27th WEDC Conference Lusaka, Zambia, 2001

PEOPLE AND SYSTEMS FOR WATER, SANITATION AND HEALTH

Leasing, a new handpump O&M concept

Paul van Beers, The Netherlands

KEYWORDS: RURAL WATER Supply, Rural Infrastructure, Policy development, Operation and Maintenance, Sustainability, Privatisation, Handpump Lease Concept

Introduction

The future of sustainable Rural Water Supply in Africa is still uncertain, in spite of it receiving nearly half a million donated handpumps. After the Water Decade from 1980 to 1990 the investment by donors has continued. Unfortunately it seems that there is now a need for extra donor funding to maintain these services, because they are not presently sustainable. This paper discusses some underlying causes and suggests an alternative and more integrated approach to deal with the logistical and financial limitations of handpump maintenance that became evident in the last decade.

Lessons learned

Most rural water supply projects implemented VLOM technology (Village Level Operated and Maintained) with standardised handpumps. However, without project assistance, the sustainability of the VLOM concept remains a problem (Wood, 1994) due to rather simple problems like:

- Lack of simple but important spare parts. Many attempts has been made to start distribution of spare parts through the private sector, but mainly because of rather low profits in the supply chain, especially with the local sellers, this could not sustain itself.
- Persons trained by the project to do repairs in the village often lose their interest and skills after a while, or their knowledge disappears when they move away.

Unfortunately many projects and governments created high expectations of free or nearly free water supply services, although it has been understood already many years ago (Carter 1999) that these expectations are not realistic.

It was also believed that the sustainability of handpump maintenance depends mainly on community participation, however, the importance of profit generating activities to support the water supply has been considerably underestimated. A key prerequisite in sustainability of any service is that all levels require sufficient profit generating activities that will act as a driving force to sustain the total activity chain.

Even in low income areas, users can pay for water a small amount per day, per month, or a lump sum after the harvest season. However, the management of these financial resources remains a problem due to lack of trust, poor administration and limited banking conditions.

Water needs should be integrated in a regional development plan with a clear understanding of the expected impacts and costs (Carter, 1996). This will create conditions for the Government to give good advice based on monitoring impact indicators and key sustainability factors.

Introducing the lease concept

To overcome the handpump management problems it became clear that the VLOM concept should be revised and adapted to the reality of a dynamic developing rural environment. A new concept must include cost recovery to support (sustain) these services in a future without donor funds and NGO assistance.

Similar problems and processes are present in the services of water supply in small towns with Small Piped Water Systems (SPWS). Therefore it makes sense that if a concept can be developed to integrate both, it would also strengthen the sustainability of both.

Rehabilitation of SPWS are more and more in focus of donor funding and a lot of attention is paid to its management and feasible water tariffs related to quality of services in the context of Public-Private Partnership (Mashauri, 2000).

Therefore, we suggest that probably the next logical step in development of rural water supply in Africa, could be an integrated approach of managing Operation & Maintenance (O&M) of SPWS together with the village handpumps in the communities around these towns. The SPWS can offer communities a maintenance contract for existing handpumps and a lease contract with a new handpump to replace an old broken-down handpump, including regeneration of the borehole.

With the lease concept, RWS projects can directly focus on training personnel of the SPWS to install handpumps in new or existing boreholes with a lease contract. The handpump itself remains property of the SPWS in a Public-Private ownership, while the community will pay between 1 and 5 US$ per year per family to the SPWS for its maintenance. In that case handpump users as well as the SPWS clients will both profit a sustainable water supply environment.

Important considerations

- It is crucial that the handpump to be used should be as reliable as possible to avoid breakdowns and cost of repairs. The SPWS could improve the present handpumps in use or choose a better minimal maintenance handpump, even when this would require higher investment by the donor.
- Community participation remains important, but the emphasis will be more in selection of required services and to support the village caretaker who supervises the use of the handpump (similar to the caretaker of a public tap in the town). The caretaker will act as a contact person between the community and the SPWS for payments and repairs.
- Communities in remote areas could have difficulties in being involved in the lease contract, due to the extra cost of transport for repairs. These clients should have at least two handpumps and be prepared to pay more for the extra transport, or just profit from the presence of the SPWS handpump knowledge and availability of spares, and get repairs for their pump with a proper guarantee.
- To build confidence, it is important that the local government actively supports the lease activities of the SPWS so that it can operate with a clear contract in a legal framework.
- The SPWS could offer and stimulate additional services to increase customers commitment and satisfaction. Popular services are a public laundry unit near the water point, as well as renting or selling of water barrels to transport and to store water at home.
- In the service zone of the SPWS no other donor handpump projects that offer free or nearly free service should interfere with their business.

Advantages of the lease concept with SPWS

- It is obvious for donors of RWS projects that SPWS infrastructure and personal is their first target group to assure sustainability. This will reduce project costs and increase the effectiveness of the project, while project performance and impact are more visible.
- The SPWS personal will be motivated to stay on the job and invest in their own future. Also after the project they will find means to organise equipment and spare parts that they need to continue their income with these services.
- The quality of equipment and repairs will be better, as the SPWS itself has now also an interest in keeping the handpump in a good condition, this will improve the reliability of the service, increase clients satisfaction and commitment to pay for the services.

How to start?

NGO's or other donor organisations could simply start to commit themselves for a longer period to support the SPWS in their districts.

However, there is an important institutional problem to overcome. Institutional arrangements of Water Departments often impose a separation of funds and activities for rural water supply and SPWS. These separate budget lines have created established interest of stakeholders related to financial commitments in projects.

It will require a lot of perseverance and political will to change these established commitments. Some key people involved can feel threatened and feel that they will loose a part of their activities and consequently a part of their power and income. However, it is good governance to do what is necessary in the interest of development of the rural zone as a whole and find mitigating solutions for those counter effects.

The Lubango example

The following example is based on the author's experience in with a Dutch financed project in Lubango in South Angola, where this lease concept has been successful developed since 1990, when many handpumps were successively handed over directly to the local water company. Since that time they have maintained these handpumps in the peri-urban and rural zone around the town. Total costs for maintenance and repairs for about 50 handpumps have been estimated to be less than 30 US$ per year per pump. This is based on a maximum of 60 field days of 10 US$ each and an average of less than 10 US$ per handpump per year for spare parts, with a additional budget of 400 US$ for investments and unforeseen repairs.

In the Lubango example families pay an equivalent of 0.4 US$ to a pump caretaker each month, for this they receive a kind of "official invoice", which is in practise only a small signed paper with the colour of that month. This amount is normally perceived as reasonable for a reliable service. Families that do not pay have in principle no rights to the water and depend on the goodwill of neighbours for a daily minimum. In total a family contributes about 4.8 US$ per year of which 50 % or 2.4 US$ is income for the watercompany. Some handpumps serve over 50 families and raise at least 240 US$ per year to be divided between the watercompany and the caretaker. It should be noted that this watercompany considered the present standard public domain handpumps not suitable for this concept and use a more rugged minimal maintenance handpump to do the job.

In the future the SPWS should also recoup the depreciation cost of handpumps. It is assumed that with time the development process will continue, and due to a secure water source, families would be willing to pay more per year, to cover the depreciation of the handpump.

References

WOOD, M. 1994, Are Handpumps really affordable ? *20th WEDC Conference: Colombia, Sri Lanka.*

CARTER, R. C. et al, 1999, Impact and sustainability of community water supply and sanitation programs in developing countries. *Journal of the Chartered Institution of Water and Environmental Management*, Vol.13, 292-296

CARTER, R.C. et al, 1996, Strategies for Handpump Water Supply Programmes in less developed countries. *Journal of the Chartered Institution of Water and Environmental Management*, Vol. 10, 2, 130-136

MASHAURI, D.A. et al, 2000, Operational Model of public-Private Partnership in the Provision of Water Supply and Sanitation. *First WARFSA / Waternet Symposium: Sustainable use of Water Resources,* Maputo

PAUL VAN BEERS, Rural Water Systems, www.handpump.org