



## The gravity flow schemes programme in Uganda



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IN 21 DISTRICTS of Uganda the altitude of the land especially in the highlands and the availability of sufficient rains offers the opportunity to develop spring sources and rivers into g.f.schemes to benefit large rural communities.

The primary objectives of the gfs programme is the improvement of the quality of life of the rural population by providing clean water and promoting of sanitation facilities and hygienic practices to ensure a safe water 'chain', in addition, successful g.f.systems have been associated with many other indirect benefits for the community. Due to their scale g.f systems encourage social integration as a result of communities coming together to form committees to manage the different components of the system. Once the communities become aware of their potential as an organised group they can easily be mobilised to initiate other community based development programmes.

### The operation and maintenance

#### *Preparatory steps*

The community involvement starts during the identification of the scheme, during which their role throughout the different phases and their ultimate responsibility for the completed facility is made clear. It should be well acknowledged that a user community will only maintain their facility when they are convinced that it will improve on their living conditions.

Before actual construction of the project starts an agreement of cooperation between all the partners including the community should be signed. The agreement identifies the respective roles and functions and specifies the contributions in cash or in kind.

Consequential a water and sanitation committee from among the user community should be appointed which during the implementation of the project will be transformed in an O & M committee.

In conclusion, the following are the main elements in planning for the O & M phase:

- The preparation of the community for the O&M of the scheme;
- The design of the most appropriate O & M structure; and
- The community capacity; technical knowledge, and financial ability.

#### **The preparation of the community for the O & M of the scheme**

A g.f. scheme often supplies large communities with drinking water. Therefore to ensure consensus of views on the development and the future operation and maintenance of the scheme extensive consultation should be made with the entire community right from the beginning.

It is acknowledged that the involvement of the entire user-community during the preparatory period will create a stronger base for future O & M activities. Therefore, while in the construction stage the community should be explained their role in the day to day management of the scheme after completion. The community should also be made to know the work expected of the O & M committee and the scheme attendant.

#### *Training of user communities*

People elected to water committees often have limited knowledge on financial management and many of the technical issues related to the operation and maintenance of the gravity systems. Therefore, as construction begins the training needs of the community should be carefully defined:

Fairly larger groups should be trained in the user community, to increase on the capacity and to reduce the risk of losing the knowledge. There are a good number of training programmes already in place which can be adjusted to meet the specific needs of the user community. Training at community level should, whenever possible, be conducted in local languages. Exchange visits to other existing gfs projects have shown to be very useful for Watsan/O & M committee members. To increase on the impact of these visits the committee members should give feedback to the community.

#### **The design of the most appropriate O & M structure**

##### *Harmonizing of existing O & M structures*

Many g.f.schemes have been implemented without proper guidance, which resulted in different O & M structures. In order to come up with an O & M system manageable by the user communities the different existing systems/structures should be first assessed and afterwards analyzed. The analysis should provide a framework to which different organisations should refer when they assist the community in putting up an O & M structure.

### **Proposed structures**

A community-based O & M structure will be appropriate for small and medium scale schemes. In the case of large scale schemes technical assistance from an external service (e.g. commercial enterprise, District Water Office) should be sought. Instead of setting up an O & M structure for one water facility it should be considered to put in place an structure at sub/county level covering all the water facilities.

A community based O & M structure should be flexible enough to accommodate the involvement of the private sector. Initiatives such as water kiosks, commercial O & M services which contribute to the sustenance of the systems should be encouraged.

During the planning and the implementation of the project the project staff supports the user community in many different ways. Too often this support ends abruptly after handing over the project to the community. To ensure continuity a follow-up structure should be put in place, eg extension of project duration period by a follow-up phase. In this phase the county water officer should play a facilitating role. Before implementing a water supply project an organization structure should be in place.

### **Monitoring**

Monitoring the operation and maintenance of a g.f. scheme will improve on the sustenance and thus the reliability of the scheme. Monitoring activities should cover:

**technical aspects**, water quality and quantity, condition assessment of constructions, reliability of the scheme

**performance aspects**, of scheme attendant, committees, etc.

**development aspects**, purpose water is used for, the quantity of water used, etc.

**organizational aspects**, frequency of water committee meetings, who is participating, content of the meetings, etc.

**financial aspects**, accountability, use of water fees, financial organisation

Monitoring of O & M activities should be recorded and analyzed periodically. The records could facilitate a transparent structure, and ensure a more controllable O & M committee.

### **The community capacity; technical knowledge, and financial ability**

#### **Role and tasks of the community and its committees**

The daily running of a gravity flow scheme can not be done on an ad-hoc basis. Clarification of the role and tasks of the user community in general and the committees in particular should be in place which in turn should lead to consensus on responsibilities of the O & M committee.

The compilation of an O & M manual, covering description of activities (preventive and curative), tool manual, work manual for the scheme attendant, breakdown of items to be replaced, the lifetime and costs involved in case of replacements, recording formats for malfunctioning, repairs, replacements, etc. will be of great assistance to the planning capacity of the O & M committee.

#### **Involvement of women**

Since women play an important role in the welfare of the family the reliability and the quality of the water facility is of prime interest to them. Women should therefore be involved in the decision making process during the planning and implementation of the project and actively participate in the operation and maintenance of the water facility.

#### **Financial capacity of the user community**

It is necessary to make an assessment of the financial capacity of the community. Basing on the outcome of the assessment realistic contributions can be requested from the community during the implementation of the project.

At the same time it indicates whether it will be feasible to expect the community to cover the operation and maintenance costs of the scheme. For the latter detailed cost estimations about financial requirements of O & M are to be established. During the assessment of the financial capacity recommendations on how and when raising water fees should be established. Below are some of the recommended ways of raising funds for O&M.

- Ways of water costing
  - public standpipes, flat rate per user
  - private connections, flat rate per tap, metered
  - water selling points, amount per jerry-can
- fund raising options
  - taxation
  - public rallies, auctions
  - water fees