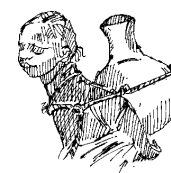




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INTEGRATED DEVELOPMENT FOR WATER SUPPLY AND SANITATION



Field-based monitoring and evaluation tool

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ONE OF THE sectors most severely affected by the legacy of Apartheid in South Africa is that of domestic potable water supply in the rural areas. This paper describes the field-based monitoring and evaluation tool that was developed to help ensure sustainable project delivery.

Until recently much of the focus of Community Water Supply and Sanitation projects has been on the rapid delivery of water supply projects. However, faced with a growing list of failed or failing projects, the South African Ministry of Water Affairs and Forestry has recognised the need for a shift in emphasis towards practical issues of longer term sustainability. Sustainability should be seen as a primary management objective for all water supply projects. Identifying and implementing mechanisms to ensure sustainability provided the challenge.

Extensive international research has revealed that most water projects fail because the Institutional and Social Development¹ (ISD) aspects have not received sufficient attention. Technical failures are often relatively easy to detect and address, but in certain instances, may mask the fundamental ISD issues.

The KwaZulu-Natal Regional Office of the Ministry requested assistance with the preparation of a field-based monitoring and evaluation tool that could be used by their field staff to quantitatively assess the ISD aspects of rural water supply projects. In this way, apparent weaknesses could be timeously addressed through appropriate interventions, thereby contributing to the sustainability of local water supply projects.

For the purposes of this study, the following definitions were used: **Monitoring** was defined as the *systematic observation and collection of data in terms of some pre-determined objectives*, while **Evaluation** encompassed the *processing of information collected in order to derive*

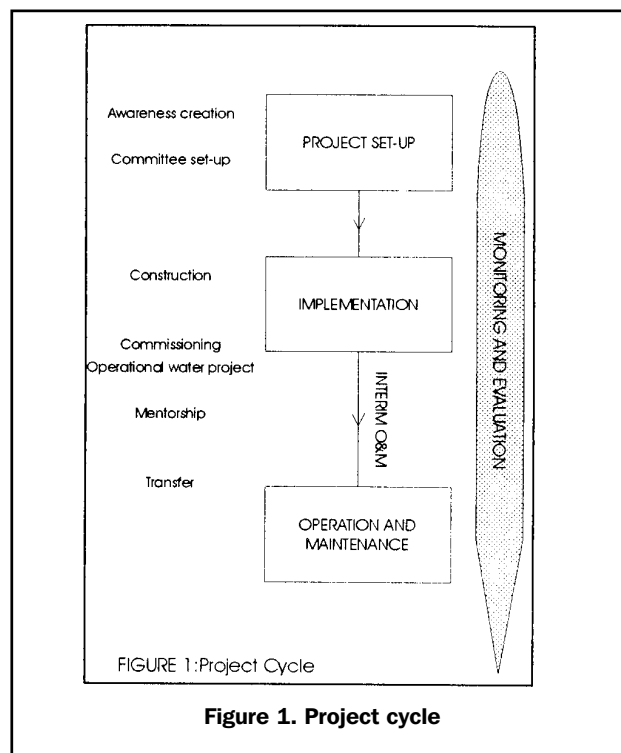
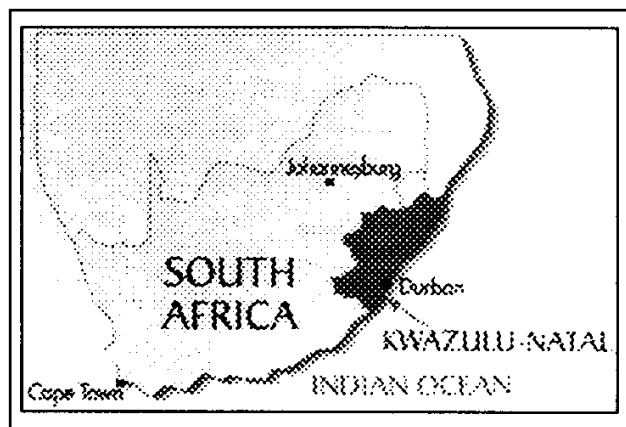
suitable interventions. The process of monitoring and evaluation ensures that the aims and objectives of the project are met.

Background

Within the modernist paradigm, an orderly and regular reality was assumed to exist. Objective and empirical analysis therefore enabled the gathering of knowledge and on that basis, prediction and control of the future. However, hyper-comprehensiveness tended to create complicated systems which fell short of their objectives (Klosterman 94: 4).

The post-modernist school of thought challenged the objective reality of the modernists. They assumed that success or failure was determined by the understandings and actions of those involved in the project. The post-modernist approach is strongly advocated by organisations in the non-governmental sector which advocate the use of participatory methodology and internal evaluation.

While participatory methodology is successful as an awareness or educational tool, it is time consuming. Since the capacity and resources within the Ministry are limited, it was decided to build a system that could rapidly identify

**Figure 1. Project cycle**

issues needing further attention while encouraging rigour and a comparative basis for decision-making (Phillips 87: 6). A more detailed participatory method can be used to investigate the problematic issues further and derive suitable interventions.

In any development project there are usually a number of stated objectives to be accomplished, and an effective system of monitoring and evaluation (M&E) may be designed to assess whether the intended results have been achieved.

Monitoring and evaluation can be performed at any stage during the project cycle and should continue throughout the lifespan of the water supply project, even after implementation. Figure 1 illustrates monitoring and evaluation within a simplified project cycle, showing the three broad phases and a few of the key milestones. Effective monitoring and evaluation thus requires a long term commitment in terms of time, personnel and resources. Ongoing monitoring and evaluation provides useful information for decision making related to the allocation of limited resources more efficiently and effectively in order to improve the project.

An M&E system can be designed to obtain almost any information that is required. Table 1 summarises various outputs that can be achieved through an M&E system, and indicates the usefulness of each.

Systematic monitoring and evaluation can be used to identify problems. However, in order for the M&E system to be meaningful, it must be used as a management tool and lead to *decisions and actions* by project managers, implementors and policy makers. Thus, the information collected by the M&E system must be made available timeously to all key roleplayers at both project and decision making levels. Similarly, those responsible for making the necessary interventions must have the authority, capacity and mechanisms to act.

Development of the monitoring and evaluation system

The development of the monitoring and evaluation system in the KwaZulu-Natal Regional Office of the Ministry is

Table 1. Title	
Assess degree of completeness of the project	Useful
Compare attitudes, habits and practices.	Very useful
Determine impact of the participatory process.	Useful
Assess appropriateness of the technology used.	Useful
Assess capacity within the community to ensure the long term sustainability of the project.	Very useful
Provide feedback to development agencies.	Very useful
Disseminate information, experiences and "best practice" methods.	Useful

summarised in Figure 2. Since each project has unique location, timeframe and community dynamics, to name a few factors, it is inevitable that the uniqueness of each project will be borne out in the project cycle. Discussions and workshops were held with field staff. Their individual experiences yielded useful insights into a generic project cycle and what should and shouldn't occur within a typical water supply project. This combined, comprehensive project cycle provided the basis for the formulation of the milestones or targets. The milestones indicate the stage that the project is at and can be used to track the pace at which the project is implemented.

The milestones, together with the identification of factors contributing to sustainable projects, provided the basis for the development of Key Performance Indicators (KPIs) or objectives for the phases of the project cycle. A rating system (1 to 5) was formulated representing the degree to which each objective had been met where 1 suggested that the objective hadn't been met, and 5 indicated that the project was fully compliant with the objective.

The addition of a checklist of prompts also proved an important component of the evaluation form. The prompts (key words or phrases drawn from the KPI and rating system) provided a framework for the asking of the questions. In order to obtain the most useful and relevant information, a "freeway questioning technique" was recommended. This entailed the asking of open-ended questions around subjects provided by the prompts. If these questions were correctly phrased, much information was forthcoming, addressing many of the prompts. The KPIs were grouped according to the response group which could best provide the most objective answer: the water committee, community, staff or implementing agent. Responses of the different groups to the certain KPIs formed useful comparisons.

Project evaluation forms were tested and refined through field visits. The field visits were invaluable since the benefit of the system was then obvious to the field staff. Their input then had a reference point, which greatly benefited the refining process.

1. Synthesize generic project cycle.
 2. Formulate milestones representing targets
 - 3 Identify Key Performance Indicators (KPIs).
 - 4 Create rating scale for each KPI.
 - 5 Record prompts to assist questioning technique.
 - 6 Refine Project Evaluation Form through field visits.
 - 7 Develop computer programme to assist with synthesis and analysis of information collected.
 - 8 Familiarise users with the M&E system and provide training on the interpretation of results and identification of interventions.
- Figure 2. Steps in developing the M&E system**

Besides gathering data, synthesis and analysis of the information collected is a critical component to evaluation. This can be performed manually by assessing the ratings, responses and comments. However, in order to assist with the synthesis, a simple, windows-based computer support package was developed. The programme, PEFA Assist stores the data collected from the field visit (summarised from the evaluation form) and can generate three sets of bar graphs to assist visual interpretation. The first bar graph indicates the relative strengths and weaknesses across all objectives evaluated. The second set of bar graphs reflects the different responses of various groups of people to the same question. This indicates the different perceptions and may highlight areas of miscommunication and misunderstanding. The third set of bar graphs compares two entire projects within the same phase of the project cycle. It may be interesting to compare two projects with a common factor, or the same project that was evaluated previously. The benefit of tracking the same project over time indicates which aspects of the project have improved and declined, and how effective the various interventions have been in creating long-term sustainability.

On this basis it is possible to determine the most appropriate intervention/s for each particular project visited. A gut feel response can be used, combined with the manual which provides supporting documentation detailing each stage of the project cycle and suggesting remedial measures. Once the interventions have been identified it is possible to report on the corrective action taken.

Besides training in the use of the evaluation form as the field visits were conducted, the field staff from the Regional Office of the Ministry of Water Affairs and Forestry were trained in:

- the use of PEFA Assist;
- the interpretation of the graphical results; and
- the identification of suitable interventions.

However, it was soon realised that the system would be of benefit to rural Local Government (known as Regional Councils in KwaZulu-Natal) who are in the process of assuming responsibility for water supply projects. As a result, Regional Council staff were also trained in the use of the system.

Lessons for developing countries

South Africa has benefited from a wide range of funding for rural water supply projects. It is of great concern that there have been numerous project failures in terms of sustainability criteria. Without a monitoring and evaluation tool, there has been no objective basis for recommendations to be made when projects are visited and problems identified. Although the system described above is a recent development, it has been well received by those who previously had no such quantitative tool and is proving extremely useful in those Regional Councils where it has been implemented. The following lessons are worth noting.

System design

Monitoring and evaluation has an optimum level of usefulness versus comprehensiveness. Project-specific evaluations may be thorough, but the replicability of such a system is threatened. The more comprehensive the evaluation, the more cumbersome it becomes. A balance needs to be reached where the evaluation will rapidly identify areas that need immediate intervention or further investigation. Although the M&E system does not fully investigate all aspects of the water project, problem areas that may require additional attention are highlighted.

The on-going working relationship with the field staff of the Ministry as the M&E system was developed was extremely beneficial. This increased the usefulness of the system, and also created ownership of the product – critically important since consultants always have a limited involvement. The incremental manner in which the system developed allowed the product to be appropriately tailored to address the specific needs as they were identified.

Institutional development

In South Africa, the third sphere of government (local government) has been given water supply as one of their responsibilities along with an overwhelming number of local government responsibilities. In an environment of crisis management, education around the importance of monitoring and evaluation was required before the M&E system could be promoted. Monitoring and evaluation plays a critical role in institutional development and transformation. Through the training of Regional Councils in the use of the tool, internal capacity is developed to create sustainable projects

As with any new system that is introduced, training in the use of the tools is critical if it is to be optimally used. However, it was found that staff required additional capacity and training, particularly in the arena of asking strategic questions to obtain the best type of data to make an informed decision.

Improved efficiency

At a project level, the increased efficiency is obvious. Through conscientious and systematic M&E, proactive and preventative measures can be taken when potential problems are identified. Communities also begin to undertake their own M&E showing local initiative within their specific project.

Project-based research, management and reporting through the M&E system reassure the communities of the responsiveness and commitment of the State. Within line departments the implementation of the M&E system promotes a rigorous management ethos. Regular monitoring and evaluation enables critical information to be communicated to the organisations or institutions concerned. As projects are visited, assessed and reported on, action can be taken and remedial interventions delegated. Using the same sustainability objectives throughout the range of projects as

the benchmark against which they are evaluated enables prioritisation of inputs according to need rather than an ad-hoc response to crises.

Further developments

No system, however well developed, is perfect, and unanticipated glitches need to be remedied. Although the M&E system has undergone limited testing, it will need updating over time as terminology is changed and constructive amendments are suggested based on extensive application. In order to address this issue, the M&E system needs a dedicated team who will subject the system to a rigorous process of review so feedback from the users can be used for improvements.

Conclusion

Monitoring and evaluation should be an integral part of the project cycle and should not merely tokenism to satisfy the funders. The benefits of long term sustainable water supply projects suggest that M&E should be taken seriously and tools developed to assess the projects. The information obtained from the evaluation and analysis provides a useful management tool and can shape the future of the rural water supply.

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¹Institutional and Social Development includes aspects such as awareness creation, skills transfer, committee effectiveness, cost recovery and mentorship.

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