



Success of Prepaid Water Management Through Hand-on Approaches

CJ van Rooyen – Project Manager: *Sebata Holdings*



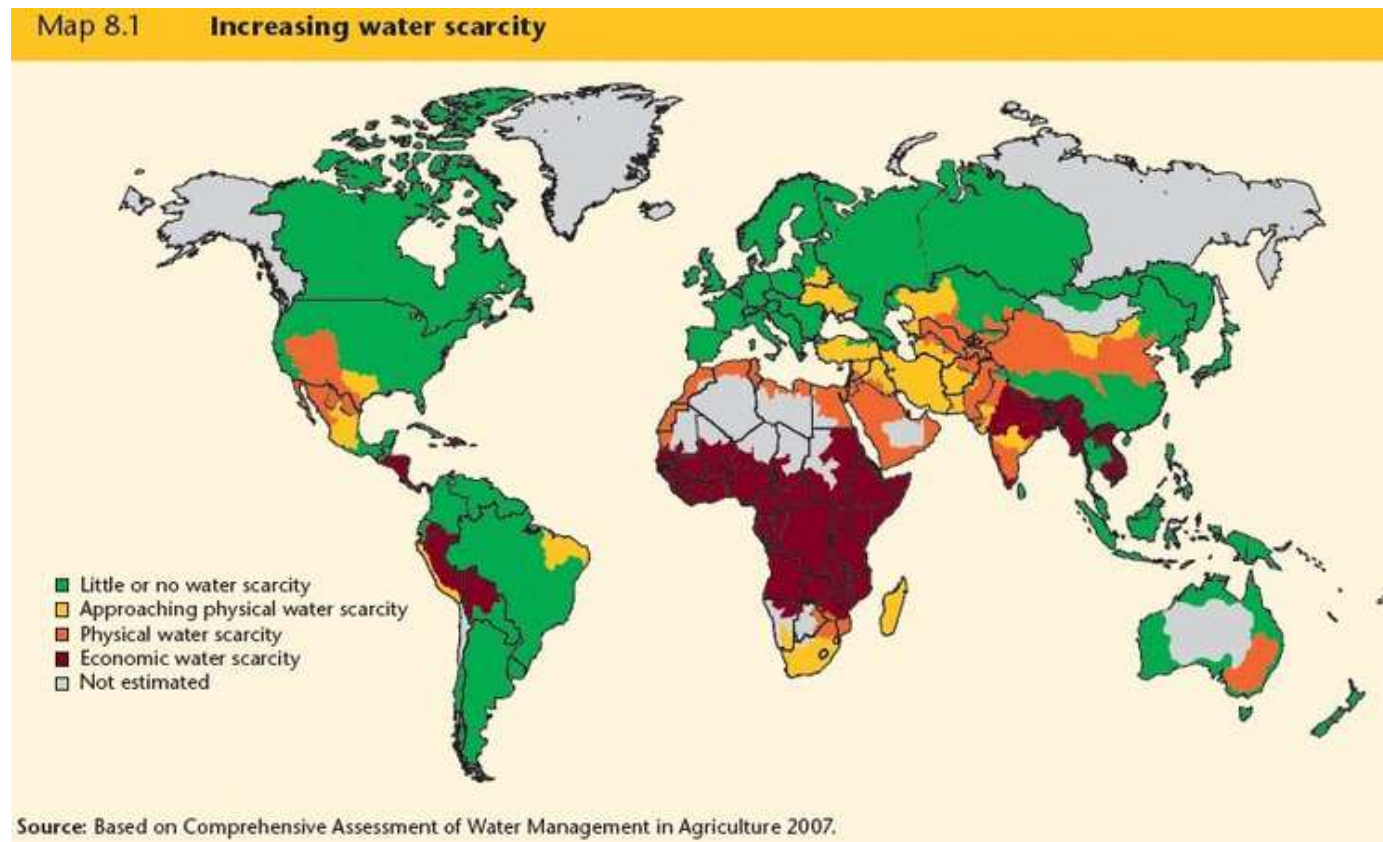
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Water Crisis – Local and Global

Water has become one of the most scarce resources globally, with Africa being the worst affected area.



Water and Economics



Drought in South Africa is predicted to worsen in the coming years and this will have a ripple effect:

- **Traditional wealth**
- **National Economy**
- **Food security**
- **Constitutional right to water**



Challenges

Identifying the causes:

- **Wasteful water consumption**
- **Non-payment**
- **Non-revenue water losses (commercial and technical)**
- **Non-functioning water meters**
- **Community resistance**
- **Lack of resources**
- **Funding**



^^ Thursday, September 25, 2014 at 8:59 AM ^^



^^ Thursday, November 13, 2014 at 8:49 AM ^^



^^ Wednesday, February 18, 2015 at 1:10 PM ^^

Solutions?

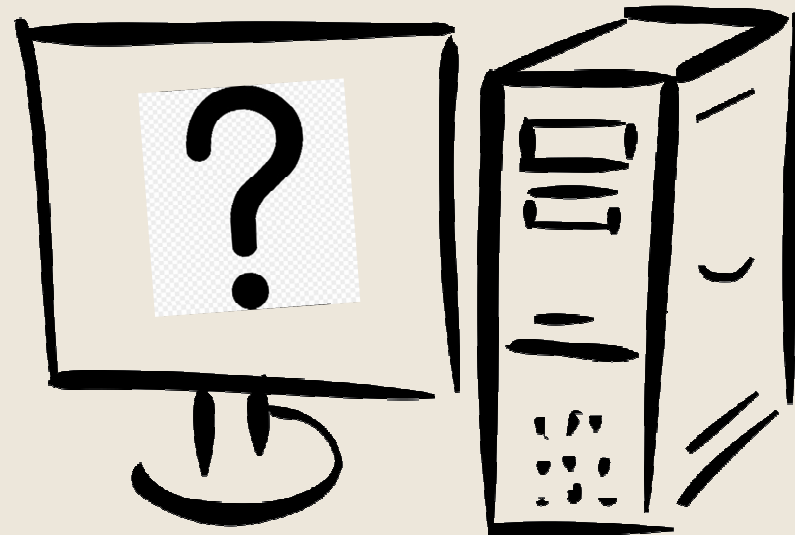
Smart Water Meters:

- Electronic restriction
- Prepaid ability on water
- Free basic allowance electronically
- Automatic leak detection
- Accurate consumption statistics – Water balancing

THIS IS ONLY THE HARDWARE

Imagine buying computers for the office and they are nothing more than empty casings without any electronic components.

This is what Smart Water Meters are without the management component.



Partnerships/Management = Success

THREE ELEMENTS OF MUNICIPAL WATER SUCCESS:

Municipality

- Municipal Manager
- Chief Financial Officer
- Head of Revenue

Community

- Councillors
- Community Heads
- Awareness meetings
- Buy-in and acceptance

Private Sector

- Project Management
- Engineering
- Implementation
- Maintenance
- Training



Municipal Involvement

The Municipal Manager and Chief Financial Officer will need to be involved in such a project:

- Be part of Steering Committee meetings
- Understanding between all stakeholders
- Knowing how the project is affecting cash flow
- Being able to address acceptable losses, fund allocation and obtain community confidence.
- Enforce by-laws on tampering or meter-bypassing
- Be available for community awareness campaigns
- Focus on sustainability



Community Involvement

It is very important to engage with the community before implementing:

- Attendance at awareness campaigns
- Allowed to pose questions to stakeholders
- Address any concerns relating to water
- Be given an opportunity to be heard and understood
- Become part of the project
- Key players in the success of the project



Private Sector Involvement

Partnership working towards common goals:

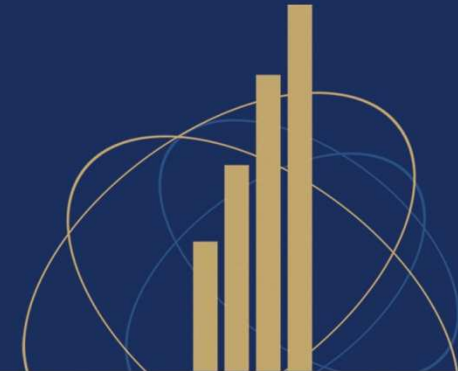
- Facilitates community awareness campaigns
- Training of local labour, skills transfer and empowerment
- Also wants their products to succeed
- Makes life easier for municipality and community – extensive maintenance and support.
- Ensures success continues after project handover
- Ensures product warranty
- Technical knowledge and know-how
- Focus on sustainability





Success Stories

Prepaid Water Project Successes and Failures



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Current Success Story

Midvaal Local Municipality is a municipality in the Sedibeng District Municipality within Southern Gauteng, South Africa. Ranked one of the top performing municipalities in South Africa, Midvaal caters to a population of over 100,000 residents. Midvaal Local Municipality has been coined the fastest growing municipality in Gauteng due to its rapid economic growth.



Savanna City Prepaid Water Project

- Mixed commercial and residential development located in Sedibeng, south of Johannesburg.
- Currently one of the largest urban lifestyle developments of its kind in South Africa and will include 18,000 homes, integrated modern amenities and infrastructure such as schools, shopping centres, business complexes and places of worship
- The development includes RDP, bonded and finance-linked subsidy houses



Implementation Rollout

Savanna City Pocket 1 and 2 consists of 309 properties. The first 242 units were installed in these two areas within the first 3 months of the project. The pilot project comprised of five phases:

- **Phase 1**
Community awareness campaign
- **Phase 2**
Water meter audit
- **Phase 3**
Installation of prepaid water meters
- **Phase 4**
Revenue management, Water usages management and prepaid vending
- **Phase 5**
Maintenance, support and monitoring



Implementation Rollout

- Collectors – with the radius of 700 meters – were positioned in Pocket 1 and 2 allowing the municipality to remotely collect readings from each Water Management Device (WMD)
- Spatial information of prepaid water meters in the area was also supplied
- Data communicated by the collector includes:
 - serial number of the WMD
 - total litres used in the current month
 - valve status (open/closed/faulty)
 - total litres usage to date
 - tamper detection
 - leak detection



Employment and Skills Development

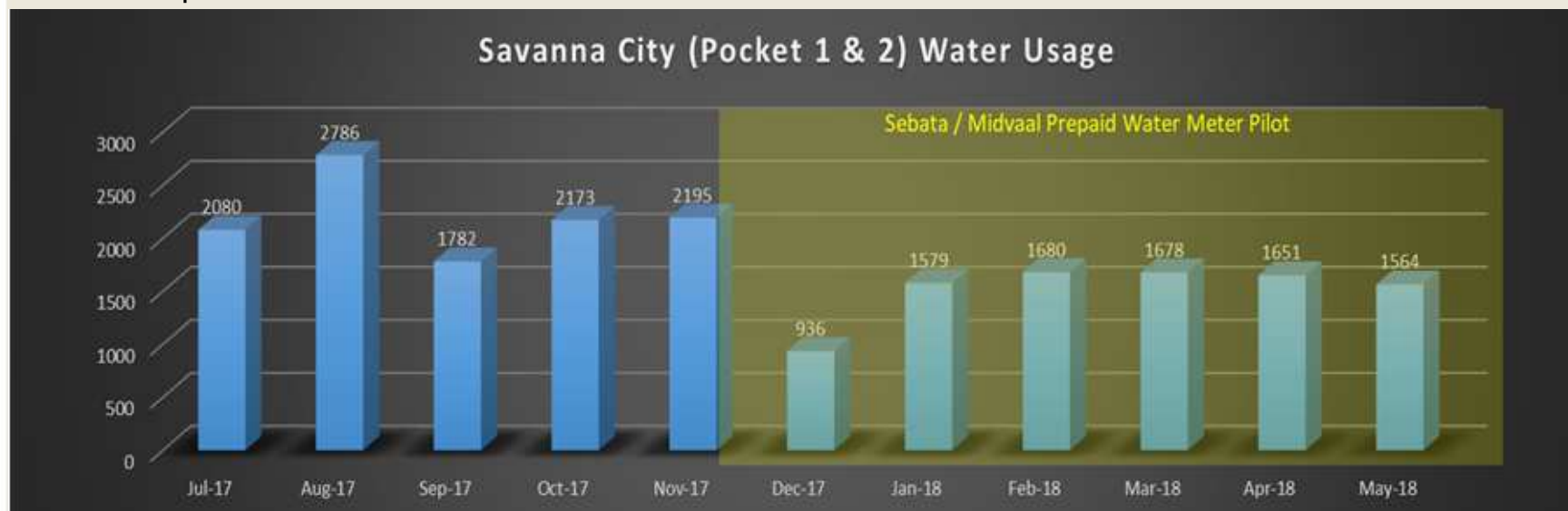
Involving the community

- As a means of investing in the Savanna City community, six local community residents were employed to assist in the auditing process
- An additional two dedicated onsite resources were employed to ensure quick and effective maintenance takes place when facilitating the water meter installations
- One female administrator, a resident of Savanna City, was employed to assist with the registration and administration process
- Furthermore, four local labourers were employed to assist with the prepaid water installations in Pocket 1 and 2



Responsible Water Usage

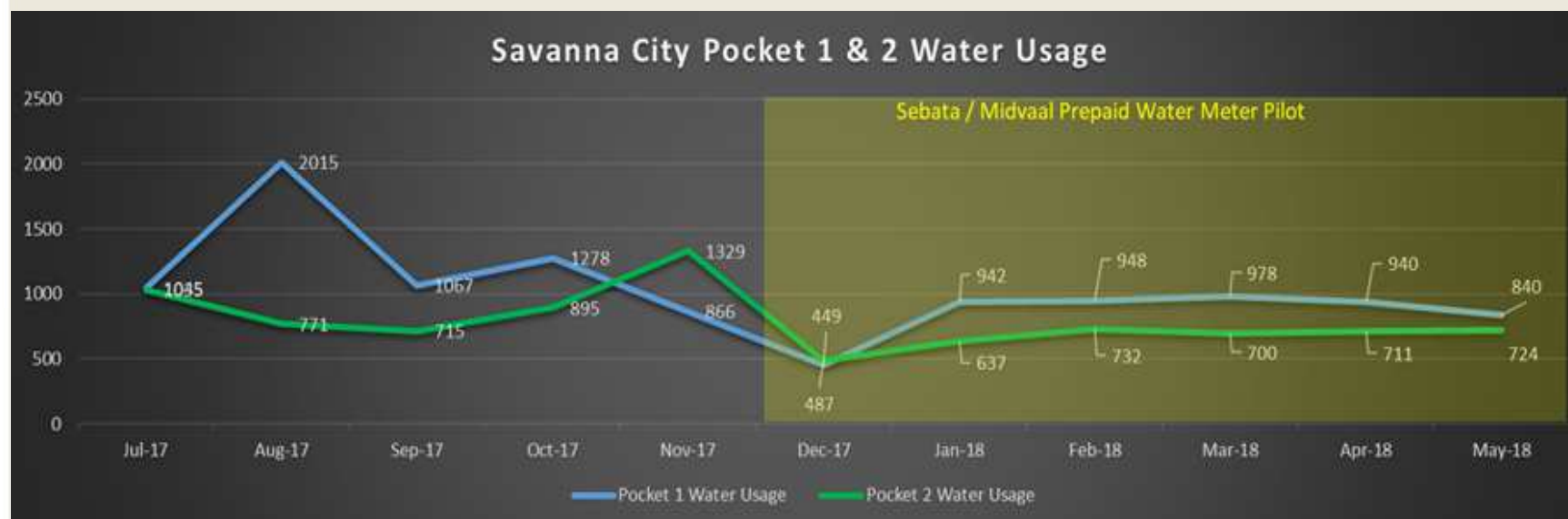
- Based on feedback, the residents are willing to pay for the water they consume because it places them in direct control of their own consumption
- Environmental factors such as leaking toilets and broken pipes are addressed with a sense of urgency
- By introducing the prepaid water solution, the graph below reflects the reduction of water consumption to this area



- Average water usage prior to Pilot Project: **2,203,200 litres monthly**
- Average consumption during Pilot Project: **1,514,667 litres monthly**
- Water saved as a result of Pilot Project: **688,533 litres monthly**

Responsible Water Usage

Water Usage in Pocket 1 and Pocket 2



POCKET 1

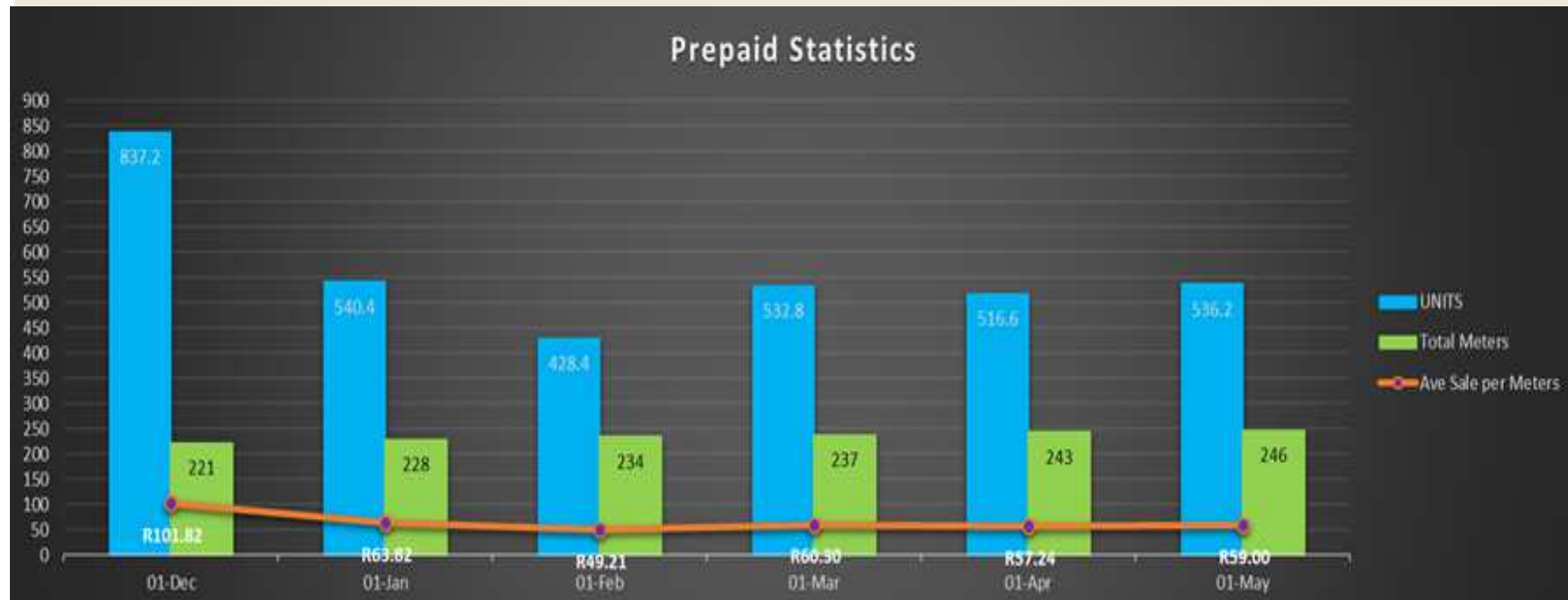
- Average water usage prior to Project: **1,254,200 litres monthly**
- Average consumption during Project: **849,430 litres monthly**
- Water saved as a result of Project: **404,770 litres monthly**

POCKET 2

- Average water usage prior to Project: **949,000 litres monthly**
- Average consumption during Project: **665,012 litres monthly**
- Water saved as a result of Project: **283,988 litres monthly**

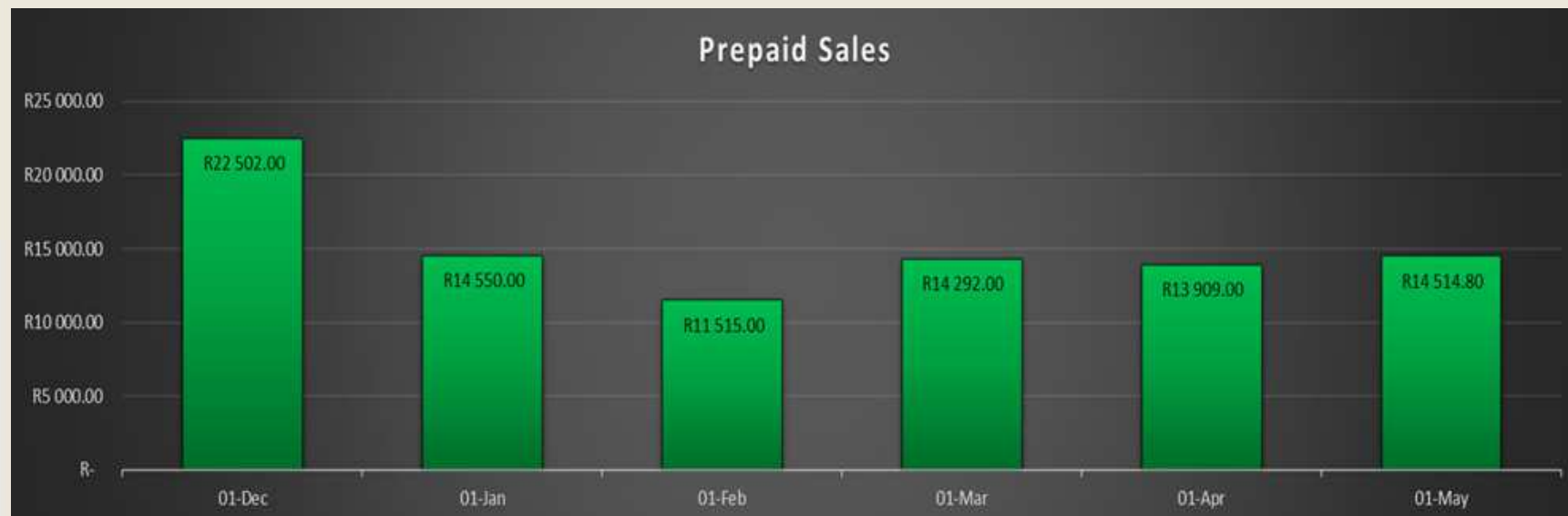
Responsible Water Usage

Prepaid Water Statistics



Responsible Water Usage

Prepaid sales between December 2017 and May 2018



Testimonials

“Sebata’s rollout of prepaid water meters was executed in a timely manner. From the start, all we wanted was a prepaid system that allowed us to monitor our consumption – and that is exactly what we got at the end of day.”

- Raider Mushwana, Savanna City Community Leader

“The community overall says the prepaid meters are working very nicely. There has been no major complaints. The people are happy.”

- Palesa Legodi, Savanna City Community Leader and local community member

“I’m very happy! Before the installation, I never understood how the bill was so high. But with the water meters I can monitor my own water usage for myself. We are eight people living in my house. Before [the municipality] was billing me ±R800 a month for water, but now I’m only using R100 prepaid a month for the eight of us.”

- Londiwe MADUMA, Resident of Pocket 2 Savanna City

“The municipality is very excited regarding the implementation of the Savanna City prepaid water metering pilot project. The initial indication is that the meter equipment and related systems are performing excellently. We are looking forward to the performance evaluation, which is scheduled to take place in August 2018”

- Johan Voster, Savanna City Project Manager



Project Reference:

Mr Albert de Klerk

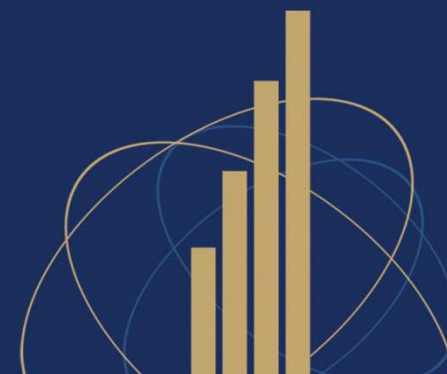
Municipal Manager – Midvaal Local Municipality





Thank You

Any Questions?



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