

 19th WEDC Conference

ACCRA, Ghana 1993

## WATER, SANITATION, ENVIRONMENT and DEVELOPMENT

### The spread effect of a pilot community project



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#### Introduction

Great enthusiasm and optimism marked the inception of the Water and Sanitation Decade (1981-1990). Ambitious as it was, the decade's declaration of bringing water to all by the year 1990 was challenging, yet commendable. The fundamental issues of the time though, were a need for community participation and appropriate technology in upgrading water supply. To some agencies in South Africa, these issues were often misconstrued to mean predetermined projects for eventual implementation by communities, and cheap technology.

Without proper understanding of these concepts, it is difficult to achieve reasonable success. To many, non-governmental organizations whose geographical coverage is limited, these issues were much easier to translate into action.

Based on this premise, the Division of Water Technology (WATERTEK) CSIR, initiated a pilot project using a socio-technical approach to serve as a model for use in other regions of South Africa. A pilot project is briefly discussed in this paper followed by an in-depth discussion of a case study of a neighbouring community.

#### Pilot project: Kwahlophe rural ward

A pilot water supply project involving Umgeni Water and WATERTEK was initiated by Ndwedwe District Development Council towards the end of 1988. The aims of the project were to upgrade water supply and sanitation in the area, and to draw some guidelines which could be translated for use in other areas of the region.

#### Socio-technical feasibility study

To ensure acceptability and sustainability of the project, the team made contact with the tribal authority and other community leaders to negotiate and establish interest in a project of this nature. All leaders were unanimously in favour of the idea. Therefore, the team was given the green light to undertake a socio-technical feasibility study.

The outcome of the social study indicated a great interest in the project. Approximately 95% of the community was willing to contribute in-kind and financially to the successful implementation of the project. Technically, four distinct watersheds were identified, hence for reference purposes the area was classified into four regions viz. A, B, C and D. Three options were feasible thus:

- **Option I:** Springs protected and reticulation in all regions at R75 000 (US\$23 810 - 10 May 1993)
- **Option II:** Dam, treatment, Region D and springs protected in regions A, B and C at R220 000 (US\$70 000 - 10 May 1993)
- **Option III:** Borehole, chlorination, Region D, and springs protected in regions A, B and C at R190 000 (US\$60 320 - 10 May 1993)

Upon being presented with the results of the technical study with the resultant options (and an in-depth discussion of their fundamental differences and cost implications), the community almost unanimously opted for the more expensive option.

The idea was that implementation would begin as soon as the community had collected R7 000 (US\$2222 - 10 May 1993) based on a R30 (US\$10 - 10 May 1993) contribution per family over a period of three months.

#### Pitfalls: community participation and management

Collection started on a very high note with people actually queuing to start donating at a community meeting. As time went on, so collection gradually waned away. In order to motivate the people, spring protection work was started. Only then did some families in arrears with their payments pay - people believe in tangibles. This trend prevailed throughout the implementation of the entire scheme.

It also became evident once the work started that only women were present to provide most of the labour needed as men were mostly away at work in towns during the week. Also, some two men nominated to undergo training on maintenance of springs, found jobs in town. Hence, a lesson learnt - women should have been elected for this chore. Furthermore, had there been some degree of paid labour, men would have remained in the ward to implement the scheme.

Because of the lack of management skills, and the low literacy level of some committee members, the management of the scheme rested entirely on the chairman, a school principal. Retrospectively, training of all committee members was undertaken. In addition, after four years of the scheme's existence, teachers and nurses emerged from the community resulting in the pooling of different perspectives in making the scheme sustainable. Also, the problem-solving ability of the committee increased.

Other pitfalls with the scheme included non-payment of recurrent costs allegedly due to some technical problems. As a result, the water minder could not receive his regular wages and no money was available to purchase diesel.

In one region some community members vandalized a protected spring twice due to family factions. It was decided to leave the vandalized springs unrepaired until the families affected resolved their disputes. With continuous back-up support by implementing agencies, the committee is able to cope with problems experienced.

It is on this point that we turn to the in-depth discussion of the KwaNyuswa case-study.

## A case study: Kwanyusa

### Background

Having been inspired by the neighbouring KwaHlophe water supply scheme in process, the KwaNyuswa community elected a committee and approached WATERTEK for assistance in the upgrading of their water supply. The committee had already raised R5 000 (US\$1590 - May 1993) from each of the 200 families contributing R40 (US\$13 - May 1993) per family.

In response to this proposal, a three member technical crew from WATERTEK visited the area to carry out a feasibility study in January 1991. In view of the proximity of this project to the pilot scheme, and the fact that the community was already motivated to initiate a project, it was deemed unnecessary to undertake a need assessment study.

In March 1991, the author held a meeting with the Water Committee to discuss the technical feasibility results. Two technical options with their financial implications were discussed so that the committee could make an informed decision. As in KwaHlophe, the committee chose the most expensive option because of its advantages. The author then assisted the committee in drawing up a proposal for funding. In fact, the committee was only given guidelines in writing a proposal which was accompanied by copies of a feasibility study report and sent to different potential sponsors for funding.

### Institutional aspects/Capacity building

The importance of community-based management of the scheme was emphasized and training given to the committee from the inception of the project. This committee was well established, committed and functioning at full scale.

In August 1991, a community orientation day was held at which the project was discussed in detail. The opportunity was also used to educate the community on health and sanitation issues. Of importance though, was the fact that this education was participatory in the sense that community members also presented drama and musical items on waterborne diseases. Furthermore, at this meeting one

funder was able to announce a substantial allocation of money, and another handed over a cheque. The initial cost of the project was R151 000 (US\$48 000 - 10 May 1993). Within a few months a major funder donated this amount which resulted in overfunding of the project. Subsequently, the project was expanded to R248 000 (US\$79 000 - 10 May 1993) which included individual house connections.

### Labour-intensive construction

The labour-intensive approach was used in construction of key elements in the scheme - namely, the diversion weir, sand filters, reservoir, pumphouse, distribution tank and main pipelines. There was great interest when the first pipe went in. Members of the community have learned to do all the pipe laying and jointing work themselves.

Besides the temporary employment relief and other similar benefits, the pace of construction tends to be faster using a labour-based approach rather than purely voluntary labour. As a result, construction of this project took just over a year to complete. A large amount of in-kind labour has also been used for the digging and backfilling of secondary and tertiary pipelines.

### Community-based management

In preparation for efficient administration of the project, the committee armed itself with paysheets, opened a cheque account upon advice of WATERTEK for convenient purchasing of goods/ materials, obtained letterheads and a stamp. Except for a cheque account, all these were the committee's own initiatives. Furthermore, the committee was proactive in deciding on penalty measures for non-payers of capital costs. This emanated from the fact that some families were not interested in the beginning, and only started showing interest when the tap was first turned on.

The committee also hired and managed its labour force (skilled and unskilled) at a rate determined from time to time. Payment was strictly on attendance basis, and there was stiff competition for work. It was also decided that the treasurer and the chairman of the committee who were responsible for the day to day supervision of construction be remunerated R600 (US\$190 - 10 May 1993) per month.

Construction of the scheme was completed in February 1993. A flat-rate of R8-00 (US\$3 - 10 May 1993) per family to cover the recurrent costs has not been a problem. Already, the committee has a vision for the electrification of the area, in particular the pumphouse.

### The spread effect

A great interest has been engendered throughout the Natal region ever since the inception of the pilot project. Communities continuously flock to the area to see and learn how the two schemes were implemented. In view of the socio-technical improvements made in implementa-

tion of the KwaNyuswa scheme, all communities visiting the area prefer similar schemes. Countless proposals from the region are pouring into WATERTEK's offices to assist communities with water projects. Also, major funders show a keen interest in WATERTEK's approach. The latter is a client to the communities, that is, communities reimburse the CSIR once they managed to raise sufficient funds. This is important in terms of community empowerment and ownership of the process.

Interestingly enough, is the fact that communities approach the CSIR being motivated, organized and committed to the project. Currently, projects of this nature are underway in the Border and Northern Transvaal regions of South Africa.

## Conclusion

In concluding - most importantly, the KwaHlophe scheme has been a very good learning exercise for all parties concerned. It would appear that the future success of rural water projects will depend on a combination of community participation, appropriate technology, and training on community-based management. A close back-up support by implementing agencies, and the involvement of the local government are also essential in ensuring the smooth-running and sustainability of projects. Once the government is convinced about these essential elements, there is no doubt that most rural communities will have convenient access to safe water by the year 2000. The community's self-motivation ensures commitment and sustainability. The latter was clearly evidenced by the KwaNyuswa scheme. The scheme has induced feelings of pride, cooperation and self-confidence in the community. The KwaNyuswa committee, in particular the chairman - initiator of the project, talks with pride about the project - the fact which stimulates interest in other communities without schemes. Empowerment abounds in the latter scheme because mistakes made in KwaHlophe were avoided, and successes repeated.

From these definite trends it can be deduced that pilot projects could be a panacea to the development of rural water supply.

## Acknowledgements

I am grateful for the financial assistance of the Director of the Division of Water Technology, Dr B van Vliet and his management team. A special vote of thanks goes to all my colleagues at the Water Care Programme for their support and encouragement.