

EXECUTIVE SUMMARY

INTRODUCTION

Poor cost recovery from water supply schemes in developing areas is often quoted as being one of the major stumbling blocks to the longer term sustainability of these systems. It is also said to limit the capacity of organisations to increase service coverage. Indeed the White Paper on Water Supply and Sanitation Policy (DWA 1994) states "many of the homeland administrations either did not or could not ensure that operating and maintenance costs were paid by consumers and soon found that their **entire budgets** were consumed in maintaining the existing very low levels of services. The result is that a small portion of the population enjoys free services whilst the majority has no services It is not the Government who is paying for their free services but the unserved".

In addition fledgling community management structures established to manage a community water supply system cannot hope to survive without a sound financial base and proven methods of cost recovery. Water losses in poorly managed systems can be considerable and when such losses occur they make economic viability even more difficult.

Hence the project on cost recovery was undertaken to assess what can be done practically to ensure the economic viability of water supply schemes to Developing Urban Communities. The research was carried out with Communities obtaining their water from Umgeni Water reticulated schemes in the urban fringe around Pietermaritzburg or close to the Pietermaritzburg/Durban Motorway.

AIMS OF THE PROJECT

To study the acceptability and applicability:-

- * of the existing methods of cost recovery used by Umgeni Water and
- * of two new techniques

for water supplies to Developing Urban Communities, because acceptable and applicable cost recovery techniques are necessary to achieve the longer term sustainability of these schemes.

NOTE: Acceptability was to be understood as meaning acceptable to the Bulk Water Supplier, to Community Members and to their Water Committees.

Applicability was to be understood as meaning those methods which ensure the economic viability of water supply schemes to Developing Urban Communities and especially Community Managed water supply schemes. Apart from the collection of water charges, the control of UAW is required for economic viability. Hence the assessment of achievable UAW was also to be studied.

MAJOR FINDINGS

The research was carried out under the auspices of Umgeni Water. Between the time that the research proposal was written to when research started Umgeni Water's methods of cost recovery had altered considerably. Consequently the project proposal does not mention metered household connections but by June 1993 when evaluation of the different methods was just starting such connections comprised 88% of all invoices being issued by Umgeni Water and accounted for 71% of the value of invoices issued for schemes associated with Developing Communities where Umgeni Water is directly involved in cost recovery. Umgeni Water and the Service Users considered such connections to be acceptable and applicable throughout the Umgeni Water urban supply area whilst concurrently having negative perceptions concerning other methods of cost recovery. To them therefore the question posed by the aims of the project had already been answered through the introduction of metered household connections.

However the work carried out during the project indicates that, because of poverty and the low per capita water consumption encountered once water is metered and paid for (refer chapter 3), it will not be possible to recover full costs from water schemes supplying Developing Communities when individual household connections are used exclusively. The average cost of supplying water to these communities, excluding capital redemption charges for the reticulation pipework, was R5-63/kℓ in 1996 and R1-29/kℓ was recovered from the customers (refer chapter 7). As about 10 million South Africans live in these communities the project team felt that the necessary cross-subsidisation to sustain this level of funding would not be acceptable in terms of National affordability and thus planners would have to facilitate the implementation of multi-levels of service schemes. Water charges should be based on the total true cost of delivery, the only exception being the non-repayment of capital where grant finance has been obtained for the construction of basic minimum levels of service. Thereafter individual households should be allowed choose the level they want.

Umgeni Water recovers about 90% of all invoiced amounts from customers with household connections including households owning metered shared standpipes. This is done against a background of a high quality of service, the existence of active water committees in all the communities and Umgeni Water branch offices in many of them. In a few cases Umgeni has also had success in recovering invoiced amounts from metered community standpipes and schemes controlled by village water committees (refer chapter 4). Because of the need for greater community control, challenges facing Umgeni Water and the industry generally include: further capacity building and the handing over of control to Local Government and Village Committees within a framework of ongoing monitoring, auditing and support; more resources being used to implement cost recovery from basic and intermediate levels of service and greater openness with respect to implementing innovative methods of cost recovery and innovative administration systems (refer chapters 2, 8 and 9). Umgeni Water is aware of these challenges and will be devoting more resources to them in future.

The two new methods of cost recovery studied during the project were:-

- * distributed storage regulating units, and
- * community coupon water dispensers.

Consumer acceptability of both new methods of cost recovery was high. With respect to the distributed storage regulating units Umgeni Water was concerned about how to set the fixed monthly tariff since the unit fixes MAXIMUM consumption rather than ACTUAL consumption. With respect to the community coupon water dispensers Umgeni Water initially expressed the opinion that they preferred privately operated metered public standpipes as they are cheaper to install and maintain and there are no coupons to distribute. However towards the end of the project it transpired that cost recovery from the privately operated standpipes may be problematic due to the fact that Umgeni Water is often unable to cut off the water at a shared standpipe when the private operator does not pay the account. Overall therefore distributed storage units are promising as an acceptable intermediate level of service for individual households and there is a need for community dispensers although the unit tested was not sufficiently reliable to fill the need (refer chapter 5).

The project team's investigations into unaccounted for water (UAW) have produced a universal diagram for characterising acceptable UAW levels on water schemes generally (refer chapter 6). Despite the fact that the diagram suggests lower levels of UAW on many schemes having low water usages per connection than is suggested by International norms, UAW % figures for such schemes are still appreciably higher than for schemes with a water usage of 30 kl/mth (refer chapter 6).

CONCLUSIONS AND RECOMMENDATIONS FOR IMPLEMENTATION AND FURTHER RESEARCH

Communities will pay for the water they consume provided:

- * the pricing is equitable,
- * the level of service is adequate and reliable, and
- * the authority of the water supply board/committee is accepted.

To developing urban communities:-

- * equitable pricing means paying the same price per kilolitre of water consumed as other consumers with the same level of service and paying less per kilolitre of water consumed as the level of service drops
- * adequate does not have an absolute definition but its meaning is influenced by expectations which in turn are influenced by the degree of community participation during the development of the water supply scheme and the early days of its operation
- * reliable means the operation and maintenance of the scheme is effective
- * assuming equitable pricing and effective operation are in place acceptance of authority is secured through a mixture of the service users seeing that the scheme was implemented and is being operated equitably and realising that water will be disconnected if bills are not paid.

Within the parameters set out above Umgeni Water recovers about 90% of all invoiced amounts from customers in Developing Urban Communities when house connection or yard taps are installed.

For lower levels of service it appears that equitable pricing structures, as defined above have generally not been used. In addition, with the majority of cost recovery methods used for these lower levels of service, disconnections have not been possible. For both the above reasons high levels of cost recovery for such levels of service have been more problematic.

Therefore, alternative methods of cost recovery need to be evaluated and pursued with much more vigour than was possible in the environment within which this project was carried out. The purpose of such a vigorous evaluation would be to ascertain if it is possible to attain high levels of cost recovery with less conventional methods of water supply and cost recovery whilst at the same checking their potential for significantly reducing management costs. Chapters 8 and 9 of this report give some tentative suggestions of how this might be carried out.

Progressing from what has been learned during the execution of the WRC project the CSIR currently implementing a cost recovery study on a range of unconventional devices and support systems as recommended in the previous paragraph on behalf of the Directorate Water Services Operations of the Department of Water Affairs and Forestry, South Africa, with sponsorship from the British Government Department of International Development. The study is being implemented in three parts:

- * a literature survey of the socio-economic environment in which community water supply schemes are managed, including southern African case studies;
- * a desk survey of available water metering/vending devices and the administrative support structures necessary to use them; and
- * an evaluation of devices and support structures already installed in South Africa.

Parts 1 and 2 of the study are complete. The findings have been published in a booklet titled *Implementing prepayment water metering systems* (DWAF 1997). Part 3 has just commenced. An interim report on findings is planned for the first quarter of 1999.

REFERENCES

DWAF (1994) *Water supply and sanitation policy white paper*. Government White Paper, Republic of South Africa, CAPE TOWN. November 1994, pp. 23.

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