



A SALGA led initiative supported by the Water Research Commission

# Getting Started with Benchmarking for Performance Improvement...

*“ for municipalities, by municipalities, to benefit of municipalities”*

# Why Benchmark Water Services?



**Something has to change...**  
***Improved Performance in Water Services***

Result: won - Winning team: - MOM: DW Steyn - MOS:

## Match Information

Match Status: South Africa won by an innings and 193 runs

Umpires: Kumar Dharmasena, Ian Gould - Third umpire: Rod Tucker - Referee: David Boon

## 1st innings

Batting		R	B	4s	6s	Bowling	O	M	R	W
AN Petersen	c Patel b Bracewell	21	40	3	0	Bout	32.0	5	108	1
GC Smith	c Watling b Wagner	54	88	8	0	Bracewell	34.0	6	94	3
HM Amla	c Watling b Boul	110	235	8	0	Wagner	33.0	4	135	1
JH Kallis	c Watling b Bracewell	8	11	2	0	Patel	36.5	2	134	1
AB de Villiers	c Williamson b Patel	51	81	6	0	Munro	18.0	4	40	2
F du Plessis	c McCullum b Munro	137	252	14	2					
D Elgar	not out	103	170	14	1					
RJ Peterson	c Patel b Munro	8	13	1	0					
DW Steyn	c Patel b Bracewell	5	23	0	0					
RK Kleinveldt	not out	7	13	1	0					
M Morkel	dnb	0	0	0	0					
Extras	(b 6, lb 8, w 4, nb 3)	21								
Total	(8 wickets; 153.5 overs )	525								

### Fall of wickets

Petersen - (29 - 9.6ov)  
 Smith - (121 - 30.4ov)  
 Kallis - (137 - 35.4ov)  
 de Villiers - (223 - 61.1ov)  
 Amla - (336 - 97.6ov)  
 du Plessis - (467 - 136.5ov)  
 Peterson - (481 - 142.6ov)  
 Steyn - (508 - 150.1ov)

## 1st innings

Batting		R	B	4s	6s	Bowling	O	M	R	W
MJ Guptil	c Petersen b Steyn	1	11	0	0	Steyn	13.0	5	17	5
BB McCullum	c Kallis b Peterson	13	61	2	0	Morkel	12.4	6	26	1
KS Williamson	c Smith b Steyn	4	5	1	0	Kleinveldt	11.0	3	53	2
DG Brownlie	c de Villiers b Kleinveldt	10	22	2	0	Peterson	7.0	2	20	2
DR Flynn	lbw b Kleinveldt	0	4	0	0	Kallis	1.0	1	0	0
BJ Watling	c Smith b Morkel	62	97	12	0					

Nav Cricket Pack 2.0 / Navanesh

File Tools Help

Projected Score Calculator

Overs and Decimals

Runs per over calculator

Batting Average Calculator

Bowling Strike Rate Calculator

Batting Strike Rate Calculator

Bowling Average Calculator

Bowling Strike Rate Calculator

Overs

Wickets Took

Find it.....

24.53

### What is Bowling Strike Rate?

Bowling strike rate is, the average of balls which the bowler takes a wicket.

for example, If the Bowling Strike Rate is 20.5, he will take 1 wicket for each average 20.5 balls

### Formula

Bowling S/R =  $\frac{\text{Overs Bowled} \times 6}{\text{Wickets Took}}$



## STATISTICS

Statistics		
48	Shots	40
5	Corner kicks	3
1	Yellow cards	0
0	Second yellow card and red card	0
0	Red Cards	0
55%	Possession (%)	45%





# SUCCESS

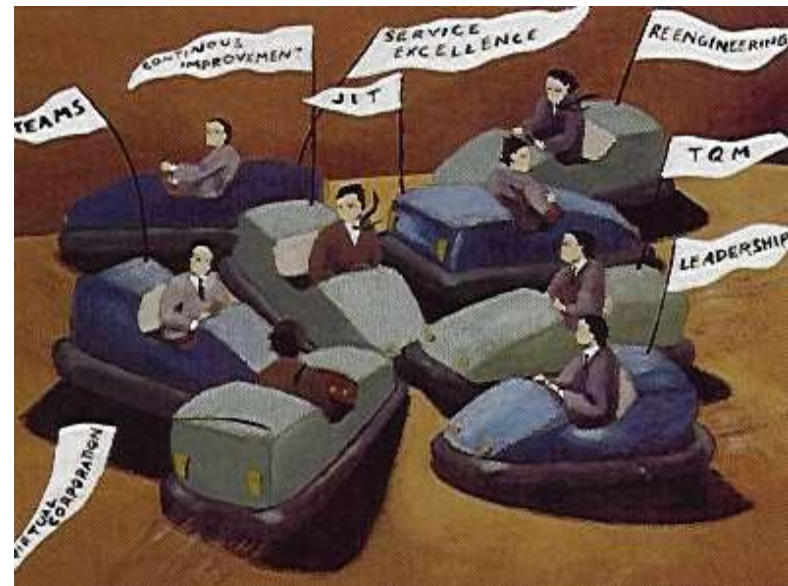


# The Challenge of Successful Change

- Most people/organisations don't like change!
- Change introduces risk / requires focused effort
- Many change programmes fail before they start

**Change requires:**

- 1. High Quality Leadership**
- 2. Excellent Management**





## 8 Steps to a Successful Change Process

1. A Sense of **Urgency/Need**
2. A Strong **Guiding Coalition**
3. A **Clear and Compelling Vision**
4. Communicating **the Vision**
5. Empowering Others to **Act on the Vision**
6. Maintaining **a pipeline of Wins**
7. Consolidating Improvements **and** Producing Still More Change
8. Institutionalizing New Approaches

# Successful Change

Successful change is quite simple if you have the **tools**, the **leadership** and **follow the process**





**M**municipal  
**B**enchmarking  
**I**nitiative  
water services





## MBI: Key Aspects of Approach to Benchmarking

- Make benchmarking part of “normal, good business practice” assists with day-to-day operations, demonstrates economic benefits and value
- Focus on hands-on support (“how do I do that?”)
- Create a support network and culture of information exchange between peers (“how did they do that?”)
- Use a web-based real-time data-capture and reporting system for tracking and measuring performance
- Use a modular, tiered approach to encourage and enable all to participate
- Be aligned with current capabilities and future aspirations

# A Modular & Tier based Approach



## MBI: Key Elements

1. **PI's**, to support performance improvement
  2. Access to **relevant Case Studies**, to assist improved performance
  3. Access to **relevant Tools**, to assist improved performance
  4. **Peer Learning initiatives**, to assist improved performance
- **Peer Group activities** to support above AND ensure that each of 1 to 4 is relevant and appropriate to that peer group





## Value of Asset Management Performance Improvement

- Historically → asset management performed in an informal fashion, without the necessary strategic vision and corporate commitment
- An asset management framework ensures all processes are effective and provided to achieve a specific goal
- WSA becomes aware of status against current leading practice in corporate policy and business planning, asset capability planning, acquisition, operations and maintenance; and asset replacement and rehabilitation





# **“10 Mindset Shifts to Unleash the Transformative Power of Performance Measurement” – Stacey Barr**

1. A continuous improvement philosophy
2. A results focus (not activity focus)
3. Patterns, not points (understand variation)
4. Statistics & numbers aren't hard
5. Absolutely no blame (curiosity instead)
6. A bias for action (learn by doing)
7. Process thinking
8. Systems thinking
9. No failure, only feedback
10. Performance measurement is PART of your job



# Master Class

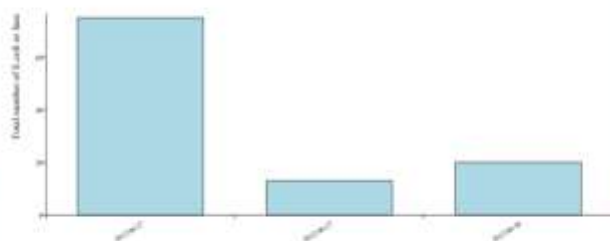


Municipal  
Benchmarking  
Initiative  
water services

- ✓ FREE participation by ALL
- ✓ Technical overviews
- ✓ Case studies
- ✓ Best practices
- ✓ Share common issues/challenges faced
- ✓ How did they do that??
- ✓ Performance measurement (PIs)
- ✓ Networking



# Municipal Benchmarking Initiative



→ 6 introductory modules focus on recognised national priority areas of municipal performance

1. Water Demand Management
2. Backlogs & Service Delivery
3. Human Resource Management & Skills Development
4. Operations & Maintenance
5. Product Quality
6. Financial Performance



# MBI Web-based System

- [www.munibench.co.za](http://www.munibench.co.za)
- **Register** (obtain username/password)
- Step 1: Login
- Step 2: Set-up client information
- Step 3: Select/enable PIs
- Step 4: Enter data
- Step 5: View performance

A screenshot of the Municipal Benchmarking Initiative (MBI) web-based system login page. The page has a light blue header with the title "Municipal Benchmarking Initiative". Below the header, a white box contains the text: "A SALGA led initiative supported by the Water Research Commission 'for municipalities, by municipalities, to benefit of municipalities'". The main content area is white and contains a login form. At the top of the form, it says "Please enter your username and password to gain access to your privileged information." Below this, there are two input fields: "Username" and "Password". A "Login" button is positioned below the password field. At the bottom of the page, there is a dark blue footer with the text "© 2012, Emant Management".



# PIs, Variables and Context Information

- **Variables**
  - Data element or input
- **Performance Indicators (PIs)**
  - Calculated result or output
  - E.g.  $\text{Variable 1} / \text{Variable 2} \times 100$   
 $= 3 / 4 \times 100 = 75 \%$
  - Compare to target value (e.g. 80%)
- **Context Information**
  - Compare (E.g. population, network length, types of activity)





**SALGA**  
South African Local Government Association

# PIs, Variables and Context Information

[▲ Up one level](#)

## Performance Indicators (edit)

Add Category

- ☐ [Financial Management](#)
- ☐ [Human Resources and Skills Development](#)
- ☐ [Operations and Maintenance](#)
- ☐ [Product Quality](#)
- ☐ [Service Delivery and Backlogs](#)
- ☐ [Water Loss and Demand Management](#)

Delete

[▲ Up one level](#)

## Variables (edit)

Add Category

- ☐ [A - Wastewater Environmental Data](#)
- ☐ [A - Water Volume Data](#)
- ☐ [B - Personnel Data](#)
- ☐ [C - Physical Assets Data](#)
- ☐ [D - Operational Data](#)
- ☐ [E - Demography and Customer Data](#)
- ☐ [F - Quality of Service Data](#)
- ☐ [G - Financial Data](#)
- ☐ [H - Time Data](#)

Delete

[▲ Up one level](#)

## Context Information (edit)

Add Category

- ☐ [Consumption and Peak Factors](#)
- ☐ [Demography and Economics](#)
- ☐ [Environment](#)
- ☐ [Service Information](#)
- ☐ [System Assets](#)
- ☐ [Undertaking Profile](#)

Delete

# Set-up Client Information

## Municipal Benchmarking I

Stellenbosch Municipality

ema046

[Dashboard](#)

[Data Entry](#)

[Setup](#)

[Administration](#)

[Reports](#)

[Logout](#)

[Dashboard](#)

[Performance Indicators](#)

[Variables](#)

[Client Information](#)

Complete basic  
WSA information –  
peer comparison

[Up one level](#)

**Dashboard**

**Financial Mana**

**DWA MuSSA - Section**

Section 11: Financial Management

%



1	Municipality name	Type name – e.g. Stellenbosch Municipality
2	Municipal demarcation code	Type – e.g. WC024
3	The municipality is a WSA	Select 1 from 2 options (single choice): Yes; No
4	Province	Select 1 from list of 9 provinces (single choice): EC; FS; GT; KZ; LP; MP; NC; NW; WC
5	Type of activity	Select 1 from 3 options (single choice): Water supply services only; Wastewater services only; Water supply and wastewater services
6	Type of water supply systems	Select 1 from 3 options (single choice): Bulk water supply only; Direct distribution only; Bulk supply and direct distribution
7	Type of water supply	Select 1 from 2 options (single choice): Full-time supply; Intermittent supply
8	Type of wastewater systems	Select 1 from 3 options (single choice): Wastewater treatment plants only; On-site systems only; Wastewater treatment plants and on-site systems
9	Receiving bodies for treated wastewater effluent	Can select more than 1 of the following options (multi choice): Ocean; Estuaries, bays and other coastal waters; Rivers; Streams; Lakes, ponds, reservoirs or

# Select/Enable PIs

## Stellenbosch Municipality

PIs = combination of  
IWA and SA specific

▲ Up one level

### Performance Indicators

- Performance Indicators
  - Financial Management
  - Human Resources and Skills Dev
  - Operations and Maintenance
  - Product Quality
  - Service Delivery and Backlogs
  - Water Loss and Demand Manage

Add Category

☐ My own PIs

Delete

Select  
existing PIs  
or can create  
own

▲ Up one level

### Performance Indicators

- Performance Indicators
  - Financial Management
  - Human Resources and Skills Development
  - Operations and Maintenance
    - Biogas re-use
    - DWA MuSSA - Section 9: Infrastructure Asset M
    - DWA MuSSA - Section10: Operations and Main
    - DWA RPMS KPI 10: Strategic Asset Manageme
    - Drinking water treatment plant utilisation (IWA
    - Electricity use (wastewater treated)
    - Electricity use (water produced)
    - Mains failures (IWA Op31)
    - Mains replacement (water) (IWA Op18)
    - Meter replacement (IWA Op8)
    - Other sludge disposal (IWA wEn11)
    - Sewage system inspection (IWA wOp1)
    - Sewer blockages (IWA wOp34)
    - Sewer replacement (IWA wOp23)
    - Sludge Production in WWTP (IWA wEn6)
    - Sludge disposal (IWA wEn8)
    - Sludge going to landfill (IWA wEn9)
    - Sludge thermally processed (IWA wEn10)
    - Sludge utilisation (IWA wEn7)
    - Wastewater pump station overflows (by number)

#### Electricity use (wastewater treated) x

Total electricity used for wastewater treatment / total wastewater treated, for all wastewater treatment plants during the assessment period.

Expression: D137/WA2

Enabled: ☒

Target:

Save

▲ Up one level

### Performance Indicators

- Performance Indicators
  - Financial Management
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# Enter Data

ema046 [Dashboard](#) | [Data Entry](#) | [Setup](#) | [Admin](#)

## Municipal Benchmarking

Stellenbosch Municipality

[Operational Data](#)
[Context Information](#)

All data needs indication of data reliability & accuracy

System displays all variables that need to be completed to calculate your selected PIs

Variable	Code	Measured	Reliability	Accuracy	Value	Unit	Comment
<b>Category: G - Financial Data</b>							
Actual maintenance costs (water)	G108	2012/08/15	★★★★	<div></div>	500,000	R	
Operational costs (water) (IWA G7)	G7	2012/08/15	★★★★	<div></div>	10,000,000	R	
<b>Category: H - Time Data</b>							
Assessment period (IWA H1)	H1	2012/08/21	★★★	<div></div>	365	day	
<b>Category: A - Water Volume Data</b>							
Billed metered consumption (IWA A8)	A8	2012/08/21	★★★	<div></div>	12,345,000	m <sup>3</sup>	
<b>Category: D - Operational Data</b>							
DWA MuSSA - Score for Section 10 (O...	D134	2012/08/21	★★★★	<div></div>	85	%	
DWA MuSSA - Score for Section 7 (Dri...	D100	2012/08/21	★★★★	<div></div>	80	%	
Electricity use (wastewater treatme...	D137	2012/08/14	★★★	<div></div>	12,000	kWh	
Total number of E.coli or faecal colifo...	D114	2012/07/03	★★★	<div></div>	80	No.	
Total number of results for all determ...	D127	2012/08/14	★★★	<div></div>			
Total number of tests conducted for ...	D113	2012/07/03	★★★	<div></div>	20	No.	
Total number of tests conducted for ...	D126	2012/08/21	★★★	<div></div>		No.	
<b>Category: C - Physical Assets Data</b>							
DWA MuSSA - Score for Section 9 (Inf...	C100	2012/08/21	★★★	<div></div>		%	
Mains length (water) (IWA C8)	C8	2012/08/21	★★★	<div></div>		km	
<b>Category: E - Demography and Customer Data</b>							
Registered customers (IWA E10)	E10	2012/08/21	★★★	<div></div>		customer	



# Accuracy and Reliability

## the importance of good data

### TOWN A

- No bulk meters at production / pumps
- No meters for customers
- Volumes estimated

NON REVENUE WATER  
24 %



## the importance of good data

### TOWN B

- Working bulk meter at the borehole pump
- Customers billed by meters
- Components of water balance known

NON REVENUE WATER  
42 %



**Source:** IWA Benchmarking Workshop, Nov 2011

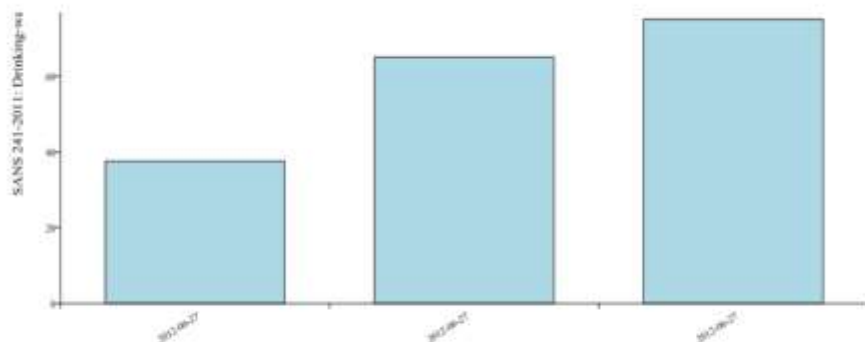
who would look better?



**SALGA**  
South African Local Government Association

# View Performance: Dashboard

**SANS 241-2011: Drinking-water quality compliance: acute health - 1  
microbiological (E.coli or faecal coliforms)**

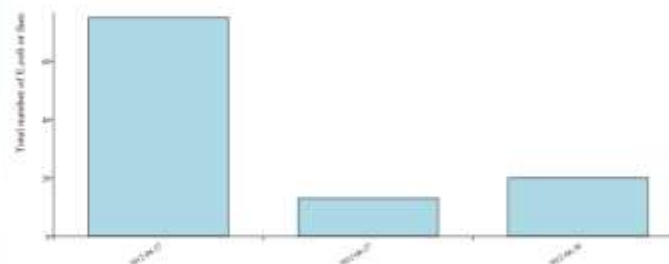


Measurement Date	Accuracy	Reliability	Value
2012-06-27 10:14:47	5%	★★★★★	37.5
2012-06-27 10:48:11	5%	★★★★★	65.0
2012-06-27 11:19:06	5%	★★★★★	75.0

[Search again](#)

**Stellenbosch Municipality**

**Total number of E.coli or faecal coliforms results complying with the numerical limits**



Measurement Date	Accuracy	Reliability	Value
2012-06-27	50%	★★★★☆	75.0
2012-06-27	20%	★★★★☆	13.0
2012-06-27	50%	★★★★☆	20.0

Dashboards display auto generated views  
of performance (can also draw manually)

# The Big Why???

**WIIFM**  
→ What's In It For Me???

**FTSOW**  
'For The Sake  
Of What'

"unless people can see value  
in their participation in it,  
you'll get compliance, not  
commitment"

"People don't  
do what you  
expect, they do  
what you  
inspect!"

1. What?
  2. So what?
  3. Then what?
- Need all 3!!!

**Measure  
what  
matters....**



# Some Tips for Getting Started...

## 1. Start small

- Zoom in on a single goal or performance result... something you can use right now...

## 2. Commit

- Make it part of your day-to-day activities...

## 3. Find those who know

- Peers, specialists → learn from them, take their advice, and don't waste time reinventing wheels or falling into traps....

## 4. Build gradually

- Start with a single goal...continue with two goals...etc



## Some Tips for Getting Started (cont)...

5. Make mistakes
  - Don't repeat the mistakes of others...make new ones ☺
6. Balance, not sacrifice
  - We are all super busy...don't wait for perfection...get started!
7. Have a support system
  - Peer groups...
8. Blinders on
  - Don't let anyone's objections get into your head...
- 9. Have fun and enjoy!!**

## Need To get Going!!!

- Core set of Modules with core PIs **already enabled with “basic” data**
- **Free to choose other PIs**, as suits goals/objectives
- **Start basic** – less is more – entrench basic participation, and then expand
- Initiation of **peer groups**...

**MBI Team will be in contact...**

**Need help??**

**Tel: 0218802932**

**Email: [mbi@emanti.co.za](mailto:mbi@emanti.co.za)**





# Thank You!



**M**municipal  
**B**enchmarking  
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