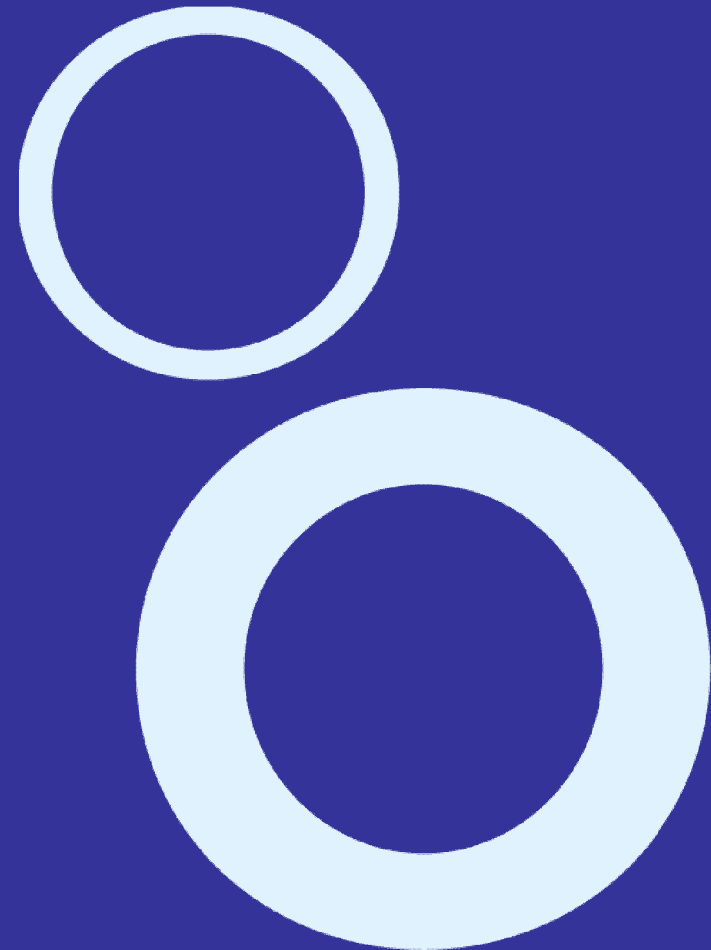


Case Study on Utilities' Good Practices

Swaziland Water Services
Corporation (SWSC),
Kingdom of Swaziland

May 2012



The Background

The Swaziland Water Services Corporation (SWSC) is in charge of water and sanitation services for the whole Kingdom of Swaziland. In 2009, the operator provided water to 285,000 persons which represented 95% of the population. For decades, the operator faced several challenges related to the metered connections and this situation impacted negatively its non-revenue water (NRW).

To address this situation, SWSC decided to develop **a Digital Management Initiative** to improve the management of spatial information. A Global Positioning System (GPS) was used to capture the coordinates of all metered connections, which enhanced the ability of the operator to accurately locate, monitor and maintain metered connections.

As a result the NRW decreased. Due to the success of the implementation of this new technology, the scope is now being expanded to include network assets such as pipes, valves, reservoirs, pumping stations, treatment plants, etc.

The Digital Management Initiative

- questions and answers

- **Did you train your staff to use this new technology or employed qualified staff?**

A: The Corporation's existing staff was trained to use this introduced handheld GPS equipment. The purchase of the equipment came with a two full days in-house training component provided by the vendor (from South Africa). An already existing Meter Management Team (with members across the utility's four geographic regions) was targeted for the training. Later on they became themselves trainers for the rest of the relevant staff, such as the meter readers and the plumbers.



The SWSC meter management team being trained hands-on on use of GPS handheld equipment.



SWSC Staff implementing their newly acquired GPS skills.

- **When did you implement the GPS and how long did it take to create the mapping of the metered connections?**

A: The GPS mapping of the metered connections was implemented at the start SWSC's 2008/09 financial year. (Our financial year begins in April and end in March the following year). It took the Corporation approximately 12 months to complete the exercise.

The overall implementation was in two phases. **In Phase 1**, meter readers were, over and above their normal work, tasked with the responsibility to capture GPS coordinates of all the already known metered connections.



*Phase 1 GPS Implementation:
meter reading team capturing all
existing known connections.*

In Phase 2, the focus on ensuring that all properties connected to SWSC's water network were not only just metered, but also registered with the Corporation's billing system. For a period of four months (as from the 1st March 2009) a team of tertiary level students was engaged, whose task was to move from door to door during daytime within the areas covered by SWSC's network. They were provided with carefully designed questionnaires which indirectly sought to establish the status of a property's connectivity to the SWSC network, including establishing if the connections were registered in the Corporation's system.



Phase 2 GPS Implementation:
Temporarily engaged independent tertiary students moving door-to-door to establish water connectivity status per property.

The main areas to be improved in the near future

- To increase storage capacity in selected areas to meet increasing demand.
- **Implementation of Energy Management Tools**: e.g., maximum demand management and load shedding to match Time of Use (TOU).
- To introduce **Real-time, Proactive, Intelligent & Interactive Management Information System**: e.g., in the reporting and monitoring of identified risks.

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