



Self-financing of rural and semi-urban WATSAN schemes

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WATER SUPPLY AND sanitation in rural and semi-urban areas in developing countries continues to remain a major challenge, in spite of huge efforts by donor communities and beneficiary countries themselves. This has not changed although the 80ties were declared the water decade with major efforts made in this field. In 1994 approximately 1/3 of the rural and secondary-towns population of the developing countries still did not have access to safe water, meanwhile 4/5 were lacking safe sanitation.

One of the most promising achievements of these efforts was to switch project implementation to 'demand-oriented' and cost-covering approaches. It could be proved, that applying a demand-responsive approach shows a much higher degree of sustainability, because people choose systems according to their own priorities and needs (Sara [1997]; Matz [1995]). This creates ownership, so the users identify themselves with the facility and care and pay for it. This is without doubt one of the most important results of new approaches in WS-Programmes.

Another important aspect that has led to a higher success rate is on the technical aspects. The VLOM (Village Level Operation and Maintenance)—pumps and systems allowing the users themselves to maintain and repair their facilities, have been introduced. Water fees collected and managed at village level allowed for the purchase of spare parts and materials necessary for maintenance. Almost all the projects have considered systems of maintenance, spare parts supply and training of area mechanics or village dwellers themselves, which all have helped to create sustainable systems. There are several instruments of collecting fees for the water in order to pay for these services or spare parts. It has been understood, that there is no way of turning a system sustainable unless people are prepared to pay for the water, what they think it's worth, or in economic terms: the tariff based on the marginal cost of the water should be equal or lower than the marginal benefit perceived by the users.

For the calculation of tariffs different economic methods have increasingly been applied such as 'historical cost pricing' or 'life cycle cost pricing' (=repayment of the system in place) or long term marginal cost pricing (=calculations consider sustainable use of the system and increasing demand through population growth and higher standard of living). It has been found out that the tariffs reached at by using these full-cost-recovery-methods, are within the widely accepted 6 per cent of the total household income to be foreseen for safe water and sanitation even in very poor

environment provided can in accordance with the system has been designed with an appropriate level of service.

These exercises however seem to be rather academic in the light of a problem, which this paper wants to discuss: Even if beneficiaries are willing and able to pay a water tariff meeting the full economic cost of a given supply scheme, the biggest problem is, to guarantee the availability of funds for big repairs or replacements at the given moment. Many urban systems of water supply in developing countries are facing the same problem. Mostly this kind of fallback-systems have been neglected to develop which could allow user association to finance or to pay for replacement works and thus achieve real sustainability for their schemes. Donors have often been compelled to step in to refinance these necessary inputs in order to bring the system back to work.

One of the major issues has been that funds for major repairs and replacements have to be available on a given moment which nobody is able to determine previously although the fees collected meet all expenditures for the operation, maintenance and small and medium repairs. Mainly there are two options to overcome the problem:

- to collect money for this aims and keep it accruing on separate place than the money foreseen or the operation, or
- to have access to credits for necessary investments.

The advantage of option one is, that funds would be available since they are in the hands of the beneficiaries themselves. The inherent risk of this option is that in the environment of mainly short term planning there might be no culture for planning expenditures in a long term base so accrued funds would often be preferred to use for other purposes than the originally foreseen one in a better case. In some cases the danger of embezzling these funds can not be excluded. The availability of funds at a given moment is therefore coupled with the likely difficulties to foresee the exact time, when these funds would be needed.

The advantage of option two is, that it would guarantee the availability of funds at any moment at the quantity needed, but it is however questionable, whether there are banks or other credit organisations which would give credits to small and mainly poor communities for the investment in installations seen widely to be more of a social than a productive character?

The challenge for the future is to establish systems which could guarantee a real self-financing of WATSAN schemes

and thus achieve long-term sustainability. The intention of this paper is to start a discussion on these issues and to motivate exchanging ideas on it. In order to describe the problems, in the following two examples are presented, with the good intention of meeting the full economic costs of the schemes, the experiences are not yet promising.

Semi-urban water-supply schemes in Mali

In the beginning of the nineties, the German financial co-operation organisation KfW (Kreditanstalt für Wiederaufbau) started the rehabilitation of several medium-size towns of between 5.000 and 20.000 inhabitants in rural areas of Mali. The management system agreed upon and put in place was that local associations would take over the responsibility of running the scheme, selling of water, the management of the collected fees and the building up of funds for future replacements. The installations comprise deep wells, simple treatment plants, ferroce-ment high tanks and a distribution grid with public stand pipes, where the water is sold by individuals. The expected life cycles range between 10 and 25 years. Investments reach 350.000 US\$ per town.

The town user associations were supposed to pay a percentage of their income generated through water selling to an independent central unit, which would undertake more ambitious repairs and carry out audits the bookkeeping and fund-management of the local user associations. The 'replacement' funds are collected separately from the 'operation' funds in separate accounts and require special security measures to be used, such as several signatures for withdrawals besides others.

Although theoretically this presents a solution to the problem described before, the huge amount of funds accruing in these 'replacement' accounts are being increasingly looked at jealously from different sides. A major challenge has been from the newly created town councils, which will have problems in generating funds in order to satisfy other needs of their people. Will it be possible in an environment of high collective responsibility to deny the town council to use parts or the whole sum for the necessary investments in other area, such as school and market buildings among other? Will it be possible to avoid any possible embezzlement of funds?

The 'fonds de garantie' system of southern Benin

By 1991 there was a system installed with French funding in the south of Bénin called the 'Fonds de Garantie', which aimed at guaranteeing funds for major repairs and replacements for several small town systems of the 'Projet d'Hydraulique Villageoise des Zones Lacustres de Atlantique et de l'Ouémé'. The installed systems were small scale supply schemes with deep wells, high tanks, photovoltaic powered pumping equipment and simple distribution grids.

Beside funds for 'operation' this scheme for 'replacement-funds' was established with the local rural Banking

system CR/LCAM (Caisse régionale/locale de l'Atlantique et de l'Ouémé), where funds were put into a separate account with strictly regulated withdrawal procedures. The credit scheme worked that way that the Bank would grant a credit of a 100 per cent of the fund already accrued in this special account. This would cover a short or medium term credit for any purchases or services necessary to re-establish parts or the whole of water supply system put in place. As a special service of the Bank, the CL/RCAM gave a by 1 per cent higher interest rates on funds accrued in these accounts.

In June 98, there were 5.000.000 FCFA (8.000 US \$) accumulated on this account which would qualify for a credit of an other 5.000.000 FCFA designated to repairs and replacements including the necessary labour costs. Information gathered about the performance of the scheme however showed, that this specific system was out of work, because apparently the operation funds had been embezzled and therefore the users were no longer prepared to pay for their water consumption. During a mission in June 99 it was found out, that the 5.000.000 FCFA originated from the initial contribution made by the beneficiaries and apparently they were not told, that additional funds had to be put into that account. Unfortunately responsibilities had changed due to the aforementioned problems and the new village representatives were not aware of this procedure nor of the existence of this account at all.

Lessons learnt

These experiences, beside many others show, that there are few positive examples as at now to the long-term self-financing of WATSAN schemes. Little time has passed, since establishing financial replacement schemes have been acknowledged as a vital part for achieving sustainability and yet many projects do still do not act accordingly. According to a survey done by the WORLD BANK (Sara, Katz[1997]) only in 18 per cent of the WATSAN projects, savings were foreseen for later replacements. This figure was given without guarantee, that the system established was functional. This is a situation reflected by many other projects all over the world and therefore it must be admitted that this is not an encouraging position. Currently a survey is underway among GTZ Projects, which is intended to paint a more statistically reliable picture on the issue discussed. Results will be available for the time of WEDC conference.

Discussion on these issues should nevertheless consider the problems as presented before and try to find practicable solutions which might work. For this purpose the following three options are presented.

The savings option

The disadvantage of this option has been presented before. In addition inflation is another jeopardising factor which make this option not acceptable in many countries. However a solution could be to 'tie up' funds in physical commodities (e.g. grain bank) or infrastructure (e.g. houses

or other real estates) in order to avoid easy 'disappearance' of accumulated wealth. Still it would be difficult to 'retransform' it into monetary funds, whenever the need arises.

Altogether it appears, that accumulating funds for replacement purposes of WASAN schemes is no good option.

The credit option

The problem of disappearing funds could be overcome by establishing a credit scheme as presented in the 'Fond de Garantie' set-up, in Benin. The advantages as mentioned before are the availability of funds whenever the need arises. However this might work only with organisations prepared to give credits for 'non productive' infrastructure. In many countries of Africa the banking systems might not be ready to trust rural or semi-urban water associations to manage these kind of credits. In addition the perception might prevail, that rural and semi-urban water supply and sanitation schemes are areas of donor activity and therefore with no need of running unnecessary risks for local banks or other credit organisations.

The leasing option

Contractual leasing arrangements could be a solution to overcome several of the aforementioned problems. An lessor would set up a contract with the community in order to manage the long-term operation of parts or the whole system. The community would have to bear these service costs through the collected water fees. The contract partner would have to guarantee repairs or replacements of parts or the whole of the systems. The contract could be extended to take over parts of the operation to the whatever level the community might require. In order to increase the efficiency of the operation and maintenance, including major repairs of the assets it appears necessary to incorporate performance indicators into the contract. This will increase the profitability for the lessor as well.

Since there are only a little experience with private sector in this field, there is a high risk due to the unknown long-term conditions of the assets at start of the lease, which could run against either the lessor or the community. The financial credibility of the lessor might be another weak point, since he will in need of external financing for major repairs or replacements at a given moment. Although this could be certified at the beginning of a contract, for example under the supervision of a project, situation could change with the time jeopardising the access to credits at a later stage.

Conclusions

This papers' intention is to sensitise donors, project planners and implementers on developing project instruments which can ensure a long lasting self-financing of water supply and Sanitation projects. The author invites the

readers and audience to exchange ideas and experiences on this vital issue.

This condition of

- The existence of a scheme guaranteeing major repairs or replacements of parts or the whole of a scheme

has to be added to three following ones, in order to help achieving sustainability of water and sanitation projects in rural and semi-urban areas of developing countries.

- Demand responsiveness of the installations constructed or in other words the community has to accept the costs incurred in relation to the level of service they wish.
- Availability of spare parts for the systems through standardising by national authorities in co-ordination with the international donor-community.
- Legislation guaranteeing the financial independence of water user associations from national, regional and local political apparatus.

It should be made clear, that there is not one single solution to the problem to be generalised for all regions and countries. Availability of a local banking system, the existence of small- and medium scale private companies interested in entering this field, inflation rates and other condition play a major role in how a system should be drawn up to yield the best results.

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