

### CHALLENGES

The supply of water to Soweto is characterized by unsustainably high wastage. Water pumped to the region averages around 67 kilolitres (kL) per property per month which—prior to the implementation of the intervention project described in this case study—was increasing at a rate of 4% per annum. Where the project has been implemented, consumptions average only 10 kL per property per month. This scenario is repeated throughout South Africa and is not sustainable either environmentally—since South Africa is a water scarce country—or financially, since most of the costs incurred by the municipality in delivering services are not reimbursed due to non-payment.

### BACKGROUND

This state of affairs can be attributed to a number of factors. One is the ‘deemed consumption’ billing method for water services (where water and sanitation is billed on a set volume that one is “deemed” to have used rather than actual use). There has also been a lack of maintenance of private

plumbing fixtures by property owners, as well as the poor condition of the water network. These issues are historical in nature and can be traced back to previous political policies that were unworkable.



For the most part therefore, customers do not take ownership of consumption, nor of private plumbing fixtures located on their properties, as evidenced in the high recorded levels of water consumption and wastage. The result is that Non-Revenue Water (the difference between the volume of water supplied and the volume billed) effectively stands at 200% for the area of Soweto.

In addition, customers do not in reality receive the

### Key Results

- Estimated Savings (when all phases completed):
  - ✓ Energy: 175 million kWh/year
  - ✓ Cost: US\$ 45 million/year
  - ✓ Water : 97 million kL/year
- Ownership of consumption transferred to the consumer (a first in real terms for Soweto)
- Reduction in operating and maintenance costs due to water network upgrade
- Creation of over 1500 temporary jobs in the communities where project being implemented
- Public awareness of the true value of water

benefit of Free Basic Water which is for all intents and purposes only a book entry on the monthly bill. Even those customers who are poor or use water sparingly receive no real free water benefit and are required to pay the same amount for water as customers using water excessively or irresponsibly.

The Alliance to Save Energy has been playing an ongoing advisory role for Johannesburg Water (PTY) Ltd. in the implementation of **Operation Gcin'amanzi** (Operation Save Water), aimed at addressing a host of problems plaguing Soweto. Johannesburg Water is the authorized provider of water and sanitation services to the City of Johannesburg, including the greater Soweto region.

### OBJECTIVES

The objective of Operation Gcin'amanzi is to create an efficient water supply system and achieve significant savings in total water supplied to the area by reducing excessive consumption and wastage. Once completed, the project is expected to reduce by at least 20% the water consumed by the city as a whole.

Operation Gcin'amanzi was designed to add social and economic value to the community through:

- rehabilitated municipal infrastructure,
- improved water service delivery and customer interface,
- rehabilitated private plumbing fixtures,
- temporary and permanent employment for unskilled and semi-skilled labour in Soweto,
- empowering the customer to take ownership of water consumption,
- reduced cost of water to the end user,
- Free Basic Water dispensed to all residents, and
- reduced municipal service arrears based on acceptance of the prepayment metering system.

## APPROACH

Johannesburg Water initiated Operation Gcin'amanzi in Soweto as a multi-faceted intervention project focusing on the rehabilitation of the water network and private plumbing fixtures. A cornerstone of the project is the installation of a prepayment metering device on each property, eliminating the deemed consumption approach to water accounting. The prepayment metering system dispenses 6000 liters of Free Basic Water to each property every month, thereafter dispensing any water according to the availability of credit on the meter.

The project was launched in June 2003 after a lengthy consultative, awareness and approval process with communities, councilors, ward committees, and trade unions. Operation Gcin'amanzi is estimated to cost 500 million Rand when completed.

## RESULTS

The results achieved in all areas where the project has been implemented are spectacular, with the average water supply dropping from pre-intervention levels around 67 kL per residential property per month to post-intervention levels that so far average about 10 kL per property per month. So far, these reductions have saved Johannesburg Water (JW) 14.7 million kL of water, 26.5 million kWh of electricity, and US\$6.8 million. Once all

phases are completed, JW will save almost 270 million Rand (US\$45 million) *per year* in bulk water purchases alone, along with 175 million kWh of electricity and 97 million kL of water. The effective payback period of the project is less than 3 years.



Although Operation Gcin'amanzi has received negative publicity – based mostly on misinformation and opposing political ideologies – the project is now supported at the customer level with nearly 96% of participating residents responding positively to project outcomes. This project is ensuring that the true value of water is recognized and that customers are totally empowered to take ownership of consumption, thus ensuring that the service of water remains sustainable and affordable.

The issues of Soweto are not unique and occur in many urban areas in South Africa and abroad. Operation Gcin'amanzi shows the tremendous value of creating water efficiencies at the municipal service delivery level, and it illustrates that significant public opposition can be replaced by the willingness of people to pay for reliable, clean water – once they experience the benefits of their ownership.

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