Groups: School teachers and pupils

Content: Hygiene education material designed to complement existing work in the schools, and including activities to be carried out in the school, in the pupils' homes and in the community at large. A short section should also cover operation and maintenance of schools water supply and sanitation facilities. The resource materials should include a booklet suitable for mass production.

10. Latrine Construction

Format: Handbook with Resource Materials and Trainers' Guide

Target Groups: Latrine artisans (also RWST and DWST)

Content: Basic reference on latrine designs, with special emphasis on low cost options and uses of local materials. This may be updated as a result of further applied research on low-cost units. The trainers' manual should include a detailed description of training sessions for artisans and the preparation of a training site in a village. The manual should cover:

- Basic latrine design
- Standard design specifications including:
    - the basic pit latrine
    - the Mozambique style latrine (ie. non-reinforced concrete slab) with and without a vent pipe
    - the Sanplat style latrine (ie. reinforced concrete slab) with and without a vent pipe
- Construction procedures and materials schedules for the range of standard household latrines
- Promotion and user education
- The subsidy system
- Business management for the artisans

The resource materials should consist of about 5 A4-size laminated sheets with the minimum of text presenting promotion messages, design options, materials schedules and user education messages.

11. Hand Dug Well Construction

Format: Handbook with Trainers' Guide

Content:

- Design specifications for wells, platforms and handpump attachment
- Equipment requirements and specifications
- Siting and construction procedures with safety requirements clearly spelled out
- Recommended measures for securing and supervising community self-help labour
- Standard contract including a bill of quantities
- Billing procedures
- A description of the contractor pre-qualification and annual performance-review/short-listing procedures
- Terms and conditions for acquiring essential equipment through hire-purchase arrangements
- Business management for small contractors

12. Handpump Repair and Maintenance

Format: Handbook with Resource Materials and Trainers' Guide

Target Groups: Handpump Mechanics

Content:

- Design specifications
- Repair tool requirements
- Spare parts lists and maintenance procedures for all commonly used handpumps
- Promotion and user education
- Business management
- Sample service contracts

The resource materials should consist of a few A4-size laminated sheets with the minimum of text, presenting checklists and promotional material, and summarising the more difficult procedures.