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MAXIMIZING THE BENEFITS FROM WATER AND ENVIRONMENTAL SANITATION

Improving Utility Management: Case Study From Lesotho

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This paper documents the process of developing a Performance Improvement Plan (PIP) and an Unaccounted for Water (UfW) Action Plan by the Water and Sewerage Authority (WASA). This is part of a SIDA-funded Water Utilities Partnership (WUP) management capacity building project towards increased coverage of water and sewerage provision to low-income peri-urban communities. The facilitating project team was made up of members of the Water, Engineering and Development Centre (WEDC) and Severn Trent International (STI). WASA's Corporate Plan (PIP), developed as a collaborative venture across the organization, includes findings of financial and performance reviews, a situational analysis, key objectives and the strategic activities required to achieve these. A Pilot Area Action Plan for UfW was identified as A District Metering Area with bulk meters installed and an UfW Unit planned. Target levels for the proposed performance indicators are as yet incomplete but the impact of involvement with the project has been positive with many related issues being taken forward as a direct result of this project.

Background information

The urban population of Lesotho has seen significant increases, with the migration of people from rural to urban areas in response to the burgeoning garment industry, particularly in Maseru. This has led to an unprecedented demand for water supply and sanitation services, which has resulted in about half of Maseru's inhabitants lacking an adequate supply of safe water, and having to rely on water vendors or joining the long queues at public water points (Reliefweb, 2004).

The water sector in Lesotho falls under the Ministry of Natural Resources, and within that, the Department of Water Affairs, which is responsible for the management of water resources. Since 1991, specific mandate has been given to the Water and Sewerage Authority (WASA), based in Maseru, Lesotho, as the utility responsible for water treatment and supply, sewage collection, treatment and disposal in 17 declared urban areas of the country.

WASA has recently developed a vision and reformulated its mission, which will guide operations from 2004 to 2009. In line with a vision which wants to become a world class provider of adequate water and safe disposal of wastewater services, WASA's mission is:

'In all designated areas, we provide water and safely dispose of treated wastewater into the environment'.

Purpose and scope of the project

The overall objective of the SIDA-funded *Water Utility Management and Unaccounted for Water project* was to improve the performance of six representative African water and sanitation utilities, of which WASA was one. This was to be achieved through better management processes, lead-

ing to the expansion of service provision to low-income, peri-urban communities. The project team from WEDC and Severn Trent International (STI) had the role of facilitating change within WASA, although it was the responsibility of the utility staff themselves to then plan and implement its own programme of improvements, with ongoing support from the consultants.

The specific objectives of the project as they related to WASA were:

- to assess the performance of WASA and enhance its management expertise through consultancy activities with the project team;
- to undergo training in elements of utility management techniques, leading to the development of a WASA Performance Improvement Plan and a UfW Action Plan; and
- to involve WASA in the promotion of partnerships between African water utilities and other utilities regarding the production of Performance Improvement Plans.

At the time of initial involvement with the project, WASA's corporate plan had lapsed without the development of a further version. Consequently, there was no broad strategy and what planning there was took place in one-day meetings, meaning that important issues were often not adequately discussed, if at all.

Performance Improvement Plan (PIP)

The development of WASA's new Corporate Plan, as its Performance Improvement Plan is called, was finalised in

2004, with target dates for completion in 2009, subject to a rolling annual review process. The methodology used to develop the Corporate Plan began with a review of a redundant, previous corporate plan for the institution, in order to assess the level of achievement since then. Separate review processes were carried out in each WASA division, with consolidation by the Corporate Planning Unit. Key staff from each division were involved in this to allow lesson learning across the organization and the sharing of viewpoints and experience.

In addition to continuous support and assistance, inputs from the project team were consultant visits to WASA, and a two week-long training package on aspects of utility management techniques, plus a one week seminar for presentation of WASA's outputs. Firstly a situation analysis was carried out, examining the internal and external environments, focusing on perceived strengths, weaknesses, opportunities and strengths. This SWOT analysis revealed the following (Table 1):

Table 1. Abridged results of SWOT analysis by WASA

Strengths	Weaknesses
Business monopoly Large customer base Staff with good sector knowledge Available resources Well-paying customers Financial stability	Inadequate leadership Weak corporate governance Poor communication Poor customer service Low level of revenue Corruption and fraud High level of UfW Age and level of infrastructure maintenance Centralised decision making Inaccurate meter reading Inadequate ICT No HIV/AIDs programme Inability to meet demand Poor performance
Opportunities	Threats
Monopoly status High demand Demand for convenient payment methods Links with other institutions Donor assistance Benefits of proximity to S Africa Environmental Act Available good quality water	Droughts Privatisation of utilities Crime Legal impediments Environmental pollution Industrial disputes High mortality rate Unemployment Old loans Lack of union Inadequate water sources

To capitalise on its strengths and opportunities and to minimise the negative impact of the weaknesses and threats faced, WASA identified the following corporate objectives, applicable over the five year period (Box 1):

Box 1. WASA key objectives

- Streamlining and capacity building for management
- Improving human resource management
- Reducing 'Unaccounted for Water' (UfW)
- Ensuring financial sustainability
- Improving customer service
- Increasing productivity
- Expanding service coverage
- Ensuring adequate, reliable and quality products
- Institutionalising environmental management
- Reinforcing the HIV/AIDS programme.
- Expanding service coverage.

54 strategic actions were devised, to achieve these objectives (Box 2).

Box 2. WASA's strategic proposals

WASA's strategic approach is two-fold. 51 specific actions have been defined to meet the objectives listed in Box 1. Three more generic strategies are listed below and are prerequisites to achieving all the objectives during the allotted time period:

- To improve corporate governance
- To institutionalise strategic planning
- To implement the Performance Agreement

Pilot Area Action Plan for the Reduction of UfW

The reduction of UfW was identified as one of WASA's key objectives since it incurs a direct monetary cost. Although this had long been a major issue, the extent of it had been neither monitored nor effectively resolved. A consequence of the age of the main pipe work combined with a lack of maintenance was frequent major leakages and pipe bursts, some of which remained undetected.

Following on from the project team visit in December 2004, which strongly encouraged the development of pilot areas for monitoring and controlling UfW, WASA undertook to implement work in its identified pilot area. Other pilot areas are still to be chosen and appropriate action taken.

The pilot area has been identified as a District Metering Area (DMA), where a bulk meter is in use for monitoring purposes. It is planned to extend this scheme with further bulk meters, once approval has been secured for funding from the World Bank. A further additional proposed activity is the installation of leak detectors.

Furthermore, an Unaccounted for Water Unit, which would take responsibility for addressing all related issues, is yet to be established. Presently, consultations are still taking place about how to establish the proposed unit and how to allocate responsibility to it.

WASA has identified headings for the reduction of UfW in its Performance Measurement Matrix. These are summarized in Box 3:

Box 3. Reducing UfW from 37% to 25% by 2009

- Install bulk meters at production points and service reservoirs
- Ensure that quarterly drop tests are conducted at service reservoirs
- Update network maps
- Install district meters
- Carry out active leak detection activities
- Carry out pressure zoning and install pressure reducing valves
- Replace uneconomical-to-repair pipeline sections in a rational manner
- Digitize the water network and pressure maps
- Acquire Network Modeling Software
- Carry out Planned Preventive Maintenance of Network
- Ensure all connections are metered
- Improve the accuracy of meters
- Improve accuracy of meter readings
- Improve accuracy of bills
- Carry out surprise visits to sampled disconnected users to discourage illegal use.

Results of the intervention

There have been positive impacts on WASA as a result of the PIP process, although there have been some difficulties in implementing the necessary changes. Major advances have been made as a direct consequence of involvement with the project, on which to build improvements over the next five years. The following areas have been taken forward as a result of the project:

- Improving personnel regulations
- Divisional restructuring
- The reemergence of a five year Corporate Plan, with commitment towards a new institutional mission and vision, and monthly and quarterly reporting
- Producing annual reports
- Implementing a capital investment programme
- Developing a financial model.

Specific targets listed under 16 broad headings aim to translate the objectives identified in Box 1 into actions. Table 2 indicates just some of these basic performance indicators with the target date of 2009. This is taken from a much more comprehensive matrix (WASA 2004).

Conclusions

The outputs produced by WASA exemplify robustness and adherence to best practice. It is as yet, however, too early to quantify the effectiveness of the plans in reducing UfW. Still, significant challenges face WASA as listed below (Box 4):

Table 2. Abridged list of performance indicators for WASA (date to 2009)

Indicator	Unit	2004	2009
Improve the financial performance of the Authority			
Collection efficiency	%	95	90
Debt age	months	40	6
Customer base for water	%	55	70
Customer base for sewerage	%	6	15
Meter reading efficiency	%	75	90
Improve customer service			
Customers with less than 18 hours water supply	Number	104 000	42 000
Monthly customer complaints	number	150+	100
Customer response time	time	3 months	5-10 days
Increase service coverage			
Water service coverage	%	55	65
Sewerage service coverage	%	6	10
Water service coverage increase	Km	-	300
Sewerage coverage increase	Km	-	20
Consumers in excess of 150 m from water supply	number	94,000	54,000
New water connections	number	-	7700
New sewerage connections	number	-	540
Reduction of UfW	%	37	25

Engagement in the PIP process has been a learning experience and several observations have been made about how it could be more effective, mainly relating to the need for more regular training:

- to help reinforce in staff an understanding on issues such as their responsibilities towards providing best quality services to customers and ensuring the utility's sustainability based on profit;

Box 4. Current challenges facing WASA

- The transition from a government department to a financially sustainable corporation
- Operating on a commercial basis
- An inadequate and old reticulation system
- Water abstraction, storage, treatment and distribution
- Observing potable water and effluent standards
- The high demand for water supply and wastewater services
- Management of public standpipes
- Payment of bills by government institutions and other customers

- to assist with both long and short term planning in order to achieve the above;
- to develop a strategy for taking forward working agreements between the authority and other institutions;
- to compare the working practices and operations of WASA with other water utilities, in order to improve existing practice and develop new activities; and
- to include visits to other water utilities as a key learning experience about problem solving and responding to challenges.

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