HAI DISTRICT WATER SUPPLY PROJECT

A paper presented to the

GLOBAL DIALOGUE:

"The Role of the Village in the 21st Century- Crops, Jobs, and Livelihood"

Taking place on EXPO 2000 Exhibition Area, International Congress Center, Hannover, Germany, August 15th-17th, 2000.

Authors

Eng. Immaculata N. Raphael (Mrs)
HAI DISTRICT WATER ENGINEER AND SECRETARY FOR STEERING COMMITTEE FOR HAI DISTRICT WATER SUPPLY PROJECT

Eng. Prosper Shoo
MANAGER / CHIEF ENGINEER HAI DISTRICT WATER SUPPLY PHASE I

UROKI BOMANG'OMBE WATER SUPPLY

HAI DISTRICT WATER SUPPLY PROJECT

1.0 ABSTRACT

The paper envisages on the practical experience of the ongoing Hai District Water Supply Project in Kilimanjaro Region, Tanzania. The community initiated the project, and continued to be the main actor specifying their need. To enable implementation, the Tanzanian Government started the project with assistance from the German Government.
Beneficiaries' contribution includes participation in public tap locations and physical work for non-technical activities such as trenching, back filling and ferrying materials from stores to site. Schemes constructed and or rehabilitated under Hai District Water Supply Project (HDWSP), after completion are handed over to autonomous community based entities.

2.0 INTRODUCTION

Hai District Water Supply Project is a development project of the United Republic of Tanzania, co-financed by the Federal Republic of Germany through KfW. The beneficiaries contribution is through self help activities for unqualified labour. The project goal is to reduce the health hazard for the target group caused by water-borne diseases and at the same time to improve the living standards of the community, especially woman and children, through supplying adequate, clean and safe drinking water.

2.1 PROJECT AREA

Hai District is located in Kilimanjaro region along latitude 2°50' and 3°29' South and Longitude 37°00' and 37°18' East. The District has got an area of 2,168 square kilometres, and an estimated population of 250,000 inhabitants. The project area is situated along the Southwest slopes of Mount Kilimanjaro on elevations ranging roughly from 1,000masl to 2,000masl and extends down to the plains between Mt. Kilimanjaro and Mt. Meru in the West, and the Masai Steppe in the South. The rural settlements are mainly characterised by small holders keeping livestock and cultivating intensively coffee, banana, maize and vegetables in mixed cropping irrigated traditionally by furrows, which are diverted from rivers and springs emerging from the higher reaches of Mt. Kilimanjaro.

2.2 PROJECT IMPLEMENTATION

The Project started in 1990 with the new construction of Uroki Bomang'ombe water supply scheme (phase I) followed by the rehabilitation of other schemes in phases as follows:

Project-phases	Length km	Impl. Time In months	Population	Cost Mio. DM	Completion	Project Type
Phase 1	105	72	90,000	13.00	Dec. 1996	New Construction.
Phase 2	175	36	65,000	08.65	Dec. 2000	Rehabilitation
Phase 3	175	48	75,000	10.01	Dec. 2004	Rehabilitation

Hai District Water Supply Project is a unique project of its kind in the country because of the following:

- the beneficiaries organise themselves, identify their needs, define priorities and participate in implementation.
- no formal contractors are involved, all labour is done by unpaid self-help and local artisans.
- all connections are metered and billed according to consumption for operation and maintenance is implemented thus project sustainability.
- community based independent legal entities to manage the completed schemes are established
- during implementation, the project is managed on behalf of the Ministry of Water by the Steering Committee for Hai District Water Supply Project. The members of which originate from the project area.

2.3 COMMISSIONING

After completion a scheme is handed over by the Steering Committee and the Government through the Ministry of Water to the beneficiaries who manage it through their independent legal entity.

3.0 COMMUNITY MOBILIZATION

Villagers organise themselves to identify their problems or needs and they resolved to have clean and safe water supply as the first priority. The resolution is forwarded to the government for assistance.
The District Council together with the Consultant, religious institutions, and other NGOs carry out the mobilisation campaigns which highlights on all aspects regarding self-help activities, security, health and hygiene, operation and maintenance, National Water Policy,Board of Water Users, billing system etc.

3.1 HEALTH, HYGIENE AND SANITATION

During mobilisation phase, a number of health and hygiene campaigns are carried out. The objective is to create Community awareness on causes of water borne diseases and preventive measures to be taken.

3.2 NATIONAL WATER POLICY

Villagers are educated on the National Water Policy and other accompanying issues to smoothly run and operate their schemes.

3.2.1 Village Water User Committee (VWUC)

The target population is educated on how to establish VWUC (where not existing) according to the government water policy. VWUC are established in the village general meeting.
The VWUC have the following tasks: -

- Mobilise villagers on self-help activities related to water supply.
- Sensitise people in protecting water sources and avoid misuse of water.
- Represent the communities.

3.2.2 Board of Water Users Committee (BWUC)

Representatives from different villages served by one scheme form the Board of Water User Committee.
The Boards are formed under the National Water Policy.

3.3 BILLING SYSTEM

The reason for installing water meters to all customers is always clarified at this stage. Formally, water for domestic use has been supplied free of charge at Public Taps and with a minimal monthly contribution on flat rate basis for house connections. Clarification is given on metering in order to discourage misuse of water and to ensure that every customer pays according to consumption. The collected revenues are strictly used for operation and maintenance of the system.

4.0 PROJECT IMPLEMENTATION AND COMMUNITY PARTICIPATION

The willingness of the beneficiaries to participate in planning and physical implementation is a key measure of success.

4.1 PLANNING AND DESIGN

During this stage, the community participates fully. It defines the areas to be supplied with water and decides the locations of Public Taps, give actual population by sub-villages and ten cells. Based on this population distribution, technical work starts under the guidance of the Consultant and the Design and Supervision Unit.
According to the standard of living water demand for the population in different supply areas is estimated at 20l/c/d and 80-100l/c/d for Public Tap and House connection respectively.

4.2 CONSTRUCTION

Physical implementation work is done by unpaid self-help and paid craftsmen from the community.
Proper organisation and supervision, early information on work demand and effective utilisation of self-help by the Design and Supervision Unit (DSU) team for trenching, pipe transport, pipe laying, trench back filling, road improvement, intake and reservoir construction works finally lead to high efficiency and performance in self help contribution.
As an example, in Phase I, the beneficiaries contributed 44,179 working days (equivalent to 353, 432 working hours).
This is a sign of high acceptance and appreciation of the work. Apart from the physical efforts, the self help work leads to the development of sense of ownership, evidence of which can be seen in the public taps surrounding which are clean, beautiful arrangements, flowers, fence and maintaining cleanness and hygiene during water collection.

4.3 COMMISSIONING

After completion a scheme is handed over to the beneficiaries. The Board of Water Users employs the management for O & M.
The Board of Water User Committees develops into a registered entity, most often, BOARD OF TRUSTEES. (Annex 1: Management structure - BOARDS)
BOARDS have the following roles and responsibilities: -

- Overall planning and policy making
- Liaison with government and donors
- Pricing and tariff control
- Recruiting and terminating employees
- Appointing auditors
- Ensuring observance of all rules and regulation established
- Reviewing and submitting annual accounts to the auditors

5.0 MANAGEMENT

The BOARD is a supreme decision making body entrusted with planning, and policy making functions. It is also responsible for directing, managing and supervising. The Board of Trustees contracts management staff for Operation and Maintenance, billing and accountancy and administration.
The management team headed by the Manager carries day to day activities.
The Manager is assisted by.an Accountant, Assistant Accountant, Secretary and technical staff to provide a reliable and continuos water supply

6.0 TARIFF ESTABLISHMENT/SETTING

A socio-economic survey conducted during phase I, reveals that the average income per household in the project area is equal to the Tanzanian average according to World Bank Publications (1992).
The general socio-economic and education situation was assessed to be above the country's average.
Based on this socio-economic result and considering the financial needs for O&M a tariff study was carried out. The result of which revealed that an affordable tariff (average expenditures below 5% of household income) could care for: -

- Running Operation and Maintenance costs
- Depreciation of items with a life expectancy of up to 10 years

These tariff rates are: -

- Public taps	150/= Tshs per cbm
- House connection	250/= Tshs per cbm
- Hydrants	250/= Tshs per cbm

6.1 BILLS RAISING/COLLECTION PROCEDURE

i) Pipeline Attendants read the water meters monthly.
ii) Bills are issued latest by 5th of each month.
iii) Customers have two weeks to pay to avoid disconnection.
iv) The collection efficiency is 95%.

7.0 CONCLUSION

In Hai District Water Supply Project, metering which lead to billing according to consumption is considered as the backbone for the schemes as the raised revenues are used for Operation and Maintenance for scheme sustainability.

Community participation in planning, construction and commissioning results in community empowerment and build a sense of ownership through control over resources, acquisition of new skills and confidence.

Annex 1

HAI DISTRICT WATER SUPPLY PROJECT