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International Water and Sanitation Centre

Management Options for Small-Scale Water Supply systems in Africa

Report on workshop held in Kakamega,
7-10 December 1998

IRC International Water and Sanitation Centre

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MANAGEMENT OPTIONS FOR

SMALL-SCALE WATER SUPPLY SYSTEMS

IN AFRICA

Report on a workshop held in
Kakamega, Kenya, 7-10 December 1998

Financed by:
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and

NETWAS International, Kenya

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1. Introduction

From 7-10 December 1998, a workshop was organised in Kakamega, Kenya as part of the long involvement of the Finnish Government in water supply and sanitation activities in Kenya and especially in Western Province. From the early eighties up to 1997 a sequence of water supply and sanitation projects were carried out under the Kenya-Finland Western Water Supply Programme. This was followed by the Community Water Supply Management Project (CWSMP) which started in 1997 and has as main objective to increase community management skills for implementation operation and maintenance of water facilities and for protection of water resources in Western Province.

During the mid-term review of this project in September/October 1998, the importance and difficulty of capacity building for community management both with the government (in a facilitating role) and the community (in a management role) came to the fore time and again. The issues being faced are similar to the problems that come up in other community management programmes that want communities to have the management responsibility of their own water supply. In most (new) water policies in the region, there is a transfer of responsibility from the Government to the communities for the management of the systems, but how this is actually being done on the ground is still a matter of experimentation in many of the countries.

Therefore, the Finnish Government perceived the idea that projects and programmes in the region facing similar challenges would benefit from an exchange of ideas and experiences. The Finnish Government asked IRC International Water and Sanitation Centre to organise a workshop in Kenya and to prepare a background paper to form the basis of the discussions (annex 3). For the workshop, 15 participants were invited who were working in community based water projects in the region: Ethiopia, Kenya, Namibia, Tanzania, Uganda and Zambia. They were all involved at field level either as project staff, as government staff or as representation of the community. Annex 1 provides an overview of all participants, including the staff members from IRC International Water and Sanitation Centre (The Netherlands), staff from NETWAS International and the representative of the Finnish Government.

This workshop report gives the outline and methodology of the workshop (chapter 2). In chapter 3, the framework for analysis of the case studies is given and the case studies discussed. The actual case studies as presented in the workshop are in annex 4. Chapter 4, 5, 6 and 7 give the results of the in depth analysis of a few topics selected for further discussion by the workshop participants. These topics are:

- Financing of capital investment (chapter 4);
- How to make older schemes sustainable/handing over from government to community
  (chapter 5);
- Back-up systems and spare parts (chapter 6);
- Monitoring and Evaluation (chapter 7).

The last chapter reflects on the evaluation of the workshop.

The workshop could not have materialised without the enthusiasm of the workshop participants, the logistical support of the Community Water Supply Management Project, and the flexibility and very pleasant attitude of the staff of the Bishop Nicholas Stam Pastoral Centre. We hereby would like to thank them all.

The Hague, May 1999, Madeleen Wegelin and Jo Smet, IRC International Water and Sanitation Centre, Pauline Ikumi, NETWAS International

2 Workshop Outline

2.1 Workshop objectives

The objective of the workshop was to:

- exchange experiences on successful management systems in order to promote best practices;
- to explore approaches in the different projects pertaining to financing and monitoring;
- to identify areas for further development and field testing;
- to document project cases with different management models and publish workshop results.

2.2 Methodology

The workshop methodology was learning oriented, meaning that the experiences and working context of the participants were taken as a starting point. Exchange and reflection of the own and others experiences contributed to insight and knowledge and enabled the groups to focus on the key issues which play a role in the delivery of water supply in their respective countries. A strong emphasis was put on visualisation and active involvement of all participants in conducting the workshop.

The participants selected the areas for further analysis in the workshop both with respect to the case studies and with respect to the substantive topics. A pre-selection was made by the facilitators on the basis of the background paper and the case study presentations.

The workshop was facilitated by staff from IRC and NETWAS. They facilitated reflection, diagnosis, analysis and discussion by all participants.

2.3 Programme

The workshop covered three working days and was preceded by an eight-hour drive from Nairobi to Kakamega during which all participants got to know each other and during which the background paper could be read. At the start, seven case studies were presented by the participants and the background document was presented by IRC. This was followed by a review and discussion on the most important elements in the different phases of the project cycle: inception; planning; implementation; management and financial issues; monitoring; and partnership (see chapter 3). Out of each of the phases four elements were selected for review per case study in small groups. In this way all participants got more in depth information of the other projects.

On the basis of the case studies and the expressed interest of the participants, a list of possible topics for further analysis was made by facilitators and added on to by the participants.

The topics on the list were:

1. Financing and capital investment
2. How to make older schemes sustainable (hand-over process)
3. Back-up systems and spare parts distribution
4. Monitoring and evaluation
5. Viability of community management in a long term perspective
6. Legal status and ownership
7. Functioning of umbrella organisations (functions, financing and status)

The participants then voted for the topics to be analysed in depth. The first four topics were selected. This analysis was done in different ways: through problem (tree) analysis ('Financing of capital investment' and 'How to make older schemes sustainable/handing over from government to community') or in small discussion groups ('Back-up systems and spare parts' and 'Monitoring and Evaluation').

The workshop was closed with an evaluation (chapter 8). The agenda of the workshop is attached in annex 2.

2.4 Expectations

As part of the introduction round in the workshop the participants were asked to express their expectations of the workshop. These were mainly directed towards the sharing of experiences and the getting new ideas to apply in their own schemes, Specific other issues mentioned were:

- how to build sustainability in 'older' projects;
- identify sources of funding to provide back-up;
- sanitation an integral part of water supply;
- financing of extensions of distribution lines;
- capacity building process to enhance willingness to manage by the community.

3. Case studies

3.1 Case study framework

The participants were requested to prepare a case study on their programme or project. This case study had to be short and concise, and was meant to serve as an input for the discussions in the workshop. The table of contents for case study to be presented at the workshop was the following:

Short description of the scheme

- Technology and source of water (gravity scheme, spring etc.);
- Area served;
- Number of people served;
- Use of water (drinking, bathing, washing, animals, irrigation);
- Reason for scheme (demand, need, alternative sources);
- Cost of the scheme (investment).

Community management experience

- Legal status of management (registration requirements, land ownership, assets ownership, time needed for registration);
- Election/selection process, composition of management;
- Organizational structure;
- By-laws, rules, regulations, responsibilities, control mechanism (checks and balances);
- Training received (management, bookkeeping, maintenance etc);
- Approach to demand assessment and demand management;
- Overview and approach of decisions made (technology; siting; level of service; rules of access, protection and use; tariff and method of collection);
- Successful aspects, problems, constraints with community management.

Financing

- Capital cost (actual and percentage) paid by government, donor, community, private sector
- Community contributions in labour, materials, time etc.;
- Financing of operation and maintenance paid by government, donor, community, private sector (give cost assessment of different O&M requirements and actual and percentage division of financiers) ;
- Financing of extensions and replacements;
- Method and approach to tariff setting and fee collection;
- Accessibility for loans and credits to community through local private sector (banks etc.)
- Successful aspects, problems, constraints with financing.

Partnership arrangements

- Description of roles and responsibilities of different partners involved (such as: local authorities, water agency, NGOs, private sector, community organisations, users) with regard to: planning; implementation; operation; maintenance; repairs; spare parts; monitoring (put this preferably in a matrix);
- Assessment of successful aspects, problems, constraints in partnership arrangements.

Monitoring arrangements

- What monitoring arrangements exist and how were these developed;
- Indicators, criteria, sources of verification (efficiency, effectiveness, reliability, accessibility);
- Who collects what data, how is it being used (who acts, who reacts, who supervises);
- Assessment of successful aspects, problems, constraints in monitoring.

The following six case studies and two briefs were presented (full text in annex 4):

1. Management Models of the Rural Water Supply and Environmental Programme, Ethiopia, by Pirkko Poutiainen and Eskinder Taye
2. Experiences of the Community Water Supply Management Project and the Case Study of Navakholo Community Water Project (Western Province, Kenya), by Mohammed Ali, Nicholas Waudo and Osmo Seppälä
3. Community Based Management for Rural Water Supply in Namibia, by John Akawa and Karukirue Tjijenda
4. Towards Attaining Sustainability in the Management of Community-Based Water Supply Scheme, a case/experience of EKWSP/KILIWATER Co. Ltd (Moshi, Tanzania), by Henri Mrosso and Epaphras Urassa
5. Empowering Water Users to Manage their Communal Water Points, a case study of the Shinyanga Water Supply Programme, by Alexander Mawi
6. Brief on the Rural Towns Water and Sanitation Programme (RTWSP) in Uganda, by Richard Cong (DWD)
7. A Brief on the RUWASA Project, Uganda, by Joseph Tusiime
8. Community Water Supply of Sichili Secondary Growth Centre, Western Province, Zambia, by Maurice Samani

3.2 Framework for analysis of case studies

After the presentation of the case studies and background paper, the facilitators gave an overview of the most important elements in the different phases of the project cycle: inception; planning; implementation; management and financial issues; monitoring; and partnership. Small groups then selected four elements out of each of the phases for further analysis in each case study. The case study presenter thus had to explain how exactly the element was dealt with in his project. The other participants in the group asked questions and also gave suggestions for improvements based on their own experiences. In this way all participants got a more in depth view of the other projects. Because the discussions were so lively, not all elements were covered for all case studies. Hence the reports of the presenters also lack some of the information, the case

studies presented in the annex give additional information. The elements from which a selection was made for the analysis follow below (the topics in bold were selected):

IMPLEMENTATION

- **Legal framework for asset ownership or asset lease arranged; land ownership established**
- **Community involvement in implementation**
- **Supervision and quality control on construction**
- **Hygiene and environmental protection education**
- Capacity building on implementation issues
- Capacity building on technical, financial and organisational management, monitoring, communication, hygiene, environmental issues
- Progress monitoring
- Community labour and materials contribution
- Ownership or lease status arranged
- Community involved in implementation

MANAGEMENT AND FINANCIAL ISSUES

In management body:

- **Roles and responsibilities in practice**
- **Information to users/consumers/ associates**
- **Capacity and legal authority among members management body**
- Partnership arrangements with private sector on O&M
- Regular maintenance carried out
- Authority and leadership
- Gender balance
- Meeting structure and frequency
- Transparency and accountability
- By-laws established and legal power to pursue non-compliance/enforcement policy

For agencies and private sector:

- **Resources for back-up(materials, transport) available**
- Capacity building/training ongoing
- Organisational peer support
- Spare parts availability
- Technical repair capacity available
- Financing/small credit provisions body

INCEPTION

- **Initiative from people: request for support based on realistic assessment**
- **Attitude and preparedness of water agency towards community participation/management**
- **Information on water supply concept and conditions (organisation level etc)**
- **Perceived benefit**
- Promotion of adequate water supply
- Expressed demand
- Situation / problem analysis by community/users (community diagnosis)
- Strategies, approach/ process , methodologies etc. on water supply known by community
- Enabling environment

PLANNING

- **Enabling policy environment, guidelines, strategies**
- **Responsibilities of different actors/partners**
- **Information on technology and service level options (with implications)**
- **Information on options for organisation of management including financial management (+ collection payments) (with implications)**
- Legal status of management committees
- Presence of competent local construction capacities
- Decision on tender procedures and selection responsibility
- Information for tenders, private sector quotation
- Information on water sources alternatives and sites (with implications)
- Election/selection of committee/management body
- Registration requirements clear and procedure started
- roles and responsibilities in tendering procedures

MONITORING

By management body

- **Users satisfaction on service**
- **Feedback and utilisation of monitoring results at all levels**
- Functioning
- Utilisation
- Accessibility and equity
- Impacts: health, hygiene and environment
- Efficiency
- Financial management systems
- Triangulation
- Reporting, communication and responsibility for action taken
- Clarity and usefulness of system

By agency

- ***Sustainability***
- **Functioning of management structure**
- Effects
- Coverage
- Feedback and utilisation of monitoring results

PARTNERSHIP

- **Clear and agreed roles and responsibilities**
- **Communications between partners**
- **Actual preparedness and attitude to take up roles**
- **Flexibility to react on needs**
- Capacities of different actors to take up roles
- Equal relationship of partners
- Attitude of partners to learn
- Attractiveness for private sector
- Active involvement of private sector stimulated
- Involvement of NGOs

3.3 Results case study analysis

3.3.1 Rural water supply and environmental programme, Ethiopia

Inception:

1. **Initiative from people: request for support based on realistic assessment**
   - Intensive PRA was done to assess community needs
   - The fact community planning is part of the process gives the community breathing time to review the plan
2. **Attitude and preparedness of water agency towards community participation/ management**
   - Attitude from project staff towards this process could be improved

Planning:

1. **Enabling policy environment, guidelines, strategies**
   - Policy is towards decentralisation, i.e. community-based water supply is seen as devolution of power
   - Project strategy makes community management possible, but this strategy is not yet country-wide
   - There is no water policy as yet
2. **Responsibilities of different actors/partners**
   - Cooperation in water and sanitation and gender need further strengthening with the district authorities
   - Communities and agencies need strengthening of their institutional structures
3. **Information on technology and service level options**
   - Service level and technology is determined by government because the sparse population the only option is handdug wells. This is seen as the most cost-effective technology. There is no community participation. The service level is following the five-year plan.

Implementation:

1. **Community involvement in implementation**
   - Community does not contribute in cash
2. **Hygiene and environmental protection education**
   - Hygiene education is in general not incorporated in water programmes in Ethiopia, but in this project it is!

Management and financial issues:

1. **Roles and responsibilities in practice**
   - The community's financial contribution was left to be decided by community. This is now seen as a weak element in the approach. Community contributions would have strengthened the ownership and so the sustainability of the water supply systems.

2. **Resources for back-up(materials, transport) available**
   - Spare supply system exists on paper only. There are various strategies:
   - Programme gives spares to shops for retail
   - Retail buys from programme
   - Retail buys from private sector

Monitoring:

1. **Feedback and utilisation of monitoring results at all levels**
   - Too many data are collected that are not used
   - Monitoring information generated is not used (and not suitable) for decision making

Partnership:

1. **Clear and agreed roles and responsibilities**
   - There are no NGO's
   - Private sector is not involved in spare parts and maintenance
   - Programme trains small private contractors for construction and artisans for maintenance.

3.3.2 Experiences of the Community Water Supply Management Project and the Case Study of Navakholo Community Water Project, Western Province, Kenya

Inception:

1. **Information on water supply concept and conditions (organisation level etc)**
   - Policy conditions are good for community based management, but district agency are too slow for the communities

Planning:

1. **Enabling policy environment, guidelines, strategies**
   - There is a conflict between the government system (wants revenue) and community based management
   - Legal framework for community based management is lacking
   - Registration of water groups is done under the Department of Culture and Social Services (as self-help groups).

Implementation:

1. **Legal framework for asset ownership or asset lease arranged; land ownership established**
   In most cases in Western province (including Navakholo) the legal framework for asset ownership has not been established, even the new water policy is not clarifying the issue of ownership of assets. The self-help group registration status will not be legally valid for ownership of assets or land.

2. **Community involvement in implementation**
   - The community is not involved in the tender procedure, which is a weakness
3. **Hygiene and environmental protection education**
   - Hygiene education and sanitation does not fall under and thus relies on departments that fall under another Ministry
   - Water resources and their protection is OK under the Ministry of Water Resources

Management and financial issues:

1. **Information to users/consumers/ associates**
   - Communication from community up to the district is not so good
   - Water committee has to call meeting once a year, but this is not enforced
   - No monitoring from the district
2. **Resources for back-up(materials, transport) available**
   - The repairs and replacement strategy need rethinking: the communities have very low income. Unclear who should fund repairs and replacements.

Monitoring:

1. **Feedback and utilisation of monitoring results at all levels**
   - The government is only interested in (formal) environmental monitoring such as water flow, invasion etc.

Partnership:

1. **Clear and agreed roles and responsibilities**
   - the project (CWSMP) is currently trying to plan and establish a functioning system for spare parts distribution (technical assistance and consultancy) but not stocking or distributing any spare parts. The private sector is only interested in quick moving spares
   - Conflicting strategies by various donors
2. **Flexibility to react on needs**
   - Flexibility needs rethinking: achievement of targets versus community management; time element

3.3.3 Community Based Management for Rural Water Supply, Namibia

Inception:

1. **Initiative from people: request for support based on realistic assessment**
   - requests for schemes come from the districts; the government decides and gives the schemes, so it can be seen as supply-driven
2. **Attitude and preparedness of water agency towards community participation/ management**
   - there is not a choice of not following the community management principle

- within the government departments there is not a demand for community management approaches; GRN staff finds it rather difficult to put the community-based management principle into practice
- people have somehow a dependency syndrome on GRN and ESAs

3. **Perceived benefit**
   - each region selects areas for new water supply systems along criteria such as functioning water committee

Planning:

1. **Enabling policy environment, guidelines, strategies**
   - There is a new policy (since 1997) towards community-based management
2. **Responsibilities of different actors/partners**
   - Regional Water Committee → Constituency Water Committee→Local Water Association→Water Point Association
   - Regional Water Committee (with Concillors and Governors) prioritises on water projects requests coming from the communities, usually through Councillors (supply-driven!)
3. **Information on technology and service level options**
   - service level options are standardized
4. **Information on options for organisation of management including financial management**
   - these are standardized through consultative process of government with the community and other stakeholders:
   - for financial management there is no guideline on options: there is a water meter at each water point
   - it is not clear how the tariff at users level is set and how it is money collected from the users
   - training on accounting etc is given through regional government training teams under Directorate of Rural Water Supply

Implementation:

1. **Legal framework for asset ownership or asset lease arranged; land ownership established**
   - this is at this moment not applicable (was this stated??, because legal ownership and legal status of the Associations is one of the key issues now in rural water supply!)
2. **Community involvement in implementation**
   - digging trenches, laying pipes, backfilling, no materials, no cash
3. **Supervision and quality control on construction**
   - the government supervises the contractors
4. **Hygiene and environmental protection education**
   - there is no hygiene and environmental protection education, only information on how to keep tapstands clean; no sanitation education. Hygiene and sanitation education is under Ministry of Health

Management and financial issues:

1. **Roles and responsibilities in practice**
   - The Local Water Association is a voluntary body and is an umbrella for the Water Point Committees who are elected by the users
2. **Information to users/consumers/ associates**
   - Information is given from Local Water Association down to users
3. **Capacity and legal authority among members management body**
   - there is insufficient capacity and legal authority among members management body; the Local Water Association and the Water Point Association do not have a legal status yet. The GRN is preparing a Bill for Community Based Management
4. **Resources for back-up(materials, transport) available**
   - it may take up to two weeks for the government to come as there are no private O&M services. There are a lot of breakdowns and therefore a long waiting list.
   - human resources insufficient, while the GRN is downsizing the public services.
   - service is free
   - material resources are available from government

Monitoring:

- The government does not do any monitoring as yet.
- The community monitors their own activities to a minimum extent
- Extension officers monitor when they have received complaints from the community

Partnership:

1. Clear and agreed roles and responsibilities
   - Nationwide platform of NGOs (WatSan Forum)
   - Regional water committees have partnership with: NGOs, regional counsellors, traditional leaders
   - Line ministries, representatives of water committees, governor who is head of the region, have also roles to play in rural water supply management (?)

3.3.4 EKWSP/KILIWATER Co. Ltd (Moshi, Tanzania)

Inception:

1. **Initiative from people: request for support based on realistic assessment**
   - Community were aware of existing problems
   - Community requested the Government through their leaders on the need to solve the water problem. They asked their leaders to look for assistance.
   - Government decided to do an assessment to confirm existence of the problem.
   - Results of assessment were then passed over to community to confirm the existence of problem

2. **Attitude and preparedness of water agency towards community participation/ management**
   - Government water policy in place supporting community management, there is an enabling environment, Government to hand over schemes to communities
3. **Information on water supply concept and conditions (organisation level etc)**
   - Information to the community was done using different channels. It must be noted that with 300,000 people it was difficult to pass all the messages directly, so most of the messages were passed through the leaders.
   - Strength: The random sampling to test whether messages were being passed to the community and it revealed that many people had not received the message and there were others who got the wrong message. The method of passing on information to the community was revised and other communication channels (which??) were used in addition to using the leaders.
4. **Perceived benefit**
   - See under 1.

Planning:

1. **Enabling policy environment, guidelines, strategies**
   - Aspect of community management is a new concept
   - Weakness is that the policy is not clear on what should be handed over, the community is supposed to take over the O&M but all the assets still belong to the government.
2. **Responsibilities of different actors/partners**
   - Government(central and local)
   - Company
   - Project
   - Community
   - Private sector – spare parts
   - Private sector –Facilitator in the ZOPP planning workshop
3. **Information on technology and service level options (with implications)**
   - Guided by Tanzania standards of drinking water requirement
4. **Information on options for organisation of management including financial management**
   - 2 Workshops (ZOPP) to discuss logistics, implementation, management structure, decide on type and form of organisation, representative of water users, private sector, and business core.

Implementation:

1. **Legal framework for asset ownership or asset lease arranged; land ownership established**
   - Assets belong to the Government
   - O&M to the community
   - Extension and new developments owned by the company(fees are paid to the company)
   - Land is community owned
2. **Community involvement in implementation**

- Shareholders involvement in decision making. A weakness here was non-shareholders decided to interfere in decision making. For example the local MP organized the non-shareholders to disrupt the decision of shareholders and it had quite an impact.

3. **Supervision and quality control on construction**
   - Construction is done by the company with construction materials supplied by the private sector. Feedback on construction is then given to the Annual Delegates General Meeting.
4. **Hygiene and environmental protection education**
   - This was left to the health sector, and proved to be a weakness
   - Assumption that people adopt economic use of water is not right, this can only be done through meters

Management and financial issues:

1. **Roles and responsibilities in practice**
   - User areas: sometimes water committees delay the amount of money collected
   - Local authority: not adequately active. Excuse that they are busy with their routine work
   - Collection of fees: Committee gets 10% of collection, collector 15% of collection.
   - There is a clear definition on what committee are supposed to give and keep.
2. **Information to users/consumers/ associates**
   - Users statutory meetings
   - Annual delegates general meeting
   - Information exchange between donors
3. **Capacity and legal authority among members management body**
   - Employs competent personnel who can be held responsible if they do not deliver the goods.
4. **Resources for back-up(materials, transport) available**
   - Donor is still around and avails resources for back up
   - Company so able to avail resources

Monitoring:

1. **Users satisfaction on service**
   - Users are satisfied. Water is rationed only during the drought. In case of breakage repairs are done latest in 24 hours.
2. **Feedback and utilisation of monitoring results at all levels**
   - There is a weakness here as only the company does monitoring and the community is never involved and does not receive feedback
3. **Sustainability**
   - Since it is a private enterprise everything depends on the sale of water service otherwise it will come to a standstill.
   - The donor support in O&M is on decline as user contribution rises over time.
4. **Functioning of management structure**
   - 30% of the committees is ineffective. Now new ones are being selected according to agreed guidelines

3.3.5 *The Shinyanga Water Supply Programme, Tanzania*

Inception:

1. **Initiative from people: request for support based on realistic assessment**
   - After the request has come, the project staff goes to check if it is realistic
2. **Attitude and preparedness of water agency towards community participation/ management**
   - District staff has been trained – transfer is a big problem
   - Many district staff are hired directly by district councils: this staff is not transferable and their training stays in the district
   - Hygiene education is given through the schools, but here again multiple transfers are a problem
3. **Information on water supply concept and conditions (organisation level etc)**
   - Community management training to ward executive committee
   - Info from ward executive committee to village government meeting; from them to sub-village chairperson ; from here to village meetings and to users
   - Conditions are told and formation of Water User group (WUG) is mandatory
   - Wards are selected per year
4. **Perceived benefit**
   - The request has to come from the community by letter

Planning:

1. **Enabling policy environment, guidelines, strategies**
   - National policy states that the ministry is only responsible for coordination and policy.
2. **Responsibilities of different actors/partners**
   - District is responsible for coordination and technical advise, the DWE has only funds for coordination, not for repairs
   - The responsibility to organize water supply lies with the communities: they contribute in kind, materials, labour and cash
   - There is a systematic strategy to ensure full user participation in all stages of the programme; this is called the step-by-step approach and contains six steps : community awareness; community situation analysis; community mobilization; survey and design; implementation; and operation and maintenance
   - Drilling and quality control is privatized.
3. **Information on technology and service level options**
   - District gives information on technology. The project has recommended hand-dug wells with direct action hand pump; machine drilled wells where handdug wells cannot be constructed; rainwater harvesting systems.
   - The costs are standardized for shallow wells and bore holes require an extra Tsh 50.000
4. **Information on options for organisation of management including financial management**
   - Management structure is standard; the Water user group (WUG) consists of 25 –50 families who voluntarily join together
   - The community decides on tariff, on how to collect

- Training is given in bookkeeping, accounting etc.: the water user group also pays for this training

Implementation:

1. **Legal framework for asset ownership or asset lease arranged; land ownership established**
   - As of February 1999, the bye-law to recognise water user groups as legal entities has been approved by the Minister, giving the beneficiaries the legal right of owning facilities
   - Users are given the right to apply for temporary occupancy of land and to apply for water right
2. **Community involvement in implementation**
   - Community is involved in siting, digging, drilling, lining and apron making (there is no insurance in case of accident)
3. **Supervision and quality control on construction**
   - District people are trained on quality control and supervision
   - Production of precast rings is guaranteed by the district
   - Drilling is supervised by district engineer
   - Community is not trained in supervision and control
4. **Hygiene and environmental protection education**
   - After the pump is installed, community get guidelines on maintenance of the environment
   - Hygiene education was done through schools but this did not work (they do not keep their own toilets clean, so cannot be expected to train water user group)

Management and financial issues:

1. **Roles and responsibilities in practice**
   - Formal roles see under planning
   - In reality the project comes and does the contracting, not the DWE, There is no trust between DWE-project-users. For after project activities, the users will be trained
   - The WUG develops a Memorandum of Agreement among themselves specifying their rights and obligations in the management of the water points
2. **Information to users/consumers/ associates**
   - The project checks yearly per questionnaire on user information. If users are not informed, project goes back: usually then members of water committee have left
   - Some committees have no meetings if there are no breakdowns
3. **Capacity and legal authority among members management body**
   - Members of water committee are trained on how to apply their management powers
   - If users do not pay their monthly fee, they have to pay a non-member tariff per bucket.
4. **Resources for back-up(materials, transport) available**
   - Project engineers have left: the district has the cars from the project. In each

district there is an office especially for back-up of the project with social mobilisers etc.
- The fuel, staff, O&M of the cars is done with project funds.

Monitoring:

1. **Users satisfaction on service**
   - Once a year checked by project
2. **Feedback and utilisation of monitoring results at all levels**
   - Users monitor yield and other activities of committee: if there is a problem they go to the DWE. When enabled by the project (car, allowance), he goes to the field
   - DWE is under supervision of the district programme management team who monitors his performance
3. **Sustainability**
   - Sustainability is not guaranteed as very dependable on donor assistance
4. **Functioning of management structure**
   - Management structure only functions because of support

Partnership:

1. **Clear and agreed roles and responsibilities**
   - These exist
2. **Communications between partners**
   - Private sector communicates with agency
   - Agency communicates with donor
   - Private sector does not communicate with donor
   - Users communicate with agency
   - Users do not communicate with private sector
3. **Actual preparedness and attitude to take up roles**
   - exist
4. **Flexibility to react on needs**
   - No flexibility for price adaptation if prices go up. Donor has prescribed a ceiling. For other issues flexibility sufficient

3.3.6 The Rural Towns Water and Sanitation Programme (RTWSP) in Uganda

Inception:

1. **Initiative from people: request for support based on realistic assessment**
   - Formal request by community representation to the project office
2. **Attitude and preparedness of water agency towards community participation/ management**
   - DWD from on set of decentralisation policy was ready to relinquish and transfer powers
   - The speed of transfer of power from DWD to the community was too fast: the

town councils were not involved (Local Govt's Act 1997). Basically the Water Statute has been slowed down by the Local Government Act.

3. **Information on water supply concept and conditions (organisation level etc)**
   - The strategies/ guidelines were developed at H/Qs before 1st contact with the towns/ centers.
   - 1st contact with the town's civic leader setup
   - Town's civic leader's arranged sensitization meetings between the project and the communities.
   - Feed back from communities through their representation in Project Committee???.
4. **Perceived benefit**
   - The nature of many activities and business in the town warrant water supply
   - Reduce walking distance and thus reduced work load: socio-economic benefits.
   - Health improvements

Planning:

1. **Enabling policy environment, guidelines, strategies**
   - Water Action Plan (1993)
   - Water Statute (1995)
   - National Water Policy (draft)
   - Local Government Policy and Act (1997)
   - Privatisation Policy.
   - Clear Goals, Targets and guidelines in place.
   - Water Sector Reform is being undertaken to improve efficiency in management, PSP and Community Management.
2. **Responsibilities of different actors/partners**
   - Well defined in Letter of Understanding between the Project and Towns
   - But no Letter of Understanding between the Town and Individual communities.
3. **Information on technology and service level options (with implications)**
   - Well defined for Min. service level:
   - 40 c/c/d gr. 250 M - Core Area
   - 20 c/c/d gr. 250 M - Fringe Area
   - Higher service → More pay.
4. **Information on options for organisation of management including financial management (+ collection payments) (with implications)**
   - Defined in the Water Statute

Implementation:

1. **Legal framework for asset ownership or asset lease arranged; land ownership established**
   - Ownership is defined in the Water Statute
2. **Community involvement in implementation**
   - Capital cash contribution
   - Monitor/Police the construction by private contractors.

3. **Supervision and quality control on construction**
   - Quality control is done by the consultant and DWD staff
4. **Hygiene and environmental protection education**
   - Hygiene and WATSAN are integrated

Management and financial issues:

1. **Roles and responsibilities in practice**
   - Project coordinators are from DWD national level
   - Capacity building in DWD to carry out the staffs new functions

3.3.7 Community Water Supply of Sichili Secondary Growth Centre, Western Province, Zambia

Inception:

1. **Initiative from people: request for support based on realistic assessment**
   - Mission Hospital;
   - request from community, Mission and Area Councilor
2. **Attitude and preparedness of water agency towards community participation/management**
   - Engineers were hostile to community management approach: the agency looked at O&M as an issue to be addressed later. Western Province was learning ground also for interest in O&M and interest to put up facilities for the communities to manage. Now this has been accepted as policy
3. **Information on water supply concept and conditions (organisation level, etc)**
   - new concept and therefore 'software' team had a lot of work to do
   - this was regarded as pilot project as it was a new approach and a new technology
4. **Perceived benefit**
   - To overcome problems of bilharzia in cathcment area
   - OXFAM was already constructing wells in villages and therefore people begun to see health benefits and wanted this extended to them

Planning:

1. **Enabling policy environment, guidelines, strategies**
   - At that time there was no supporting policy, but that policy is now in place
2. **Responsibilities of different actors/partners**
   - Loose agreement on back up services from DWA: still there is no formal agreement
   - Roles and responsibilities defined and reflected in contract
3. **Information on technology and service level options**
   - Technology options discussed and service levels and cost implications explained. But more as a good father taking care of a sick child. Agreeing with the ex-pats rather than making an informed choice
   -

4. **Information on options for organisation of management including financial management**
   - Only one management structure/option

Implementation:

1. **Legal framework for asset ownership or asset lease arranged; land ownership established**
   - The Water Management Board (WMB) is a legal body and owns system
2. **Community involvement in implementation**
   - Consultant employed a social scientist to work with motivation team. But consultant viewed community work as slow and therefore retarding process
3. **Supervision and quality control on construction**
   - Community did observe problems but no action
   - Community had little role in supervision because consultant was also the contractor
4. **Hygiene and environmental protection education**
   - Hygiene education was ongoing by CEP team
   - Environmental protection education came later to deal with protection of intake and control of waste water

Management and financial issues:

1. **Roles and responsibilities in practice**
   - Water Management Board (WMB) is established and is a legal body with rules & regulations
2. **Information to users/consumers/ associates**
   - Information by WMB to members of the water society is inadequate on issues of tariffs and financial management
   - Poor attendance by users of WMB meetings
   - Meetings seen in terms of raising tariffs
3. **Resources for back-up(materials, transport) available**
   - Back-up is organized through the Department of Water Affairs but now has to be handed over to the District WASHE committees. This is a problem.
   - Spare parts supply is OK through private sector
   - Services by informal sector (which has been developed by previous DWA employees)
   - Catholic mission and NGO's operating in the area have also provided back-up services

Monitoring:

1. **Users satisfaction on service**
   - Users are not satisfied due to rising tariffs; people complain in areas located at higher elevation as they do not receive adequate water
2. **Feedback and utilisation of monitoring results at all levels**
   - Department of Water Affairs does not do any monitoring, Water Management Board does not do it in a structured way
   - Monitoring system needs to be built up through the D-WASHE committee

3. **Sustainability**
   - Monitoring is needed to assess sustainability, this can be used as a test case
   - D-WASHE considers to develop a monitoring system
4. **Functioning of management structure**
   - Management structure is functioning but this needs to be linked to the D-WASHE and other existing structures

Partnership:

1. **Clear and agreed roles and responsibilities**
   - There is a reform process ongoing in Zambia. So roles are being redefined
2. **Actual preparedness and attitude to take up roles**
   - Until the water sector reform is complete, there is presently lack of interest with the partners. This is going to be addressed through the District WASHE committees
3. **Flexibility to react on needs**
   - There is no flexibility at this moment due to the reform process.

4. Financing of capital investment

The analysis on financing of capital investment was done in a plenary session. All participants wrote cards on what they regarded as main problems in the financing of capital investment for community based water supply schemes. The facilitator tried in the session to develop a problem tree with the cards, but as a result of the many problems indicated and the few explanations to the problems or solutions known, the problem tree was not very clear. Below is an indication of the problems and the possible solutions:

Financing from the Government:

Problem area	**Inadequate funds available**	**Lack of a strategy for financing of water supply**
Main problems	• Expensive cost involved • Lack of donors • Non existence of a policy to attract financiers • Bureaucracy in government system to process donor funds • Poor budgetary allocation from government • Lack of strategy for development of credits & loan schemes	• No strategy to process community requests for funding • Community based approach is new to government. This hinders the allocation of new budget • WES activities not adequately planned for • Conflicting sector interests
Possible solution	Development of a strategy for attracting new sources of funding	Community management policy, strategy & guidelines developed including investment plan

Financing from the private (banking) sector:

Problem area	**Banks do not fund community activities**	**Banks do not fund water supply**	**Banks do not market their services**
Main problems	• Lack of collateral • The community is not able to convince the financiers • Communities do not have legal status to borrow • Water committees (User groups) do not have adequate management skills to prepare/budget for investments • Lack of collateral • Inability to access credit	• Local banks do not fund CB Water Supply • Banks do not have trust in water schemes	• Lack of info on financial sources • Limited private sector investment • Rate of return on investment to private sector is low
Possible solution	• Capacity building on existing bodies to prepare good plans • To create legal status for com management bodies	• Rural Water supply Development fund run independently • Establishment of guarantee schemes	

Financing from the community:

Problem area	Poverty	Attitude
Main problems	• Operation expenditure usually more than income, hence no savings to finance expansion • Inadequate revenue base • Inability by community to raise funds due to poverty • Conflicting sector interests ⇒ problem of setting priorities in resource use	• Difficulties in mobilization of community resources • Idea of saving money for future needs is not accepted / internalized by users • Consumers unwilling to cost share • Consumers feel capital investment for water project should come from outsiders - not willing to cost share
Possible solution	Creating of surplus savings for management of schemes	Creating transparency / trust in management

5. *How to make older schemes sustainable, handing over from government to community*

Problem area	Inadequate funds	Inadequate technology	Lack of legal framework for comm. ownership	Lack of good water management body	Lack of criteria for priority of scheme selection
Main problems	• Heavy capital investment needed for replacement • Lack of financing for expansion or rehabilitation	• inappropriate technology • technology selection not revised	• handing over not followed by amendment of legislation to enable empower • community cannot own assets • lack of ownership	• management body not elected trusted • lack of good management body	
Main solution	• mobilise funds from new type of sources	• train community members in appropriate skills • involve private sector in management and repairs	• legal provision for community ownership	• Guidelines for the development of effective management body • Establishment of an interim management body • sufficient time for hand-over	• develop criteria for selection of schemes to be handed over

Problem area	Community based demands	Required investment and O&M costs	Agreement and handing over assets and liability	Roles & Responsibilities	Management Capacity of the Community
Main problem	• how to identify the real opinion of community • "Community" demand not assessed • lack of willingness to accept scheme	• community does not want • a "crippled" scheme • most old schemes are totally not -operational • communities not willing to accept old scheme • frequent breakdown	• dispute on what will be handed over • lack of guideline for handing-over • what to hand-over • limited community awareness	• community mobilisation to take the roles lacking • unclear roles • involvement of recipients unclear	• inadequate technical skills to own the schemes • building capacities to manage supply • inadequate back up of spares system • lack of competent technical staff
Main solution	• Make a corporate concept/process (draft plan) • Discuss and review "corporate" plan with the community	• Condition of scheme and financing requirement establishment		• Agreement on assets liabilities and roles and responsibilities	• Capacity building plan made and carried out

6. Back-up systems and spare parts

For the analysis of the back-up systems for community-based management and the organisation of spare parts supply, the workshop participants were split up in three different groups. One group analysed the role of the government in the backing-up and the financing of these activities; one group analysed the role of the private sector in the backing up; the last group assessed the organisation of the spare parts supply and its financing. In this group the situation in Kenya, Zambia, Tanzania and Namibia was analysed (there were no participants in this group from other countries).

6.1 Roles and responsibilities of the government in back-up support

Below, a picture is given of what a government should do to support communities in the management of their own water supply.

1. Support and advice on regular basis on
   - management
   - financial management
   - administration
   - technology
2. Final quality control on WS construction before commissioning
3. Monitoring as per plan
4. Membership of Management committee (ex-officio)
5. Major repair service (paid by community) arranged (either government or private sector)
6. Training and refresher courses
7. Location (district, sub-district or community) level support on:
   - mobilisation
   - administration
8. Quality control on spares and chemicals
9. Licensing of dealers and contractors
10. Facilitating legalisation of committee/board.

Financing of this support through:

- Limited funds available through request and prioritisation from bottom up:
- community → sub District Development Committee (DDC) →DDC → (regional) → National ↓
- Community financing
- Water user tariff
- Government support loan and credit fund (but so far failed)

6.2 Roles and responsibilities of the private sector in providing back-up support

with an indication on the strong and weaker roles at this moment

Role and responsibility	Applicable in countries:	Strong or weak role at present
1. Awareness creation e.g. media, Drama groups, posters etc.	KEN, NAM, ETH, TZ, UG	Strong
2. Need for close supervision + Pre-testing		Weak
3. Time consuming		Weak
4. Assist in developing technical/designs and planning e.g. PRA planning in ETH, KEN + NAM	KEN, NAM, ETH, TZ, UG	Strong
5. Need for close supervision		Weak
6. Carry out construction services		Strong
7. Supervision of construction works		Strong
8. Material supply /equipment	KEN, NAM, ETH, TZ, UG	Strong
9. Close supervision and quality control		Weak
10. Capacity building in management + financial issues		Strong
11. Provision of back up resources e.g. transport, spare parts office equipment, meters etc.	KEN, NAM, ETH, TZ, UG	Strong
12. Close supervision and QA		Weak
13. More expensive		Weak
14. Carry out and support O&M		Strong
15. Not always reliable		Weak
16. Carry out auditing		Strong
17. Assist in establishing reliable monitoring systems		Strong
18. Systems need to be discussed and pre-tested		Weak

6.3 Strengths and weaknesses of different country or programme strategies on spare parts

CMWSP- Kenya

Strengths	Weaknesses
Donor facilitates the development of new ideas and a new system for spare parts distribution, possibly through shop outlets	Shop owners find sale of spares unattractive due to slow sales, small margins in terms of profit
Standardization of handpumps in the Province	Community do not understand the pricing of spare parts
	Location repairmen in place and functional under the previous programme but when it stopped paying the fees of the repairmen, the system stopped functioning

Zambia

Strengths	Weaknesses
Clear policy that communities are responsible for O&M	Policy not clearly followed because of subsidy from Government & donors
Spares are readily available due to liberalization	Private sector find sale of spares unattractive
Creation of revolving funds through the D-washers (initial pack of spares)	Fluctuation in prices

Tanzania

Strengths	Weaknesses
Local manufacturing of pumps and spare parts	Certain areas spare parts are subsidised and undermines private sector participation
Regional outlets for spares established	Shop owners find sale of spares unattractive
Sales promoters create awareness at community level	

Namibia

Strengths	Weaknesses
Spare parts supply system in place for present requirement (Government financed)	Private sector not involved at community level as yet
Creation of revolving fund in one region (by donor in form of spare parts)	Government not interested to continue with system in the long run
Spare parts are manufactured locally	

Financing mechanisms:

1. Promotion of private sector participation
2. Subsidy should not be to spare parts but directly to the community so that people can afford the service
3. Keep in mind government does not pay tax (VAT) on spares
4. Keep in mind VAT/tax exemption for NGO/community etc

7. Monitoring and Evaluation

For the analysis of monitoring and evaluation elements and priorities, seven different elements were selected. The facilitators then gave for each of the seven elements some suggestions for indicators, which could be included. The three groups were free to delete or add to these topics.

1. **Communication and capacity building**
   - Community information
   - Committee training
   - Caretaker training
   - District staff training
   - Use of district staff training
2. **Community organisation**
   - Community awareness of the responsibilities and roles of members of the committees
   - Water committee selection (all factions of the community)
   - Functioning of the committee (cost recovery, meetings, by laws)
   - Training of the committee
   - Monitoring at community and district level
3. **Coverage, use and maintenance**
   - Selection of sites, distances
   - Operation and maintenance (down time, repairs, frequency breakdowns, referral system, spare parts, cost
   - Hygiene at water point
   - Use of water (handling, hand washing, quantity)
4. **Cost and finance**
   - Payments made to contractors/suppliers
   - Itemised cost of water systems known and calculated accordingly (tariff, materials, unit cost)
   - Tendering/bidding done correctly
5. **Design and construction**
   - Role division in design and construction
   - Construction quality
   - Construction in agreed place and time
   - Land release timely and correct
6. **Water resources management**
   - Flow
   - Quality
   - Intake protection
   - Pollution
7. **District staff management**
   - Staff visits
   - Training received
   - Training carried out
   - Transport availability
   - Repair staff
   - Time taken for repair
   - Community based planning
   - Monitoring of finance
   - Selection contractors

1. Communication and capacity building

Issue	Indicator	Verification	Who
Community information	Comm. is aware of water programme and conditions	5 people in the comm. are able to name 2 aspects of water programme	Staff from schools, health center institutions
Caretaker training	• Environment around water point is clean • Regular maintenance is carried out • Breakdown reported in...days	Observation • Entry in caretaker logbook • No. of breakdowns • Report form with WC report form with district • entry in caretaker logbook	WC, District WC WC, District WC, District WC
Caretaker	• Pipes checked for leakage and misuse • Understands importance of water quality	Entry logbook; spot checks; no. of complaints from users Ability to answer questions	WC District
Training of district staff	• District staff trained in TOT • Training at community level effective	Records of training • Records of training; • Committee can explain bookkeeping methods/ • Reporting forms to district • Records of payments etc.	DWE, WC District District District District
Training of Committee			

2. Community organisation

Activity	Indicator	Means of Verification	By whom
Community Awareness	• Community Awareness of roles and responsibility of officials enhanced	• Calibre of Committee Selected • Participate in selection	Agency
Committee Selection	• Water Committee in place • Composition of Committee Constituent • Mode of Selection accepted/approved	• Existence of Committee • Proper representation (gender, interests groups, etc.) • Process of selection	Agency, users
Training of Committee	Trained committee in place	Committee performs roles and responsibilities	Agency, users
Functioning of Committee	• Regular meetings held • Rules and regulations in place and enforced • Proper tariffs set and enforced • Proper accounting procedures in place and practised	• Committee minutes • Written rules and regulations available • Cross check procedures on enforcement • Availability of record of defaulters • Existence of tariff structure • Actual revenue collection • Proper books of accounts kept • Audited accounts	Agency, users " " " Private Sector (auditors), Self audits (users)

3. Coverage, use and maintenance

Activity	Indicator	Means of verification	By whom
Selection of Sites, distances	Selection of sites in favor of users done	Interview, hold meetings with users	Users, Agency (facilitator)
Operation and Maintenance	System functioning	Inspections, discussions	Agency, users
	Minimum down time	Discussions, records	"
	O & M funds available	Discussions, inspections, records,	"
	Spares available (locally)	Discussions, physical observations, stores records	"
	Trained personnel available (community and agency level)	Observations, discussion, down time records	"
Hygiene at water point	Water point environment maintained clean	Physical observation	Agency, users
	Good hygiene practices by users at water points	Observations, discussion	"
	hygiene rules at water points displayed and followed	Observations, Discussions	"
	Availability of sanitary facilities, wash basins, fence	Inspections	"
Use of water	Facility utilized	Observations. surveys	"
	Good and sufficient methods of transport, storage of water adopted	observations, surveys	"
	Good hygiene practices in use	Observations, surveys (plus discussions)	"

4. Cost and finance

Area	Indicators	Menas of verification
Expenditures	amount of money paid to contractors, suppliers, salaries, allowances, administrations, costs, etc.	• Invoices, receipts, delivery notes, payrolls, vouchers • Financial report (monthly)
Total Production Cost Include. Depreciation of assets.	• Quantity of Water (m3) in a month • Total cost/month • Unit Cost (Kshs/m3)	• Meter readings on daily records at pumping stet & consumer outlets • Receipts for Payments made
Tendering/bidding process (competitiveness)	• Presence of an independent tender Board • No. of Competent Contractors tendering	• Advertisement • Contract forms • Evaluation report • Bills of Quantities • Check on neutrality and competence of members

5. Design and construction

Area	Indicator	Means of Verification
Reliability of design date	Percentage of data accuracy	• Surveys • Interviews • Primary inf. review
Appropriateness of the design	• Degree of acceptance • Level of Compliance to the design Criteria	• Minutes of the meeting • Official approval by higher authority
Construction quality	Level of compliance to the design specifications	• Site inspection visits • Site meetings minute • Quantity & Quality of materials used
Construction progress	Actual construction progress vs. Action plan	Monthly progress report

6. Water resources management

Area	Indicator	Means of Verification
Water flow	Daily discharge (m3/day)	Field data
Water Quality	• Color, presence of smell, taste • Faecal Coliform Count • Concentration of toxic chemicals	• Reactions from consumers • Lab.test reports • Lab.test reports
Intake Protection & Pollution	• Percentage of Catchment with human activity • Use of fertilizers & Pesticides • Physical state of the intake structures	• Sanitary inspection reports • Lab test results • Physical Inspection

7 District staff management

Issue	Indicator	Verification	Who
Staff Visits	• # of Staff visits and frequency • workplans of the staff • Satisfaction of communities	• Reports • action taken • community logbooks • Information from Communities	Agency (DWOs) Community
Training given	Number of training conducted vs. number of training planned		
Transport availability	Visits as per plans conducted	• Transport logbook • community logbook	• DWO • Community
Repair Staff	Number of repair staff	Time elapsed between report & repair (number of days)	• Provincial government • Community
Community based Planning	• PRA activities carried out • Agreement on CBM (community based management) signed	• Documents of PRA and CBM available • Spot-checks on ability to remember PRA activities	• DWO • D-WASHE

8. Evaluation

The evaluation was done by asking all participants to write at least one positive and one negative aspect of the workshop on a card. These were then put on the wall and discussed. Below are the cards, where aspects overlapped, they have been mentioned once only.

Positive

- capture good examples on how other countries tackle water issues. Hoping to use these in my own country
- experiences on back-up service and organisation structure
- shared country experiences with other participants regarding management issues
- exchange of experiences (3)
- gain new ideas on management of WS&S
- enriching participants on methodologies of appraising projects
- know strengths and weaknesses of various models
- open and guided discussions
- good facilitation processes
- rich in various models of management
- very conducive environment to the workshop
- atmosphere was good for learning new ideas
- moderation was good and participatory
- the methodology of conducting the workshop was excellent
- the content of the course was well covered
- Moderators well prepared and organized hence workshop was successful
- good organisation and workshop content

Negative:

- delay in administering house keeping issues
- centre lacking in caring for clients
- sponsors should be more considerate when it comes to subsistence: lucky we were far from town
- DSA quite inadequate
- lack of field visits
- lack of distribution of write-ups both from participants and facilitators
- limited time to exhaust all issues
- workshop duration was not adequate
- long sessions reducing active participation
- no programme (visit or entertainment) out of compound
- venue unnecessary far located
- venue rather conservative atmosphere and lacking facilitation aids

Annexes

Annex 1 List of Participants

Annex 1: List of participants

Name	Function	Organization	Postal Address	Town	Country	Telephone	Fax	E-mail
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Annex 2 Workshop agenda

Annex 2: Workshop agenda

Sunday 06.12.98	11.00-18.00	Travel to and arrival in Kakamega
	19.00-20.00	Dinner
	20.00h----	Preparations for the case presentations
Monday 07.12.98	08.00-09.45	Individual preparations for the case presentation
	09.45-10.15	Tea/coffee
	10.15-10.40	• Welcome • Personal introduction • Introduction workshop: objectives, methodologies, results
	10.40-13.00	Case presentations: Zambia; Namibia; Shinyanga Project, Tanzania; Ethiopia 15 min presentation and 5 min for clarifications
	13.00-14.00	Lunch
	14.00-15.00	Case presentations: Kiliwater, Tanzania; STWSP and RUWASA, Uganda; CMWSP, Kenya
	15.00-15.45	Background paper and clarifications
	15.45-16.00	Explanation on 'case analysis by peers'
	16.00-16.30	Tea/coffee
	16.30-16.50	Identification of key issues per project cycle phase (in groups) and group presentation; agreement on key issues (there remains room to add the specific issues in the analysis of the individual cases)
	16.50-18.20	Analysis of case 1, 2 and 3 (three parallel groups)
	19.00-20.00	Dinner
Tuesday 08.12.98	08.30-09.00	Continuing analysis of case 1, 2 and 3
	09.00-10.00	Presentation of case analysis by case holders
	10.00-10.30	Tea/coffee
	10.30-12.30	Analysis of case 4, 5, 6 and 7 (four parallel groups)
	12.30-13.00	Presentation of case analysis by case-holders
	13.00-14.00	Lunch
	14.00-14.30	Presentation of case analysis by case-holders
	14.30-15.00	Discussion and selection of topics for further analysis
	15.00-16.00	Problem analysis of Financing of capital
	16.00-16.30	Tea/coffee
	16.30-18.45	Problem analysis on 'how to make older schemes sustainable' and hand-over of schemes
Wednesday 09.12.98	08.30-10.00	Problem analysis on 'how to make older schemes sustainable' and hand-over of schemes contd.
	10.00-10.30	Tea/coffee
	10.30-13.00	Problem analysis and presentation of results on back-up systems and spare parts management
	13.00-14.00	Lunch
	14.00-16.00	Problem analysis and presentation on monitoring and evaluation
	16.00.16.30	Tea/coffee
	16.30-18.30	Evaluation and closing
	19.00-20.00	Drinks and Dinner
Thursday 10.12.98	08.00	Departure for Nairobi and other destinations by bus

Annex 3 Background paper

COMMUNITY MANAGEMENT MODELS FOR SMALL SCALE WATER SUPPLY SYSTEMS

by Madeleen Wegelin-Schuringa,
IRC International Water and Sanitation Centre

Paper for discussion in
workshop on
Public-private partnerships in service provision for community managed water supply schemes
held in
KAKAMEGA, KENYA
7-10 December 1998

COMMUNITY MANAGEMENT MODELS FOR SMALL SCALE WATER SUPPLY SYSTEMS

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1 Introduction[1]

One of the main problems in water supply provision in Africa is the inability of the government to deliver and maintain basic infrastructure services for their growing populations. This inability is caused by the conventional supply orientation of governments which tended to produce

- an overemphasis on facilities rather than a focus on services
- an emphasis on service provision by the public sector rather than on effective approaches to complementary partnerships
- communities that expect free services
- insufficient political will to demand payment for services

But, there is a growing trend in many countries in sub-Saharan Africa to encourage rural, small town and peri-urban communities to manage their own water supply schemes, with support from the government. This trend often runs parallel to the government decentralization process that gives local government more responsibilities and is aiming for greater efficiency, effectiveness and sustainability of public services. It is based on the assumption that local government can better respond to the needs of the population and adapt strategies and policies to ensure relevance to the local context. This process requires the government agencies to change their role from provider of services to facilitator, coordinator and supporter. Both government agencies and communities face numerous constraints in this transition. In practice, little emphasis is put on developing management capacities at local level. Public agencies are still focused on construction of water supply systems, whereas the communities often lack management experience and the tools to deal properly with operation and maintenance.

Community management does not imply that communities must take care of everything or pay the full cost themselves. The idea of partnership allows for sharing responsibilities between supporting agencies and communities. The partnership is often widened to include the private sector, which may be contracted for service delivery by either of the other partners. The division of responsibilities between these partners can vary considerable, but should be agreed upon in advance. Many agencies and communities are struggling together to find solutions for efficient operation and maintenance of water supply systems and to find a strategy which assigns responsibilities to each of the partners, where each has a comparative advantage, and which places responsibilities in the whole project cycle at the lowest possible level.

This paper gives an overview of requirements for effective community management with the different partners, advantages and problems for the partners and the legal and institutional implications. In addition, different forms of community management and partnership models are reviewed. The aim of the paper is to serve as a basis for discussion during a workshop on this topic to be held in Kenya in December 1998 in which the experiences with community management in different countries in the region will be discussed.

[1] Many thanks go to my collegue François Brikké , who shared all background papers and notes of his course on Operation and Maintenance of Water Supply Systems. My colleague Kathy Shordt provided the text on Monitoring for effectiveness.

2. *Community management*

2.1 What is community management

Community management is a form of community participation in which the community takes the final decision on all important aspects in the planning and implementation of the water supply system and in which the responsibility for operation and maintenance of the constructed system lies with the community. Key aspects in community management are:
responsibility: the community takes the ownership and attendant obligations of the system;
authority: the community has the legitimate right to make decisions regarding the system on behalf of the users and
control: the community is able to carry out and determine the outcome of its decisions.
Community management is a logical consequence if the initiative to improve the water supply at the community level has come from the community, but this is not an absolute condition. Characteristic for community management is that

the community decides on:
- technology choice
- service level
- form of social organisation
- use regulations

financing mechanism

the community is responsible for:
- maintenance and repair
- regulation of use
- local management organisation
- financing

the community either owns the system or there is a clearly defined and accepted form of lease.

Table 1 gives an overview of the different degrees of community participation, starting from a low level of community responsibility (community to provide labour) to a high level of community control in which the final responsibility for decisions lies with the community. This form is known as community management.

TABLE 1: DEGREES OF COMMUNITY PARTICIPATION

Participation as a form of 'cheap labour'	Participation as 'cost sharing'	Participation done as a 'contractual arrangement'	Responsibility in 'decision making'
Community's contribution • Free construction labour • Free local raw materials	**Community's contribution** • Token contribution in cash or in kind towards maintenance	**Community's contribution** • Volunteers in committee • Volunteer as caretaker • Commitment by leaders • Contributions	**Community's contribution** • Community fully in charge with possible subsidies for capital investments; part of running costs / support
Community's involvement Only carrying out work	**Community's involvement** Only some community members	**Community's involvement** Not all community members; Contract can be commented	**Community's involvement** of all community members, including women
Role of "outsiders" Idea, planning and design	**Role of "outsiders"** Decide on contribution level	**Role of "outsiders"** Develop ideas and contract	**Role of "outsiders"** Facilitation; advice
Aim/Benefit Lower cost	**Aim/Benefit** Lower cost Cost recovery	**Aim/Benefit** Minimal local management infrastructure (local leadership, local committee, local maintenance volunteer)	**Aim/Benefit** Genuine commitment and support from whole community through participatory community education and involvement in decision making from the start
Assumption Pride will lead to maintenance	**Assumption** Contribution indicates service is valued and shows commitment	**Assumption** Legitimizes the project; local management; technology transfer through contract	**Assumption** Long term benefits and increased use and sustainability justify high investment (staff, time, costs)
Limitation Not community priority Contribution not voluntary Use and maintenance may vanish	**Limitation** Commitment only from some Not all involved: e.g. women: the users; System rejected if major break downs	**Limitation** Not all villagers may be involved in decision. Contract not fully understood. Selection of committee and care taker too hastily; willingness to pay can be poor after some time	**Limitation** Requires highly trained and motivated staff; Difficult, time consuming, expensive

2.2 Requirements for community management

The requirements which the community has to fulfill in order to be able to manage a water supply can be divided in requirements pertaining to the ability to manage and requirements pertaining to the willingness to manage. Some of these requirements can be attained through training and skill development, others can be attained by improved organisation. But many are beyond the scope of influence of the community and in pertaining these, assistance is needed from government agencies in their role as facilitator.

Ability to manage

- availability of technical skills
- availability of management and problem solving skills
- community cohesion
- complexity of technology
- availability of spare parts
- ability to pay
- legal framework
- policy factors
- back-up support
- availability of information

Willingness to manage

- relative demand for water
- quantity, reliability and perceived quality of existing sources
- perceived benefits of improved services
- level of equity in likely distribution of benefits
- acceptability of technology
- acceptability of service level
- willingness to pay
- opportunity cost of improved services
- perception of alternative management options
- reputation of service agency
- political factors

2.3 Advantages and problems of community management

There are many factors which influence the willingness with the community to manage a water supply. Where it is within the scope of community influence, these factors can be overcome. This however, is fully dependent on the advantages the community perceive from community management. Some of these advantages may be:

- development of the water supply is based on community demand
- the level of service is based on community demand and community willingness to pay
- community knowledge is used
- community becomes less dependent on outsiders/external agencies
- the cost recovery and payments system will be adapted to community conditions
- community management capacity will be improved
- community will own or lease the system
- it will increase community confidence
- it may enable the community to embark on other development efforts

There are also common problems associated with community management which often are rooted in the establishment of a water committee. Authorities usually require communities to establish water committees for the planning and management of the water supply. These new committees are established on the assumption that existing or alternative forms of organization are inappropriate. This may be the case in many situations, but experience also suggests that existing structures and committees may do

the job just as well. The newly elected committee anyway often has the same 'function bearers' as have a seat in the existing committees. However, equally often, these persons do not have the time to carry out the tasks they are supposed to do, affecting performance of the committee. It is therefore essential that the tasks and responsibilities of the committee members are understood by all before the election process takes place. Disadvantages associated with community management further include:

- committees fulfil their responsibilities during the construction phase but fail to continue their work after commissioning
- committees only become active when there is a breakdown. In the time between breakdowns committees feel there is no need to meet or even collect maintenance fees
- committees tend to break up shortly after their formation due to lack of regular activity
- forceful personalities dominate the committee
- unlimited terms of membership result in reduced interest and participation by some members
- the handling of funds can be a focus for conflict, the treasurer tends to drop out most often
- conflict between the decision making role of the committee and the authority of the traditional leaders
- overdependence on external support from agency staff
- internal communication friction
- overlapping roles especially the involvement of the chairperson and secretary in the handling of funds
- a high turnover of male members compared to female members due to their greater mobility

2.4 Legal implications for community management

In most countries, communities have to get registered in order to be allowed by the government to manage their water supply. Usually, this registration for 'self-help' groups is available from the Ministry of Social Services, and communities can register themselves quite easily. However, there are usually also other forms of registration which give communities more power and more legal status to properly manage their supplies. For instance, ownership issues pertaining to land, assets and right of access may well be different for different types of registration. The same applies for the right to sell or the right to sue. Where different forms of community registration as an autonomous body are possible, the pros and cons need to be clarified to the communities themselves. These pros and cons may refer to :

- registration cost
- time needed for registration
- location of office for registration
- requirements for registration (for instance amount in bank account, membership)
- legal status of registration and consequent authority to act (buying and selling, contracting)
- legal power to pursue non compliance by community members
- preparation of by-laws to guide operations
- qualification to receive funding support
- qualification to receive 'handed over' schemes from the government

- possibility to embark on income-generating activities with water from the water supply scheme
- possibility of ownership of land
- possibility of ownership of assets

2.5 Forms of community management

Forms of community management vary according to the size of the community, the technology used, the local context and national legislation. Basically, community management operates through a Committee whose members are elected by a General Assembly of users. The following forms can be found :

- **A Tap or Neighbourhood Committee**
  Responsible operating and maintaining a specific water point.
- **A Water Committee**
  Responsible of all activities (managerial, operational, technical and financial) of a particular scheme, covering a larger area than a neighborhood, possibly the whole community.
- **A Village Association**
  The village association is responsible for all development activities, and is also overlooking water and sanitation.
- **A "coordinating" Water Committee**
  The committee coordinates several other smaller tap / standpost or neighborhood committees. The water committee is responsible for managerial and financial matters, while the other committees are responsible for operation, maintenance and collection of fees.
- **A Water Committee contracting a private body**
  A water committee contracts a private body, an individual, a mechanic, a group of artisans, or a firm to operate and maintain the system, while it keeps the general management and control role.
- **Delegated responsibility by local authority**
  While ownership and decision-making is done by local authority, a water committee operates and manages the system.
- **Inter-community Federation of Committees**
  Several communities share the same pipe or water source; each community has a water committee, which operates, and maintains its own water point, and collects fees. Part of the collected fees goes to an Association of committees for maintenance of the whole system (pipes, source).

3. *Public agencies and community management*

3.1 Requirements for Public Agencies to support community management

The first and probably most difficult requirement for the public agency, be it at district, provincial or national level is the change from provider to facilitator, coordinator and supporter of the communities in the management of their water supply. It means that the staff will need to adjust their attitudes. Instead of making all decisions themselves and giving instructions to the community, they will need to listen to people's views and ideas. They will need to answer questions communities ask on technical options, costs, reliability, service levels, requirements for operation and maintenance etc. In addition, they have to become flexible and able to make compromises between the technical efficiency of a scheme and the non-technical factors influencing the wishes of the community. In order to carry out this role they need:

- skills to communicate with the community
- belief and motivation to assist the community
- adequate resources such as transport and materials
- time to allow the communities to make their decisions

Usually, extensive training is required to change the outlook of the government staff and to motivate them for working in a different way. Staff in their new role, need to have knowledge and skills to communicate health and hygiene messages. Since health and hygiene is the domain of women, the employment of female staff will help encourage and enable women in communities to participate in the partnership. This may be more difficult than it sounds, as engineering has in many countries been the almost exclusive domain of men. Thus training is necessary to make staff gender aware. Finally, agency targets and staff achievements should no longer be measured in terms of systems built but in the capacity of communities supported by the agency to plan, implement, maintain and use their water supplies efficiently.

3.2 Advantages and problems for Public Agencies to support community management

As with communities, agencies will only be interested to support communities if they perceive community management as an advantage. One direct advantage, which will be felt at the most operational level, is that when operation and maintenance of the water supply is the responsibility of the community, the burden to the agency of routine servicing and maintenance and repairs is reduced. Other factors of advantage at this level are:

- improved cost recovery which collection is no longer a burden for the agency
- more willingness to pay for services which are no longer regarded as government services which need no payment
- reliability of systems is improved by local management
- activities of the agency can be better planned as 'emergency' trips are no longer or less necessary

Advantages at a higher level are:

- government resources are inadequate to supply water without partnership with communities
- government alone cannot satisfy demand in terms of staff availability
- the funds otherwise used for operation and maintenance can now be used for extension and/or rehabilitation of existing supplies or for assisting communities in the development of new supplies.

The disadvantages for public agencies to support community management of water supplies are:

- loss of power, status and influence
- loss of chances of making some extra money through tendering procedures
- it takes more time than supply driven approach
- more difficult to standardize approach
- support services required are of a more complicated nature
- it may be more difficult to satisfy both political and community demands

3.3 Legal and institutional implications for supporting community management

Changes in existing legal frameworks may be necessary where they hinder rather than encourage the establishment of autonomous bodies for the management of water supplies. Legal provisions may need to be amended to allow for community administration of funds, the legal status of water committees and the community ownership of public assets. The legal responsibility for maintaining a water service may need to be redefined.

The new roles of community liaison and source of information and communication, training, hygiene promotion and financial advice requires staff with the requisite skills. This may mean appointment of new staff, secondment of staff from other government departments, contracting of consultants and private sector advisers or retraining of existing staff. Moreover, the multidisciplinary approach requires the integration of professionals from non-technical fields and closer cooperation with other government departments. This in itself is a challenge as existing practice does not always provide for the easy integration of different disciplines and government departments.

The change from provider to facilitator also require agencies to review and adapt the roles and responsibilities of the various staff members involved in the support of community water supply. For instance, different monitoring mechanisms are necessary whereby communities get involved in monitoring at local level, while district staff monitor and check different indicators and spot-check monitoring at community level. Monitoring furthermore needs to get away from monitoring just watersupply to also monitoring the environment. This all needs careful planning and implementation in co-ordination with levels below (community) and above (provincial)

3.4 Forms of support to community management

Decentralisation of functions from national to local government has major implications for organisation at all levels, including community management. With decentralisation, the functions of the different levels could be divided as follows:

Level:	Functions:
National	• policy • legislation • inter-departmental coordination • donor co-ordination • strategies and guidelines • national monitoring
Regional	• monitoring • resources support • capacity building
District	• planning • implementation • management • capacity building • monitoring • support
Community	• implementation • management • monitoring

Management models for water supply range from highly centralized government systems to localized community management. Partnership between local agencies and communities should be seen as a flexible and evolutionary process, requiring continual dialogue. The sharing of responsibilities and costs will vary according to type of supply and stage of development of the partnership. Some communities will want and be able to manage a major share of responsibilities from the outset, others will need to start with a low level of responsibility and gradually build up experience and confidence.

The partnership between government agency and community means joint decision making from the start of a project. This is essential if the choice of technology and scheme design is to meet the community's needs, demand and capacity to operate and maintain the system in the long term. The partnership continues through every stage of the project from feasibility to construction to the management of O&M.

Forms of support in the different stages pertain to:

pre-planning **pre-planning**	• planning and design data such as estimation of water demand; review of suitable sources with community; assistance with assessment of present water supply • evaluation of data such as indication of technology options, assessment of attitudes to community management; assessment of training needs • policy issues such as cost estimates; financing details and cost recovery proposals
planning	• technical data on hydrogeological survey; water quality • assistance to community in selection of technology, service level, cost recovery mechanisms • planning on hygiene education, community mobilization, management training • preparation for tender, assistance in decision making to community
design and construction	• assistance in deciding on: number and location of standposts; design of standpost and taps and lay-out of site • design flows, network design; drainage • construction responsibilities community/contractor/agency • training for construction supervision • assistance in supervision and monitoring of construction • training for operation and maintenance
operation	• monitoring operation, management
maintenance	• maintenance training • ensuring proper spare distribution • ensuring standards and tariffs for repairs • facilitating repairs • major repairs if no private sector
monitoring	• community level performance • environmental conditions and effects • repair costs and standards, spare parts

4. Commercial private sector and community management

4.1 Private Sector

There is an increasing trend towards greater involvement of the private sector in both construction and upkeep of water supplies. Public agencies are often criticized for their inefficiency, burcaucracy and general inability to get on with the job. This may be for many reasons, including as lack of funds and poor staff incentive to give a satisfactory service. People or companies in the private sector, however, have a far greater incentive to complete a job: they need to make a profit. It also brings potential advantages of flexibility and cost effectiveness to both construction and operation and maintenance activities. However, private sector involvement may be affected by limited demand and by the poor profit margin in rural communities and small towns. Where little or no competition exists, charges are likely to be higher rather than lower, which in turn will affect demand. Therefore, the impact of the private sector will very much depend on circumstances.

In the absence of supervision or inspection and regulation, there is a problem of private sector accountability. Communities who contract services from the private sector need to be sure that they get a job well done and at a fair price. To some extent, communities themselves can monitor the quality of the work, but they need to know what to look for and this may, initially, require training and/or external assistance. If the private sector activities need to be promoted, safeguards must be instituted to ensure cost-effective minimum standards of work. Any such monitoring and regulation will have a cost which the government will need to meet.

The private sector encompasses a range of individuals, organisations and companies from the village plumber to international companies manufacturing pumps and diesel generators. Private sector participants which can contribute to community managed water supplies are:

Individuals
- Mechanics
- Plumbers
- Blacksmiths
- Accountants
- Administrators

Small businesses
- Building contractors
- Plumbing contractors
- Suppliers of technical goods

Large contractors
- Civil engineering
- Drilling
- Construction engineering
- Pump manufacturers

Both the water agency and communities, through their water committees, can enter into contracts with the private sector. This can be for a range of work associated with construction and operation and maintenance:

Construction:
- siting
- drilling
- pump installation
- apron construction

Maintenance:
- routine maintenance
- major repairs
- minor repairs

Operation:
- pumping
- treatment plant
- water sales
- transport of water

Revenue collection:
- meter reading
- billing and collection
- debt collection
- auditing accounts

Supplies:
- spare parts
- oil and fuel
- equipment
- tools and materials
- chemicals for treatment

Many of the above tasks can also be carried out by the community itself. The smaller the community the more likely that they will carry most tasks themselves. But in cases where the water supply scheme is covering more than one village and is of a more complicated nature, it may become attractive to involve the private sector.
There are cases where water supplies serve both private companies and the public. The following case illustrates this kind of arrangement.

> *A canal from a river intake transported water over a distance of 10 km for the use of a mining company in its mines. The canal carried far more water than the mine needed and so the water agency was able to install pumping and a treatment plant to serve several communities at different points along the canal. It was in the interest of the mining company to keep the water flowing in the canal so they ensured the intake and canal were well maintained. The water agency looked after the pumping and treatment plant. Each community took responsibility for its own branch line and standposts.*

Similar partnerships are possible in smaller agricultural communities where water is required for growing and crop processing, e.g. tea estates, coffee washing, etc. However, safeguards may also be required to guarantee the public an agreed share of the water. A formal agreement may be advisable to protect the interests of the community dependent on the supply.

A problem that both private sector individuals and companies may have, is a lack of specific expertise in the tasks associated with a piped water supply. Further training will then be required. The water agency could provide this training and monitor the work done, but this training can also be given by the private sector such as private training institutions. The private sector also includes national or international NGOs. They are considered private sector as they also need to be paid for their services, be it from a local source or paid for through a donor.

4.2 Intermediate organisations such as NGOs

Traditionally, local, national and international NGOs have worked closely with communities and have often proved to be an interface with government agencies to facilitate the joint development of schemes. NGOs tend to be more flexible than formal water agencies

which enables them to integrate different aspects of water supply such as book-keeping and management training, hygiene education and technical maintenance training There are, however, some negative aspects of NGO involvement. First of all, by involving an NGO, government agencies have an excuse to not develop their own capacities to perform the responsibilities they have as facilitator of community management. Secondly, with the insistence of many external support agencies on developing water supply systems with the help of NGOs, organisations have proliferated and often are no more than a one or two (two)man show with private gain as the goal. This situation tends to be aggravated by the decentralisation drive in many countries where district government agencies are simply not able to perform the functions which are required from them in the new policy. They therefore hire local NGOs which have no experience or qualifications and whose activities do often more harm than good to the development processes in the communities. It is therefore essential that some form of control is exercised and experience records are assessed, similar to those that have to be used to safeguard the activities of other private sector participants.

4.3 Spare parts supply

Whatever maintenance system is planned, it will only succeed if there is a ready supply of spare parts available when needed. There is a clear duty on the agency promoting community managed water supply programme to establish a means for the community to obtain any spares needed quickly and affordably. Standardisation and close co-ordination of different schemes operating in the same district must be ensured, as well as availability of the parts in the country itself. If at district level an effective maintenance system is established, there may be enough of a market for regularly needed spares for retail outlets to stock them or for the area mechanises to hold their own stocks. Spares supplies can be greatly simplified by adoption of a servicing schedule, by which all pumps are visited at regular intervals and specified parts are replaced, irrespective of the condition of the pump. This maintenance strategy means that mechanics only need to ensure that they carry standard spares packs and replacements can be made available according to the service schedule.

4.4 Financing of community managed water supply

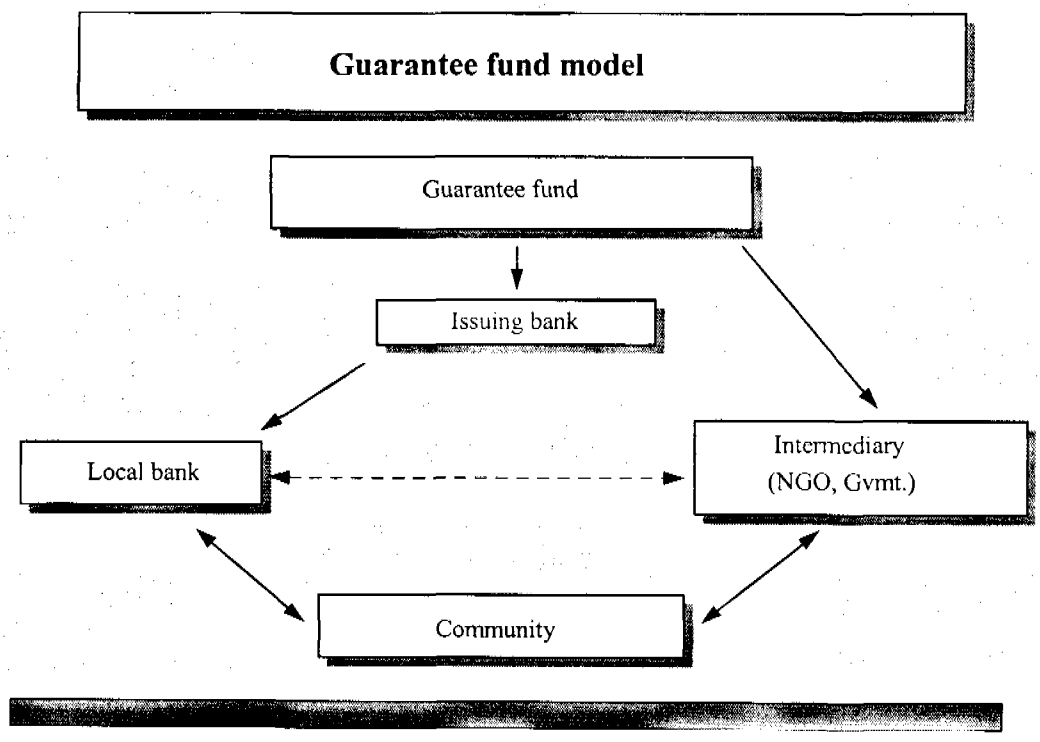
Even small water supply systems require investments, operation and maintenance. These are often costly and thought to be beyond the financial capacity of the community, However, experience shows that communities are willing to shoulder portions of the investment costs and to pay for full operation and maintenance provided the process leading to community management as mentioned in chapter 1 has been followed. The full cost of the construction of a system can usually not be met by the community immediately. Hence, if not enough local savings can be mobilised, the money needed for construction will need to be borrowed or provided through a grant. Banks are generally reluctant to lend to poor communities as they cannot offer sufficient land/buildings as collateral.

Two ways of financing water supply systems for poor communities can be distinguished: household credit and community credit. The distinguishing features are: loans size, identity of the borrower and lending institution. Micro-credit for households can be obtained as a home-improvement loan through regular banks with specialised departments or through other financial intermediaries such as micro-credit institutions.

One of the best known of these is the Grameen Bank in Bangladesh. This bank makes loans for income generating activities available , but also for water supply, probably on the ground that water supply is a necessary ingredient to the ability to make money. Loans are made to individuals that belong to a small group. Group pressure is used to enforce timely repayment.

Another modality is the community-based lending. This type of lending reflects the view that the infrastructure to be built benefits the entire community. The communities usually do not have a formal public status, are no legal entities and it is therefore difficult for formal sources of credit such as banks to transact with them. Moreover, loans for water supply tend to have a long pay back period, often longer than the lender will allow. Involvement of banks in community water supply could be effected by:

- the formation of a specialised community water supply fund founded or supported by banks, government and private interests. This fund would also have the technological and social organising skills needed to assist the community in creating the system. An example of such a fund is the Mvula Trust in South Africa. This fund also gives loans financing local entrepreneurs (tools, transport, facilities etc.) wishing to enter the market in service of water and/or sanitation provision for poor communities in any stage of the project.
- the formation of an international or national guarantee fund that would in turn feed and work through local affiliates, to persuade banks to make loans. The issue of an acceptable bank guarantee requires a creditworthy party usually backed by cash. This leads to a guarantee fund. The fund would be used to obtain, through cash leverage, a bank guarantee in favour of a local bank, which makes the water supply loan. The mechanism of the guarantee fund is considered a promising option to mobilise bank funds to finance water supply systems because of its possible multiplier effect. Examples of such guarantee funds are the Swiss RAFAD (Research and Applications for Alternative Financing for Development) and the WWB (Women's World Banking) and the UNCDF (United Nations Community Development Fund). (Hartvelt and Deiters,1977)



5. Sustainability of community managed systems

5.1 What is sustainability

A service is sustainable when:

- it functions and is being used,
- it is able to deliver an appropriate level of benefits,
  (quality, quantity, convenience, desired service level, continuity, affordability, efficiency, equity, reliability, health)
- over a prolonged period of time,
  (which goes beyond the life cycle of the equipment),
- without negatively affecting the environment,
- and when all O&M and replacement costs are covered,
  (through user fees, or innovative financial mechanisms)
- its management is institutionalized,
  (community management; gender perspective; partnership with local authorities; involvement of formal (informal) private sector)
- with feasible external support.
  (technical and training support)

5.2 Factors which influence sustainability

Social:

- awareness
- behaviour
- participation
- management
- ownership
- gender perspective
- socio-cultural factors
- technical skills
- willingness and ability to pay

Technical:

- choice
- norms
- low-cost technology
- know-how
- service level
- spare parts
- complexity
- O&M cost

Environmental:

- quality of water source
- quantity of water source
- continuity of water source
- environmental protection
- fresh water management
- waste water management
- reduction of risk factors

Financial:

- users pay
- affordability
- full cost recovery
- access to credit systems
- innovative financial mechanisms
- water has social and economic value

Institutional:

- sound regulatory context
- sound legislative context
- enforcement policy
- public-private partnerships
- public-private partnerships
- belief in community management
- communication skills
- positive relationship with communities
- decentralization

5.3 Processes which affect sustainability

- Demand from the communities
- Community education processes
- Responsiveness from the supporting institutions
- Participation of the committees throughout the project cycle
- Linking technology choice with operation and maintenance
- Integrated planning (sanitation, water, hygiene, environment)
- Integration of technical and social issues
- Decentralization and transfer of responsibilities and resources
- Capacity-building at all levels
- Communication among stakeholders
- Monitoring for effectiveness

5.4 Monitoring for effectiveness

Monitoring, in the sense used here, is meant to be a continuous set of actions that improve project performance over the short-term and influence the impact over the long-term.

Many organizations concerned with water and environmental sanitation are at a disadvantage in dealing with variables requiring detailed knowledge of users and schemes that can cover hundreds or thousands of kilometres. With limited field staff, it is difficult to survey, make plans, collect reports and monitor for large populations or over wide areas. The involvement of those groups who have a vested interest in monitoring seems to be a logical solution. This includes mid-level, implementation and extension staff, members of local management organizations, NGOs, contractors and, particularly, community members.

Monitoring is best conducted in partnership among these groups. It should stimulate two-way flow of information between communities, districts and agencies, and ensure that programmes can adapt and change to fit local circumstances. It should work for sustainability, sound and transparent finance, control of costs, improve service levels and use of those services by groups in greatest need.

Some principles for this approach include:

- Consult the communities, management, and stakeholders at various levels. What problems and issues are of interest? What are indicators and criteria to which the stakeholders agree?
- Plan for the use of monitoring information from the beginning... at the lowest level that can act, with provision for referrals to higher levels as needed. This means that the collection and use of monitoring information differs at the community, district and national levels.
- It is necessary to have indicators that can easily and cheaply be measured. In data collection it is better to be almost correct, cheap and timely rather than exact, expensive and too late.
- Involve stakeholders in managing monitoring. Use participatory approaches. Combine quantitative and qualitative strategies.
- Keep the data analysis as simple as possible and ensure that the information does not become blurred through data processing. Straightforward data is more convincing.

- Ensure extra checks (triangulation) for validity. Organize referrals to other levels if the expected action to monitoring information is not taking place.
- Train or orient all those involved. Build capacity and facilitate in-built systems which are managed by those who have a vested interest.
- Use different approaches and tools (such as participatory evaluation, audits, process monitoring, quality control) depending on the situation.

6. Conclusions

The viability of a community management and partnership approach is to a large extent dependent on the establishment of mutual trust between the government, the private sector and the community. The partnership should be a hybrid of comparative advantages and goals for each of the partners. Thus to get the respective roles and responsibilities right is the first prerequisite. It also means that each partner has to be responsive and accountable to the other: transparency. This can be covered in the contracts the partners have with each other, but to a large extent the trust has to be built over time. The perceptions that agencies and communities have about each other run rather contrary to building trust:

agency/staff

- cannot be trusted
- never do anything real
- will undertake project that will make life more expensive
- want to impose changes
- are not interested in our needs
- try to please leaders
- work in interest of politicians
- have a bossy attitude
- more concerned about the rich in the community
- will deliver 'good' that are needed
- vehicle to further development
- snobs, no gender outlook

community/residents

- cannot be trusted
- ignorant
- do not know what is good for them
- eager to receive benefits from 'above'
- obstacles for efficiency
- cheap labour
- disorganized
- homogeneous
- need to be controlled
- united in needs/interests/aspirations
- have a right to decide
- leaders: useless; useful; think of their own interest; represent community;

On the basis of experiences in different community management projects, an overview can be made on the conditions that make community based management and partnership work:

Community needs to:

- Information to make choices
- management (organizational, communication, financial)
- technical skills
- management structure
- to be consulted and have a voice that is heard

Agency needs to:

- Provide information (accurate and timely)
- be trusted by the community
- have a responsive mechanism(be flexible)
- appreciate local knowledge and resources
- ensure access to appropriate technologies

- to be trusted by agency
- resources (financial, materials, services)
- agency support
- authority
- willingness (participate, take up responsibility)
- to appreciate the use of facilities
- communication channels
- working relationship with relevant parties
- to indicate clearly what it can handle/ where its limits are
- ensure access to resources
- recognize local authority
- assist in obtaining legal status
- be willing to part with authority
- motivate community and raise awareness
- help create/maintain community channels
- facilitate contacts
- accept limitations of the community
- indicate its own limitations

Private sector needs to:

- keep to its contractual obligations
- keep open channels of communication towards both partners, government and community
- be responsive to demand expressed form the community
- clarify to government and community under which conditions involvement in water supply is sufficiently attractive and sustainable

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Annexes: Case Studies

Annex 4 Management models of the Rural Water Supply and Environmental Programme, Ethiopia

MANAGEMENT MODELS OF THE RURAL WATER SUPPLY AND ENVIRONMENTAL PROGRAMME, ETHIOPIA

Presented in an IRC/NETWAS workshop
7-9 December 1998, in Kakamega, Kenya

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B. MANAGEMENT MODELS OF THE RWSEP, ETHIOPIA

1. SHORT DESCRIPTION OF THE SCHEME

1.1. Technology and source of water

The applied technology is based on the assessment of experiences in the country and the feasibility of some other technologies [bucket and rope, stone lined wells, tile lined wells etc.] used in other countries. The present technology comprise of closed water points with hand pumps and concrete ring lining and spring development. Design is attached .

Technology is simple and construction works have been carried out by the trained artisans [six weeks' training]. Concrete rings are cast on the site using mould made by a private contractor at the regional level. Cement and sand are purchased directly by the woredas. Assets from outside the woreda level are mainly the pumps, mould and reinforcing bars. VLOM-capacity pumps are installed to enable communities to take care of the preventive maintenance and minor repairs.

Afridev lever action and direct action pumps were chosen by programme office and the regional WMERDB, taking into consideration the technical requirements that VLOM pumps posses in terms of community-based management and considering the average water table of the region. Afridev is technology already familiar to the region but direct action pumps were introduced as new technology. Previously Indian Mark II and III were predominating but because of the maintenance requirements at the local level the choice has shifted towards the VLOM types.

1.2. Area and number of people served

On average 350 people residing around 15 to 30 minutes walking distance get service from one point and average consumption per household ranges between 30-40 litters. The total population served by the clean water supply in the 12 woredas and 203 kebeles is 206 500 (590 points x 350 people). The total area of the 12 programme woredas is about 13 526 sq km and the total population is estimated to be 1 903 985. The total clean water supply coverage after the Phase I intervention of RWSEP is 13.7%.

1.3. Use of water

Water is primarily used for the purpose of drinking and cooking and brewing local beer (tella). Majority of the water points have washing basin for laundry and furnished also with cattle trough. These additional structures some times have pipe connection to the source to collect water leftover, or in some cases they are separately constructed and water is brought into them

in containers. In times of low availability of water, the use of water from the constructed scheme is limited to drinking and cooking only. For less pressing activities like laundry and animal use, traditional sources are used.

1.4. Reason for scheme

The intervention started based on a need. It responds to the quite low 5% clean water supply coverage in the rural area. Accordingly, increasing the clean water supply coverage has been identified as an essential priority in the the Amhara Region Five -Year Development Plan. Target is to reach 32% water supply coverage by the end of 1999. Being part of the Five-Year Plan implementation, the RWSEP is reflecting the needs of the Region and the existing national policies.

At programme level, in order to ensure that the direct needs of the communities were reflected in the programme, prior to the programme planning workshop, PRAs were undertaken in selected communities to incorporate the views of communities, first, into the discussions at the programme planning workshop and secondly, into the programme document. Issues related to the implementation mechanisms at the community level, problems and solutions etc. were discussed during the PRAs and form the basis for the physical intervention mechanisms, institutional structure and the strategy/approach. Water supply was identified to be an entry point for the community level intervention. This confirmed that the need expressed at the policy level is also a need at the community level.

Majority of community plans also rank water supply as a number one priority or in some cases put between 1st to 3rd priority order which again confirms the need.

Programme is not demand- based in a sense that it would directly respond to the requests of communities or following an assessment result. It proceeds in a given geographical area which enables taking into consideration institutional, social, and technical aspects of intervention which enables to more sustainable development.

Cost of the scheme

The average construction cost of one hand dug well including the pump is BIRR 15 000 which is about 2000 USD and that of spring is 1600 USD. Communities contribute wood, rocks for gravel and labour which decreases total costs. Contribution of local materials and labour has been high during the Phase I.

The total costs of the programme by the Finnish Government were FIM 26.5 million. If the technical assistance, and the implementation including all budget lines are divided by the number of water points [590] (excluding all other construction works and logistics) i.e. construction of three semi-urban piped water schemes, VIP latrines, rehabilitated water points and environmental inputs) the cost per water point is only FIM 44 900 (BIRR 58 370). By comparing the cost only to the implementation costs [FIM 19 117 997], the cost of one water point is FIM 32 403 [BIRR 42 124]. This already equals to the cost charged by the WWCE per water point (hand dug well/spring protection). Cost per water point becomes drastically low if cost for capacity building, both human resources development and logistics support; and small rural centers water supply investment are deducted from implementation.

2. COMMUNITY MANAGEMENT EXPERIENCE

The RWSEP planning process starts from community plans which are identified through Participatory Rural Appraisal (PRA) that show the vision of their development for a 4-year period. The community identifies and prioritises their needs according to the order of importance. Based on the needs a 4 year plan of operation is prepared. The 4 year action plan depicts community's contribution, implementing body, external support etc. PRA tools are employed in order to incorporate the needs of all members of the community particularly that of women. Community planning and multi sectoral plans adopted by RWSEP lead to community based goals and increases ownership by all partners.

2.1. Legal status of management

Tripartite agreement is signed between the KCC, artisans, and the WCC before start-up of construction inorder to ensure the realization of community participation commitment, legal contract of artisans, and the timely supply of construction materials, and facilitation by the WCC. After construction has been completed water points are officially handed over to WATSANCOs by KCC after signing a tripartite agreement document. The document specifies the responsibilities of the WATSANCO, KCC, and the community ensuring uninterrupted and proper water supply and sustained services. This means that the asset or the water point is owned by the community. Land for water supply scheme is allocated by the kebele administration from communal holding. As the KCC chairperson is the kebele chairperson in the government administration structure the KCC is directly linked to the woreda. Construction of water points is done by artisans who are taking responsibility as private contractors. The process of forming artisan association is on-going. The association will serve as a facilitator legal linkage between artisans and clients.

2.2. Election/selection process, composition of management

As part of the participatory planning exercise the community nominates WATSANCOs that are responsible for the organization of the community during the construction time. After construction has been completed they are responsible for the management of the water points. The committee comprises of five members out of whom at least 2 are women. Members are elected by the community freely in a democratic manner during the planning process. Each WATSANCO is responsible for the management of one water point. The WATSANCO is accountable to the Kebele Coordinating Committee. The members of the WATSANCOs are selected by using criteria to ensure that the composition meets the desired level of responsibility bearing capacity. At least two of the members should have basic elementary education, at least two members should be women, at least one of the members should have high social value.

2.3. Organizational structure

The structure of the RWSEP is presented in the organogram.

2.4. By-laws, rules, regulations, responsibilities, control mechanism

2.4.1. Responsibilities

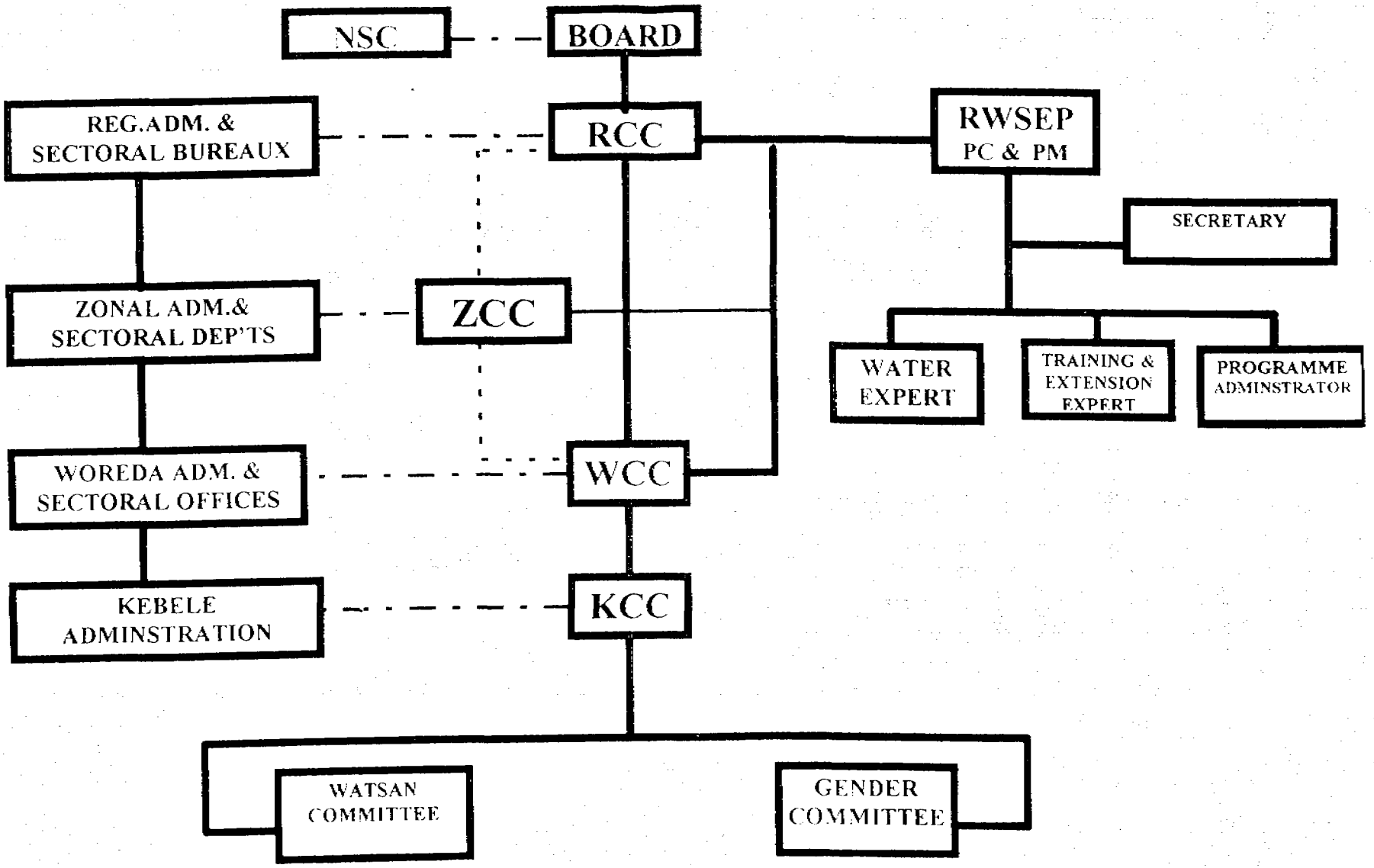
Community level

During the Phase I a functioning decentralised system based on strong roles for woreda and community was operationalized. At the community level each 203 communities have established the Kebele Co-ordinating Committee (KCC), Water and Sanitation Co-ordination Committee (WATSANCO) and Gender groups and selected a Reporter.

KCC

The community chairperson heads the KCC. Chairperson is part of the government administration, which reaches to the community level. The other four persons are selected by the community during the community planning to represent the community. Two members of the KCC are women. The KCC is responsible for the overall co-ordination of the development interventions related to the programme and the implementation of the community plan. The KCC ensures that the quarterly monitoring meetings are held at the community level to assess the progress of the plan implementation. KCC as the co-ordinating body is to bring together the interest/management groups at the community level: WATSANCO and gender groups. Prior to start up of any physical or training activities the community chairpersons were sensitised in the programme activities, which was followed by training of the KCC as a whole after completion of the community representative selection.

RWSEP ORGANOGRAM



WATSANCO

WATSANCO is responsible for management and monitoring of the activities related to water and sanitation. It comprises three men and two women selected during the community planning. WATSANCOs organise during the construction the availability of community inputs. They hire the guards or organise the turn-by-turn guarding depending on the decision of each community. They are also responsible for collecting contributions to the O&M fund and to supervise the work of the pump attendants. They are trained in sanitation aspects and promote cleanliness at the water point and the surroundings. They are also trained in construction of Sanplat latrines and provide technical assistance in construction. They report directly to the KCC.

GENDER GROUP

The gender group is established during the gender training to promote continuous discussion on gender issues at the community level. The group is to ensure that during the community planning the gender issues are reflected and the priorities of women incorporated. They are also responsible for monitoring the implementation of income generating activities. In the quarterly meetings they monitor the community plan implementation from the gender perspective.

2.4.2. Control mechanism

REPORTER

When the number of communities involved in the programme rapidly grew it was realised that there is a need to strengthen the direct linkage between the community and woreda for the woredas to be able to rapidly react to the needs of the community. Reporter, who usually is a school teacher from the community, is preparing 15-day reports on the progress to the KCC and the woreda: strengths and weaknesses; problems arisen and solutions proposed. Reporters as the secretary/member of the KCC have performed an increasingly important role in the organisational aspect and in M&E. They are considered as "programme managers" at the community level and will be further trained to assume the increasing duties. Reporters are usually teachers and they are remunerated for their services, the sustainability of which has to be looked into.

WOREDA SUPPORT IN AUDITING

The performance of WATSANCOs requires close follow-up to enable smooth start-up of O&M fund contribution of the water point at the community level. The collection system and reporting has been linked to the activities of the woreda accountant who is responsible for the programme accounts. This enables information flow to the programme office on the amounts collected and

serves as periodical auditing support to the community's O&M fund. This ensures as an additional guarantee set against financial mis-management and a technical backstopping support to the WATSANCOs.

2.4.3. By-laws

According to the result of the quarterly assessment carried out on selected water points, non-paying members are still collecting water even without payment. The opinion of the paying members regarding the usage of the water points without payment shows that the majority don't accept use without payment , but are willing to allow use without payment if and only if the non paying members are poor. O&M contribution collection time has been suggested to be during harvest time. Apart from cash contribution communities have a number of arrangements for guarding and care takers responsibilities by in-kind mechanisms . Some examples of such arrangements are turn by turn guarding, and providing small plot of land for the use of care takers.

2.5. Training received

In the RWSEP community level capacity is built and strengthened through an extensive training programme in diversified thematic and management fields. The central idea in the objective of training is that , training should always be followed by action, or is an input to a future action. Training is designed with a specifically set objective of what the trainees will be able to do after the training. The training methodology is suitable for adult and was developed with the texts and manuals. Evaluation hints to assess the achievement of training objective have been developed and used in subsequent assessments of training outputs.

Training for WATSANCOs and KCCs on their roles and responsibilities as regards the O&M Fund collection was undertaken in all woredas. The main emphasis deals with the role of the KCC and WATSANCOs and how they are linked to the woreda structure plus method of financial collection and financial administration. They are provided with financial manuals and financial transaction formats which used in the course of managing the scheme. The skills acquired during training are further strengthened through constant M&E meetings and supervision by reporters and woreda experts.

Capacity of the regional, zonal, and woreda experts has been increased through various thematic and management training inorder to respond to their role as facilitators to the community level activities.

At the woreda level the office of agriculture handles the financial management. Personnel have been trained in the financial management and logistics in all 12 woredas. At the zonal and regional level there has not been a need for training since the woredas are independently handling the financial management.

2.6. Approach to demand assessment and demand management

The programme woredas have been identified in the programme document as per the decision made by the Ethiopian government. In the selected woredas kebeles for the programme intervention are predetermined by the woredas. Demand assessment is carried out through community planning using the PRA approach in the selected kebeles only.

2.7. Overview and approach of decisions made

2.7.1. Technology

Choice of technology level was made by the region and the programme. VLOM types of pumps were identified, and they substituted the commonly used Indian Mark II and Mark III. The community, particularly women, participated in the design of the schemes. This was paramount in meeting the desires of the community. One example is the small circular depression in the upper structure under the pipe which serves as a pot support. It allows the oval shaped pot to stand without any support during water collection. The height of the apron has been raised to a level that allows women to lift the pot and carry on their back without assistance. These design changes were made following the comments of local women on the conventional design.

2.7.2. Site selection

Water supply sites are selected by the community during community planning. During the process the user population of one water point is identified by the community. This ensures that the water points will be used. They are sited in areas convenient for water collection and where the users of the water point are likely to take the responsibility for implementation, operation, and maintenance. Site selection is an area of big dispute by the communities because of the dispersed spatial settlement pattern in rural Ethiopia.

Women also have role in site selection process. The PRA methods used give due emphasis to incorporating the women's interest in site selection because the water fetching responsibility is exclusively theirs. Technical confirmation regarding potential of water resources takes place after the community's interest is known. However this has not been realised due to the shortage of geologists. Discrepancies have been observed between the community and geologists during

site selection.

2.7.3. Level of service

The programme has determined four water points to be constructed per community with small room of flexibility to adjust taking into consideration the population and area of each kebele and the funds available. The level of service is determined based on the set target of reaching 32% coverage in regional Five-Year- Plan. The role of the programme is exemplary and experience is seen more important than fulfilling the need for 100%.

2.7.4. Protection and use

After construction has been completed the protection and use of the water points are the community responsibility according to procedure they decide. Decision on how much to contribute, when to contribute, who should contribute, type of contribution, how to use service, are that of the community. The procedure of keeping water points clean, guarding and maintenance is decided by the community themselves.

2.7.5. Tariff and method of collection

Tariff and method of collection are set by the community. WATSANCOs five members have divided the following roles amongst themselves: bookkeeper, treasurer, auditor, store keeper, and chair person. Treasurer's role is rated to be the highest by the community, since effective cash collection and proper adminstration guarantees increased confidence to contribute. Usually treasurers are selected based on their social and economic status, and reputation of honesty and trust.

2.8. Community management experience: successes; problems; constraints

SUCCESSES	PROBLEMS	CONSTRAINTS
• to a large extent decentralized decision-making system to the community level has created verified ownership • because of ownership users contribute to the O&M fund; keep water points clean; plant trees around points; hire guards • despite of various actors at the community and woreda level the system seems to be working • increased self confidence of communities	• pump attendants not operational and not linked to the system • O&M system not operationalized: artisans not yet making maintenance asessments and responding to the maintenance demand • community level health awareness creation not satisfactory • linkage between the community and woreda operational but has not reached satisfactory level	• no water policy at the national level • the design of regional O&M strategy only recently started • present regional construction strategy more target than sustainability oriented • water and sanitation sectorally separated in the government • KCCs have capacity when trained but previous history has been top-down implementation so in some cases still government contact is expected rather than actively requesting assistance from the woreda

3. FINANCING

3.1. Capital cost

3.1.1. Donor

The physical or capital cost for all water points construction is funded by the donor.

The total Finnish government contribution ammounts to 26.5million FIM (5 Million USD). The support comes in terms of financial grant and technical assisstance. During the Phase I fund allocated to direct implementaion makes about 80 % and that of technical assisstance is 20 %.

3.1.2. Ethiopian Government

No capital cost is covered by the Ethiopian government contribution. The main input comes in the form of human resource support. Tthe largest proportion of human resources comes from woreda personnel contribution which is about 71.3% followed by region 15.5%, preparation of different manuals 11.9%, and the two zones 1.3%.

The total cumulative Ethiopian government contribution for Phase I has been BIRR 14.8 million (2.1 Million USD) which is 86.9% of the expected 4 years contribution.

3.1.3. Community contribution to capital cost

The capital cost of the water scheme include material contributions made by the community. The materials contributed by the communtiy comprise of stones, wood for fencing, and big logs used as tripoid. These are very important contribution because they are provided by the community upto the site. In cases were they are not available in the surruonding area then the community transports by carrying from far distances.

3.1.4. Private sector

No input from the private sector.

3.2. Community contribution

Community contribution has been increasing throughout the Phase I in correspondence with the expansion and diversification of activities at the community level. The total contribution during the Phase I was BIRR 3.6 (0.5 million USD). The highest proportion 78.6 % comes in the form of labour during the construction of water points. Labour participation during implementation of environmental activities is the second highest contribution 11.7%, followed by gender and

of labour during the construction of water points. Labour participation during implementation of environmental activities is the second highest contribution 11.7%, followed by gender and WATSANCO trainees which together make 7.2%. Material contribution during water supply construction was 2.4%.

The community's participation includes contribution to O&M to sustain the service of the newly constructed water points. During community plan preparation as well as when the completed water points' formal handing over , all users have expressed their commitment to pay O&M fund officially. The total community contribution calculation does not include the operation of grass root level committees and M&E meetings to manage and follow up completed projects owned by the community. Total community contribution in Phase I is Birr 3.6 milion. In addition to this communities in seven Woredas have contributed in cash for operation and maintenance a total of BIRR 31 525 (4500 USD).

3.3. Financing of operation and maintenance

- Main contribution expected from community
- However, subsidy by government is expected at least in heavy maintenance
- Community to finance the cost of spare parts fully and labour of artisans
- Government to finance as the first step the quarterly maintenance assessment by artisans
- Community to pay for pump attendants and guards, in kind or in cash

3.4. Financing of extensions and replacements

No extension activity is undertaken by the programme since the scheme is hand dug well or spring .

Regarding replacements, the programme's spare part system has been developed as part of the whole maintenance system.

3.5. Tariff setting and method of fee collection and management

The O&M contribution rate is set by the community members themselves and hence varies from one water point to another.

Fee collection is made by the WATSANCO in exchange for receipt. Receipt books are purchased by the WATSANCO from any small shop and the woreda adminstration stamp will be affixed

upon them to give them legal status.

3.6. Accessibility for loans and credits to community through local private sector

In the region credit programme is being handled by the Amhara Credit and Saving institution. The institution is not a bank because the amount of loan provission is small scale does not exceed 800 USD per household. The extent of the service is very limited in terms of operation area and level of intervention. To what extent this scheme can be used for O&M at the community level is not clear.

Inorder to increase the availability of credit the Programme will provide fund to ACSI to be used in the programme kebeles. Whether or not this will be used to finance O&M is not clear.

3.7. Financing: successes; problems; constraints

SUCCESSES	PROBLEMS	CONSTRAINTS
• ETI gov't willing to take over capital and other costs in a phased manner • communities are contributing to the O&M even if in a limited manner; no need has arisen by far • ETI gov't huge input in human resources has decreased the costs • regular and remarkable community's contribution has decreased costs	• ETI government not yet contributing to capital costs (planned during PhaseII) • community contributing in capital costs but not yet cash: low financial capacity • no private sector involvement in financing • not yet joint efforts with NGOs for shared financing of e.g. part of O&M system • no information yet of the O&M contribution sufficiency by community	• joint plan with ETI government prepared but not yet implemented: withdrawal strategy • limited private sector existence in the water sector related matters • limited existence of NGOs operating in the same geographical areas or in O&M • O&M contributions irregular from the community: - mainly annual cash income - pefer payment when damage occurs - all members do not contribute

4.1. Roles and responsibilities of partners: matrix

[redacted]	*Planning*	*Implementation*	*Operation*	*Maintenance (plan)*	*Repairs (plan)*	*Spare parts (plan)*	*Monitoring*
Community level (users)							
KCC chair and/or	- coordinates community planning - mobilises community to participate - participate themselves	- coordinates interventions at the community level - reports to WCC	-follow up	- authorizes maintenance - contacts WCC directly or sends WATSANCO members, pump attendant or reporter	- autohorizes repairs - contacts WCC directly or sends WATSANCO members or reporter	- authorizes purchase of spare parts	-undertakes monitoring meetings with committees and groups - prepare 15 days report to WCC -organize quarterly evaluation
Community (men/women)	- identify their priorities, propose solutions, identify the available resources, prepare plan for 4 years with indicators - select KCC, WATSANCO members	- provide labour, materials for construction as per their plan	-participates in keeping water points clean	- report any malfunctioning to WATSANCO or KCC - contribute to maintenance through O&M fund	- report any malfunctioning to WATSANCO or KCC - contribute to repairs through O&M fund	- contribute to purchase of spare parts through O&M fund	-follow-up plan implementation through quarterly community evaluation

	Planning	*Implementation*	*Operation*	*Maintenance (plan)*	*Repairs (plan)*	*Spare parts*	*Monitoring*
WATSANCO	- selected during planning	- coordinates labour and material contributions during construction - organises guards	-ensures sanitation of water points -follow-up water quality -supervises guards - financial management of O&M fund	- requests maintenance from KCC - contacts WCC	- requests KCC		-weekly meeting with members -15 days meeting with KCC -quarterly report to community -quarterly networking with WPC
Pump attendant			-routine water point visits and preventive and light maintenance - report damage	- informs maintenance need to WATSANCO or KCC	- minor repairs; fast moving parts	- purchases fast moving parts from woreda level shops when need arises	-participate in quarterly evaluation
Gender group	-participate in community planning to incorporate women's needs into the plan	-carry out gender training during community gathering					-weekly meeting with members -15 days meeting with KCC -quarterly report to community -quarterly networking with WPC

[redacted]	*Planning*	*Implementation*	*Operation*	*Maintenance (plan)*	*Repairs (plan)*	*Spare parts*	*Monitoring*
Reporter		- act as secretary of the KCC -supervises activities	- follow-up in regular meetings with WATSANCO	- informs maintenance need to KCC			-prepares 15 days report with KCC -participates in quarterly woreda networkings
Woreda level (government)							
WCC	- prepares woreda plan - selects communities for intervention - assigns experts for community planning	- coordinates implementation in the communities - makes decisions related to implementation - provides materials coming from outside for construction - organises trainings - monitors all activities	-supervision -auditing of O&M fund	- contacts artisans for maintenance; when artisan association established direct linkage between community and artisans - assists community in transportation in case heavy maintenance is needed - organises maintenance assessment with artisans	- coordinates selling of spare parts to woreda shops - informs the need to regional maintenance workshop		-compiles 15 days report and takes appropriate action -weekly meeting, monthly reporting, and quarterly and bi-annual evaluation
WPC	- coordinates community planning	- executive person of the WCC	-same as WCC				same as WCC

	Planning	*Implementation*	*Operation*	*Maintenance (plan)*	*Repairs (plan)*	*Spare parts*	*Monitoring*
Gender group	- organise gender training prior to community planning to ensure incorporation of gender issues in the community plan	- holds meetings with community gender group chair persons - member of WCC - implements woreda gender plan					-15 days joint meeting with the WPC -quarterly evaluation with community gender group chairs - assesses performance from gender perspective
IEC group	- initiates community drama in communities for problem/solution identification	- implements woreda IEC plan	- promotes proper operation practises using IEC tools				-15 days joint meeting with WPC -quartely evaluation
Sanitation group	- prepares sanitation plan - prepares supervision plan -prepares Sanplat construction plan - pepares water quality assessment plan	- implements woreda sanitation plan					-15 days joint meeting with WPC -quartely evaluation
Woreda level (private sector)							

[redacted]	*Planning*	*Implementation*	*Operation*	*Maintenance (plan)*	*Repairs (plan)*	*Spare parts*	*Monitoring*
Artisans	-participate in allocation of construction sites among artisans	-construct water points with the community		- make quarterly maintenance assessment; responds to requests	- repairs within capacity: fast-moving parts; handles etc.		-quarterly performance evaluation
Pump installers	-participate in preparation of installation plan	-install pumps over completed wells		- overhauling			
Shops						- sell most common spare parts	
Repair workshops				- light maintenance, welding			
Zonal level (government)							

ZCC	- allocate government funding for woredas (ETI gov. contribution) - provide technical assistance during community planning	-assign experts that participate in thematic teams and groups - provides technical assistance to woredas					-participate in woreda quarterly evaluation meetings -undertake quarterly field supervision -participate in bi-annual meetings
	Planning	***Implementation***	***Operation***	***Maintenance (plan)***	***Repairs (plan)***	***Spare parts***	***Monitoring***
WMERDD mobile teams		- undertake extensions in small towns' piped water schemes	-supervises management of town piped water schemes	-undertakes maintenance of town piped water schemes			-monthly and quarterly report to the zone WMERDD
Municipality		-responsible for the management of piped water schemes	-organizes caretakers, guards, collection of fees and financial management of piped water schemes	-organizes maintenance crew for town piped water schemes -gets technical assistance from zone WMERDD			-monthly report to the municipality
Regional level (government)							

[redacted]	*Planning*	*Implementation*	*Operation*	*Maintenance (plan)*	*Repairs (plan)*	*Spare parts*	*Monitoring*
RCC	- coordinates whole community planning - incorporate policy priorities in the programme document/work plan if differ from the community needs - approves plans	- make policy decisions - assign focal persons as executive persons for programme's daily decision-making -assign experts that participate in teams and groups					-receives reports -bi-annual meetings - holds quarterly meetings
Maintenance workshop (semi-government)				- heavy maintenance	- heavy repair	- purchases spare parts from national level - distributes to woredas selling to woreda shops	
Regional level (private sector)							
Repair workshops		-carry out welding and small repair of cylinder moulds -manufactures moulds -participate in material transportation					

4.2. Partnership arrangements: successes; problems; constraints

SUCCESSES	PROBLEMS	CONSTRAINTS
• partnership arrangements with ETI gov't operate highly successfully particularly at the operational woreda level: woredas independently handle implementation incl. major financial management • ETI gov't nomination of full-time counterparts at the regional level (1) and in the 12 woredas (12) essential for success: integration to gov't system • creation of functioning multisectoral implementation models within the gov't system • woreda gov't offices as facilitators • communities actively plan, implement, operate and monitor • reporters (mainly teachers) essential for efficient monitoring • woreda level small repair workshops used efficiently for small repairs • artisans as woreda level private sector essential for success in construction • artisans have started maintenance without any set-up system • tripartite contracts between community/artisan/woreda gov't ensure that all partners fullfill their responsibility • initiation of establishment of O&M system	• non-existence of O&M system at the regional level • non-existence of NGOs, bi-or multi-lateral organizations to involve in joint efforts	• no viable private sector to participate in O&M • Gov't semi-private maintenance workshop not operational • lack of zonal level O&M sysem and/or it is very limited; concentrates on town water schemes • spare parts not available at the woreda level

5. MONITORING ARRANGEMENT

5.1. Community level

M&E system is part of the Participatory Information System (PIS) of the programme, which emphasises two-way dialogue and experience sharing between all partners. Preparation of community plans enables M&E to be undertaken by communities. In the community plans communities prepare their vision of their development in a 4-year period. During the planning process indicators are developed including gender indicators.

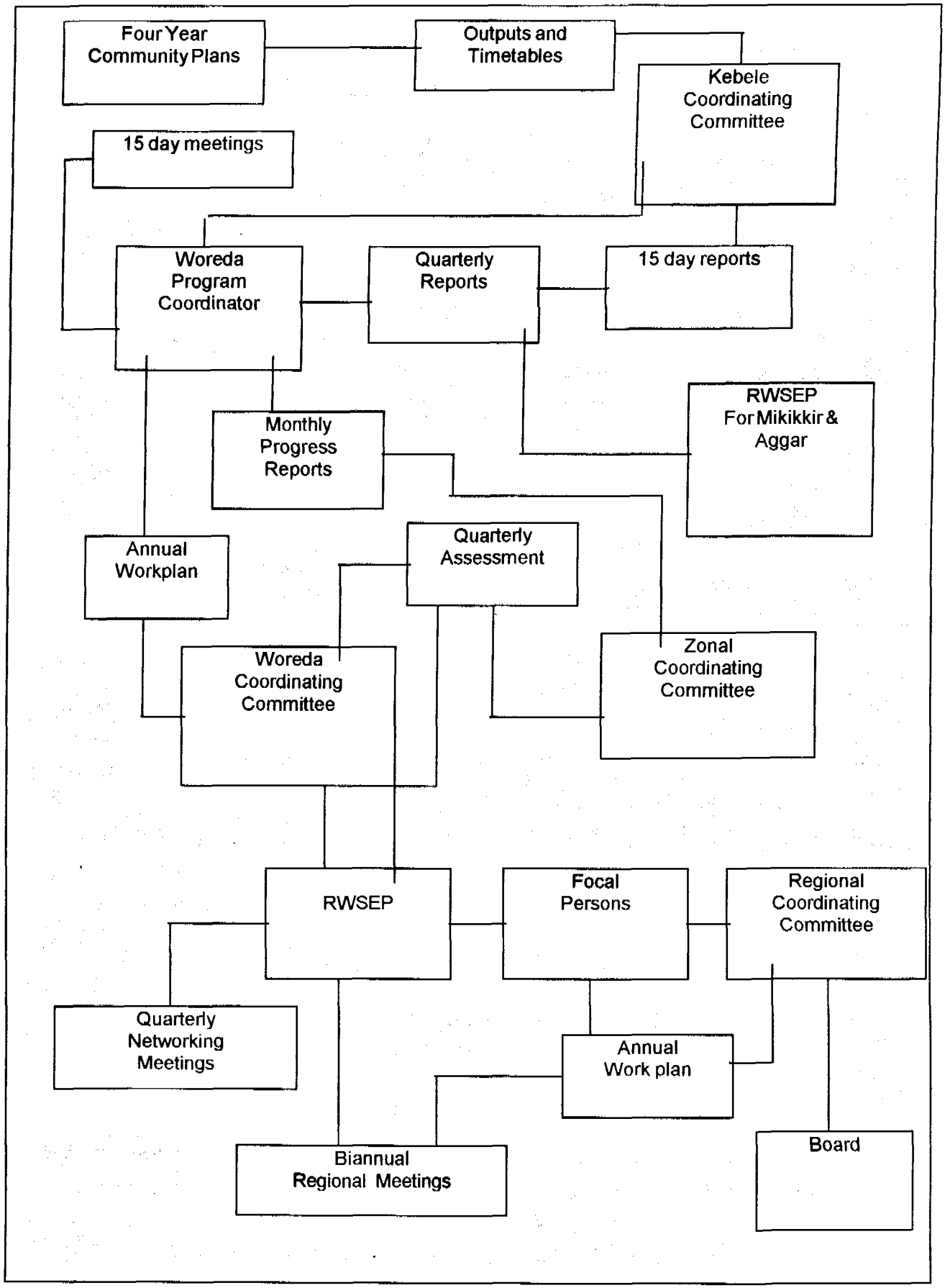
Implementation of this plan is followed quarterly in the community meetings organised by the Kebele Co-ordinating Committee (KCC). The community during the planning process (except the Chair) selects KCC. Community discusses thoroughly the strengths and weaknesses occurred during the implementation and propose solutions for problems encountered. In this meeting community at large participates. The reporters prepare report. They do not analyse the discussion but try to reflect it as stated by the community members. KCC co-ordinates the work of the sub-committees like Water and Sanitation Management Committee (WATSANCO) and Gender Group (GG) which report directly to the KCC in the quarterly assessments. WATSANCO has the responsibility for monitoring of the water and sanitation activities in the community as well as collection of contributions to the Operation and Maintenance Fund. Gender Group ensures that implementation is undertaken according to the gender indicators established during community planning. These groups have weekly meetings and report to the KCC quarterly.

Reporters undertake monitoring every 15 days. Reporter visits the sites and discusses with user groups, particularly the WATSANCO and the GG. During construction s/he also discussed with the artisans to identify possible shortcomings in the work. Based on these discussions s/he prepares a report to the Woreda Programme Co-ordinator (WPC).

Based on the quarterly assessment at the community level the RWSEP office produces a low-cost newsletter, MIKIKKIR, to provide feedback to the communities on the performance of the other communities; problems faced and solutions proposed. It serves as a tool for experience sharing. In MIKIKKIR communities have a chance to raise any issue concerning the programme.

The monitoring and evaluation as part of participatoryiInformation system is presented in the **Figure**

Figure : **Monitoring and Evaluation as partc of Participatory Information System**



5.2. Woreda level

WPC comprises the 15-day reports prepared by reporters and discusses accordingly with the IEC Co-ordinator (IECC), Sanitation Co-ordinator (SC) and Gender Co-ordinator (GC) on the concerned issues. IECC, SC and GC monitor the implementation of their respective detailed activity plans. The meetings with the IECC, SC and GC give a possibility for the WPC to monitor the work of the special teams established for certain activities. WPC organises weekly meetings with the WCC to decide upon arising issues. WPC compiles the monthly progress report (MPR) for the approval of the WCC and further submission to the RWSEP and sends a copy to the zone. The WPC and focal persons who will further be trained in the construction supervision undertake physical construction supervision.

Quarterly the WCC organises an assessment in which the zones also participate. Report is sent to the RWSEP and the zone.

5.3. Zonal level

Zonal WMERD Departments are to supervise the water point construction works at the woreda level. WMERDB does not have an office at the woreda level, so the technical supervision is the work of the zones.

5.4. Regional level

The RWSEP office has constant discussion and meetings with the focal persons on the implementation. Focal persons, in turn, discuss with their respective bureau heads, particularly in the issues raised in the monthly and quarterly reports. RWSEP personnel supervise the activities at all levels. Internally the RWSEP monitors implementation through weekly monitoring meetings.

The Regional Co-ordinating Committee (RCC) comprising of six bureau heads and Regional Administration holds meetings as per their TORs. Their main function is to discuss and approve the annual work plan for presentation for the Board and follow-up its implementation. In most functions the RCC has delegated the decision-making power to the focal persons. The contact between the focal persons and the bureau heads enables them to follow the programme performance. Quarterly reports and recently also the monthly reports are directly sent to them.

The Board comprising of the representatives of the Region, Embassy of Finland, Department of Development Co-operation of the Ministry for Foreign Affairs of Finland (MfFA) and the Consultant holds bi-annual meetings where the follow-up of the programme is undertaken and the new work plans and budgets approved. The Board has the roles and responsibilities of the previous National Steering Committee (NSC), the role of which has become informative only. At present the Board is the highest decision-making body as regards the programme.

Bi-annually a meeting is held at the regional level in which the WCC members, WPCs, ZCCs and RCC members, focal persons and the RWSEP personnel participate. This means a gathering of approx. 120 people. WPCs and ZCC Chairpersons assess the performance using Strength, Weaknesses, Opportunities and Limitations (SWOL) analysis. Problematic issues are discussed in groups and recommendations made. Bi-annual meetings are the excellent forums for evaluation of all aspects of programme activities at the regional level. Internal assessment and an independent mid-term review were undertaken.

In order to establish a sound basis for the development of the M&E system within the RWSEP the socio-economic baseline survey was undertaken. In addition to provision of only basic population profile the survey included information on the thematic issues related to water, sanitation, credit, health, management structures etc. Together with the information collected on the knowledge, attitudes and practises related to the programme activities it lead both to development of the M&E system and the strategy towards approaching the communities and siting the water points.

5.4. Monitoring arrangement: successes; problems; constraints

SUCCESSES	PROBLEMS	CONSTRAINTS
• despite of various layers in the M&E system it is working properly: fast response to the problems can be initiated • M&E system is community-based: other layers support • community defines their own indicators for implementation • workplan indicators include gender indicators: enables mainstreaming • indicators sustainability-oriented • decentralized financial monitoring functional • results of community level M&E published in MIKIKKIR; feed back to community • experience sharing an important M&E tool	• information gathered through monitoring too much to handle: further decentralized system required • information system for maintenance not operational	• linkage between community and woreda not yet satisfactory, but it is operational • low zonal level performance • low regional decision-makers participation

Annex 5 Experiences of CWSMP (Western Province of Kenya) and the Case Study of Navakholo Community Water Project

EXPERIENCES OF CWSMP (WESTERN PROVINCE OF KENYA) AND THE CASE STUDY OF NAVAKHOLO COMMUNITY WATER PROJECT

A paper presented in a workshop on

'MANAGEMENT MODELS FOR SMALL SCALE WATER SUPPLY SYSTEMS IN AFRICA'

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9 December, 1998

WORKSHOP ON 'MANAGEMENT MODELS FOR SMALL SCALE WATER SUPPLY SYSTEMS IN AFRICA'
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EXPERIENCES OF CWSMP (WESTERN PROVINCE OF KENYA) AND THE CASE STUDY OF NAVAKHOLO COMMUNITY WATER PROJECT

1. DESCRIPTION OF NAVAKHOLO COMMUNITY WATER PROJECT

Navakholo water supply scheme is situated in three locations (Bunyala East, Central and West) of Navakholo division in Kakamega district. The scheme serves parts of Nambacha, Namirama, Sidikho, Mukhweso and Budonga sub-locations. The area served by the scheme is about 25 km2. The number of people served by the scheme is at present about 2,000 (design population was 25,000). Water is used mainly for domestic use (drinking, washing, bathing), and partly for livestock and irrigation purposes.

The scheme was constructed in 1992, with support from the Kenya-Finland Western Water Supply Programme (KFWWSP). The scheme is a pumped piped scheme, consisting of two (2) boreholes, rising main (diameter 160 mm, length 2.9 km), distribution lines (of diameter 25 -110 mm, total length 31.5 km), a storage tank (225 m3), two (2) break pressure tanks (BPT, 10 m3 each) and water kiosks (4). The boreholes have yield of 58 m3/h and 29 m3/h. Currently only one borehole is equipped with an electric driven submersible borehole pumps (22 kW), another borehole is now as a standby because the pump has broken down.

Total investment cost of the scheme was about KES 8.6 million, out of which the community contributed for about KES 0.8 million and the rest was a grant from the Government of Finland.

The information is based on 1) the assessment of the scheme carried out by CWSMP in 1997, using various assessment instruments, 2) discussions with the management committee during training in November 1998.

2. COMMUNITY MANAGEMENT EXPERIENCES

Navakholo community water supply is managed by a self-help group, registered under the Department of Culture and Social Services. Thus the legal status of the community is a bit weak. The self-help group considers possessing the ownership of the fixed assets and land for the borehole sites and tank sites, but assuming the legal limitations of self-help groups, this ownership is not legally binding.

There are by-laws developed with the assistance of KFWWSP available with the group, but they may not be fully enforced in practice. The management committee has been elected in a general meeting. It consists of 12 members. The previous management committee was dissolved due to various problems. The new committee has been in office since November 1998, and in the new committee there are only 2 members from the old committee. Office bearers (except 1) are also new, which has caused some difficulties in continuity of some management functions (such as financial management).

The relationship between the previous management committee and the consumers was not very confidential and trustful. The community members have given an expression that their views were not asked in the past. Due to these reasons, the turnout in the general meetings has been very low, making it difficult to make important decisions.

The original management committee received basic management training by KFWWSP. Due to major changes in the committee, most of new members had not received any training, until very recently when CWSMP arranged 7 days management training for the management committee (8 persons attended). This training included topics on management and community organisation skills development, legal and institutional issues, O&M, public education on environmental issues and water resources and sanitation issues, basic financial management, book keeping, monitoring and evaluation.

CWSMP's general experiences on community management :

- *Community water schemes (especially the new and handed over piped schemes) have been advised to take steps towards a legal entity, whether a water association, co-operative or company.*

- *There are several schemes where community members have other options to collect water free of charge (often from unsafe sources). Management committees have not yet been able to educate consumers adequately on the benefits of safe water.*

The water supplies in Western Kenya are registered as self help groups with the Department of Culture and Social Services. The water projects make it a condition without which the community will not be eligible for assistance. However, this registration does not give them the needed legal entity. For instance they cannot sue or be sued, project assets cannot be transferred in the committee's name or they cannot even own the land on which the water project is built.

The running of the water supply is the responsibility of an elected management committee through general meeting. Unless there is a major shortfall, the committee is elected for a term of two to three years. The day-to-day management of the scheme is vested with the executive committee comprising of chairman, vice-chairman, secretary and treasurer.

Under the management committee there is a tap committee consisting of chairman, one to two caretakers, a treasurer, health attendants (*mama safi*) and other user members who are charged with the responsibility of running a smaller user group, 'kiosks'.

Each scheme also has technical staff headed by a scheme manager with other staff like operator, line patrollers, revenue clerk and pipe fitters.

The scheme management is governed by by-laws that the committee develops with the help of the water projects before the supply starts operations. The by-laws give the interval of meetings, penalty for defaulters, roles and responsibility of members and staff.

In the course of project implementation various training courses are conducted at seminars and workshops in order to equip the management and staff the needed skills and knowledge. These include; 1) management training -covering leadership qualities, communication skills, financial management, record keeping etc. 2) Technical training involving machine operations, revenue collection, repair works, maintaining records etc.

Generally the water collected is for domestic and livestock rearing. Water is usually drawn by women and children from stand taps at walking distance of 500 metres. The media for transporting the water is traditional water pots and plastic jerrycans. Payment for the water is done by the head of the household at a fee specified in the by-laws. The biggest achievement from the availability of tap water is the time saved by women for working on the farm for the economic empowerment of their families. Men in most cases travel to towns for employment or other business engagements.

3. FINANCING

For Navakholo scheme, the capital costs of implementing the scheme were distributed as follows :

• Donor (GOF, KFWWSP)	KES 7.73 million	(90 %)
• Community (Navakholo)	KES 0.805 million	(10 %)
• TOTAL	KES 8.6 million	

- Community contribution was consisting of labour and materials.

The scheme was handed over to the community upon completion of implementation in 1992. The management committee took over also the operation and maintenance of the scheme, with agreed full responsibility of covering all O&M costs. However, since its completion, the scheme has been non-operational for long periods of time, mainly because of pump / motor failures. The Ministry (MWR) through Kakamega DWO's office has repeatedly assisted the scheme with these operational problems, because the community was unable to meet the maintenance costs or to organise for them.

At present, the scheme has about 310 connected consumers. Over a period of time, many of the consumers have not paid their water charges, mainly due to claims that they have not received sufficient water service. The current monthly revenue from paying consumers varies between KES 10,000 - 25,000. The collected revenue is currently covering the actual monthly operational costs, but only because the scheme is not currently operating with the intended capacity. At times the surplus of the committee's bank account has to be used to cover the revenue deficit.

The tariffs are based on a flat rate of KES 200 per month per connection, which is high compared to many other piped schemes. For metered connections the charges are KES 7.50 per m3 for individuals and KES 10 per m3 for institutions. In addition to consumer charges, there is a monthly standing charge of KES 50 for individuals and KES 100 for institutions.

The management committee would desire to implement new extensions to the scheme, to utilise the supply capacity better and to improve revenue collection through increased number of consumers. However, there has not been proper budgeting to cater for extensions or any other future investments. The community does not have accessibility to bank loans or other credit facilities, because its legal status as a self-help group does not provide for adequate guarantees for credit.

CWSMP's general experiences on financing :

- *In most cases of the piped schemes the population served is much smaller than the planned number of consumers. In cases where extensions are requested, the management committees have not been able to organise adequate funding for extensions. Committees often look at donor funding as the only possible alternative to finance extensions.*

- *Even in cases where the current tariffs are fairly low and do not even cover O&M costs adequately, management committees often are reluctant to raise the tariffs in order to cater for extensions (in fear of becoming unpopular among community members).*

CWSMP's general experiences on financing (cont'd) :

- *CWSMP has already experienced that communities are fairly well committed to contribute even cash for new implementations. However, in the long term, sustainable options to finance future improvements and extensions of community water supplies seem not to have been established yet.*

The capital costs of most community supplies in Western Province were met by the donor water projects (e.g. KWWSP). Only <7 % were developed under demand driven approach where the communities contributed 30 % of the investment lost in labour, material and cash. In such cases, the community contribution was calculated as follows:

- Labour contribution - 10 %
- Material contribution - 15 %
- Cash contribution - 5 %

The government through the DWOs met 10 % e.g. the overall cost mainly through the provision of professional services, equipment and other kinds. The projects therefore met the bulk of the capital cost i.e. 60 % by way of contract sums.

In most water supplies (piped schemes) the actual revenue collected average KES 10,000 per month while the operational costs amounted to KES 7,000 per month. The O&M costs which include salaries, allowances, repairs, stationary, power etc are entirely met by the communities from the water sales and other services.

Major replacements and extensions are usually initiated by the consumers who approach external financiers for assistance. Also public fundraising *'Harambee'* is conducted by leaders. Management committees propose the tariffs and present to the consumers in general meetings where it is voted on any approved. In there general meeting, the method of fee collection is agreed by consensus to be either fixed figure say 10 KES per month or based on water consumed say 1 KES per 20 litre jerrycan.

One major constrain of the small community water supplies is their inability to secure loans or credit facilities. This is mainly due to the fact that they are registered only as self help groups and not legal entities. Also they have no securities as most properties of the water supply are not legally owned by the management committee.

Even though communities show in their by-laws water bills be collected regularly by means of water sales and contributors in practice. Many of them only collect funds where there is crisis like power disconnection, major repairs and breakdowns.

There being no legal status in their registration as a group, the committees cannot sue defaulters or be sued by their parties.

Because some communities still hold to cultural reservations, it has not been easy for women to fully participate and hold decision making positions in the water supply management.

4. PARTNERSHIP ARRANGEMENTS

When Navakholo water supply scheme was designed and implemented, it was clearly intended to be a fully community managed scheme. The community was involved in the planning and design of the scheme to some extent, but not yet as extensively as the later DDA approach would have required. The community contributed in the implementation and costs, through providing cash, materials and labour. Management committee, office bearers and operational staff were initially trained by KFWWSP.

The project (KFWWSP) was playing a major role in the implementation of the scheme, and assisted also a lot in the initial operation and maintenance stage. Later on the Ministry (through DWO's office) has provided a lot of assistance to maintain the scheme, especially the pumping system, since the community had not properly prepared itself for such issues.

In principle, the roles and responsibilities of various partners / actors in Navakholo scheme should have been as follows, but in practice the situation may be different :

ACTOR / PARTNER	PLANNING	IMPLEMENTATION	OPER. & MAINT.	MONITOR. & EVAL.
Community (users)	Participate by providing local knowledge etc	Contribute cash, materials, labour	Main responsibility on O&M (incl. costs)	Responsibility to monitor operation of the scheme
DWO's office (MWR)	Participated through KFWWSP	Participated through KFWWSP	Has given frequent O&M support to community	Has monitored operation of the scheme at times
CWSMP (Project) (earlier KFWWSP)	KFWWSP planned and designed the scheme (with the community)	KFWWSP contracted a contractor to implement, supervision by KFWWSP	KFWWSP provided O&M manual, initial support in O&M was given. CWSMP has given management support.	Aims at establishing a community based M&E system
Private sector or NGOs	N.A.	Private contractor was constructing the scheme (contracted by KFWWSP	Supply of spare parts, maintenance contracts given by community	N.A.

CWSMP general experiences on partnership arrangements :

- *During the previous programme (KFWWSP) a number of skilled labourers and contractors were trained e.g. in implementation and O&M functions. These people are currently available as private contractors and consultants, to be utilised by the new project, MWR or the communities to provide services.*

- *The influence of NGOs is fairly limited in the Western Province, perhaps due to the dominating role of the previous donor programme (KFWWSP) in the area. There is a huge need to improve collaboration and co-ordination among the NGOs and other water sector actors in the Western Province, to harmonise the criteria for community support etc. Various actors have very different approaches and criteria for their support and required community contributions.*

A major constraint with the partnership is the inadequate information sharing and feedback system. The communities are only providers of information on O & M and M & E activities. The role of the private sector is not fully exploited also. Information utilization is mainly for agency (administration) interest. The concept of community participation was not explained at the inception of the project. If this was done, the internalization of the ownership of the water supply relying mainly on external support. Another aspect where the water supplies face serious constrain is the fact that women are not really involved in any stage of decision making and other ideas are rarely considered.

The following matrix shows what roles various actors / partners in general have had in community water supply development in Western Province :

ACTIVITY	PARTNERS INVOLVED					
	WATER PROJECT	WATER DEPARTMENT	MANAGEMENT COMMITTEE	PRIVATE SECTOR	USERS	NGOs
1. Planning	Planning & design done by KFWWSP	Active participants	May only be aware of the plans			
2. Implementation	Lead actor in implementing the projects	Active participants	Asked for cost sharing	Supply/sell materials and equipment	Women & youth participate in provision of labour & materials	Co-financing
3. O & M		Technical advice & other minor assistance	Contribute O & M costs through set tariffs	Supply/sell of spares and service	Cash contribution for O & M labour where appropriate	Training exchange programmes
4. Monitoring & Evaluation	Designed and implemented the initial M & E	Make follow up of the designed M & E	Provision of information		Provision of information	Use information

4. MONITORING ARRANGEMENTS

The community of Navakholo scheme is monitoring the following parameters itself :

- Scheme operation charts (simplified from MWR operational chart)
- Records (calculations) on water production, water sales, expected and collected revenue, surplus / deficit of revenue collection

There is no proper monitoring and evaluation system yet established for Navakholo scheme, and the monitoring information (records kept) are not adequately used by the community (scheme management) to improve management of the scheme. Monitoring parameters have not been properly established and there are no indicators defined, also sources of verification have not been defined. The entire system of monitoring and record keeping may not yet be adequately recognised by the scheme management, and therefore its efficiency, effectiveness, reliability and validity is yet very poorly developed. CWSMP aims at establishing a more comprehensive community based M&E system with the involvement of the community itself and training the community on its benefits and use.

CWSMP's general experiences on monitoring arrangements :

Monitoring of community managed water supplies was at first entirely done by the agency staff (programme) on the monthly basis. The staff would check at the functioning of the management committee, attendants and other community staff by use of pre-designed forms. The agency staff also create awareness on the importance of clean water, water resources consideration and monitoring for sustainability through public meetings (barazas).

The details monitored are mainly technical such as water produced, revenue collected, expenditure and other physical parameters. The community usually does not monitor the project.

CWSMP's general experiences on monitoring arrangements (cont'd) :

In some cases exchange visits are organised so that members of the management committee may know how other water supplies within the region are managed and function.

At later stage community resource persons were trained and given the task of monitoring and delivering the monitoring forms to the Provincial Water Office for a fee paid by the agency. The system proved unsustainable.

The data gathered is kept and used at the provincial water offices. The information is usually not fully computerised with little or no feedback system to the communities.
The indicators set were of course technical like percentage functional, revenue – expenditure ratio etc (were one tools of sources of verification but management committees books of accounts, and other records together with discussion with he attendants are the main reference sources.

The monitoring is therefore done by the agency (administrator) for its use. The provincial water officer will have easy time to co-ordinate the management of the water systems as part of its wider responsibility. The District Water Offices (DWOs) use the available information only at times of need or reporting. The communities play only passive role in this.

Presently, CWSMP is developing a community based monitoring and evaluation system (CBM&E) in which the existing gaps are expected to be closed.

The problems of the current M & E system include:

- The information collected is mainly technical.
- Opinions of the communities are not largely considered, only the committee and attendants are interviewed and discussed with.
- Verifiable indicators are not in use and as such most variables are not measurable e.g. satisfactory, fair etc.

Annex 6 Community Based Management for Rural Water Supply

Community Based Management for Rural Water Supply

(Directorate of Rural Water Supply)
Namibia

Paper presented at

Workshop on management models for small-scale water supply systems in Africa
7-9 December 1998.

Kakamega, Kenya

Introduction of CBM and cost recovery

The Directorate of Rural Water Supply (DRWS) is committed to implement Community Based Management (CBM) and cost recovery and to ensure sufficient coverage in communal areas of Namibia.

Water is defined as "an economic good" and consumers in rural areas have to contribute for the service of being supplied with water, and in the case of piped water, for the purified water as well.

This paper will primarily concentrate on experiences drawn from two demonstration pipeline schemes. In addition, it will also highlight a few details on the CBM strategy, applicable to the country as whole.

Description of the pipeline schemes

In the northern part of Namibia water needs of people and animals are satisfied by extracting groundwater (boreholes) and transporting surface water from a perennial river to the people. (MAP) In those areas where the condition of the groundwater is saline surface water (bulk water) is brought in through a network of open canals and further distributed to the rural communities. In this part of the country rural communities are engaged in crop cultivation (mainly millet) and livestock production (mainly cattle).

The first pipeline schemes were constructed in the early 1990's to improve community's access to water. Till then the people relied on pans, hand-dug pits and wells as water sources. Today, the number of pipeline schemes in the northern part of Namibia amounts to 14, supplying some 900 rural communities, including schools and clinics, with potable water. Two pipeline schemes have been nominated as demonstration schemes for developing and testing community participation and community management systems.

Construction of the two demonstration pipeline schemes took place during 1992-1994 against a total estimate cost of N$ 33 million (N$ 15 million for Ogongo-Okalongo and N$ 18 million for Oshakati-Omakango).

In the Ogongo-Okalongo scheme the main pipeline has a total length of 26 km between the two towns with 13 branch lines. The total population served by 64 water points is estimated to amount to 34.000 people.

The second demonstration scheme, Oshakati-Omakango has a total length of 32 km. 92 Water points have been constructed along 10 branch lines serving some 35.000 people.

Ever since their construction the two pipeline schemes are fully operational.

Community management

Organisational structures and composition of management:

Establishment of community institutions is fundamental in ensuring community participation. For the implementation of CBM three types of institutions can be identified, namely voluntary, statutory and coordination bodies.

Voluntary bodies are autonomous and established on a voluntary basis by the users of the particular water scheme. Voluntary bodies govern the rules as laid down in their constitution. For instance, Water Point Associations (WPA) and Local Water Associations (LWA) fall in this category.

With the decentralisation of state functions, statutory bodies will be given some executive powers and their existence will be stipulated in a government statute through an enabling law. Regional Water Committees (RWC) and Constituency Water Committees (CWC) are the examples.

Coordination bodies are part of the government structures at different levels that recommend, plan, monitor, revise, and evaluate the implementation of CBM. These bodies are for instance, WASCO, the Steering Committee for CBM and the Community Based Management Implementation Committee.

The concept of water committees to represent user interests and responsibilities was developed in the early 1990's. Each water point is managed by its members who are associated in a Water Point Association. The members of the WPA elect a Water Point Committee (WPC) to manage and maintain the water point on its behalf.

The Local Water Committee (LWC) overlooks the entire pipeline scheme and directly represents the WPAs within the scheme area since its members have been elected from amongst the chairpersons of the WPCs. All WPAs in a pipeline scheme will establish a LWA.

For management purposes each branch line is represented with one or two members in the LWC bringing the number of LWC members to 16 in one scheme and 22 in the other.

Each LWC in turn has elected an executive committee comprising of eight members; the chairperson, secretary, treasurer, caretaker and their deputies.

Gender aspects are taken well care of; in one LWC 8 of the 16 members are women such as the deputy chairperson, deputy secretary and deputy caretaker. In the other LWC there are 6 women, among others in the position of chairperson and treasurer.

Representation rather than expertise has been considered when setting up the community management structure. The capacity of community members to manage their water supply has to be built from scratch, which is believed to be ***the main*** social component of CBM.

Rural Water Extension Officers (RWEOs) from the DRWS, assigned to pipeline schemes, play an important role in mobilising and sensitising the communities and establishing the committee structures.

Legal status of management:

Central to successful community management is ownership together with a sound legal status for the institutions involved in managing rural water supply. Previously, the functions of managing (especially maintenance and repair) rural water supply were vested in the state. With the introduction of CBM the role of the different stakeholders will change

The existing Finance Act does not allow the transfer of government assets to persons or bodies that are not recognised in the law. Contrary to this Act, communities themselves recommend ownership of water infrastructures if community management is to succeed. Thus, each body that will be entrusted with ownership should first become a legal personality which is in this case a WPA or a LWA.

To become a legal body a constitution has to be formulated and signed that describes, among others, the rights and obligations of members, membership, administration of assets, composition, responsibilities and powers of Committee. A model WPA constitution and draft LWA constitution, of which copies are attached, have been developed.

Registration procedures of WPAs and water committees:

An established WPA/LWA can apply to the Permanent Secretary in the Ministry of Agriculture, Water and Rural Development for the registration of the association. The application will have to be accompanied by information such as the following:

- a list of the names of the members of the WPA and the WPC (including gender and position within the community)
- a copy of the constitution of the WPA
- a document setting out the area which the WPA is destined to serve (either the geographical area or a list of the household users)
- any further information which the Minister may require, such as the management plan for the control of the water point/pipeline scheme

The Minister will determine, considering a number of factors whether the application should be granted. Some of these factors can be:

- is the WPC representative of the community residing in the area of jurisdiction of the WPA
- has the WPA an appropriate method for the collection of funds and the ability to manage them, including a strategy for dealing with defaulters, and
- does the traditional authority in the area approve the establishment of the WPA

In exceptional circumstances the Minister can withdraw his or her registration of a WPA, for instance when it ceases to function, is totally corrupt or is fraught with conflict.

In case the application is approved the WPA will be furnished with a certificate of establishment of the association for use as proof of the rights it is entitled to exercise within

its area of jurisdiction as well as the enforcement of its rights against outsiders. Attach find a draft application form for registering WPAs.

Permission to Occupy

Transfer of water point installations is catered for by agreements but those installations are fixed on communal land and can not be owned separately. Today, the state owns all land and communities can not obtain full ownership over it. The securest form of land tenure in the existing Namibian law is the Permission to Occupy (PTO). The PTO will allow the WPA the right to use and control the land on which the water point is sited.

A PTO is a type of license granted by government. A WPA can apply at the Ministry of Lands, Resettlement and Rehabilitation in the name of the WPA and in respect of the land on which the installations are installed. Attached find a PTO application form.

Hand over agreements

The agreements define the responsibilities of the government and the representatives of the communities during each phase of CBM implementation. In the agreements the exact responsibilities are formulated but they also provide for regional variations according the cultural and social situations. Responsibilities outlined in hand over agreements are linked to the Constitutions.

Two agreements are required to cover the two phases of CBM. The agreement for the phase of Operation and Maintenance is called 'leasehold agreement' and the one for the phase of full cost recovery 'ownership agreement'.

The leasehold agreement defines and delineates the legal obligations of both the association and the government during the phase of operation and maintenance with a maximum period of five years (O&M). During this phase the association is responsible for good functioning and maintaining of the water point[1]. Replacement of for instance a water tank is not the responsibility of the WPA yet, nor are the repairs.

The ownership agreement specifies ownership over infrastructure and installations and defines the respective responsibilities of the association and the government for full cost recovery of water supply and replacement of equipment.
In case of a borehole, the two parties involved in signing the leasehold and the ownership agreement are the WPA and the DRWS.

For pipeline schemes leasehold and ownership agreements will be signed between:

- DRWS and LWA
- LWA and WPAs

[1] see phase 2: Operation and Maintenance. The committee is responsible for operation and basic maintenance of the water point but technical problems should be reported immediately to the DRWS Regional Office

The LWA will also enter into an agreement with NamWater, stipulating amongst others the volume of bulk water to be provided by NamWater, the price per cubic meter and payment arrangements. NamWater provides this agreement

By-laws, rules, regulations, responsibilities, control mechanism

The Water And Sanitation Policy (WASP) is the guiding policy framework for the rural water and sanitation sector in Namibia. The CBM strategy has been developed to guide the implementation of the policy. Community management is a new approach in Namibia and the existing legislation does not support aspects of CBM such as legal status and powers of water associations and committees, transfer of assets, rights of members and access to water points.

Therefor, it has been proposed to draft enabling legislation in the form of a CBM bill, which is currently done by a legal advisor in close coordination with the DRWS. In due consideration of the duration of drafting legislation in Namibia, the CBM Act is expected during the second quarter of 1999.

The other control mechanism, as already mentioned, is a statute governing the statutory bodies and formulation of constitutions for WPAs and LWAs.

Together with a constitution, each WPA will formulate a management plan describing procedures on for example the use of the water point, wastage of water, defaulters, payment, invoicing, water meter readings and submission etc.

Capacity building of various committees

Capacity building of Local Water Committees comprises of a number of elements, such as:

- prepare and endorse a work plan for the capacity building period and the introduction of payment for water (scheduling of meetings, training and the like)
- introduce the LWC members to the WPAs they represent in the LWC and keep the WPAs informed about developments (eg. LWC constitution, water meter reading skills)
- define responsibilities of the LWC and tasks of the executive members
- inform the LWC on the production and distribution of bulk water
- train the executive committee members, followed by writing the LWC constitution and management plan, and designing and putting in place a management system (e.g. forms).

For that purpose a LWC orientation programme of five days and a training of the executive committee (4 days) have been held. The following has been the outcome of these activities:

a) a LWC orientation programme package
b) an Executive Committee training package
c) WPC and LWC logbooks
d) invoice book
e) scheme tariffs and a formula for scheme tariff calculation

Besides building the capacity of the LWC, WPC skills training has started in one demonstration scheme and it is expected to boost the morale of the communities and esp. committee members. Caretaker training is anticipated to commence during the first quarter of 1999 and in-service training of scheme caretakers has been agreed upon with the regional office maintenance section.

Demand assessment and management

The Government has a social responsibility to provide adequate and potable water to communities in communal areas and to ensure the required coverage of 90% by 2010. It has therefore been difficult to develop new schemes on the basis of demand rather than need as perceived by the government. Thus, a demand based approach might not have been adopted by the government immediately after independence.

However, today it is required that communities apply for the service of being supplied with water before any assessment is done. An application form for this purpose is designed. The Regional Water Committee then processes the application according certain criteria. If approved, the Rural Water Extension Officer (RWEO) initiates a process of sensitisation and mobilisation leading to the establishment of an association and the election of the committee.

Decision process on

Careful selection of appropriate technology is most applicable when developing new schemes and especially in Namibia where water is a scarce natural resource. Moreover, pumping tests/safe yields dictate the choice as well.

Siting of water points is a common practise in pipeline scheme areas but less so in borehole areas where it largely depends on the availability of water in the aquifers. Rules of access will enshrine in the management plan of each WPA/LWA. With regard to the protection and sustainable use of water, communities are recommended to extract no more than 60% of the safe yield of the borehole.

The tariff of each pipeline scheme consists of NamWater charges (the costs of producing and delivering potable water at the water point), administration and maintenance costs. Monthly payment of the water bill could coincide with submission of water meter readings and invoicing. To avoid unnecessary travelling LWCs may decide to issue the invoice when WPCs submit the meter readings for the previous month and be ready to receive payment for the before last month.

Financing

<u>Capital costs</u>
Construction of the two demonstration pipeline schemes took place during 1992-1994 against a total cost of N$ 51.000.000 (N$ 18 million for Ogongo-Okalongo and N$ 33

million for Oshakati-Omakango) funded exclusive by the Dutch Government. Currently a rehabilitation of the Oshakati-Omakango pipeline scheme takes place and will be completed soon against an estimated cost of N$1million funded by the Namibian Government.

Community contribution

In almost all the new schemes, community members contribute with free labour. In case of a pipeline scheme they voluntarily dig trenches, lay pipes and backfill the trenches. In future, down payment might be introduced as well.

Financing of Operation and Maintenance, extension and replacements

Even though NamWater is managing the main pipelines, the government is responsible for maintaining branch lines and water points. Regional maintenance teams carry out these services. Some communities however do minor replacements such as taps at water points themselves. The extension and replacements is a responsibility of government. With the hand over of the scheme to a LWA, maintenance and administrative cost will be recovered from the WPAs. The individual applicant covers the cost for connecting a private off-take.

Method and approach to tariff setting and fee collection

Tariff setting consists of the components: NamWater charges (20%), administration and maintenance costs. The following formula has been used:

Scheme tariff: NamWater Charges (20%) + $\frac{\text{Administrative + Maintenance cost}}{\text{Water Consumption}}$

The following are the scheme tariff for the two schemes:

Ogongo-Okalongo scheme:

20% of 2.54 (= 0.51) + (3416.81 + 380.75[2] + 1.300[3]) / 8993 m3[4]

0.51 + (5097.56 / 8993)

0.51 + 0.57

1.08 per m3

Oshakati-Omakango scheme:

20% of 2.78 (= 0.56) + (3416.81 + 477.10 + 1.650) / 11660 m3

0.56 + (5543.91 / 11660)

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[2] Administrative cost

[3] incentives for LWC members

[4] average of three months

0.56 + 0.47
1.03 per m3

Accessibility to loans and credits

Feasibility for establishment of RWS Development Fund will be initiated to allow communities to lend money for development, improvement and major replacement of their rural water supply.

Monitoring arrangements

No system is in place as yet in the two schemes but information is being collected on frequency of meetings, problems experienced and so on. Fortunately, a monitoring and evaluation workshop with representative from WPCs and LWCs has been organised to introduce principles of monitoring, monitoring issues, development of indicators and tools.

Conclusion

Namibia is at a developmental phase of community management strategy and thus will wish to learn from experiences implemented in other country. Nevertheless we are optimistic about the implementation of the strategy.

Annex 7 Towards Attaining Sustainability in the Management of Community Based Water Supply Scheme

TOWARDS ATTAINING SUSTAINABILITY IN THE MANAGEMENT OF COMMUNITY BASED WATER SUPPLY SCHEME

THECASE/EXPERIENCE OF EKWSP/KILIWATER CO. LTD

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DECEMBER 1998

KILIWATER COMPANY LIMITED

1.0 BACKGROUND INFORMATION

The East Kilimanjaro Water Supply Project is a Project of the Ministry of Water of Tanzania, funded by the German Government through its Technical Co - operation agency GTZ.

The project started in 1993. The area covered is 1050 sq. Km in total, and the habitable land is about 600 sq. Km. The area had a population of about 289,000 people in the year 1997, living in about 40,000 to 50,000 households.

The water supply system begins with a series of intakes located at the upper reaches of the forest streams from which the water gravitates through a pipe system to the users. The water is not subject to any treatment apart from course filtration at the inlets. The area has a complex network of supply infrastructure, including:

- ◊ About 700 km of pipelines
- ◊ 112 storage tanks of various capacities
- ◊ 250 break pressure tanks
- ◊ 990 public draw - off points
- ◊ About 6000 home connections
- ◊ 170 bulk water meter boxes
- ◊ 27 water intakes
- ◊ Several hundred valve chambers

The present water requirement is 20,400 m^3 per day of which 17,000 m^3/day is domestic demand. The institutional and commercial requirement is 3,400 m^3 per day.

Uneven distribution of pipelines results in a service level of about 70%, as certain parts of the supply areas do not have pipelines.

1.1 *Cost of the scheme*

Regarding cost of the scheme see highlights under section 3.1

2.0 COMMUNITY MANAGEMENT EXPERIENCE

2.1 *Legal status of Management*

In between June and August 1993, the idea of founding KILIWATER CO LTD was explained to all Councillors in the supply area.

The objective was to make sure that all water users are informed about the need of having a Financially Autonomous Entity to manage the existing water supply scheme. Efforts were also made in the period of July - December 1993 to convene meetings of water users at grass root level, where water users had the chance of sharing ideas on how to found the Financially Autonomous Entity.

It was agreed that in order for the Entity to be sufficiently community owned i.e Water users to be its owner; water users bought shares and decided that they will pay bills for water service so as to meet O & M costs.
In between September and November 1993, executive meetings involving officials at policy making levels were held at District, Regional and relevant Ministries to brain storm on the type and legal aspects of the envisaged Entity with expertise guidance from a Business Consulting Company - The M/S Business Care Ltd of Dar - Es - Salaam.

It was finally agreed that a feasible Entity be a Public Limited Liability Company - KILIWATER COMPANY LIMITED. Following there after was to formulate the Company's Articles and Memorandum of Association.

The Company was officially inaugurated on the 22nd September 1995. In the occasion, formal contracts were signed between the Company, the Ministry of Water and the two District Councils. (See Annexes 2a, 2b, 2c).

Executive functions of the Company starts with the Board of Directors each elected by the Water Users from six administrative zones in the Company's supply area. Also the District Water Engineers in the supply area are Company Directors by virtue of their positions.

The Directors elected from each zone are endorsed by the Annual Delegates General Meeting attended by two representatives from each of the sixty demarcated User Areas. The office tenure of the Board of Directors is 2 years.

2.2 *Election/selection process, composition of Management*

The daily executional functions of the Company are entrusted to a Management team employed by the Board from the open market, pre - requisite being graduate and post graduate.

2.3 *Organizational structure*

See Annex 1

2.4 *By - laws, rules, regulations, responsibilities, control mechanism*

It should also be understood that the functions of the Company are guided by pre - determined Regulations and Internal policies such as Financial, Manpower, stores and Transport.

2.5 *Trainning received*

Referring to section 2.2, apart from the formal academic attainments, the company plans and administers on the job training aimed at equiping its personnel with skills related to their jobs as well as formal short courses on the newly identified professional requirements e.g computer trainning, O & M principles etc.

2.6 *Approach to demand assessment and demand Management*

The approach starts with looking at the existing population of people projected to 20 years using 3% growth rate.
Assumptions are based on the Tanzanian water consumption standards per capita per day, that is 10% of the projected population have house connections and thus require 130 litres, 20% have yard connections and require 70 litres whereas 70% draw water from public points requiring 25 litres. After the total consumption is worked out, a provision of 20% is added as assumed possible leakages/spilling.

As for managing demand, bulk water meters were installed in the mainlines to assess actual flows against estimated demand. At consumer level, metering exercise is being undertaken to ensure that there is no unwarranted water use /to enhance economic water use.

2.7 *Overview and approach of decision made*

Technology used is the one universally practised in execution of gravity water supply schemes. All water supply schemes in the company supply area are gravity. As for siting and level of service, these are dependent on the results obtaining from reconnaissance survey.

On the rules of access, protection and use, there is government water works ordinance which stipulates rules governing water works/water supply designated and declared areas.

2.8 Successful aspects, problems, constraints with community management

2.8.1 *Success*

The awareness creation campaigns which were aimed at soliciting the water users' realization of the need to own and run a community based water supply scheme resulted in the following:

- About 12000 out of estimated 40,000 households bought shares to become legal owners of the Company.
- The owners contribution towards O & M indicates a positive upward trend whereby in the year 1996 the collection was 35% of the required O & M costs; 1997 the collection was 37% and 1998 (Jan - Nov.) 65%.
- The supply area with 60 user areas each has a water committee of gender balance; and majority of water committee members were elected by share - holders.

2.8.2 *Constraints*

- The previous government water policy before 1991 considered piped water as free service and thus with the new concept of cost sharing in water service most people became and still are reluctant to adopt the change.
- Differing political ideologies especially in the era of political multipartism in Tanzania whereby some politicians seeking cheap popularity end up deceiving the community that water is free service and is the responsibility of the government to render the service.

3.4 *Financing of extensions and replacements*

All extensions and replacements are done using funds from the Donor Agency (The GTZ). The replacements and extensions are effected depending primarily on the assessed needs technically and as per requests from the water users.

However, its the Company's expectation that in future will be able to finance the same, but much will depend on the water users high willingness to pay for the service to surpass the amount needed for O & M.

3.5 Method & Approach to tariff setting and Fee collection

3.5.1 *Tariff setting*

The exercise starts with brain storming from the Company's Management whereby the pricing of water service is arrived at by considering the amount of water produced, the related cost of production and the ability of the water users to pay (Affordability).

The rates arrived at are also presented in the Annual Delegates General Meeting for deliberation.

3.5.2 *Fee Collection*

There are two fee categories.

The 1st being flat rates paid by unmetered private connections and users of public taps (Domestic points) and The 2nd category is of metered customers.
In the 1st category, fee collection is done by water committees through agents / tariff collections. For the 2nd category consumer water bills are sent to them by Company's Zonal Officers and in turn they make payment to the Zonal offices.

3.6 *Accessibility for loans and credits to community through local private sector (bank etc)*

So far the company has never consulted any private sector to negotiate for external financing/loan.
However, this may be significant in future, given the fact that demand for more developments is always conticipated.

3.7 Successful aspects, problem, constraints with financing

3.7.1 *Successful aspects*

Success with financing has been possible and enjoyed by the Company because of the following reasons:

- Continued mutual understanding between the Donor and the Recipient as per bilateral agreement.
- Sufficient commitment of funds to the earmarked and planned for activities.
- In time release of funds from the Donor.

- Assumed traditional inheritance of water rights whereby those who reside near water sources claim water to be their inherent right passed over to them by their ancestors. With this conception water is seen as God given gift.

2.8.3 *Problems*

- Low willingness to pay for water service resulting in low revenue collection e.g. the status of revenue collection is on the average of 15 - 20% of the expected potential.
- Incompetent water committees which some were nominated instead of being elected; thus failing to get co - operation of water users in their anticipated rules.
- Inadequate local authority/government involvement in the initial efforts to awareness creation which would have complemented the project's/company's endeavour.

3.0 FINANCING

3.1 *Capital cost*

Investments in the supply area include those which were existing and previously owned and operated by the government both Central and Local and were handed over to the company in the event of its founding. Other investments were effected by the company with financial assistance from the Germany Government (BMZ) through GTZ. At the time of handing over the Water Supply Network to the company the total government investments could not be valued due to most of the pipelines handed over to the company for operatorship were underground, having various sizes, and some were very old to the level of zero book value.

The total Donor contribution extended to the company is expected to amount to DM 6.95 million up to the end of the financing period (year 2000). However it should be noted that of the total donation something around 40% will have been spent in the Donor country to meet overhead costs.

3.2 *The community contributions in terms of labour*

This is assumed to be 20% of the total capital investment.

3.3 *Financing of O & M*

From the period February 1996 when the company started collecting revenue from every household irrespective of whether the household has water connection or not as opposed to the old practice where households without water connection didn't have to pay for the service (water is God given gift/Free service) can be summarized as shown below:

Year	*Donor*		*Community*		*Remarks*
	Amount Tshs	**%**	**Amount Tshs**	**%**	
February - Dec 1996	48,475,000/=	65	25,775,000/=	32	- No meters placed - No govt backing
Jan - Dec 97	51,119,560/=	63	29,880,440	37	- Few meters placed
Jan - Nov 98	26,228,730/=	35	48,021,270	65	- More meters - Backing from local authority/govt - Computerized billing system introduced

NB: The average monthly expenditure on O & M amounts to Tshs 6.75 million.

3.7.2 *Problems and Constraints with financing government*

- Inability of the aid recipient government to extend some financial support to cater for the ever increasing demand for water service/extensions.
- Some cut down in the initially earmarked Donor's package by 30%

4.0 PARTNERSHIP ARRANGEMENTS

The partnership arrangements could be summarised as follows:

Activity	*Partners*					
	Local Authority	Agency/ Company	NGO	Private Sector	Community (User area)	Users
1. Planning	*	*			*	*
2. Implementation	*	*			*	*
3. Operation		*			*	*
4. Maintenance		*			*	*
5. Repairs		*		*	*	*
6. Spareparts		*		*		
7. Monitoring	*	*			*	

4.1 *Successful aspects, problems, constraints in partnership arrangements*

4.1.1 Success

- Recently, as from July 98 - to date there is a feasible common vision now spear - headed by the Hon. District Commissioner Rombo in the awareness creation especially in inducing water users to adhere to the cost sharing in water use through paying their water bills.
- Referring to the table under section 3.3 above, the level of water users' willingness to pay water bills is visualized statistically starting from February 96 todate.

4.1.2 Constraints/problems

- O & M not fully covered through payment of water bills
- Lack of initial local authority support in awareness creation
- More than 50% of water committees are ineffective.
- Genuine tasks of the government in such issues like protection of water catchment areas not adequately undertaken.
- Ever, increasing demand for extensions against company's inability to accommodate.

5.0 MONITORING ARRANGEMENTS

5.1 Monitoring arrangements were developed during Project Planning for implementation (ZOPP III) together with more others became after the company became operational.

The monitoring arrangements which exist include:

- Water flow measurement:

To make sure that the water supply network operates as designed. So flow measurement on mainlines and branch lines is done regularly using Ultra sonic Flow Meter

- Stores monitoring:

To control the flow of construction materials, pipe and fittings from the Headquarters to various construction sites

- Monitoring water consumption:

Customers are being metered with a view to ascertain actual amount of water consumed and to enhance economic water use.

- Zonal office performance:

This is partly measured by relating zonal revenue monthly potential against actual collection.

- Level of water users to pay for the water service

- Internal check lists:

- Individual performance against his/her job description
- To measure adherence to company's internal policys implementation on issues like finance, stores, transport and record & Keeping.

- Computerized Accounting System to enable quick and accurate reference of the financial and stores transactions.
- Computerized billing system to make it easy for the management/finance department to know exactly how much each customer owes the company and possible outstandings.

5.2 ***Data collection interpretation and use***

Activity	***Responsible Persons***	***Purpose***
1.0. Revenue	Public Relation Officers & Zonal Officers	To measure level of water users' ability/willingness to pay. (Assess zonal performance)
2.0. Flow	Technical Manager and Technical Supervisor	To monitor flow pattern and service level
3.0. Hydrological	Local authority/Government	To identify possible water sources for future development
4.0. Category of Customers	Technical & Public Relations departments	To know the number of metered, unmetered customers and those who use public points (Domestic points) hence knowing the potential of anticipated revenue collection.

5.3 ***Successful aspects, problems, constraints in monitoring***

- ***Success***

- The Company has now a reliable data bank
- Enhanced Productivity

- ***Constraints***

- Poor Communication network e.g. bad roads, unreliable telephone system
- Lack of radio telephone facility
- Community reluctance in releasing information pertaining to individuals socio - economic issues.

- ***Problems***

- More time spent in data collection
- Unnecessary delays in effecting intervention measures
- Delays in updating data bank

6.0 CONCLUSION

The case/experience discussed is a summarized state of affairs in the East Kilimanjaro Water Supply Project (EKWSP)/KILIWATER COMPANY LIMITED.

Much of what is required among many others in order to attain sustainability in the Management of water supply schemes is sufficient attitude change by the water users, so that the concept of cost sharing in water use is widely accepted. Though it is common for people to resist change, particularly when it involves sacrifice of economic gain/giving out some money; efforts must be enhanced to see to it that people are made to change the long time conceived notion of water as free service to a payable one. In the same endeavours to change peoples attitude, the pre - requisite is the people to realize the need for a better future.

Community based water supply schemes make it possible for the O & M being low, hence lower price for water service. Together with government's handing over to the communities, the running of water schemes, it is also imperative for the government to ensure sufficient amendments of relevant water supply legislation with a view of giving adequate empowerment to the communities in their running of water supply schemes.

Along with the amendment of legislation, governments must also continue to extend financial/material support to such community based schemes until the community is able to meet by 100% O & M costs. In this respect, support should also include creation of proper platform for communities taking over the water schemes. Sound platforms should be creating conducive socio - economic atmosphere and proper handing over notes.

For EKWSP/KILIWATER CO. LTD much of what is concluded herein have been effected. After all the government of Tanzania is interested to see the company prospering well, since it is a pilot one in the country.

Lastly, it is rational for whomsoever emulates the approach / direction followed by KILIWATER CO. LTD to acknowledge the fact that always there are mistakes which shall need corrective measures as he goes along.

Other enclosures:

1. Certificate for Commencement of business
2. Certificate of Incorporation

Annex 8 Empowering Water Users to Manage their Communal Water Points; a Case Study of the Shinyanga Domestic Water Supply Programme

EMPOWERING WATER USERS TO MANAGE THEIR COMMUNAL WATER POINTS

A CASE STUDY OF THE SHINYANGA DOMESTIC WATER SUPPLY PROGRAMME

By: A.D. MAWI

A PAPER PRESENTED AT "THE WORKSHOP ON MANAGEMENT MODELS FOR SMALL-SCALE WATER SUPPLY SYSTEMS IN AFRICA" KAKAMEGA, KENYA
6TH – 10TH DECEMBER 1998

Source of Information and Annexes: DOMESTIC WATER SUPPLY PROGRAMME (DWSP)
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The Views expressed in this paper are those of the Author and do not necessarily represent those of the Programme in question (DWSP). Author's address: P.O. Box 316, Shinyanga.
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1. SHORT DESCRIPTION OF THE SHINYANGA DOMESTIC WATER SUPPLY PROGRAMME

The Royal Netherlands Government in collaboration with the Tanzania Government started the Morogoro/Shinyanga Shallow Wells Project twenty-five years ago. The project was reformulated to a domestic water supply programme w.e.f. 1993. On reformulation it had to change its approaches so that it could realize long-term sustainability of the Improved Water facilities through increased involvement and utilization of the private sector. This involved a provision of technical support to inexperienced entrepreneurs in water sector and water user groups. Emphasis was on production of standard quality work with a major focus on community management of the improved facilities. Capacity building on the part of their partners has been a major concern during the period. Endeavours of balancing cost sharing on construction works are now being given due consideration so that donor subsidy is dwindled gradually during the current transition or consolidation phase of the programme. By September 1998 the programme had constructed 1022 new shallow wells and 278 wells had been rehabilitated cumulatively from 1994.

The long-term programme objective is "to assist the rural people in Shinyanga region in their efforts to improve their quality of life through increasing availability of safe and sustainable water supply and better environmental sanitation. The policy of Domestic Water Supply Programme (DWSP) states that water is an economical good, its not free and hence users as customers as well as owners should be responsible for their facilities, should participate in all stages of their projects construction and should be ready to sustain them through effective, efficient Operation and Maintenance system.

The approach adopted is the Demand responsive approach through the water user group, which is in line with the national water policy. One WUG of 25-50 households in a village once it has fulfilled the obligatory requirements can be assisted to construct their water point. Local institutions like schools, health centres, mosques and churches can as well establish their own Water User Group (WUG).

The main water source is ground water source and the main technology is hand dug shallow wells lined with concrete rings. A few cases are available of machine and hand drilled deep wells where the drilling agency as a private sector is contracted. In many instances the water is drawn from the wells using hand pumps (direct/indirect Action pumps) just a few are connected to diesel driven or electrical driven pumps. Rainwater harvesting is the 3rd technology in use. The main use of the water is for domestic use viz, drinking, bathing and at times laundering. Shinyanga is almost a semi-arid area with no surface running water; hence the reason for the existence of this programme is need and demand driven, as there are no any other available sources. See Annex I.

The Way forward for this programme focuses on:

- Enhancing the formulation of legal framework
- WUG Land ownership
- Transfer of ownership
- Updating the cost sharing policy of the partners of stakeholders.

2. COMMUNITY MANAGEMENT EXPERIENCE OF DOMESTIC WATER SUPPLY PROGRAMME (DWSP)

Generally the status of water supply facilities in rural areas is very low in both in quantity and quality. The coverage so far in *Shinyanpa is about 30% and about* 30% of the total shallow wells are not working. The operational schemes work under capacity due to the following experienced reasons:

- Lack of regular maintenance due to lack of awareness on the part of the users on the importance of corrective/regular maintenance and less accessibility of spare parts for most facilities.
- Too many people using the schemes beyond its capacity. This over use beyond the designed capacity also applies to shallow wells.
- WUG's failure to maintain their facilities because of lack of commitment in doing corrective maintenance timely and to some extent lack of knowledge of where to get the spares.
- Failures in Management of these schemes also are due to regular changes of the trained leadership of the WUGs and WUG attendants or Artisans.
- Misuse of collected contributions of WUG members by the WUG leadership induces the members to loose morale of giving their monthly contributions for Operation and Maintenance (O&M) accounts.
- The distance between the banks in town and WUG's discourages them in doing proper banking of their collected tariffs.
- Due to the above-mentioned problems some WUG's have developed their own Local banking system in the form of a credit and savings scheme.

The legal status and ownership of these facilities have been a concern. At the moment each district is formulating by-laws that shall give the WUGs legal status and land ownership before the programme can officially transfer ownership of the assets. These by-laws shall contain all checks and balances. However, each individual WUG has its own norms of operation of their wells and any defaulter is locally penalized between Tshs. 1000/= to 5,000/=.

The programme in its step-by-step approach trains the communities and specific Community Management training courses conducted to WUG leadership, Ward leadership and Councilors to increase their awareness that water is an economic good, has a value and should be valued accordingly. The key topics are Leadership Skills, Pump Technology and Financial Administration. The election of the WUG leadership is done democratically by the WUG members in their general meeting,

The demand is assessed by the number of applications received by the District DWSP offices and those who fulfill the set requirement such as having an operative special account for the well and their preparedness to participate in the whole process of construction and enhancing their O&M Account are short-listed for the following budget year.

The Organigram of WUG is shown in Annex II.

3. FINANCING OF THE OPERATIONS OF IDWSP ACTIVITIES IN SHINYANGA

Over 1,300 shallow wells have been constructed by the programme. The capital costs per one shallow well ranges from Tshs. 1,200,000/= to Tshs. 1,900,000/=. The cost sharing in this operation is: Donor (70-74%) Community (15-23%), Local Authority (4-11 %). The contribution of the Central Government contribution is quite negligible so far which is in terms of technical back-up support. Private sector involvement is supported by the programme by contracting out private contractors of casting rings, drilling, surveying etc. The government contributes in the provision of staff, payment of telephone bills, electricity of the DWSP offices and provides office accommodation. On the other hand the donor provides all materials to be procured for construction, equipment, transport, technical backstopping services and top-up field allowances for the Government and Local Authority DWSP field staff.

The community provides al] locally available materials, digs the wells and contributes their labour throughout. With regards to tariff settling and collection the WUG determines the rates to be paid by the members as water user fee per week or month. It ranges from 200/= to 1,000/= per month. Non members are charged 20/= per a 20 litre bucket/pail.

WUGs are not yet having accessibility to the loans and credits from the private sector e.g. banks. However, they have developed their own system called "Ifogongho" where interest rates range from 20% to 50% within a loan period of one to three months. This system has proved to be effective and some WUG's are having O&M accounts up to Tshs. 1,000,000/= under this scheme.

Problems of financing exist in many WUGs where collection of agreed tariffs have failed due to poor management and mistrust in case of bad leadership.

4. PARTERNESHIP ARRANGEMENTS WITHIN DWSP ACTIVITIES

The defined and applicable roles of the various partners in this programme are summarised below. Also see the organigrams of the WUG and DWSP to view their relationship.
Annex II & III.

5. MONITORING ARRANGEMENTS WITHIN DWSP

The Regional Water Engineer through the Region Technical experts monitor the quality of the completed works by Inspection, sampling of water for quality analysis as to the suitability for human consumption according to the Tanzanian standards.

Water quality analysis is being done by the Water Quality Agency. The District Water Engineers are given the results and eventually make the required follow-up by inspecting and give advise on repairs and disinfection. DWSP Advisory Office also reacts and through the Regional Water Engineer, supervises the execution of the remedies recommended.

The indicators of adequate and safe provision of water in the community can be seen by a reduction of the case attendances of water-borne morbid cases at the catchment medical units.

The Programme has developed quite a good database of the activities done for future reference. Digitized mapping system is developed where the waterpoints are clearly shown. Future additional waterpoints ca be added to the maps at a later stage.
Data for the monitored construction performance is seen in Annex IV.
The assessment form/ questionnaire which is normally used to evaluate the various programme facilities is shown in Annex V.

6. OBSERVATIONS AND VIEWS

The programme approach has now been a participatory one since the inception of this last phase. At the moment the people are involved in sorting out their shortcoming in the approach.

Some factors which had hindered the transfer of ownership like legal status land tenure and community managerial capacities are now being considered jointly by all partners.
The approach which is Demand Response approach by the user groups had cropped up through community sensitization. However there are some established WUG that happens to have been due to copying from neighbours/ replicability.

However the sanitation component had a minimal backup force from the programme as the desired quick results could not be realized in time. As from 1996 the school health/hygiene Education packaged changed the attitudes of The Programme Actors. About 80 demonstration Institutional latrines have been completed and over 100 household VIP latrines are completed and are in use.

The planned objective for the current consolidation phase indeed prepares the community in being the actual owners of their constructed facilities.

These objectives are as follows:

- Establishment of an appropriate legislature and regulatory framework to ensure total ownership of the improved facilities by WUG's.
- Setting efficient and effective administrative and financial management systems to enable WUG's to finance operation and maintenance of their facilities.
- Strengthening the human resources capacity of water users and field facilitators through the development of practical job guides, training modules related to user level operation and maintenance (ULOM).
- Appraising the financial capacity of users, councils and the community at large with the view of establishing effective financial strategies for a continuous process of water, development in Shinyanga region.
- Strengthening the private sector contractors, spare part distributors, private firms, and local artisans) so that it can effectively involve itself in the water and sanitation sector by providing qualitative and reliable services at competitive price.
- Strengthening the Institutional capacity of the public sector with its new facilitation role of policy development, co-ordination and monitoring.

Annex 9 Two Rural Water and Sanitation Projects, Uganda

Rural Towns Water and Sanitation Programme (RTWSP), Uganda

Description of the scheme:

- 250 small towns and rural growth centres.
- The centres are grouped into packages for donor financing.
- 7 packages (about 70 towns/centers implementation is on-going with donor support (Sida - 11 towns, Austria 19 centres, Danida - 11 centres, France - 9 centres, Eu- 3 centres, etc.), total of US$104 million
- Population to be served: 1 million.
- 4 towns / centres completed and handed over to communities for management.

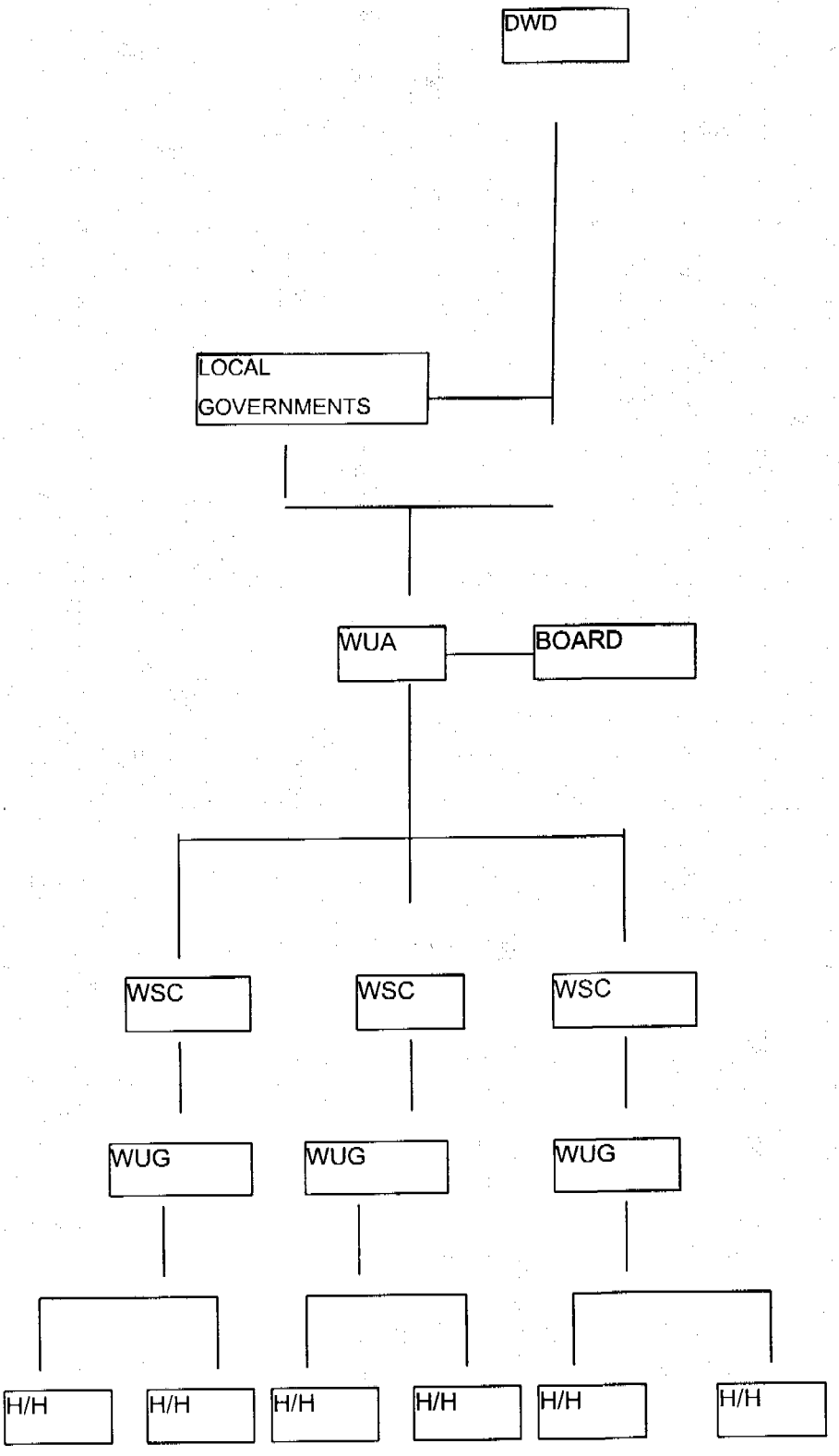
Community management:

- Community management principles are now adopted by the Government as principle in the Water Statute 1995, and the National Water Policy (draft)
- For piped water and sewerage systems

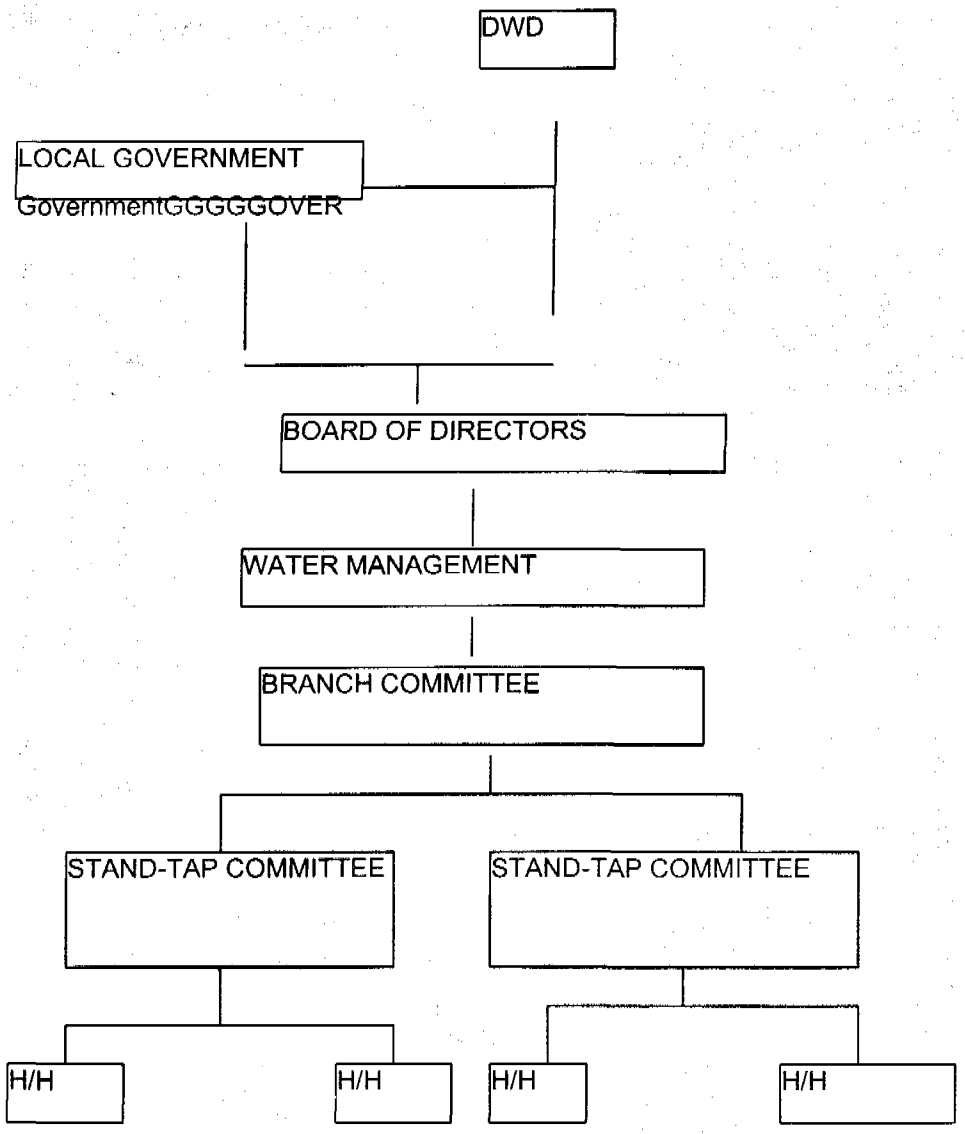
Water authorities and sewage authorities should be established to operate and maintain the systems and services.

- For point water sources (wells, springs) water user association (wua) - water and sanitation committees as executives.
- The executives are elected by the WUG or WUA, the W&S committees members are trained.
- By-laws are made to govern the systems.

Point source - Water User Association



Piped water organisation - Water Authority



The community decides on types of technology and services level (over and above the minimum perceived)

- Demand responsive approaches.
- Technical support provided by the local governments and DWD(centre)

Financing mechanism

- Capital cost:
  community: 2 -5 % (cash)
  Government: 10 - 15 % *
  Donor: 80 - 90 %
- Operation and Maintenance cost:
  community: 100%
- Replacement cost (after 8 years)
  community -? (to be determined)
  government-? (to be determined)
- Tariff level and mode of collection decided by the users i.e. per town/centre.
- No problem so far in the new systems, but for old systems that were designed on supply - driven bases the community is not in position to collect all the required revenue for full O&M cost. DWD has approached government to provide conditional grant to meet the shortfall in the old systems.

Partnership arrangements

Community	• Plan, implement, full O&M of the systems. • Owners of the facilities.
Local Governments	• Administrative and backup support. • Provide additional funds to pull up the revenue short fall. • Enact by-laws to support community management.
DWD	• Policy and technical support. • Mobilisation of funding for capital and replacement cost. • Regulator
Donor/NGOs	• Provide the funds for capital cost. • Provide technical guidance.
Private sector	• Provision of spare parts, and O&M services. • Contractors and drillers during construction stage. • Consultants for community mobilising in planning and design stage.

Monitoring arrangements

Community based monitoring concept has been adopted where the roles are clearly defined between different levels from community sub-county/town, districts and DWD (project and management).

A BRIEF ON RUWASA PROJECT, UGANDA

1 Description of the Project

- Rural Water and Sanitation (RUWASA) East Uganda Project.
- Government of Uganda project, jointly funded by DANIDA.
- Implementation by the Ministry of Water, Lands and Environmental through the Directorate of Water Development.
- Project started with Pilot Phase between 1989 and 1990.
- Phase I which concluded in 1995 was supply driven. Interim phase January-June, 96
- Phase IIA June 1996 - December 98 }DRA
- Phase IIB January 99 - June 2001

1.1 Overall Objective

To improve the quality of life of the people in Eastern Uganda through the Provision of safe drinking water and improved sanitation facilities.

1.2 Technology and Sources of Water

- Spring protection
- Gravity flow schemes
- Deep borehole drilling
- Shallow wells (motorised and hand augered)
- Hand dug wells
- Rainwater Harvesting

- Promotion for communities (Individual households)
- Construction for Institutions (Health centres that did not benefit from deep wells due to very poor ground water potential).

1.3 Area Served

Project covers 10 districts (out of a total of 45) in Eastern Uganda.

These include: Mukono, Kamuli, Jinja (old), Pallisa, Iganga, Mbale, Tororo, Busia, Bugiri and Kapchorwa (New)

1.4 Population Served

According the 1991 census, the project was to cover 4 million people (= 1/4 of the country's population)

1.5 Use of Water

Water is mainly used for drinking, Bathing and washing (clothes & utensils)

1.6 Cost of Project

Danida's contribution was/is:

Phase I - 209 m DKK

Phase II - 250 m DKK

2. Community Management Experience

2.1 Registration

- Communities not registered.
- They are sensitised and offered land free.
- This portion of land (around the water source) is not leased at all.

2.2 Election / Selection process, composition of management

- Communities formed into water user committees (WUCs)
- Elected by communities themselves
- Members [chair person, sec, treasurer, 3 members)
- Women representation on committees
- Treasurer must be a woman
- One woman and a man are source care takers

2.3 Organizational structure

- WUCs . Project staff mainly offering support.
- VWSCs*
- SWSCs*
- Country Staff
- Project Staff

2.4 Checks By laws, Rules, Regulations, Responsibilities, Control mechanisms & Balances

- Communities establish own by laws
- Project based on II principles
- A number of guidelines / procedures documented and being used e.g.
- Community contribution guidelines
- Financial management procedures
- Siting (social technical) manual
- Roles and Responsibilities of key players in gfs development
- In addition, monitoring formats, field visit (formats) reports by project staff being used.

2.5 Training

Trainings conducted for all levels of district staff in the relevant fields e.g.

- PRA for communities
- Financial management for district staff + communities
- Contract management for District Tender Boards (DTBs)
- Supervision and mgt of small scale contracts for district water engineering assistants
- Construction (Practical) for masons (springs + hand pump platform casting). e.t.c.

2.6 Over view and approach of decisions made

- Program using a DRA
- Communities guided through the technical options and the related implications in terms of cost, ease of O & M, technical skills involved e.t.c.
- Communities pre-select 3 sites (in case of deep wells) for further confirmation by the hydrogeologist
- One of the 3 choices is made by women and should be given priority
- Women encouraged to participate during siting.
- Service level is at :
    - 300 persons per hand pump
    - 150 persons per spring
    - 150 persons per tap stand (gfs)
    - Walking distance is 1.5 km to hand pump and 0.5 km to a protected spring.
- Communities encouraged to contribute manual labour and cash for simple technical options. Only cash for deep wells. No tarriffs on usage.
- All construction materials except PVC cashings and other pipes are provided by the

contractors for the purpose of Quality Assurance(QA)

- Community cash contributions are as follows:
  - springs 45,000(45$) gfs 5,000 per h/h (1,500)*
  - Rehabilitation 45,000 Auger (hand) 180,000 (90,000)*
  - Dug wells 180,000 *Proposed
- Community contributions through WUCs and then to bank accounts.
- In case borehole is not successful, money is refunded.

2.7 Successes/Constraints

Successes:

- Project managed to implement under new approach of decentralisation, demand driven and privatization
- Capacity built, especially at district level (staff can adequately manage all matters related to construction and finances).

Constraints:

- Delayed implementation due to training + sensitization
- Communities not contributing on time
- Long tendering process especially for deep drilling
- Dissolution of some District Tender Boards hindered progress of simple technology activities
- Difficult to mobilise to offer manual labour more especially after making some cash contributions for simple technologies.

Annex 10 Community Water Supply of Sichili Secondary Growth Centre, Zambia

WASHE
water · sanitation · health education
in Zambia

COMMUNITY WATER SUPPLY OF SICHILI SECONDARY GROWTH CENTRE, WESTERN PROVINCE, ZAMBIA.

A paper presented to the Workshop on "Management models for small scale Water Supply Systems in Africa". Kakamega, Kenya 6 - 10 December, 1998.

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1.0 INTRODUCTION

The Government of Zambia is giving high priority to Water Supply and Sanitation Development. An important aspect of improving the living conditions in rural areas is the provision of an adequate supply of potable drinking water and satisfactory sanitation to the communities

Norway has assisted Zambia in developing the water supply sector (both urban and rural) in western province of Zambia since 1977. NORAD funding to the programme has been allocated through successive phases. The programme phases out completely on 31st Dec., 1998.

As western province is predominantly rural successive provincial plans emphasised rural development. Within the rural areas are secondary growth centres (also called secondary services centres) which are characterised by population density and distribution, physical size of area and service availability.
Generally, the minimum criteria adopted by the provincial planning unit for designating a service centre as a secondary growth centre was a population of 5,000 people within a radius of 30 Kilometre catching area.

As part of the strategy to promote equitable socio-economic development, three centres namely Munkuye, Sichili and Nkeyema were selected as pilot areas for the introduction of piped water supply schemes.

The objectives of the pilot programme were ;

- to provide consumers with safe and sufficient amounts of water
- to implement the construction of the scheme through using the set up of Department of Water Affairs
- to train a construction unit within the provincial water engineers staff in order to carry out construction of the future growth centres with minimum supervision.
- To transfer skills to the service centres community based management boards which will enable them to organise and operate their water supply systems efficiently and effectively.

For the purpose of this study only one service centre, Sichili is considered.

2.0. DESCRIPTION OF SICHILI SCHEME

Sichili is situated in Sesheke District North-east of Sesheke township. The estimated population for the entire centre was 5,800 (1985) and estimated population for the water supply scheme area (1987) was 2,430 persons.

Sichili service centre is strongly associated with the Catholic Mission and prior to the initiation of the new water supply, a rather limited piped water supply scheme existed. Piped water was available to the mission centre, Hospital and School. The rest of the community obtained water from traditional shallow wells and the nearby stream.

3.0 CONSTRUCTION, ORGANISATION AND MANAGEMENT

Overall, the Department of Water Affairs was responsible for monitoring work progress. The consultant had the responsibility for organising the construction in accordance with the contract between the Ministry of Agriculture and Water Development and Water Affairs and the Consultant.

3.1. TECHNICAL ASPECTS

A gravity based system was chosen for Sichili where water could be transmitted from a nearby perennial stream. The existing piped water supply scheme operated by Sichili Mission used the stream as it's source and the water was transmitted through use of a small hydraulic ram pump. The new scheme incorporated part of the reticulation system established by the mission, nonetheless, sufficient sections (including the ram pump) remain independent so that the Mission continues to have an alternative source of water.

To promote sustainability potential care takers/ plumbers, intake cleaners for the scheme, were identified at the initiation of construction. Such people (1 or 2 for each community) were employed under the direct labour arrangement and trained for maintenance work through on the job training. Their wages were paid from project funds during the duration of construction. After the scheme was handed over to the community the caretakers/plumbers, intake cleaners wages became community responsibility.

3.2 COMMUNITY PARTICIPATION

Community involvement in the decision making process was an important aspect of project implementation. Community involvement had two primary purposes, firstly to encourage popular participation in construction phase so that communities could assist in the identification and selection of local labourers.
A second purpose for community involvement was to promote programme viability. It was clearly recognised during feasibility studies that sustainability was dependant upon local acceptance of the scheme as well as commitment by consumers to assume operational and maintenance responsibility.

A Building committee was formed at the start of construction and whose roles was to liaise with the consultant and water affairs so that the community could be constantly updated on work progress. A Water Management Board was also formed to oversee the work of the Building committee and to prepare for accepting the water supply scheme on behalf of the community when the construction phase ended.

As work progressed and complexities of operating the system became more apparent to the Board, it was agreed to have a structure having legal status as well as formal guidelines for directing deliberations and activities.

4.0 ORGANISATION AND MANAGEMENT

The Sichili scheme was handed over during June/July 1990 to the community via the Water Management Board for operation and maintenance.

4.1 WATER TARIFFS

The Board sets it's own tariffs. Unfortunately the Board has had to raise tariffs every so often due to runaway inflation in the country.

When the final design reports (1987) were submitted, the estimated operation and maintenance costs were presented as follows :

Table 1 - projected Operation and Maintenance (costs in US Dollars)

	1987	2002
Maintenance costs $/Year	1435	1435
Operation Costs $/Year	625	625
Total O + M costs $/Year	2060	2060

The table below gives projected revenues.

Table 2 - Projected Revenue (in US Dollars)

	1988	2002
Sichili Scheme	2176	2176

From the table above it is shown that projected revenues would have been sufficient to cover Operation and Maintenance costs plus generate a small profit.

Table 3 and 4 below indicate operation and maintenance costs and revenues respectively four months after the handing over of the scheme in 1990.

Table 3 - Operation and Maintenance costs (in US Dollars)

Sichili US $/month	95

Table 4 - Revenues (in US Dollars)

Sichili US $/month	166

Table 5 below presents wages as proposed in the final design study compared to what was actually being paid at the time of the handing over.

Table 5 - Labour Costs (Average monthly costs in US Dollars)

	1988	1990
Sichili (1 care taker & 1 canal Cleaner)	62.5	95

The Board was sympathetic to the demands of their employeers and were trying to identify ways which would enable them to give additional increments. Taking the profit margins of 1990, it was not possible then for the Board to suction huge salary increments. Cirrently the situation has not changed to match up with inflation.

4.2 FEE COLLECTION

The community has established systems for collecting user charges. There are two methods. Representatives on the settlements collect from communal tap users whereas institutions and households pay directly to the treasurer. Settlement representatives turn the fees over to the treasurer.

The Board has formulated punitive regulations to discourage defaulters.

4.3 ACCOUNTING PROCEDURES

Formal accounting procedures are in place. The Catholic Mission assisted greatly to set up the system.

4.4. EXPANSION OF SCHEME

The Board oversees expansion to new consumers. It has also put in place punitive regulations to deal with illegal connections.

4.5 TRAINING

One of the terms of reference for the consultant was to create manuals which would assist the communities to maintain and operate the scheme. A technical manual for the plumbers/ caretakers and an administrative manual for the schemes' governing bodies.

The Board was introduced to the administrative guidelines by the consultant.

The overall response to the guidelines have been positive. Some Board members however find the guidelines complex, abstract and academic. On the other hand, other board members find the guidelines helpful.

4.6 TECHNICAL BACK UP SERVICES

After handing over the scheme, the consultant continued to provide back up services for a period of six months as part of monitoring phase. Depending upon the nature of the problem, technical advice (and sometimes minor material support) were provided. After this the Department of Water Affairs took over the responsibility of providing technical advise to the communities and will continue to fulfil this role in the future.

5.0. MONITORING OBSERVATIONS

The scheme in Sichili is functioning and providing water to the communities. The source, however, has been plagued with intake problems, leading to pipe blockage and production of turbid water. In order to increase the amount of water supply, pipes were extended into the nearby canal by the site engineer during the time of construction, however, they were not covered properly. Consequently, a range of particulate matter is carried into the intake chambers via these pipes.

Over the years the Department of Water Affairs has tried to solve this problem but without being successful.

The Water Management Board periodically mobilises community members to undertake cleaning out of the pipes and surrounding canal area, placing fine gauze mesh over the ends of the exposed pipes. These activities are only stop gap measures. A permanent solution is needed.

In addition to problems of the intake, some areas are not receiving adequate water due to lack of adequate storage capacity. There is need therefore for a separate tank to serve the higher areas. This is a major investment and the communities are not in a position to provide these resources.

The problem of the intake and the poorly served areas was a result of inadequate supervision on the part of the resident engineer and the Department of Water Affairs. The site meetings were always hurried and never resolved issues.

The care takers/plumbers have satisfactorily managed to maintain the scheme. There is however a general feeling that these would benefit from additional plumber training. The plumbers are also quite keen to enhance their knowledge and skills. In addition they also require additional knowledge on monitoring of the scheme and to take corrected action,

6.0 CONCLUSION

The Sichili scheme was a pilot project. It recognised the advantage of being a legally registered body, capable of enforcing policies and regulations. During the transitional period it went through "teething" problems but has now evolved into a formalised body. The Board continues to facilitate effectiveness

of operations as well as efficiency by providing a forum for co-ordination and administration.

The major draw back is inflation which threatens their credibility among consumers.

Strong institutions are essential for sustainability. They require sound management, motivated people and backed by appropriate policies, legislation and incentives.

To ensure sustainability is to ensure that Sichili water supply continues to functions reliably and well and corresponds to desired service level, at an affordable cost.

In the future, the scheme will have to be expanded to cope with population growth and increased water use. This will be new investment and beyond the capacity and ability of the Water Management Board to mobilise sufficient resources. Government through the department of water affairs are supposed to fulfil this role. There is no written agreement to this effect.

In the same vain, the backup services by department of water affairs have been inconsistent.

As discussed before and spelt out in the objectives, Sichili scheme with two others were pilot projects. They offer a lot of lessons and concerns. Unfortunately there has been lack of interest on the part of department of water affairs to document these experiences. The backup services have been seen as an added responsibility and a burden.

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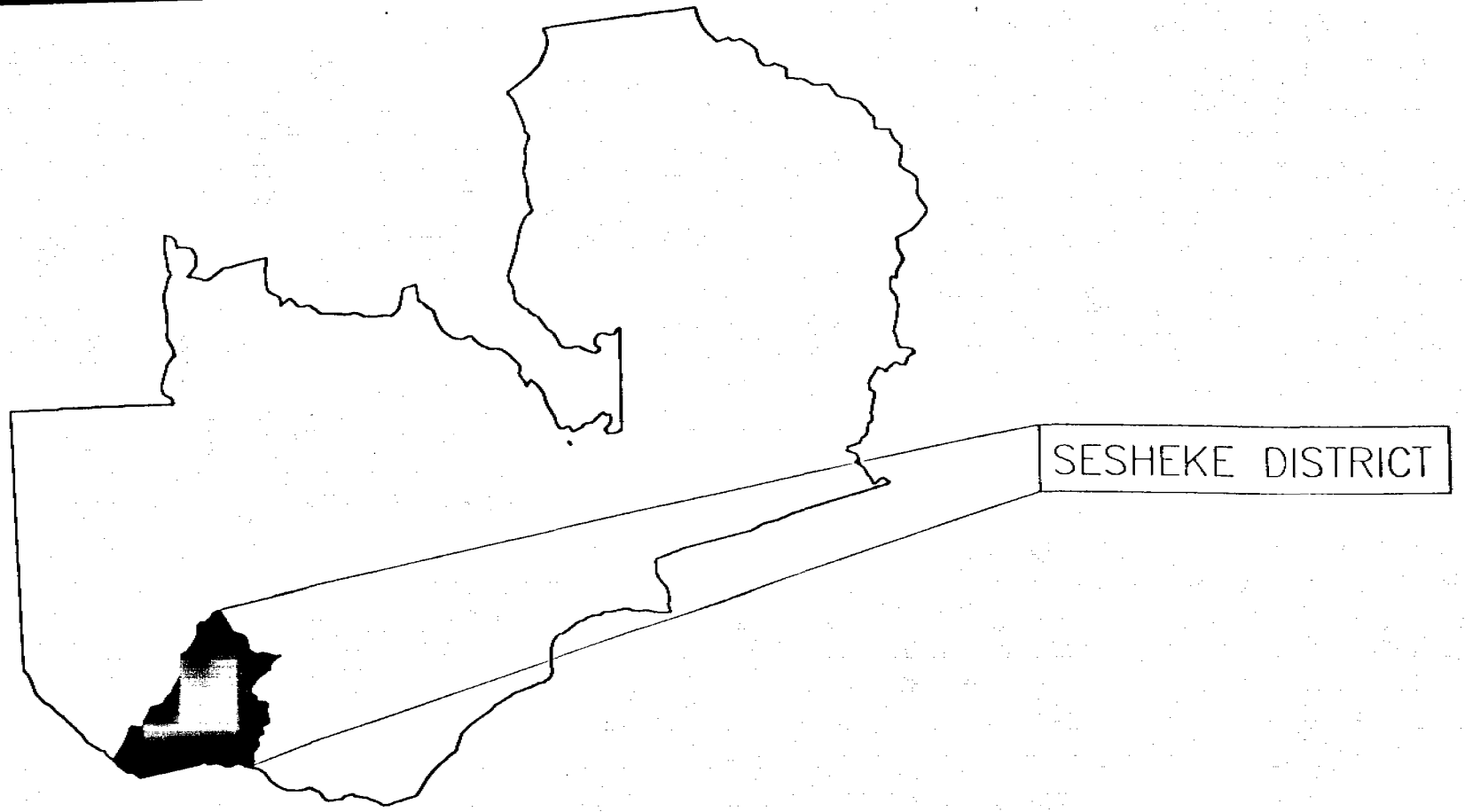
SESHEKE



REPUBLIC OF ZAMBIA

DEPARTMENT OF WATER AFFAIRS

COMMUNITY MANAGEMENT

AND

DISTRICT WATER POINTS INVENTORY

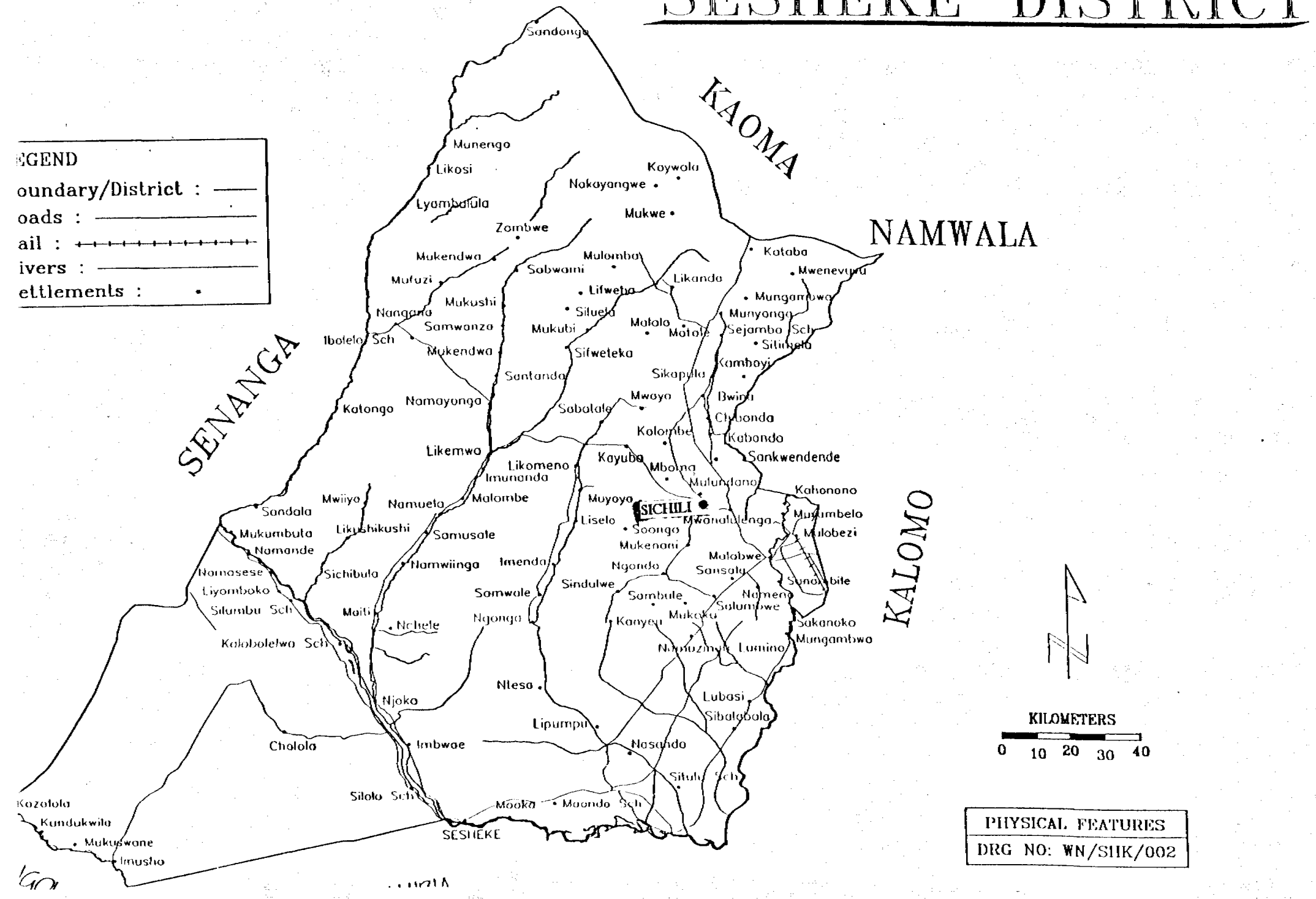
SESHEKE LOCATION PLAN

ASCO (Z) LTD

GIS DEPARTMENT

P.O BOX 31340, LUSAKA

SESHEKE DISTRICT



PHYSICAL FEATURES
DRG NO: WN/SHK/002