Sustainability Best Practices Guidelines for Rural Water Services







TOOLKIT for WATER SERVICES: Number 7.1

This document is written primarily for Water Services Authorities, Water Services Providers and communities to ensure best practices with respect to rural water supplies and sanitation schemes in South Africa Sustainability Best Practices Guidelines for Rural Water Services

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Foreword

Toolkit for Water Services

Groundwater has historically been given limited attention, and has not been perceived as an important water resource, in South Africa. This is reflected in general statistics showing that only 13 % of the nation's total water supply originate from groundwater. However, because of the highly distributed nature of the water demand in rural and informal peri-urban settlements, regional schemes are, in most instances, not economically feasible. And because of generally increasing water scarcity and decreasing available river and spring flows during low flow and drought periods, as well as wide-spread problems of surface water pollution in rural areas, groundwater will be the most feasible option for a large part of the new water demand. Already it is estimated that over sixty percent of community water supply is from groundwater, making it a strategically important resource.

The NORAD-Assisted Programme for the Sustainable Development of Groundwater Sources under the Community Water and Sanitation Programme in South Africa was managed by the Department of Water Affairs and Forestry (DWAF) between 2000 and 2004. The Programme undertook a series of inter-related projects aimed at enhancing capacity of water services authorities and DWAF to promote and implement sustainable rural water supply schemes based on groundwater resources and appropriate technologies.

Page 2 has a full list of the Programme outputs. The formats for these range from documents to software programmes and an internet portal, to reference sites where communities have implemented appropriate technologies. For more information on the "package" of Programme outputs contact your nearest DWAF Regional Office or Head Office in Pretoria.

It is our sincere hope that this Programme will contribute to the body of work that exists to enable more appropriate use and management of groundwater in South Africa.

Sustainability Best Practices Guidelines for Rural Water

Services is Number 7.1 in the Toolkit for Water Services. This document is written primarily for Water Services Authorities, Water Services Providers and communities to ensure best practices with respect to rural water supplies and sanitation schemes in South Africa.



Toolkit for Water Services

1 Overview documentation

- 1.1 A Framework for Groundwater Management of Community Water Supply
- 1.2 Implementing a Rural Groundwater Management System: a step-by-step guide

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Acknowledgements

The idea to this project was conceived by Mr. Fridtjov Ruden of the Norwegian Geological Survey (NGU) while working with refugees from the Rwanda crisis in 1994-96. The methodology used in producing best practice guidelines was based on a standardised and normalised means to evaluate water programmes.

The actual field pilot studies were coordinated by Messrs. Karim Sami and Dumisani Gqiba (formerly of the Council for Geoscience (CGS)) in the Eastern Cape, Ms. Nancy Motebe, me (Mr. Leslie Strachan) and Mr. Herman Modukanele with the able assistance of Messrs. Mbasa Metuse, Matthews Phenya, and Leonard Tabane (all CGS) in Limpopo Province, and me (Leslie Strachan) with the able assistance of Messrs. Mbasa Metuse, Alfred Majola (CGS) and Ms. Nomphumelelo Phakati (Mvula Trust) in KwaZulu-Natal Province.

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Leslie K.C. Strachan Council for Geoscience Pretoria December 2004

1 Introduction

The development of the guidelines

An analysis of the critical factors that determine the current, and future, status of rural water supply and sanitation schemes in South is always likely to be a daunting task. The various configurations of rural water supply and sanitation schemes coupled to the variation of their context (geographical, social, political, economic, demographic, management, institutional arrangements, levels of communication, age of scheme, etc.) leads to a plethora of possibilities.

During the course of NORAD Project 1 "Practical Analysis of Rural Water Supply Schemes in Southern Africa" an assessment tool, the **Sus**tainability Indexing Tool (**SusIT**) was developed to assess the current functionality of water supply and sanitation schemes and to model Key Performance Indicators (KPIs) and Key Performance Measures (KPMs) from various pilot study sites in Eastern Cape, KwaZulu-Natal and Limpopo Provinces.

The aim of the modeling was to determine three indices, being:

- an Operational Index (OI) giving a snap-shot of the state of health of the scheme.
- an Applied Sustainability Index (ASI) giving an indication though predictive modeling of the future state of operation or functionality of the scheme
- an Agreement Index (AI) capturing the levels of agreement, disagreement and consensus between the various role players within the scheme.

An index is a single derived value that gives an idea of the greater context. If one goes to a doctor, for instance, and has one's temperature taken and it is found to be in the normal range, then the single temperature value gives an idea of the greater context of one's health. Normal temperature means that the patient does not have a fever.

The input data into the database component of the tool SusIT was obtained through field audits of the scheme. During these audits, data was captured in a numeric format from different sources:

- Responses to a questionnaire
- Observations
- Measurements
- Digital photographs
- Existing records (reports, plans, maps, etc.)

The numeric input data within the database was then modeled using proven mathematical and statistical techniques to produce the desired output, the indices.

The ultimate aim of the assessment tool **SusIT** was to develop Best Practices Guidelines for rural water supply and sanitation schemes in South Africa. During the course of modeling, however, it became apparent that a normalised mathematical approach could only be useful in developing scheme-specific Best Practices Guidelines because each scheme is unique. As in the common saying, "It would be like comparing apples to oranges".

In this document, an attempt is made to bring out the commonalities and divergences in the various water supply and sanitation schemes (all unique) within the pilot test areas of the study. This document is in no way a recipe list of comprehensive and specific best practice interventions but serves as guiding document to highlight major areas of concern and focus, together with broad areas of good practice.

The document is partitioned into the following sections:

- 1 Introduction
- 2 Areas of concern what is not being done well
 - Generalities the common thread
 - Points of Departure the unique or rare cases
 - The Unknowns areas for future study
- 3 Good practices what is being done well
- 4 How to manage water schemes with the Village Water Committee
- 5 Conclusions

The document looks at the following dimensions based upon the United Nations Agenda - 21 Dimensions as modified by the study team:

- Economy dimension
- Institutional dimension
- Social dimension

The Environment Dimension and Infrastructure Dimension were found to have a negligible impact on functionality and sustainability of rural water supply and sanitation schemes evaluated in pilot study areas in South Africa. Consequently, this document does not present best practice guidelines under these dimensions.

2 Areas of concern - what is not being done well

i Generalities - the common thread

In this section, areas of concern in rural water supply and sanitation schemes in South Africa are highlighted. These are broad, though consistent, areas of commonality shared by the greater majority of rural water and sanitation schemes in a sample of schemes from pilot study areas in three provinces - the Eastern Cape, KwaZulu-Natal and Limpopo Provinces.

Economy dimension

During the course of the fieldwork in the pilot study areas, problems were overwhelmingly seen in the Economy Dimension. In all cases (except in one instance), the water supply and sanitation schemes were found to have serious problems that required major intervention.

Cost recovery

Glaringly obvious during the field audits using the methodology developed by the research team was the fact that there was found to be no, or only very limited, cost recovery on the rural water supply and sanitation schemes assessed. A rural water supply and sanitation scheme cannot be deemed to be sustainable if there is no collection of funds to support operation and maintenance (O&M) functions, major repairs and management/administration costs. This is a simple fact relevant to all business ventures.

The reasons for there being no (or very little) cost recovery in the rural water supply and sanitation schemes generally varied, involved interlinked factors, and included the following common elements.

• The perception by community members that water is a 'free' commodity and that access to water is an inalienable right of any citizen. This perception likely arises from the ease of access to historical traditional sources such as rivers and springs.

What to do?

There is a need for community education programmes to highlight that water has an intrinsic value. There is cost associated with accessing, pumping, treating, storing, piping, metering, controlling, maintaining and protecting the resource. The Free Basic Water Policy is a policy of National Government to guarantee the provision of free basic water (25 litres per person per day) to maintain life, sustenance (water used for cooking), cleanliness (water used for bathing, dish-washing and clothes-washing), health and sanitation (clean water used for sanitation practices to prevent water-borne and other diseases).

In the course of implementing the policy in rural areas, most municipalities, in their legislated and authorised role as Water Service Authorities (WSAs), experience difficulties in monitoring and metering the use of water over the prescribed free basic water level of 25 litres per person per day. It is therefore difficult and, in many cases, impossible to quantify how much water used is 'billable' water. This often leads to no billing being done at all and the provision of free basic water in reality becoming the unlimited free provision of water services to the rural water supply and sanitation schemes under the municipality's jurisdiction.

The costs of installing, operating and maintaining effective metering systems at rural water supply and sanitation schemes are widely regarded by the municipalities as prohibitive as the returns from marginal collections of funds at these schemes would not cover the running costs of the systems. In addition, transport costs for the collection of relatively small sums of money in dispersed and widely ranging water supply and sanitation schemes are considered to exceed the expected returns.

What to do?

Municipalities should embark upon cost-benefit analysis studies to assess and determine the true picture in their areas of jurisdiction in order to arrive at informed management options and decisions.

Effort should be made to install monitoring and metering systems at every rural water supply and sanitation scheme, with the exception of gravity powered schemes.

In the event that costs exceed recovery, subsidy and cross-subsidy options should be investigated funded out of taxes, government grants, municipal rates and levies, etc.

Localised billing and collection at strategically placed kiosks at scheme level should be considered with auditing being done by the relevant Water Services Provider (WSP). This particular option is considered a good one in cases where the transport costs of centralised collection prove prohibitive.

Bookkeeping and banking

Bookkeeping and banking of community managed rural schemes was found to require attention. Books were generally not available or poorly kept. This situation has been exacerbated by the culture of billing and collection of funds for various reasons falling away in rural water supply and sanitation schemes. In general, there is no way to assess whether books are up to date, are not balancing, or whether there are gaps in the records.

What to do?

Re-establishment of billing and collection and transparency of accounting could restore community acceptance and thereby facilitate public motivation and the overall collection of revenues.

Institutional dimension

A study of institutional factors within the pilot study areas brought out a number of areas of concern. Certain interventions are necessary to counter the negative effect that some institutional issues have on the overall sustainability of the rural water supply and sanitation schemes studied.

Institutional capacity

Institutional arrangements in the context of rural water supply and sanitation schemes are varying, changing and evolving. A state of flux has existed during a transitional phase where the responsibility for the provision of water services has increasingly been decentralised to local government in line with the Constitution, where local government has the constitutional responsibility for water and sanitation services. One of the biggest challenges facing local government is the lack of sufficient capacity to deliver on its constitutional mandate. This capacity gap primarily relates to institutional capacity including the necessary management expertise to ensure efficient, effective and sustainable water services

What to do?

Attention should focus on institutional building and capacity building to provide the necessary expertise and skills for executing new functions and responsibilities. In particular municipalities that are WSAs need to ensure that they are able to adequately fulfil their water services authority responsibilities. This means that municipalities must ensure that they have capacity to undertake the following functions effectively:

- plan water services and prepare their water services development plan (WSDP)
- develop water services policies (including free basic water and sanitation services) and bylaws for their area of jurisdiction
- identify their water services backlogs and plan and implement infrastructure projects, as well as access capital funding (meet their targets)
- set tariffs, budget for water services and allocate equitable share for free basic water services
- assess water services provider (WSP) delivery mechanisms in terms of the Municipal Systems Act and select and appoint the most appropriate WSP arrangements
- identify and monitor water services key performance indicators and report against these indicators
- take transfer of DWAF owned and operated schemes (in those WSAs where transfer needs to take place)

WSAs need to be able to access resources for capacity building both in terms of technical expertise and financial resources.

Institutional arrangements

On the ground level, while institutional arrangements are in transition, various interim institutional arrangements have been put in place, ranging from total centralised control with the District Municipality acting as both WSA and WSP as in the case of uThukela District Municipality in KwaZulu-Natal, to devolved or decentralised control where the Local Municipality or Village Water Committee are the WSP. Several configurations of authority and responsibility were observed at the rural water supply and sanitation schemes of the three pilot study areas of the Eastern Cape, KwaZulu-Natal and Limpopo. These scenarios are tabulated in Table I below:

Table 1:Scenarios of observed institutional arrangements at rural water supply and
sanitation schemes in pilot study areas in Eastern Cape, KwaZulu-Natal and
Limpopo Provinces, South Africa

Scenario	Regulator and Policy Developer	Water Services Authority	Water Services Provider
I	DWAF	DWAF	Village Water Committee
II	DWAF	DWAF	Local Municipality
Ш	DWAF	DWAF	Water Board
IV	DWAF	District Municipality	District Municipality
V	DWAF	District Municipality	Local Municipality
VI	DWAF	District Municipality	Village Water Committee
VII	DWAF	Local Municipality	Local Municipality
VIII	DWAF	Local Municipality	Village Water Committee

Analysis has revealed that the case of devolved control with the Village Water Committee (VWC) acting as the WSP coupled with a good sense of community ownership (Scenario VIII) as in the case of Chloe Water Scheme in Limpopo tends to be an institutional arrangement reflecting the better-run scheme.

Management of rural water supply and sanitation schemes tends to work best at grass roots (lowest) level. This conclusion is corroborated by independent findings from the Alfred Nzo District Municipality in the Eastern Cape where a community-based organisation (CBO) approach was used on a pilot basis beginning in 2000 covering 130 schemes catering for 390 000 people. WSPs such as municipalities or water boards are typically not "sitting with the finger on the pulse" when it comes to remote rural areas. Events, situations, and community dynamics (expectations, needs, complaints, conflict resolution) unique to particular rural water supply and sanitation schemes are difficult to assess, monitor and manage from a distance. A more hands-on approach in terms of the WSP is required.

What to do?

When assessing and selecting WSP arrangements, WSAs should take into account accessibility of the WSP to the rural water supply and sanitation scheme where the operation and management of the scheme is at the lowest possible level. In this regard WSAs should consider community based options such as a local Village Water Committee (VWC) or a VWC/Water Board partnerships as viable management options.

It is essential that WSAs comply with the requirements of Chapter 8 of the Municipal Systems Act when assessing and selecting WSP arrangements. These requirements are addressed in detail in materials that have been produced by the Joint Response Team of the South African Local Government Association (SALGA), Department of Water Affairs and Forestry (DWAF), Department of Provincial and Local Government (DPLG), and the National Treasury (NT).

Transfer of water service provision responsibility

Water services provision infrastructure is currently being transferred from the Department of Water Affairs and Forestry (DWAF) to various municipalities that are WSAs countrywide. However, as mentioned before, various interim institutional arrangements have had to be made in this shifting scene primarily due to lack of capacity within municipalities. The lack of sufficient institutional capacity for rural water services provision within municipalities means that many municipalities are not able to ensure the sustainability of water supply and sanitation schemes under their jurisdiction. In many cases the level of appropriate operation and maintenance (O&M) has dropped significantly impacting on functionality and compromising, the sustainability of rural water supply and sanitation schemes. Transfer requires a partnership approach between WSAs and DWAF where special attention is given to the longer-term operation and maintenance of the schemes and consequently the overall WSP institutional arrangements. In this regard it is important that WSAs are given the opportunity to select optimal WSP arrangements for schemes to be transferred within the framework of section 78 of the Municipal Systems Act. This requires both time and resources.

What to do?

Effort should be made to facilitate the identification of optimal WSP arrangements for DWAF schemes to be transferred.

Communication and reporting between various authority types and role players

Communication and reporting between the various authority types and roles players in the rural water supply and sanitation sector was generally found to be poor and needs to be addressed. Greater communication is required between the Department of Water Affairs and Forestry (DWAF) and the Water Services Authority (WSA). Identified areas for greater communication include reporting and dissemination of recent developments, standards, strategies and policies in the water sector.

Where a Village Water Committee (VWC) is acting as the Water Services Provider (WSP), it should report regularly to the community. Public relations of the WSP is an area to be focused on.

The VWC should ensure that water quality monitoring is in place and that residents are informed when water quality drops below the regulated standards, as well as what measures the community should take in such circumstances.

WSAs should provide greater support to community based WSPs in terms of financial arrangements and record keeping and in terms of complying with water services by-laws.

Service delivery agreements between WSAs and community based WSPs should provide for an annual audit of WSP performance.

What to do?

Communication and reporting between the WSAs and community based WSPs such as Village Water Committees (VWCs) needs to be formalised. The same applies to communication between community based WSPs and the communities they serve.

Social dimension

A study of social factors within the pilot study areas brought out a number of areas of concern. Certain interventions are necessary to counter the negative effect that these social issues have on the overall sustainability of the rural water supply and sanitation schemes studied.

Gender representivity

In general, of the rural water supply and sanitation schemes reviewed, gender representivity on Village Water Committees (VWCs) was discovered to be poor or non-existent. Even in the few cases where women were well-represented on VWCs, the key executive posts of chairperson, secretary and treasurer were often held by men. This situation is not considered to be conducive to the sustainable development of the water supply and sanitation schemes. It is typical in rural villages in South Africa that the women traditionally manage the provision of water within the household. They may be considered as the custodians of water. Women ensure that adequate water for drinking, cooking, bathing, washing of dishes, washing of clothes and sanitation is collected, stored, apportioned and used. This traditional role and responsibility of women in managing water on the household level should translate into a greater role in, and responsibility for, the management of water on the larger water scheme scale.



What to do?

A concerted effort should be made to ensure that women are adequately represented in Village Water Committees (VWCs) and hold executive positions in those VWCs. A minimum of 50 per cent women in a particular VWC is recommended in line with prevailing demographics.

Youth representivity

During the course of the review of rural water supply and sanitation schemes in pilot areas in South Africa it was found that youth representivity on the Village Water Committees (VWCs) was, in most cases, non-existent. Typically, there were no individual members under the age of thirty years in the VWC. For any particular water supply and sanitation scheme, the youth of today are the future managers of that scheme. It is extremely important for the long-term sustainability of a water supply and sanitation scheme that adequate succession measures and plans are put in place. This means that the youth should be groomed today for future contribution, management and leadership of the water supply and sanitation schemes. Lack of youth representivity is a general concern and should be addressed as a matter of urgency.

What to do?

A concerted effort should be made to ensure that individuals under the age of thirty years are represented in Village Water Committees (VWCs). It is recommended that a minimum target of 20 per cent of youth (persons under the age of thirty years) should be represented in a particular VWC.

Political support

Political support for the rural water supply and sanitation water schemes in pilot study areas in South Africa was generally found to be very poor. Ward Councillors responsible for stimulating development programmes in their wards or areas of responsibility were generally found to be rather unsupportive of, or inactive in, issues relating to water services.

What to do?

Greater support of, and participation by, the Ward Councillor in provision of water services, acquisition of funds for water services, and maintaining levels of service to the community is called for. Furthermore, there should be regular meetings between the Ward Councillor, the Ward Committee and the VWC when pertinent issues relating to water services provision are discussed.

Community management models need to be promoted as viable service delivery mechanisms for rural water and sanitation services provision. In this regard both Councillors and Officials need to be made aware of the mechanisms through which community structures can attain legal status and the types of services delivery agreements (contracts) that a municipality can enter into with CBOs.

Community involvement

While beneficiary communities in rural water supply and sanitation schemes are typically involved in the planning and implementation processes of a scheme construction project, the involvement tends to be extremely limited. In many cases community involvement is restricted only to the provision of labour for trenching and other manual tasks for unskilled and semi-skilled community members. Thus, the communities are largely excluded from contributing to planning and decision-making on issues such as:

- The level of service to be provided
- Water services provision coverage
- Choice of technology
- Operations and maintenance (O&M) arrangements
- Tariffs
- Setting up systems to deal with defaulters
- Mechanisms for laying and dealing with complaints
- Mechanisms for conflict resolution

This invariably affects the "buy-in" to the water supply and sanitation scheme by the particular community and translates to a generally poor sense of ownership of the scheme.

What to do?

The community at a particular rural water supply and sanitation scheme must be involved in all aspects of planning and decision-making regarding implementation before and during the project construction phase and should further also be involved in planning and decision-making during the operation and maintenance (O&M) phase, including the establishment of a Village Water Committee (VWC). Community participation must be properly planned and where necessary community members must be empowered to participate effectively. This may require the services of a facilitator who can translate key issues into the local language and who is able to explain key concepts and key decisions to be made.



System for dealing with defaulters

For various reasons, there is often no system of dealing with defaulters on rural water supply and sanitation schemes.

The issue of defaulters is a matter that is addressed in the WSA bylaws. Section 21 of the Water Services Act (1997) provides that every WSA must make bylaws which contain conditions for the provision of water services, and which must provide for at least - "obligations on a payment defaulter".

When a VWC or any other type of CBO fulfils the role of WSP, it will have a service delivery agreement (contract) with the WSA. One of the clauses of this service delivery agreement must indicate the following:

"The CBO WSP shall be responsible for complying with the WSA bylaws and policies as of the effective date."

What to do?

The Village Water Committee (VWC) should develop, in a participatory process with the community, a constitution for the water supply scheme as well as rules and regulations. These rules and regulations should include, amongst others, measures to counter vandalism, community reporting, measures to deal with defaulters / non-payers, grievances, conflicts, etc., including accountancy. Communication with the community should be re-established.

Community support for scheme

Often, for the rural water supply and sanitation schemes considered in the pilot study areas in South Africa and considered in this report, it emerged that community support for rural water supply and sanitation schemes was poor because of many reasons, including:

- The tariff was perceived to be unfair. This is probably due to non-involvement of the community when the tariff was set. A strong mathematical correlation during modeling of the data from the many schemes considered provides support for this hypothesis.
- The Water Services Provider (WSP) management being perceived to be unfair. The vast majority of prevailing interim WSPs during the pilot studies in three South African provinces considered under this study tended to be the Village Water Committees (VWCs) in each water supply and sanitation scheme. In most cases assessed, the perception that the VWC management was unfair may be linked to the VWC not being chosen or elected by the community in a transparent, free and fair, open process.
- The level of service was considered unacceptable. This perception is also largely linked to non-involvement of the community in planning and decision-making regarding the level of service and inferior competency of management by the VWC due to inadequate training, poor public relations on the part of the VWC coupled with, in some cases, a VWC being imposed upon the community and not being elected and accountable to that community. For a number of reasons including inadequate training, poor operations and maintenance (O&M) delivery may aggravate the situation. Another interlinked and related factor which often impinges upon level of service is the misconception by community members that water is a 'free' commodity and that access to water is an inalienable right of any citizen. Access to basic minimum level of water service is a basic human right enshrined in the Constitution.

What to do?

Communities should be included in the feasibility study process where levels of service and financial feasibility issues are assessed. The preferences and affordability levels of the community can then be factored into the project design. Community participation in the development of the project business plan should also be facilitated through community structures such as a VWC or a community participation mechanism (CPM).

The establishment of VWC or CBO must take place in a transparent, free and fair manner so that the committee is both acceptable and accountable to the community. The committee must also be consulted on the tariff through a participatory process. In addition, operations and maintenance personnel should be adequately trained and competent to provide a reliable service to the consumers of the community.

Complaints and conflict resolution

In many cases encountered during this study there were no mechanisms in place for laying complaints nor were there mechanisms set out for conflict resolution outside of the traditional conflict resolution mechanisms within the traditional village leadership hierarchy structures. The lack of such mechanisms often leads to situations of impasse where issues relating to the management of a particular rural water and sanitation scheme cannot be resolved and thus hindering progress. Such situations are considered to be an obstacle towards the sustainability of the water supply and sanitation scheme.

The Municipal Systems Act requires that municipalities must address customer care and management as part of the municipality's systems. In this regard the municipality must provide accessible mechanisms for dealing with complaints as well as mechanisms for prompt replies and corrective action by the municipality. Where the municipality uses another service provider such as a VWC that is a CBO, the service delivery agreement with the CBO must address customer care issues. It is recommended that the following clause is included in the service delivery agreement:

The CBO shall, with the support of the WSA, develop and circulate a Consumer Charter that:

- fulfils the requirements for conditions for provision of water services as set out in Section 4 of the Water Services Act;
- provides a system for dealing with consumers' complaints;
- sets out a consumer's right to redress; and
- provides a mechanism for dispute resolution.

What to do?

Clear procedures to lodge complaints of poor service should be put into place in writing within the rules and regulations of the rural water supply and sanitation scheme. These procedures should be derived in a transparent and participatory process and should be known by all consumers within the water supply and sanitation scheme.

Communities should also clearly outline conflict resolution mechanisms, whether these are within the prevailing traditional conflict resolution systems or specific to the scheme (in which case they should be arrived at in a participatory process involving the entire community).

Water handling practices

In most rural water supply and sanitation schemes assessed during sustainability audits in pilot study areas in South Africa, water was not always transported nor stored in closed containers. Closed containers should be used instead of open containers. It defeats the objective of provision and delivery of safe drinking water if during transportation and storage, the water is exposed to possible contamination in open containers.

What to do?

An active education campaign is called for to address improper water handling practices. The use of rural health and sanitation motivators should be encouraged in addressing this issue.

ii Points of departure - the unique or rare cases

During the sustainability assessments of rural water supply and sanitation schemes in pilot study areas in South Africa, there were occasional, unique or rare instances of practice or situations at particular schemes that were not common to other schemes but were considered to be detrimental towards the sustainability of the particular scheme. This section of the report looks at such cases.

Institutional dimension

Centralised management of rural water supply and sanitation schemes

In uThukela District Municipality, KwaZulu-Natal, the District Municipality has dissolved many pre-existing Village Water Committees (VWCs). New VWCs have been imposed on the communities with exclusion of pre-existing VWC members in the new committees. This has led to a situation of poor community credibility of the new VWCs, little capacity within the new VWCs and poor community morale at these affected rural water supply and sanitation schemes.

What to do?

The Village Water Committee (VWC) at rural water supply and sanitation schemes should be voted into office on merit in an open, transparent process as a matter of urgency. Consideration should be given to include former VWC members who have already been trained in the management of the scheme.

Social dimension

Conflicts with other communities or intra-community conflict

In rare instances conflicts were uncovered at particular rural water supply and sanitation schemes and neighbouring communities. The reasons for such conflicts were many and varied in complexity. However, the foremost reason for conflict was that one community was benefiting from water services provision while the other was not or had only limited coverage. Often clashes would arise between the communities and the practice of vandalism by the non-benefiting community on the infrastructure of the benefiting community was common.

Poor or incomplete coverage was found to be the prime reason for intra-community conflict. In this case the practice of vandalism by the non-benefiting section of he community on the infrastructure of the benefiting section of the community was common. For both inter-community and intra-community conflict, the situation of "haves" and "have nots" is seen as an obstacle to the sustainable provision of water services.

What to do?

The major reason for inter-community and intra-community conflict was found to be disaffection by community members not benefiting from a water supply and sanitation scheme. The problem of such conflict may be addressed in the short term by conflict resolution talks and compromise between the parties. In the longer term, however, the problem of such conflict has to be addressed by the delivery of greater and equitable coverage of water services.

iii The unknowns - areas for future study

HIV/AIDS

In any study, issues arise that may be surprising or unforeseen. These areas may require further study to grasp the realities and arrive at a good understanding of the situation. Such a finding was uncovered when the results of the impact of HIV/AIDS on water services provision were analysed.

The linkage between HIV/AIDS and the provision of water services is not readily apparent. As a result, the Water Services Authority (WSA) typically does not have an HIV/AIDS awareness programme.

Possible direct effects of HIV/AIDS on a rural water supply and sanitation scheme are cases where HIV-positive people on the Village Water Committee (VWC) are lost to the scheme due to failing health or death from opportunistic diseases. In addition, significant HIV/AIDS related deaths could manifest itself in a diminished population served by the particular scheme. The scheme is then over-designed, reflecting an inefficient use of the available resources.

Indirect effects of HIV/AIDS on water services provision revolve around the inescapable fact that the HIV/AIDS pandemic has shifted global and national priorities towards HIV/AIDS mitigation and treatment programmes. In a world of limited resources that are competed for, greater and greater financial resources are being allocated to HIV/AIDS programmes. This inevitably means that there are less and less available resources remaining for other developmental and social services programmes, including the provision of water and sanitation.

In this study, it is rather surprising, given United Nations and national estimates for HIV/AIDS prevalence in South Africa, that the Village Water Committees (VWCs) surveyed have, so far, not had losses due to HIV/AIDS. In only one instance out of a sample of 33 water supply and sanitation schemes has there been a member of a VWC lost to the effects of HIV/AIDS. While this result places the factor of HIV/AIDS at the extreme low end of significance in respect of sustainability of rural water supply and sanitation schemes, the bare facts should be considered with caution.

There is a significant time lag between the cause - in this case HIV/AIDS infection - and the effect - the loss of health, productivity and, ultimately, life. It may be the case that we are faced with a situation somewhere between cause and effect. In other words, without a full prior history, the mathematical model being used in this study does not have the means to predict the effect of HIV/AIDS on the sustainability of rural water supply and sanitation schemes in South Africa.

An area for future study is presented to us here in this instance. It may be particularly informative to study the course of HIV/AIDS records from other countries such as Uganda, one of the first and hardest-hit countries by the HIV/AIDS pandemic. The HIV/AIDS epidemic in Uganda is largely cited as having gone through its full course and the spread of the disease is largely under control after various mitigation measures were put into place in that country. The Ugandan experience and records would greatly assist to build a historical cause-and-effect database on HIV/AIDS so that accurate predictions may be made on the effect of the disease on sustainable development. Other factors should be included in the study, however, including:

- The effectiveness of HIV/AIDS awareness programmes
- Changing patterns of social behaviour
- Advances in treatment of HIV/AIDS
- The effect of treatment programmes (e.g. anti-retroviral drug therapy, etc.)

What to do?

A research study into the effect of HIV/AIDS on sustainable development and water services provision is required using other the experience and records of other countries.

3 Good practices - what is being done well

Many instances of good practice emerged out of the sustainability assessments of 49 rural water supply and sanitation schemes in pilot study areas in South Africa. In this section we will present a few worthy of mention and well worth adopting by other schemes, or maintaining if being practiced.

Social dimension

Community water awareness workshops

The community of Mahlutshini in KwaZulu-Natal Province has a programme of holding workshops on water awareness and hygiene at the communal standpipes of its rural water supply and sanitation scheme. This practice is considered good as it targets the community members while they are in the process of collecting the water. No special meeting or venue is called for.

Awareness of the link between water, hygiene and health

The vast majority of community members of the rural water supply and sanitation schemes assessed in this study are typically well-informed on water-borne diseases and the required sanitation practices to avoid these diseases. This awareness should be nurtured and maintained.

4 How to manage water schemes with the Village Water Committee

In this section, good management practice by the Village Water Committee (VWC) is discussed. In this regard, the VWC is seen as the interim Water Service Provider (WSP) for rural water supply and sanitation schemes until such time as the WSA either appoints the VWC as a CBO WSP or another WSP for the scheme. It is important to note that the WSA may decide to take over the water services provision function itself or to appoint an external WSP. With respect to the capacity within VWCs, there are a number of options as to how the WSA may utilise this capacity. For example the WSA may decide to:

- Employ operators on an individual basis to become employees of the municipality and to continue operating the schemes to ensure operation as the local level.
- Sub-contract the VWC as a local level operator for the operations function only.
- Enter into a service delivery agreement with the VWC as a CBO WSP for the full WSP function. In this case the WSA must undertake a full section 78 assessment process as required by the Municipal Systems Act since the CBO WSP is an external delivery mechanism.

Choosing the Village Water Committee members

The Village Water Committee (VWC) members should, in all instances, be chosen by a community ballot in a free and fair electoral process. This ensures the acceptance of the VWC by the community and also ensures good practices in accountability by the VWC.

Size and representivity of the Village Water Committee

It is recommended that the size of the VWC should be limited to a manageable number. An example may be a committee of, for instance, 12 individuals. This is regarded as an optimal and manageable size of a committee for effective delivery of service. In terms of the constitution of the VWC, such a committee may comprise the following:

Executive

- 1 x Chairperson
- 1 x Secretary
- 1 x Treasurer
- 1 x Deputy Chairperson
- 1 x Deputy Secretary
- 1 x Deputy Treasurer

Ordinary Members

- 4 x Ordinary Committee Members
- 1 x Pump Operator
- 1 x Pump Operator Assistant

In terms of representivity on the VWC, in the above example, ideally the following is recommended:

- At least 5 women to ensure equitable gender representation
- At least 2 persons under the age of 30 years to ensure youth representation
- At least 2 women in substantive (not deputy) executive positions

The village water scheme constitution

In order to allow the Village Water Committee (VWC) to become a legal entity it requires a Constitution. The Constitution also outlines the responsibilities, operational and legal framework and accountability of the VWC. The constitution should allow for the development of rules that will govern the functioning of the VWC. It is important to note that the rules governing the operation and management of the scheme will be outlined in the service delivery agreement with the WSA and the bylaws of the WSA.

In order to ensure good governance of the VWC, a community participatory process is recommended to draw up the Constitution (see the example on page 28).

Once the VWC has a Constitution for the purposes of becoming a legal entity it is known as a community based organisation (CBO.)

A model CBO Constitution can be obtained from the Department of Water Affairs and Forestry.

The Constitution should address all of the following issues, amongst others, as may be appropriate:

- 1 Name of Community Based Organisation (CBO).
- 2 Purpose of this Constitution.
- 3 Objectives of the CBO
- 4 Area of Operation.
- 5 Application of Legislation to this Constitution.
- 6 Members of the CBO.
- 7 Composition of the CBO.
 - i. The composition of the VWC / CBO Executive.
 - ii Composition of the VWC / CBO (including gender and youth representivity).
- 8 Annual General Meetings.
- 9 Other General Meetings.
- 10 Resolutions, Voting and Powers at Annual and General Meetings.
- 11 Procedure to be followed at CBO Meetings.
- 12 Finances of the CBO.
- 13 Powers and Authorities of the CBO.
 - i Call General Meetings.
 - ii Property and Assets.
 - iii Finances and Fundraising.
 - iv Contracts and Partnerships.
 - v Employ Staff.
- 14 Duties and Obligations of the CBO.
 - i The VWC / CBO in consultation with the WSA should develop job descriptions for its executive and, if necessary, external consultants. The pump attendant should have a job description or service contract that abides by the prevailing labour legislation.
- 15 Indemnity.
- 16 CBO Discretion.
- 17 Signatures.
- 18 Legal Personality.
- 19 Amendment of the Constitution and Dissolution of the CBO.
- 20 Dispute Resolution.
- 21 Termination.

Annexure: List of Members.

The Service Delivery Agreement between the Village Water Committee and the WSA

Rules and regulations of the water scheme should be set up in a community participatory process and should take into consideration all relevant issues outlined in the service delivery agreement between the VWC / CBO and the WSA.

The service delivery agreement between the VWC / CBO and the WSA outlines the obligations of both the VWC / CBO and the WSA. The details of the service delivery agreement will depend upon the services that are required from the VWC / CBO and the particular circumstances of the scheme. For example, if the VWC / CBO is responsible for revenue collection, the service delivery agreement will be different to an arrangement where the VWC / CBO is not responsible for revenue collection.

The boxes on the next pages outline a list of clauses that should be covered in the services delivery agreement. However some clauses may be deleted and additional clauses may be required, depending upon the nature of the agreement between the VWC /CBO and the WSA.

The clauses covered in the Service Delivery Agreement:

- 1 Definitions of terms used in the service delivery agreement.
- 2 Parties to the service delivery agreement.
- i Official name of the Village Water Scheme.
- 3 Commencement and duration of service delivery agreement.
- 4 Arrangements to ensure training and capacity building of the VWC.
 - *Training.* Training in water management and operation and maintenance is required by the VWC / CBO, depending upon its role within the water services provision arrangements. Due to the various requirements of legislation, a VWC / CBO as WSP may not be the optimal arrangement for community management. Instead of appointing the CBO as a fully fledged WSP which is then subject to various legislative requirements and procedures (particularly in terms of the Municipal Systems Act and Labour Legislation) municipalities may wish to consider examining alternatives it would therefore be more correct to refer to the VWC / CBO within the water services provision arrangements rather than assuming that it will take on the full WSP role. People to be trained need to be identified and, if necessary, regional institutions to offer such training should also be identified. It should be noted that training needs to be linked to a work place skills plans much of the capacity building for VWCs / CBOs tends to be on-job mentoring setting up systems and training.
- 5 Obligations of the VWC / CBO during Training and Capacity Building.
- 6 Obligations of the WSA during Training and Capacity Building.

7 Appointment of the VWC / CBO.

- i Term of office of the VWC / CBO.
- ii Elections.
 - nomination procedure for candidates?
 - how often will elections take place?
 - how will elections be conducted (e.g. by secret ballot, open vote as in a show of hands, etc.)?
 - where will elections take place?
- 8 Scope of water services.

Responsibilities and rights of the VWC / CBO:

- 9 Provision of Water Services.
- 10 Management of the water services system.
 - i Code of conduct for VWC / CBO members.
 - ii Operations.
 - iii Project planning.
 - in order to develop a sense of ownership and communal responsibility, the community should be involved in all stages of project planning relating to the water.
 - if the VWC is appointed as a WSP it is required to prepare a WSP Business Plan (BP) on an annual basis. The VWC will need assistance in preparing this plan. The service delivery agreement should place an obligation on the WSA to ensure that the VWC / CBO WSP is able to access support to prepare a WSP BP.
 - iv Source monitoring.
 - what type of monitoring should be achieved on the water source (quantity and abstraction, quality and the specific parameters to be monitored in line with WHO / RDP / SABS drinking water standards and guidelines, contaminants, etc.)?
 - who should do the monitoring?
 - what reporting procedures and interventions should be made (and by whom) when monitored parameters fall below acceptable levels?
 - v Delivery point monitoring.
 - what type of monitoring should be achieved on the water delivery points (quantity, flow, pressure, quality and the specific parameters to be monitored in line with WHO / RDP / SABS drinking water standards and guidelines, contaminants, etc.)?
 - what reporting procedures and interventions should be made (and by whom) when monitored parameters fall below or above acceptable levels?
 - vi Procurement of goods and services.
 - vii Record keeping.
 - viii Reporting.

11 Revenue and customer services.

- i Office amenities.
 - If the VWC / CBO is appointed as a WSP with responsibilities for revenue collection it will require an equipped office with the necessary facilities and telephone communications to allow the VWC to conduct its business.
- ii Revenue collection.
- iii Meter reading.
 - how will metering of water over and above the free basic water recommendation levels be measured?
 - how often will metering take place?
 - who will do the meter reading?
- iv Billing.
 - Billing procedures. If the VWC is contracted as a WSP and is responsible for billing the following decisions need to be made with respect to billing:
 - how will the billing be done?
 - when (how often) will be billing be done?
 - how will bills be distributed?
 - when and where should payments be made?

Responsibilities and rights of the VWC / CBO (continued):

11 Revenue and customer services (cont).

- v Customer care and relations.
 - Procedures for complaints, conflicts, vandalism: The VWC must have procedures for dealing with complaints, conflicts, and vandalism, which procedures must comply with the service delivery agreement and bylaws. For example the VWC must know the following:
 - what procedures are there for laying of complaints or grievances regarding water services provision by the consumers?
 - who should receive the complaints?
 - how should the VWC respond to complaints (including a timeframe to deal with or respond to the particular complaint)?
 - when should payments be made?
 - what procedures or measures should be put in place to deal with conflicts (both inter- and intra-community) regarding the provision of water supply?
 - what procedures or measures should be put in place to deal with vandalisms (willful damage to the scheme's infrastructure)?

12 Financial management.

- i Budget.
- ii Financial report.
 - Annual audit of the Village Water Scheme. It is recommended that the service delivery agreement between the WSA and the VWC / CBO include an annual audit of operations and finance of the village water scheme. Given that rural water supply provision does not result in significant surpluses, and given that audits are relatively costly, the WSA should take responsibility for ensuring that the audit is conducted and for the attendant costs.
- iii Bank account.
 - who are the signatories to be?
 - which financial institution will be used to open and maintain an operating account?
- iv Tariffs consultations.
 - Water services tariff. The water services policies and bylaws of the WSA will give guidance as to the criteria to determine the tariff. Whilst the WSA has authority to set the tariff, it is advisable to consult the community and the VWC on what tariff, it is advisable to consult the community and the VWC on what tariff the community can afford and is willing to pay (where the level of services is higher than a basic water supply service). In addition the service delivery agreement should specify the following:
 - what will the tariff level be?
 - what procedures should be in place to amend tariffs?
 - when will tariffs be amended in a scheduled manner?
 - when and how the VWC can make recommendations concerning the tariff.
- v Income and expenses.
- vi Losses and shortfalls.
- vii Insurance.

Responsibilities and rights of the WSA:

13 By-laws and policies.

- i Procedures for dealing with defaulters. The WSA will outline the issues such as:
 - under what circumstances is a consumer considered to be a defaulter?
 - what procedures should be used to deal with defaulters (e.g. cutting off supply, using the courts, using traditional structures, etc?
- ii Indigent Policy. The WSA has an indigent or free basic water policy for its entire area of jurisdiction. The indigent policy must be understood by the VWC / CBO and all members of the community. The types of issues that the community needs to know are:
 - under what circumstances is a consumer considered to be indigent (i.e. when does a consumer qualify for free basic water? Can a consumer be considered too poor to pay for water services?)? Procedures to deal with indigents would refer to a requirement to register with the municipality as an indigent in order to qualify for free basic services currently this is a big issue in South Africa, where the President is calling on Municipalities to identify their indigents so that they can use subsidies for indigents.
 - how does the municipality subsidise indigents i.e. what procedures do the municipality use to deal with indigent members of the community (e.g. equitable share, crosssubsidies, etc.)?
- iii Water use control and rations.
 - will the scheme allow consumers different types of user privileges (i.e. will consumers be allowed to use water from the scheme as potable supply, gardening, livestock watering, brick-making, irrigation, industrial use, etc. or will they be confined to only limited use categories)?
 - under what circumstances should water rations be introduced?
- iv Private Connections.
 - will individual private connections be allowed on the water scheme or will there be only communal standpipes?
 - if individual private connections are allowed, what are the procedures for application, payment for connection, etc.?
- 14 Permits, licenses, exemptions, permission and/or approvals.

15 Financial.

- i Tariffs.
- ii Grant funding
- iii Insurance.
- iv Recovery of costs from the VWC / CBO.
- v Establishment of an operation and maintenance fund. This will depend upon the financial arrangement with the WSA - with Free Basic Water (FBW) it is likely that the VWC / CBO receives a fee for its services from the WSA.
- vi Other financial responsibilities and rights.
- 16 Monitoring.
- 17 Information collection and Water Services Development Plan.
- 18 Mentoring support.
- 19 Support services to the VWC / CBO.
- 20 Conditions for early termination.
- 21 Dispute resolution.

Good governance:

22 Meetings.

- when (how often) should the Village Water Committee (VWC/ CBO) meet? This is an internal VWC decision for optimal functioning.
- when (how often) should the VWC meet with the Ward Committee or Ward Councillor?
- when (how often) should the VWC meet with the Water Services Authority (WSA)? This issue should be covered in the service delivery agreement.

23 Reporting.

- when (how often) should the VWC report to the community, and what should be reported?
- when (how often) should the VWC report to the Ward Committee or Ward Councillor?
- when (how often) should the VWC report to the WSA?
- whether such meetings should be scheduled or be ad-hoc?

24 Awareness programmes.

- Water awareness programmes that are developed by the WSA should be actively promoted by the VWC.
- consumer awareness programmes on water related issues using public information and the media are recommended and should be actively promoted by the VWC.
- community based health and sanitation programmes should be actively promoted by the VWC in conjunction with any village- based sanitation committee or village health and sanitation motivator.
- water handling practices should be actively promoted by the VWC.
- water conservation practices should be actively promoted by the VWC.

The service delivery agreement between the WSA and the VWC / CBO will not repeat all the rules and regulations contained in the bylaws. Rather the agreement must oblige the VWC / CBO to comply with the entire set of bylaws. However, it is also important that the WSA ensures that the members of the VWC / CBO know and understand what is contained in the bylaws. In this regard the WSA should find ways of making the bylaws user-friendly for VWCs / CBOs. It is important for WSAs to keep in mind that the VWC will be responsible for ensuring that the community understands all the rules and regulations about the scheme and the water services. It is consequently important that the service delivery agreement is well understood by the VWC / CBO and for this reason it should drafted in language that is easy to read.

These guidelines are by no means all-encompassing but form a suitable framework for good practice.

Remuneration of the Village Water Committee

Remuneration of the VWC may only occur after the legalisation of the VWC - and after the contracting of the VWC - since it can only be remunerated once it is contracted by the WSA. It is recommended that a reasonable remuneration be set for the VWC members. A purely voluntary arrangement for members to participate in managing the water services in general is not conducive to optimal delivery. The incentive of a reward for services rendered cannot be overlooked. Such reasonable remuneration should come out of receipts of funds collected and should be factored into the tariff set for water services. The level of the remuneration should be arrived at in a community participatory process.

Pertinent questions to be addressed with regard to remuneration of the VWC include:

- what is the reasonable rate(s) of remuneration for VWC members?
- when will the VWC members be paid?

It should be noted, however, that issues of payment will depend upon the service delivery agreement with the WSA - this would be addressed in the service delivery agreement and then become part of the records of the VWC / CBO. In the case of employees of the VWC - for example the person responsible for operations, there should be some sort of contract with an agreement about payment for the services rendered - this is quite a complex issue because there are labour law issues that have to be taken into account. In the case of board members, the amounts would depend upon the financial status of the VWC / CBO. Where most rural schemes are dependent upon equitable share, it would need to be negotiated with the WSA what can be paid to board members.

5 Conclusions

What is clearly apparent from this study of best practices at a national level in South Africa is that there are many common areas of concern to be addressed through interventions in the rural water supply and sanitation schemes reviewed.

There are also unique cases specific to particular schemes that are considered grave areas for concern and not to be emulated by other schemes.

The study of the effect of HIV/AIDS on the sustainability of rural water supply and sanitation schemes in South Africa proved to be rather inconclusive. Further research on this subject is called, bringing other broader and possibly more extensive international experiences into the picture.

Good practices that should be nurtured and maintained are very few. This revelation reinforces the conclusion that the greater majority of practices at most rural water supply and sanitation schemes in South Africa are considered poor and in need of urgent attention and remedial action.

A synthesis of what is considered a guideline for the *modus operandi* for effective management of rural water supply and sanitation schemes has been presented to serve as an aid to Village Water Committees and community-based organisations to assist in sustainably managing their schemes. It is a guide, and should not be considered as the panacea for solving sustainable management issues. It is not all-encompassing and is not an exclusive approach.