

Briefing Note #1: Artisan Associations

Promoting sustainable operation and maintenance of rural water and sanitation facilities in Zambia

Background

Zambia's rural population in 2005 was estimated at 7.7 million people (about 65% of the total population of 11.6 million). The rural population is characterized by low access to basic services including schools, health centers, safe water supply and sanitation. Based on the Central Statistical Office (CSO) Census of 2000 and the Living Conditions Monitoring Survey 2002/2003 the estimated access to safe water supply in rural areas in 2005 was only 37% of the population; for sanitation the access was much smaller at only 13%. In other words, 4.8 million people in rural areas do not have access to safe water supply and 7 million people lack adequate sanitation facilities. It is also estimated that approximately 30% do not have access to any type of sanitation facility at all. In addition to increasing access to water supply and sanitation, it will also be necessary to rehabilitate defunct facilities to maintain existing services. It is estimated that 32% of the existing water points in rural areas are not functioning. This is due to the failure to sustain the Village Level Operation and Maintenance (VLOM) system at local and district levels.

The Government of the Republic of Zambia (GRZ) has developed a National Rural Water Supply and Sanitation Programme (NRWSSP) to increase and improve access to water supply and sanitation and thereby achieve the Millennium Development Goal (MDG) targets for water supply and sanitation by 2015. The NRWSSP consists of a coherent set of investment, institutional and sector support activities aimed at providing and sustaining water supply and sanitation services to the rural population in Zambia.

Village Level Operation and Maintenance

Prior to the UN international decade on drinking water supply and sanitation (1981-1990) boreholes, hand-dug wells and tubewells were constructed and handpumps provided to developing countries. Unfortunately this top-down approach commonly led to the installation of pumps that were difficult to maintain. Village Level Operation and Maintenance (VLOM) pumps were therefore introduced as a result of the water decade, to allow remote villages to maintain pumps themselves and as part of a larger strategy to reduce the dependency of villages on government and donor agencies. The term VLOM refers to the use of a handpump which requires minimal maintenance and that can be maintained and repaired by a village mechanic. This model requires fishing tools, village level maintenance tools and spare parts to be available locally.

Initially the VLOM concept was applied to the hardware only, with the aim being to develop pumps which were designed to be:

- Easily maintained by a village caretaker, requiring minimal skills and few tools;
- Manufactured in-country, primarily to ensure the availability of spare parts;
- Robust and reliable under field conditions; and
- Cost effective.

Subsequently, as it was recognized that the hardware component was not the only factor to influence sustainable operation and maintenance, the VLOM concept was extended to address software and organizational matters. The concept was therefore expanded to become VLOMM, or Village Level Operation and Management of Maintenance, to encompass a strong emphasis on community management. The "M" in VLOM is now considered to stand for "management of maintenance" and the concept includes the following elements:

- Choice by the community of when to service pumps;
- Choice by the community of who will service pumps; and
- Direct payment by the community to the caretakers and/or pump mechanics.

The application of VLOM principles, when considering pump selection, often involves compromising one principle to take advantage of another. A handpump with a low rate of breakdown might be thought to be preferable to another with a higher rate. However, a handpump that breaks down monthly, but can be repaired in a few hours by a local caretaker, is preferable to one that breaks down once a year but needs replacement parts to be imported and skilled technicians to be available, meaning that it is likely to take much longer for repairs to be completed and the average downtime of the pump will increase.



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Challenges and failure of VLOM

One of the key issues surrounding operation and maintenance of Rural Water Supply and Sanitation (RWSS) facilities is that no proper maintenance system has been established in many parts of the country. In principle, boreholes once constructed are handed over to the communities for operation and maintenance. Post-implementation support is generally carried out through the local authorities with the support of the District WASHE Committee (D-WASHE). Donor funded projects often provide an initial stock of spare parts at the end of the project, and in many cases, these spares are sold to the Village WASHE Committee (V-WASHE) at subsidized rates. The D-WASHE also trains Area Pump Menders (APMs) to support the repair of broken water points and act as a supplier of spare parts to the villages. When facilities break down, the APMs are called on by communities to repair their facilities. To date, when donors leave, the VLOM system has become unsustainable. This is because:

- spare parts are used up without replenishment;
- skill sets are lost due to APMs or masons dying, moving away, losing interest in the programme when they do not realize economic benefits, or forgetting how to undertake repairs because there has been no demand for their skills for a long period of time; and
- V-WASHE committees cease to function effectively due to lack of post-implementation support from local authorities.

Sustainable Operation and Maintenance Approach (SOMAP)

A new initiative, the Sustainable Operation and Maintenance Approach (SOMAP) for Rural Water Supply was started in 2005 by GRZ. The principles for operation and maintenance (O&M) and the implementation guidelines have been developed, and the O&M system has been field tested in two districts (Monze and Mumbwa). SOMAP is one of the components of the GRZ National Rural Water Supply and Sanitation Programme (NRWSSP) 2006-2015, and is being rolled out under the NRWSSP by Government. To ensure sustainability in O&M of RWSS facilities, SOMAP is based on the application of the following principles:

1. Cost sharing by communities: Communities are expected to contribute 100% cost for O&M, 5% capital costs and 5% of rehabilitation and replacement costs.
2. Sustainable supply chains: Spare parts should be available at outlets at all times and should be affordable; and appropriate mechanisms should be set up for sustainable supply chains.



3. O&M mechanisms: Management of water facilities needs to be taken care of at the lowest appropriate level; involvement of all stakeholders is required; and striking a gender balance is essential.
4. Choice of appropriate technology: Technology choice should satisfy local hydro-geological conditions; affordability of capital and recurrent costs should be taken into account; the durability of the facility should be considered; and standardisation vis-à-vis research and development should be applied.
5. Capacity building is the key to sustainability: Supportive policies and a regulatory framework are provided; an environment for awareness campaigns and public participation is created; and management, financial and technical skills are developed for the effective operation and management of water facilities.

SOMAP and VLOM have similar principles, but SOMAP has expanded the VLOM approach by emphasizing the importance of sustainable supply chains, appropriate technology and capacity building. Communities are expected to contribute 100% of O&M costs which should include the (unsubsidized) cost of spare parts and the cost of skilled APM labour. In terms of cost-recovery the greatest challenge is the funding of major rehabilitation, for which communities are expected to contribute only 5%, but which is not generally provided for at district or central government levels. This funding issue must be addressed if sustainability levels are to increase. Also, SOMAP will not succeed without looking at the sustainability of the local level artisans and the local availability of tools and spare parts. One way in which these issues can be addressed is through the establishment of Artisan Associations.

Artisan Associations

What is an Artisan Association?

An Artisan Association is a formal association of masons and APMs whose primary role is WASHE service provision at a local level in their catchment area. Existing masons and APMs in UNICEF-supported districts have been encouraged and mobilized to establish associations by the D-WASHEs in their districts. The Artisan Association is required to register with the National Registrar of Societies (under the Societies Act CAP119) and the local authority provides a certificate or letter of recognition so that they are a formally recognized entity. Members of the Association are also provided with membership cards. UNICEF has supported the districts it works in to train artisans and hold workshops to define their roles and responsibilities, to explore ways to improve and market their services, and to determine how to sustain service provision of high quality to the rural WASHE service customers. This has enabled each Artisan Association to develop a relevant constitution and terms of reference. Once the association is established, registered and trained there is no requirement for ongoing external funding since they are expected to market their services to become self-sustaining.

Why promote Artisan Associations?

It is estimated that up to one-third of rural water supply systems are out of order at any one time which reduces the effective water coverage even further than official figures suggest. There are several reasons for this high failure rate including inadequate participation by communities in project planning and technology selection, the lack of spare parts at reasonable cost, the lack of local capacity for maintenance and repair, and the poor functioning of community committees responsible for operation and maintenance. The GRZ/UNICEF programme aims to tackle these issues by building on the SOMAP approach in order to enhance the sustainability of rural water services. One way in which it has done this in these recent years is through the establishment of Artisan Associations.



Experience from Solwezi, North Western Province

The Artisan Association in Solwezi District, North Western Province was set up in late 2006 and repairs handpumps at the rate of approximately 10 pumps per month. Since its operations began the average downtime of handpumps has reduced by approximately 50% and the number of communities approaching D-WASHE and Department of Water Affairs to seek repair services has reduced dramatically. The Association meets regularly to plan their work and has been praised by local ward councilors and traditional chiefs for the quality of the services they provide.

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Benefits and sustainability of Artisan Associations

There are many benefits accrued from promoting Artisan Associations (rather than relying on individual masons or APMs), particularly in increasing sustainability of water points under SOMAP. These include the following:

1. The association is responsible for the entire installation of the water facility (constructing concrete apron, installing pump etc.) and is paid for this by the District Council and the community. The community members are therefore aware of the body responsible for ongoing maintenance and repair activities and know who to contact in case of breakdown.
2. Individual members of associations generally have specific skills and by working as groups they can share skills in order to tackle specific problems. For example, one member may be better at fishing out fallen riser pipes, while another may be better at replacing seals and washers.
3. Since the association includes both masons and APMs this helps to strengthen the links between water supply, sanitation and hygiene as the association may construct latrines as well as maintain water services and implement the Talking Walls Programme.
4. The association is encouraged to expand its membership by training new members in order to meet growing demand and sustain local capacity.
5. If one artisan moves away from the area or becomes sick this has minimal effect on the capacity of the association and communities will still have someone to contact for support.
6. The association is regulated and monitored to ensure high quality and standardized workmanship, and to prevent exploitation of communities.
7. If communities are failing to fulfill their commitment to pay for O&M the association is in a stronger position to ensure this, and seek recourse from the district if necessary, than an individual artisan would be.
8. Formal certification as an association instills a sense of pride in the work it carries out and promotes high quality workmanship. Subsequent certificates for high quality workmanship may also be awarded.
9. Associations are self-sustaining. Once initial training and mobilization has been carried out association members are able to train new members and raise revenue by undertaking a wide range of construction and maintenance activities including pump installation and repairs, digging and maintenance of wells, construction and maintenance of houses, schools and latrines. Experience shows that they are able to increase income rapidly once established and known in the local area by communities, drillers, NGOs and government departments in the district.
10. Associations are also key mechanisms for developing the necessary artisan skills required for new implementation strategies such as community-led total sanitation and self supply for rural water.

