

South Africa's WCWDM Strategic Overview

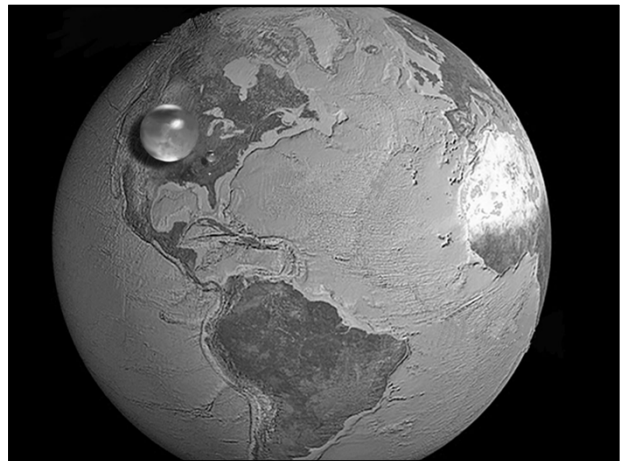
Presented by:
Paul Herbst

Water Situation...

How Much Water Is On The Planet?

➤ 1 260 000 000 000 000 000 million m³

- 70% of planet earth is covered with Water
- 98% of this water is in oceans and saline
- 2 % is potential potable water but:
- 1.6% is locked in ice caps
- 0.36% is ground water/aquifers
- 0.036% is found in Rivers and Lakes

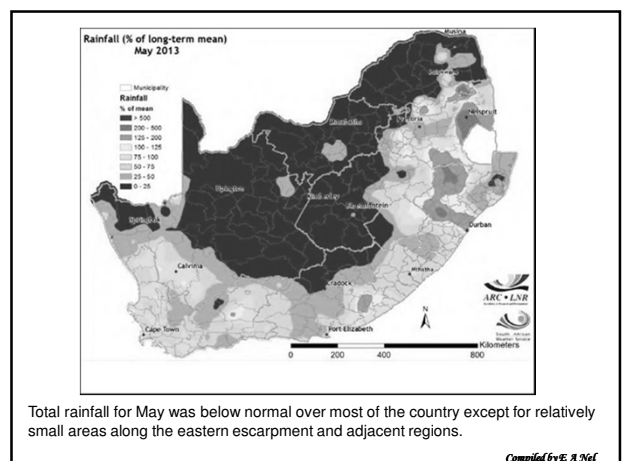
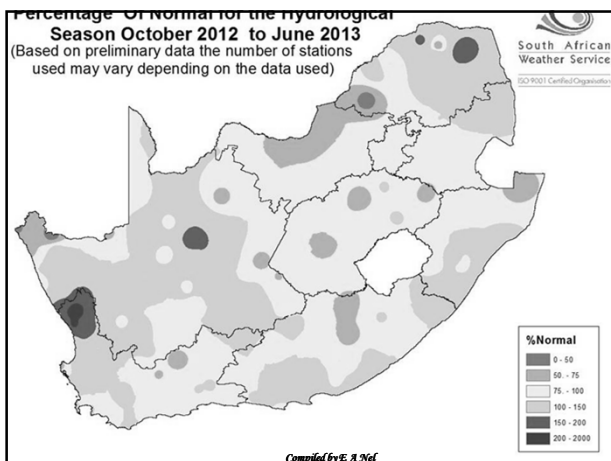
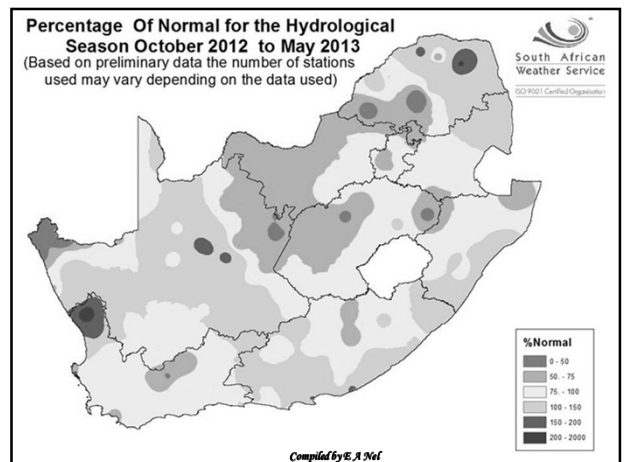
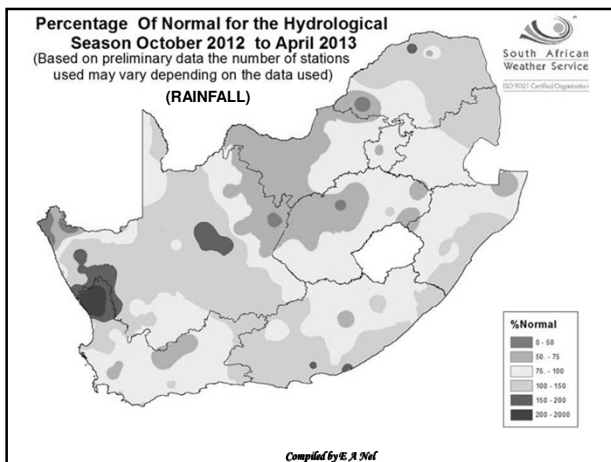
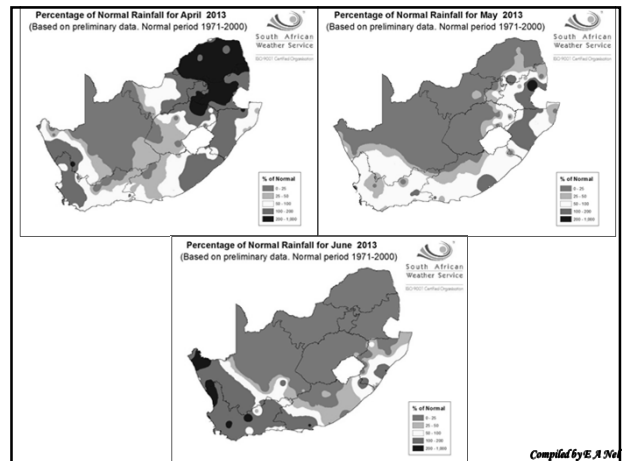
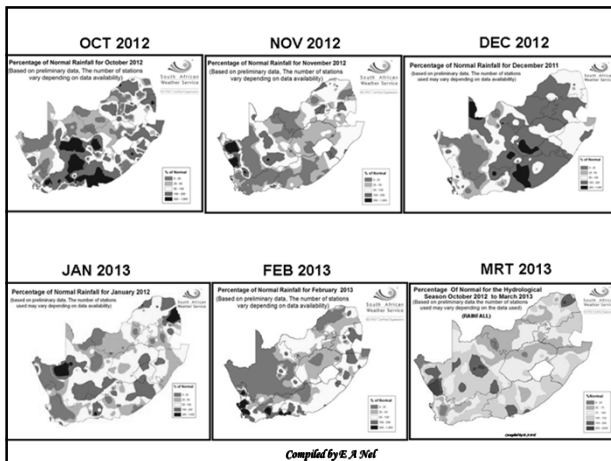


Water In South Africa

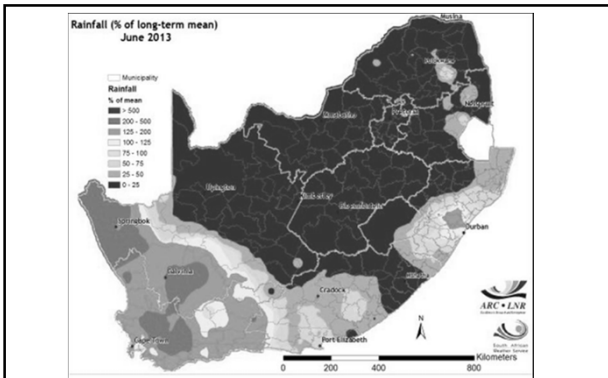
- Africa - second driest continent (after Australia)
- South Africa receives average rainfall of 450 mm/annum - less than half of the world average
- South Africa is a water scarce country

Water In South Africa

- South Africa is a *water scarce country*
- It receives less than half of the world average rainfall - (+/- 450 mm/annum)
- Most of SA's water resources are *over-used*, significantly altered, many areas facing *water shortages*, water requirements are greater than the available water.
- All water use sectors (municipal, agriculture, industry, mining, power generation), are *competing* for the same resource and is needed for social and economic prosperity

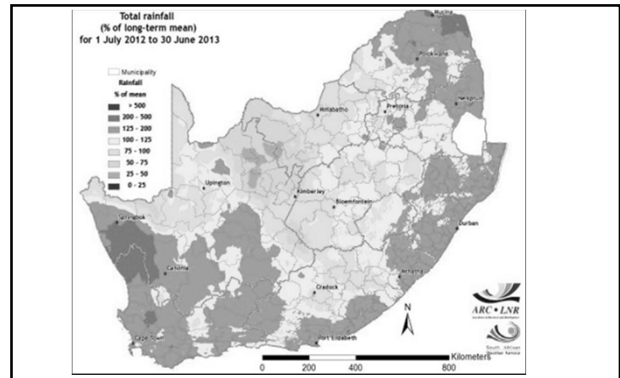


Total rainfall for May was below normal over most of the country except for relatively small areas along the eastern escarpment and adjacent regions.



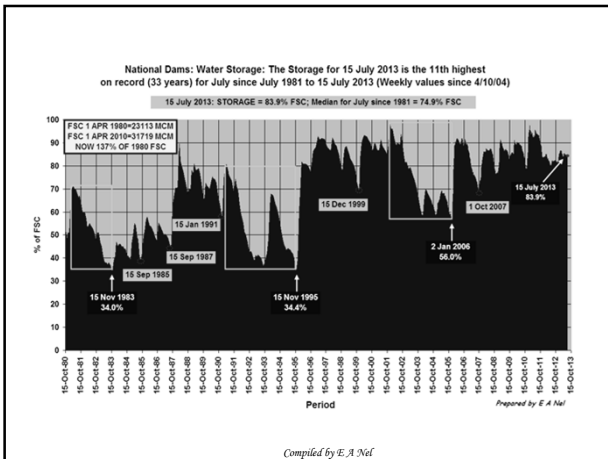
June 2013 was a relatively wet month over the winter rainfall area and dry over most of the rest of South Africa. Conditions over the western parts were especially wet during the beginning of the month. Some rain also occurred over the eastern coastal areas during the latter part of the month.

Compiled by E. A. Nel



Taken over the entire summer rainfall season, large parts of the grain production areas received below normal rainfall. The western parts of the North West and northeastern Northern Cape received less than 75% and some areas even less than 50% of the average rainfall. The northeastern, eastern, southern and southwestern parts of the country, however, received above-normal rainfall.

Compiled by E. A. Nel

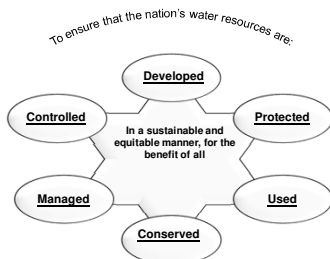


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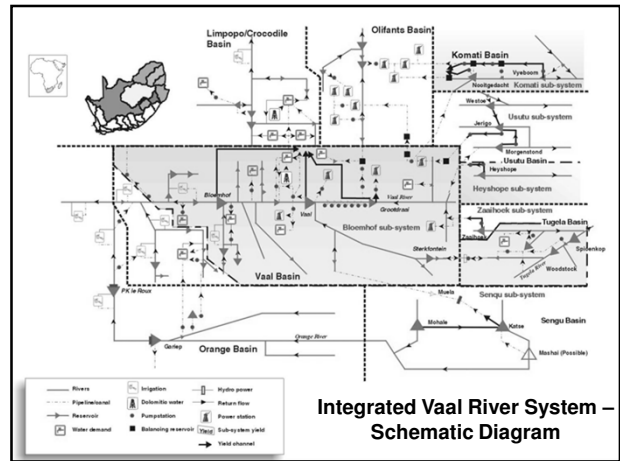
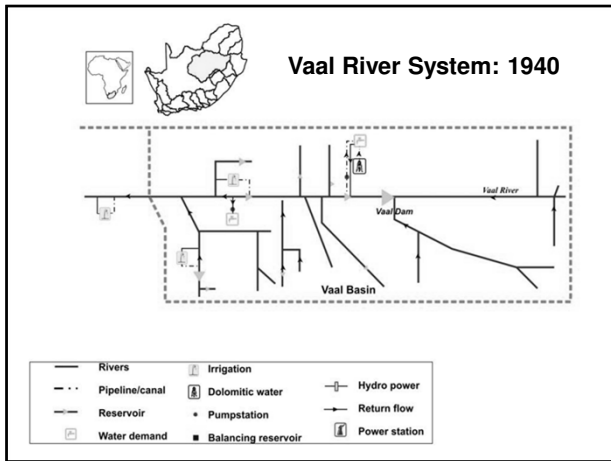
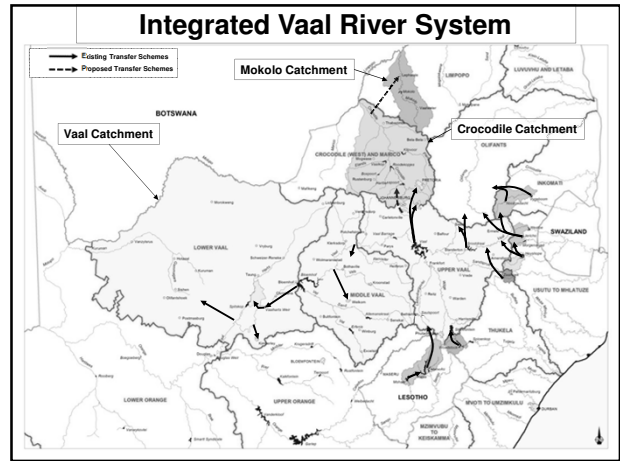
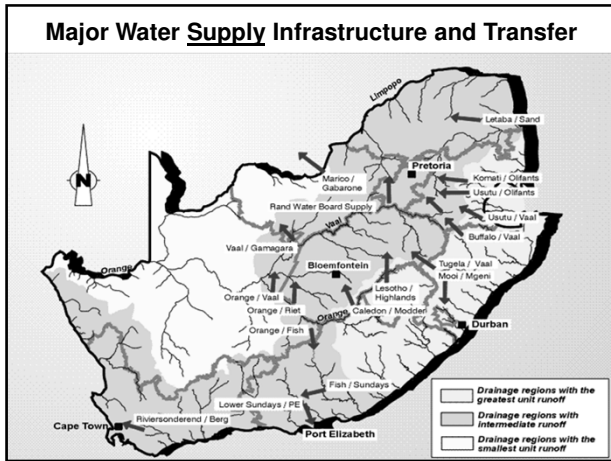
WCWDM in Legislation

- **Constitution**
- **National Environ. Man. Act** **Act 107 of 1998**
- **Environ. Conservation Act** **Act 73 of 1989**
- **National Water Act** **Act 36 of 1998**
- **Water Services Act** **Act 108 of 1997**
- **National Health Act** **Act 61 of 2003**
- **MPRDA** **Act 28 of 2002**
- **Municipal Systems** **Act 32 of 2000**
- **Municipal Structures** **Act 117 of 1998**
- **Development Facilitation** **Act 67 of 1995**

National Water Act (Act 36 of 1998)

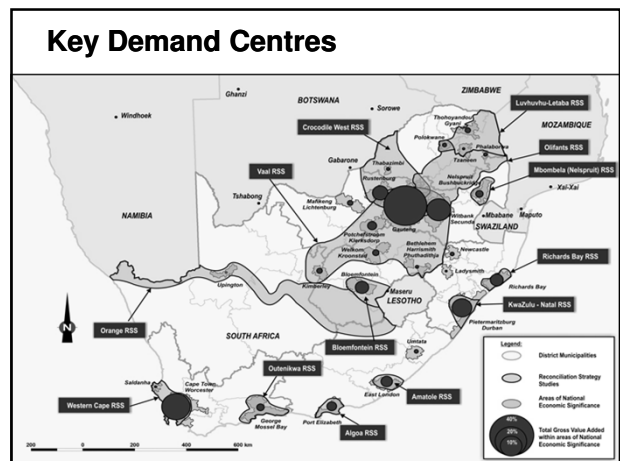


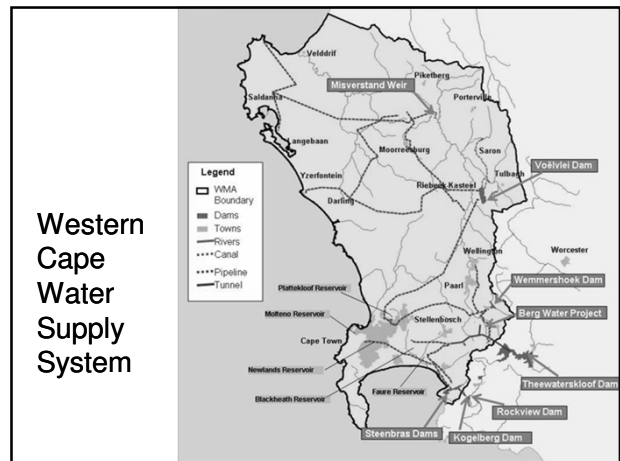
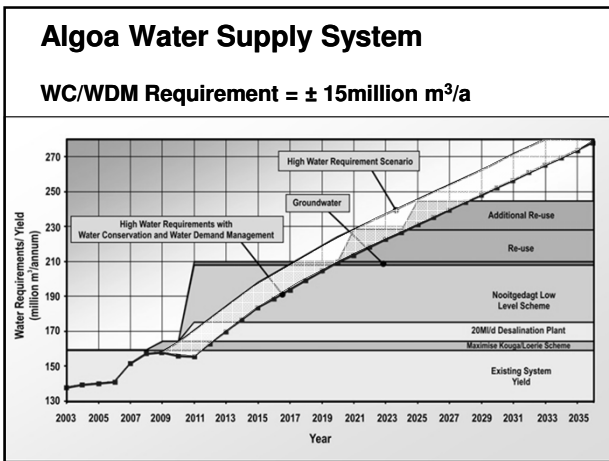
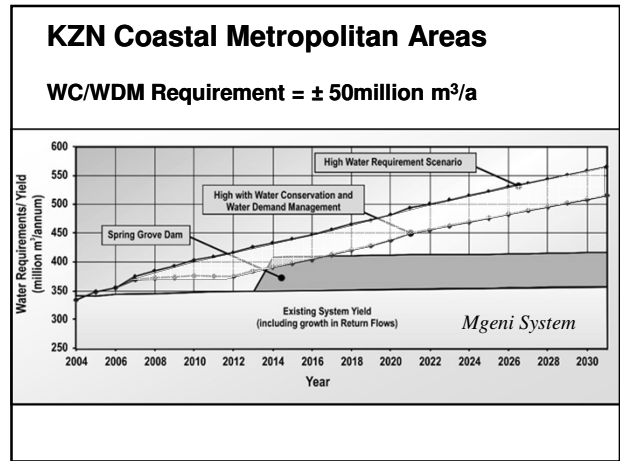
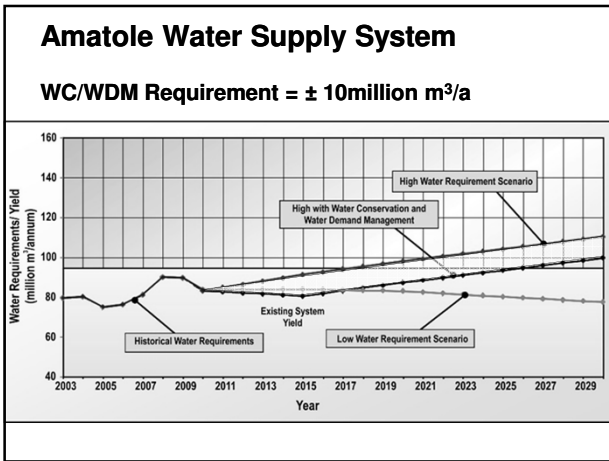
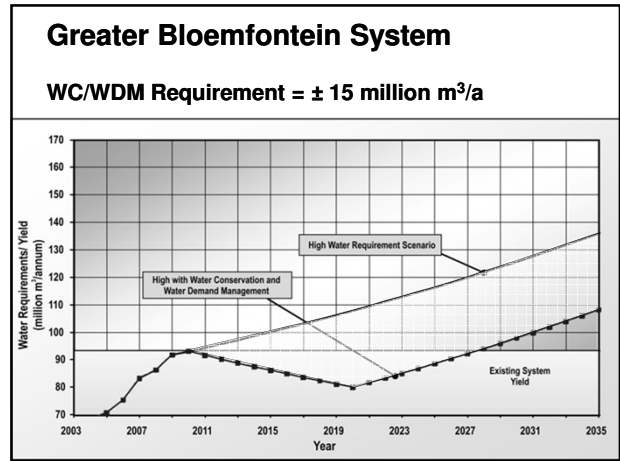
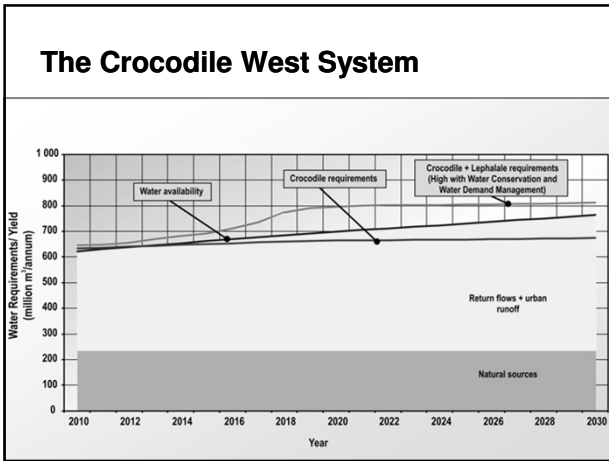
WHY WCWDM?

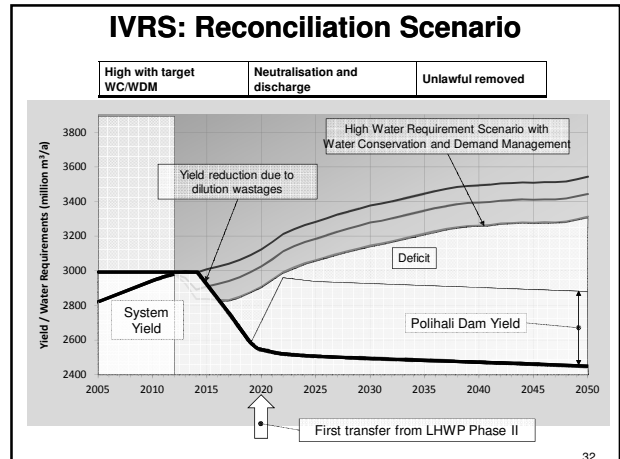
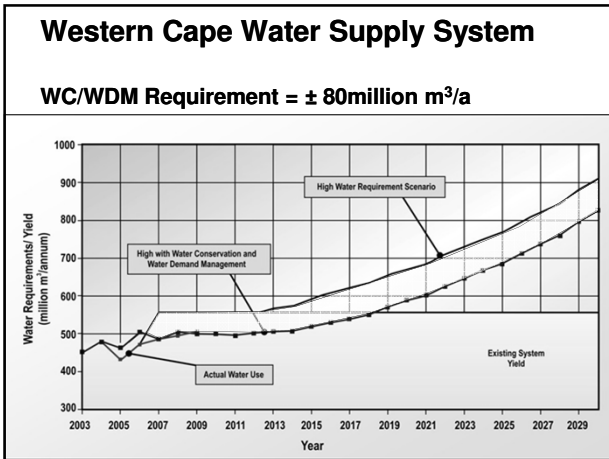


Trying to balance supply and demand....

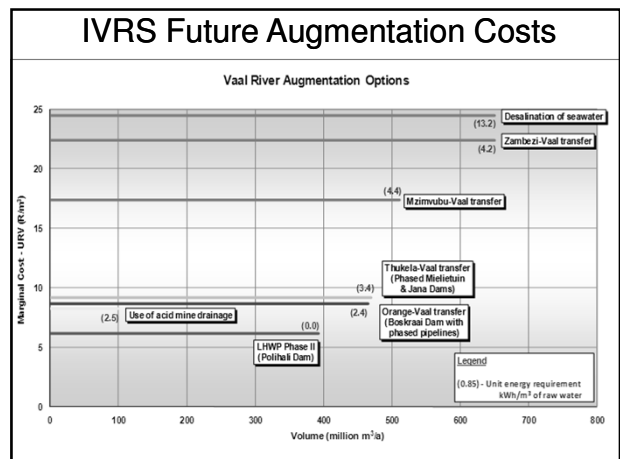
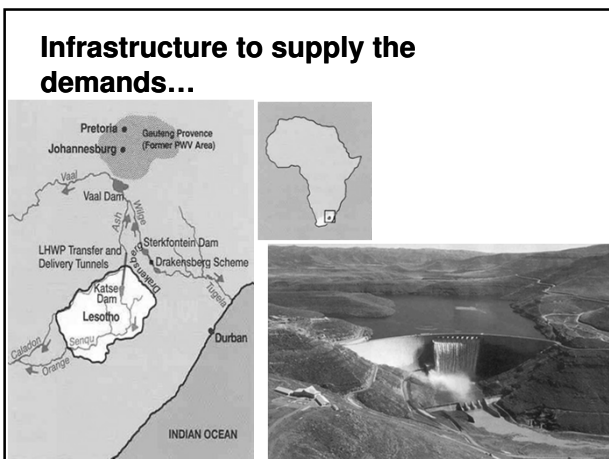
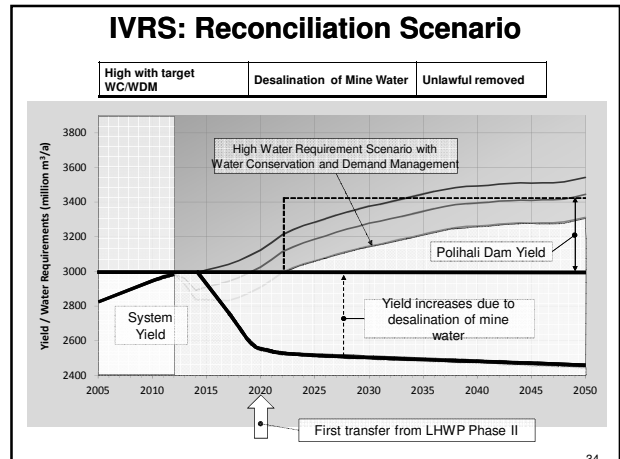
“Integrated Water Resources Management”







- ### Integrated Vaal River Strategy: Securing Water for the Future
- Eradicate unlawful irrigation
 - **Implement WC/WDM with focus on loss management (15% must be saved)**
 - Treat and use effluent, start with mine water
 - Prepare for next augmentation scheme
 - Strategy Steering Committee



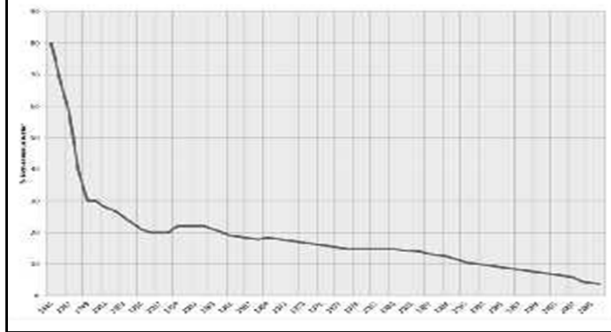
Area	2008/09 Annual Demand (million m ³ /a)	2008/09 Non-Revenue Water (million m ³ /a)	2005/06 Possible Savings (million m ³ /a)	% Reduction of annual demand	% Contribution of possible saving
Johannesburg	505.4	191.5	110.2	22%	56.2%
Tshwane	274.4	73.6	20.3	7%	10.4%
Ekurhuleni	327.9	126.5	28.3	9%	14.4%
Emfuleni	79.3	32.3	26.1	33%	13.3%
Mogale	27.8	9.3	1.7	6%	0.9%
Westonaria	6.2	1.9	0.8	13%	0.4%
Randfontein	8.7	2.7	0.4	4%	0.2%
Lesedi	5.1	0.8	0.3	7%	0.2%
Kungwini	25.0	10.5	5.0	20%	2.5%
Nokeng	2.1	0.5	0.2	11%	0.1%
Merafong City	9.8	2.2	1.4	14%	0.7%
Midvaal	10.7	2.6	1.2	11%	0.6%
Total	1282.4	454.5	195.8	15%	100.0%

WC/WDM Measures

- **Loss management**
 - Leak detection and repair
 - Improved management (sectorisation, metering, billing, legislation)
 - Pressure management
 - Retrofitting and removal of wasteful devices
 - Mains replacement
 - Potential savings, 15% of use
- **Improved efficiency**
 - Efficient appliances: (washing machines, toilet cisterns, etc)
 - Low flow shower heads
 - Water efficient gardens
 - Water Efficiency in all sectors
 - Potential savings, further 15% of use

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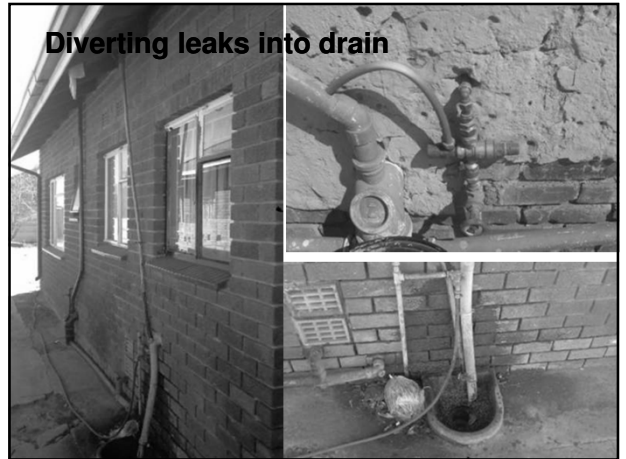
Japanese Success Formula

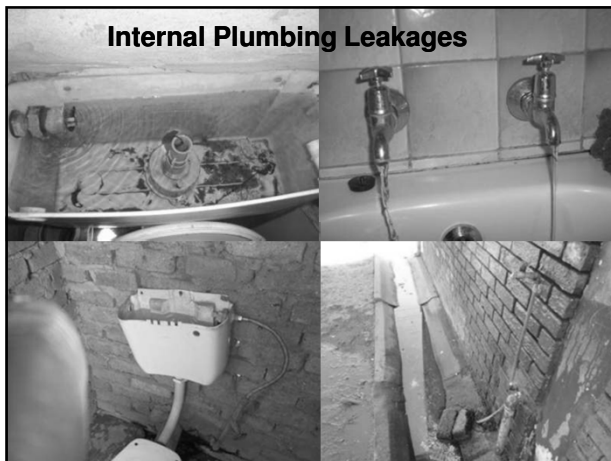


Conserve Scarce Resource?

Proudly South Africa!







WCWDM : Targets

Securing Water for Current and Future Use

Presidential Target Statement

President Jacob Zuma's State of the Nation address (2010) stated -

- **"We are not a water rich country.**
- **Yet we still lose a lot of water through leaking pipes and inadequate infrastructure.**
- **....put in measures to reduce our water loss by half by 2014".**

Targets

- **Target setting is current key focus of DWA**
- **DWA has set targets for municipalities in large systems, e.g. IVRS, WCWSS, Nelson Mandela, etc.**
- **DWA currently setting targets for irrigation schemes – project focus on 14 selected schemes**
- **Initiating target setting in mining, industrial and power generation sectors**

SUPPORT

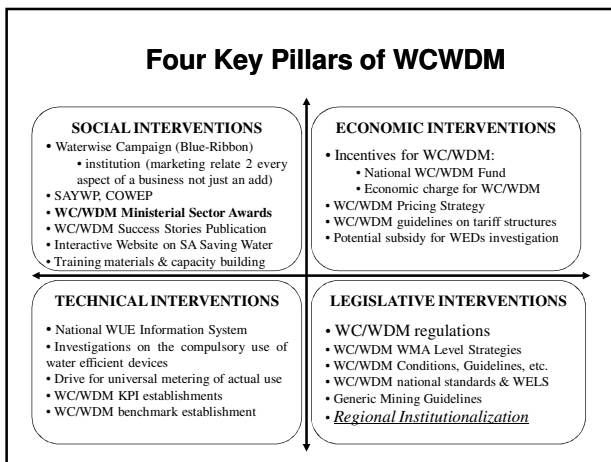
Hundreds of R Millions financial support to LG

- ▲ Donor funding – Masibambane, DFID, GIZ
- ▲ Accelerated Community Infrastructure Program (ACIP)
- ▲ MWIG
- ▲ RRU
- ▲ Training workshops to Municipalities - Nat Treasury and Auditor General

"Other" Support

- ▲ WSDP (Municipalities must ensure that WCWDM is fully addressed in IDP's)
- ▲ Blue and Green drop
- ▲ RPMS
- ▲ War on Leaks
- ▲ WCWDM "Drop" system – "No Drop"

WC/WDM Toolbox		
<p>EFFICIENT USE & DEMAND CONTROL</p> <p>Retrofitting and removal of wasteful devices Toilet cisterns / Urinals / Taps / Showers</p> <p>Tariff structures and billing procedures Free basic water Tariff models – fair and equitable Administration / efficient use incentive Informative billing system Credit control</p> <p>General education and public involvement Water weeks / Competitions Posters / Pamphlets / Stickers Grey water use (domestic) Rain water harvesting Water-wise gardening</p> <p>Payment for water and illegal use Consumer metering Water theft</p> <p>Schools education campaigns Site visits / education material Schools retrofitting projects</p> <p>Legislation Municipal by-laws Water Acts and Regulations</p> <p>Emergency Action Plan Hose pipe bans Alternative watering days Intermittent supply Fines and temporary tariff hikes</p> <p>Training and education Decision makers, technical and treasury staff</p>	<p>EFFICIENT DISTRIBUTION AND OPERATION</p> <p>Sectorisation Districts / Sub-districts / Zones Boundary valves and metering Step testing and logging</p> <p>Monitoring of water loss in each zone Night flow analysis (SANFLOW) Flow and pressure logging Leakage / overflow from storage structures Logging of sewer flows and analysis</p> <p>Pressure management Pressure management analysis (PRESMAC) Regular maintenance of control valves Performance monitoring</p> <p>Mains replacement programme Burst and leak repair frequency Type, Age and condition of network Aggressive soil conditions Aggressiveness of potable water Operating pressures regime</p> <p>Passive leakage control Water leak report desk Response time Quality of leak repairs</p> <p>Active leakage control ECONOLEAK Leak detection equipment Sounding, leak noise correlation, gas injection</p> <p>Training and education Technical management and operation staff</p>	<p>ACCOUNTING FOR ALL WATER</p> <p>Water audits Water balance (BENCHLEAK) Revenue water Non-revenue water Apparent losses Real losses</p> <p>Management information systems Telemetry, GIS/CAD, Asset inventory Consumer database, leak detection and monitoring software</p> <p>Management meters Meter types and sizing Meter testing and calibration Meter replacement programme</p> <p>Consumer meters Meter types and sizing Meter replacement programme Meter testing and calibration Unmetered connections</p> <p>Performance targets Infrastructure leakage index Real losses per connection per day Apparent losses per connection per day Real losses as % of system input Real losses as % of operating costs</p> <p>Training and education Technical staff, meter readers treasury staff</p>



- Benefits of WC/WDM**
- Improved level of service
 - Increased revenue and affordability
 - Improved customer relations
 - Educated and water efficient customers
 - Job creation
 - Water security
 - Asset management
 - Improved corporate governance
 - Improved institutional arrangements

WCWDM a strategic priority.....

- In the NWA
- In the NWRS 2
- In the NDP (water losses in municipalities)
- President made reference to 'losing water' in 2010 already – half your water losses By 2014

WCWDM : NRW Assessments

Securing Water for Current and Future Use

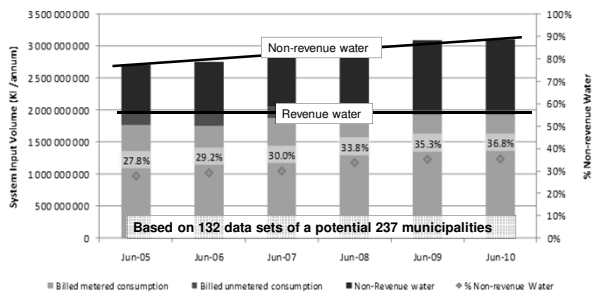
National Situation Assessment

- Assessment of National water loss/NRW situation and monitor progress
- To be updated annually

STANDARD IWA WATER BALANCE

System Input Volume	Authorised Consumption	Billed Authorised Consumption	Billed Metered Consumption	Free basic Revenue Water
		Unbilled Authorised Consumption	Billed Unmetered Consumption	Non Revenue Water
	Water Losses	Apparent Losses	Unbilled Metered Consumption	
		Real Losses	Unbilled Unmetered Consumption	
		Unauthorised Consumption	Customer Meter Inaccuracies	
		Leakage on Transmission and Distribution Mains		
		Leakage and Overflows at Storage Tanks		
		Leakage on Service Connections up to point of Customer Meter		

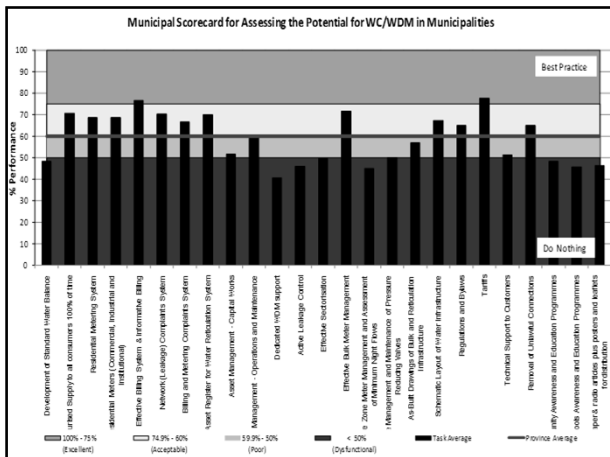
National Non-revenue Water Assessment



Estimated Cost of NRW

Category	Input Rate (R/kl)	Sell Rate (R/kl)	Input Value (R million)	NRW (R million)
A	R 5.00	R 10.00	R 9 245.46	R 3 170.96
B1	R 4.50	R 9.00	R 3 076.50	R 1 271.63
B2	R 4.00	R 8.00	R 1 302.49	R 397.63
Urban			R 13 624.45	R 4 840.22
B3	R 3.50	R 7.00	R 807.25	R 298.30
B4	R 3.00	R 6.00	R 303.42	R 220.00
Rural			R 1 110.67	R 518.31
National			R 14 735.12	R 5 358.53
Extrapolated			R 19 827.42	R 7 210.38

Municipal Scorecard for Assessing the Potential for WC/WDM in Municipalities



Nat Treasury - MFMA Circular No 67 Municipal Budget Circular for the 2013/14 MTREF 12 March 2013

- Municipalities should also pay particular attention to... managing all revenue and expenditure and cash streams effectively
- Local government must ensure that efficiency gains, eradication of non-priority spending and reprioritisation of expenditure relating to core infrastructure inform the next planning framework of all municipalities.

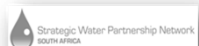
Nat Treasury - MFMA Circular No 67
Municipal Budget Circular for the 2013/14 MTREF
12 March 2013

According to the latest **National Non-Revenue Water Assessment Report** (*The state of nonrevenue water in South Africa, Report TT522-12: www.wrc.org.za*); recently released by the Water Research Commission and the Department of Water Affairs, more than **50 per cent of municipalities cannot provide a water balance. These municipalities cannot determine whether demand for water exceeds supply or quantify the extent to which non-revenue water influences water security and financial sustainability.**

Considering this strategic imperative, managing non-revenue water becomes a critical aspect of accelerating the delivery of clean water to communities. Municipalities are required to **ensure appropriate measurement and reporting of all water losses as per the national targets, and to ensure a common understanding and alignment between technical and financial departments on water loss issues.** Inconsistencies have been observed in the methodology applied by municipalities in reporting water losses. Municipalities are reminded that they are required to report on both apparent (commercial) and real (physical) losses as per the Modified International Water Association (IWA) Water Balance for South Africa. Municipalities are referred to the 2011 Local Government Budget and Expenditure Review (pages 131 to 140) for further information.


The development of a Water Use Efficiency Assessment & Evaluation System

“No Drop”



PURPOSE OF PRESENTATION

- i) To provide the project background and methodology
- ii) To present the strategy and its alignment with the current Green Drop and Blue Drop incentive-based regulation
- iii) To present the draft ‘No Drop’ scorecard
- iv) To explore implementation possibilities




INTRODUCTION

“South Africa is not a water rich country. Yet we still lose a lot of water through leaking pipes and inadequate infrastructure. We will be putting in place measures to reduce our water loss by half by 2014”

President Jacob Zuma, 2010 State of Nation Address

“... SWPN-SA is developing a “No Drop” Programme, building on the successful Department of Water Affairs Green Drop and Blue Drop programmes, to assist municipalities to assess and improve their water use efficiency....”

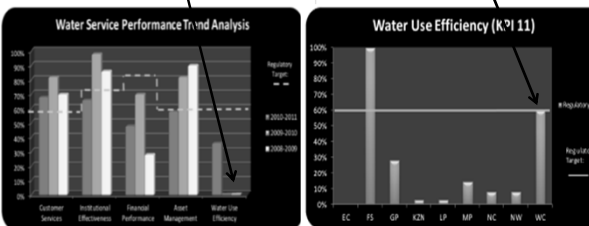
Minister of Water Affairs, Edna Molewa, 2013 Budget Speech, WEF Africa Water Summit, 8 May 2013



WHY the NEED for a WUE A&E SYSTEM?


RPMS Report 2012:

Gross underperformance has been noted for Water Use Efficiency (WUE), primarily due to inadequate provision of unacceptable data. Credibility of data provided on this indicator by the Free State, is highly questioned. The Western Cape has achieved an average of 60%, managing to meet the regulatory target. Many WSAs across the sector require a more prioritised focus to reduce their non-revenue water.



THE STATE OF NON-REVENUE WATER IN SOUTH AFRICA (DWA WUE)


- 36.8% of non-revenue water for SA a whole
 - 5.4% of % is losses through physical leakage (real losses)
- 15% of municipalities not submitted any water loss info in 6 yrs
- 45% of municipalities submitted poor/erratic water loss info of low value
- NRW ranges from 30.5% (small town) to 72.5% (rural)
- Average water consumption is 238 litres/capita/day
 - international average - 178 l/c/d
- Volume NRW for SA represents 1 580 million m³
 - increased over past 6 years



ALIGNMENT AND IMPLEMENTATION OF NATIONAL STRATEGY

The WUE project has been developed in line with:

- ✓ **National Water Conservation and Water Demand Management Strategy** (2004)
- ✓ **National Water Resources Strategy** (2003, 2012-rev)
- ✓ **National Water Services Regulation Strategy** (2008), in particular
 - ✓ **Section 16** which sets out the IWA water balance as basis for understanding water losses
 - ✓ **Section 17** which require plans and actions to improve water demand management and water-use efficiency as key to cover the full scope of water regulation
 - ✓ **Section 9** which present the Enforcement Protocol for Organs of State which spells out the intervention protocol as applicable to incentive-based regulation.




PURPOSE OF PROJECT

SWPN and DWA to development of a Water Use Efficiency Assessment & Evaluation System" which seeks to:

- i) follow the Green and Blue Drop model
- ii) sets out a **system** for the SA water sector, whereby municipal management and national regulation authorities to focus effort and work towards improved and sustainable **water use efficiency**
- iii) hold up a **benchmark** on what world best-practice identifies as core **performance areas** in measuring and managing **unaccounted for water**.

EXPECTED OUTPUTS from PROJECT

1. Water Use Efficiency Framework / Strategy
2. 'No Drop' Scorecard




Specialist TEAM appointed by SWPN

(February – April 2013)

Project Manager:
Nick Tandi (SWPN)

Specialists:
Dr Marlene vd Merwe-Botha
Dr Valerie Naidoo
Dr Tony Ceronio
Mike Rabe
Willem Wegelin

Project Steering Committee:
Sanjeev Raghubir (Nestlé)
Jones Mnisi (Jo Water)
Paul Herbst (DWA)





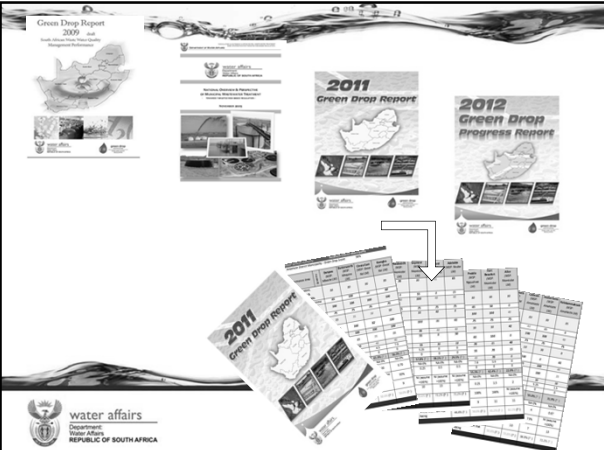
PROJECT PHASE	ACTIVITIES	D-DATE	DELIVERABLE & STATUS
<i>Project Briefing</i>	Inception mtg and notes to Steer Comm	17 Jan	✓ Proposal
<i>Team Appointment</i>	Id. Coordinator & appoint specialists	7Febr	✓ Contract & Letters of App.
<i>Project Framework</i>	Develop broad framework as guidance	16 Jan	✓ WUE Framework
<i>Team briefing</i>	Project briefing to experts, role clarification	9 Febr	✓ Telecon & written brief, Agenda
<i>1st Worksession</i>	Individual preparations by experts	24 Febr	✓ No Drop Scorecard rev01
		1 Mar	✓ Notes of mtg & WUE strategy rev 01
<i>Further & detailed work</i>	Close gap from workshop 1, individual contributions	1-8 Mar	✓ Individual input to Rev02
	Consolidate contributions	12 Mar	✓ WUE Strategy & S/card rev02
<i>2nd Worksession</i>	Workshop, review, refine Rev02	19 Mar 24 Mar	✓ WUE Strategy and No Drop Scorecard final draft (Rev 03)
<i>Project Steer Com</i>	Present Final draft to PSC Incorporate SC comment	4 Apr 15 Apr	✓ WUE Strategy and Scorecard to final (Rev04)
<i>SWPN</i>			

PROJECT PHILOSOPHY / MODEL to be followed:

blue drop CERTIFICATION
WRITING WATER QUALITY REGULATION

green drop CERTIFICATION
WATER WATER SERVICES REGULATION







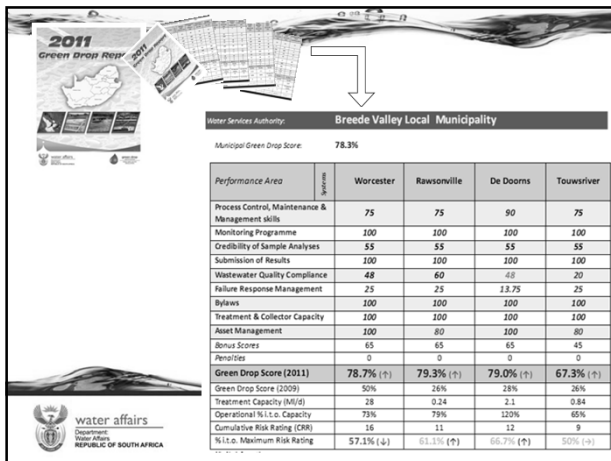
Green Drop Report 2009

2011 Green Drop Report

2012 Green Drop Progress Report

2011 Green Drop Report





Alignment with "proven" GD and BD programmes – task was to develop ‘?’

	Blue Drop 2009 – 2012	No Drop 2012 – 2015	Green Drop 2009 – 2012
1	WSP	?	W ₂ RAP
2	Asset management	?	Asset management
3	Technical skills	?	Technical skills
4	Credibility and accountability	?	Credibility and accountability
5	Compliance	?	Compliance
		?	Local regulation (Bylaws)
		?	

Blue Drop 2009 – 2012	No Drop 2012 - 2015	Green Drop 2009 – 2012
1 WSP	1 Strategy, planning & implementation	1 W ₂ RAP
2 Asset management	2 Asset management	2 Asset management
3 Technical skills	3 Technical skills	3 Technical skills
4 Credibility and accountability	4 Credibility	4 Credibility and accountability
5 Compliance	5 Compliance & Performance	5 Compliance
	6 Local regulation	6 Local regulation (Bylaws)
	7 Customer care	

Snapshot of scorecard

System name	Requirement / Sub-requirement	Scoring information / Guideline	Inspected % scores	Weight %	Final Score
CRIT 1 : Strategy and planning	1.1 Water resource balance diagram	Provide a detailed water resource balance diagram complete with a) current demand; b) available supply as per WUL or SA; c) projected (5 year) demand estimates with and without implementing WDM.	0	10.0%	
	1.2 Water balance	No water resource balance diagram = 0 Basic water resource balance diagram based on estimated figures = 0.2 Detailed water balance diagram based on actual figures but demand exceeds supply = 0.6 Detailed water balance diagram based on actual figures and supply exceeds demand = 1.0	0	40.0%	
	1.3 : WDM Strategy and business plan	Water resource balance diagram = 0.2 Water balance diagram = 0.6 Detailed water balance diagram = 1.0	0	40.0%	
	1.4 Tariffs	Water resource balance diagram = 0.2 Water balance diagram = 0.6 Detailed water balance diagram = 1.0	0	10%	
	CRIT 3 Bonus : Water balance	Water resource balance diagram = 0.2 Water balance diagram = 0.6 Detailed water balance diagram = 1.0	0	0	
CRIT 2 : Asset Management	2.1 Asset register	Water resource balance diagram = 0.2 Water balance diagram = 0.6 Detailed water balance diagram = 1.0	0	15%	

Penalties & bonuses as part of scorecard (incentives...)

Bonuses	Weight
Criteria 1 Bonus (a): Multi-year water balances	15%
Criteria 1 Bonus (b): Household leak repair programme	10%
Criteria 3 Bonus : Demonstrated political support	15%
Criteria 5 Bonus (a): Performance	15%
Criteria 5 Bonus (b): Additional pressure management	15%
Criteria 6 Bonus : War on wastage	10%
Criteria 7 Bonus (a): Sector awareness campaign & stakeholder forums	10%
Maximum bonus scores achievable :	Max = 15%

Penalties	Weight
Criteria 1 Penalty (a): WUL Regulatory compliance	-1.00%
Criteria 1 Penalty (b): Inclusion in the IDP	-2.50%
Criteria 3 Penalty : Performance Targets for Senior Officials	-2.00%
Criteria 4 Penalty : Inaccurate meter readings	-5.00%
Criteria 5 Penalty : Section 82	-21.00%
Total penalty	Max = -31.5%

#	Criterion / KPI	Allocated weight (%)			
		Cycle 1	Cycle 2	Cycle 3	Cycle 4
1	Strategy, planning and implementation	30	20	20	20
2	Asset management	10	10	15	20
3	Technical skills	10	10	5	5
4	Credibility	15	15	10	10
5	Compliance and performance	35	35	35	30
6	Local regulation	0	0	5	5
7	Customer care	0	10	10	10
		100	100	100	100

[2014] [2016] [2018] [2020]

Add to 2013/14 as sub-criterion (WUE) with ± 2% weight

Water Services Authority	Name of WSA
Water Services Provider(s)	Name of WSP
2013 Municipal No Drop Score	65.77%
2011 Municipal No Drop Score	0.00%
2009 Municipal No Drop Score	0.00%
Key Performance Area	
Key Performance Area	System name 1
Strategy, planning and implementation	20%
Asset Management	20%
Technical skills	5%
Credibility	10%
Compliance and Performance	30%
Local Regulation	5%
Customer care	10%
Bonus Scores	7.90%
Penalties (included in KPI score)	0.02%
No Drop Score (2013)	65.77%
2011 No Drop Score	0.00%
2009 No Drop Score	0.00%
System Input Volume (kl/annum)	270.5 million
Billed Authorised Use (l/cap/day)	204.2
Unbilled Authorised Use (l/cap/day)	2.0
Apparent / Commercial Losses (l/cap/day)	13.4
Real Losses (kl/a)	53.4
% Water losses	24.45%
Water Use Efficiency (l/cap/day)	273.0
Infrastructure Leakage Index	5.1

Legend for No Drop Scores:

- 90-100%: Excellent situation, need to maintain via continued improvement
- 80-90%: Good status, improve where gaps identified to shift to excellent
- 50-80%: Average performance, ample room for improvement
- 31-50%: Very poor performance, need targeted intervention towards gradual sustainable improvement
- 0-31%: Critical state, need urgent intervention for all aspects of water use efficiency

RI performance categories:

- >8: Extremely inefficient water use
- 6-8: Poor leakage record
- 4-6: Average with potential for marked improvement
- 2-4: Good but some improvement may be possible subject to economic benefit
- <2: Excellent water loss management from top-down and company K

Intervention	Scorecard Criteria (SC Ver 4.2)	Cycle 1 Know your system	Cycle 2 No / limited WC/WDM Programme	Cycle 3 Basic WC/WDM Programme	Cycle 4* Advanced WC/WDM Programme
Criteria 1: Strategy, Planning and Implementation					
Bulk metering total supply	1.1, 1.2	X	X	X	X
Analysis: Water balance	1.1, 1.2, 5.2, 5.3, 5.4, 5.5	X	X	X	X
Bulk metering and sectorisation: Zone 1	1.1, 1.2	X	X	X	X
Districts Develop plan					
Consumer m					
Consumer m					
Review w					
Leak repair					
Criteria 2: Asset management					
Asset management: Bulk meters	2.1, 2.4	X	X	X	X
Asset management: Bulk meters	2.4	X	X	X	X
Asset management: Bulk meters	4.4	X	X	X	X
Analysis: Night flow analysis	3.6	X	X	X	X

Struggling Learning

Unconscious Incompetence

Old Behaviors

Understanding of change needed

Approach

Appraisal & Orientation

Instruction

Simulation

Coaching

Developing

Conscious Competence

Knowledge of what to do

Automatically do it in reality

Performing

Unconscious Competence

Constant tuning

Mastery

Aware Conscious

Intervention	Scorecard Criteria (SC Ver 4.2)	Cycle 1 Know your system	Cycle 2 No / limited WC/WDM Programme	Cycle 3 Basic WC/WDM Programme	Cycle 4* Advanced WC/WDM Programme
Criteria 3: Technical Skills					
Fill vacancies	3.1, 3.4		X	X	X
Establish water loss task team	3.2		X	X	X
Training and capacity building	3.3		X	X	X
Awareness: Internal	3.3	X		X	
Criteria 4: Credibility					
Effective metering and billing: Non-domestic	4.1, 4.2, 4.3				
Effective metering and billing: Domestic	2.3, 3.3, 3.4			X	10
Asset management	4.1, 4.2, 4.3			X	10
Criteria 5: Leak repair					
Analysis: Water balance	1.1, 1.2, 5.2, 5.3, 5.4, 5.5	X	35	X	35
Pressure management	5.6			X	X
Criteria 6: Local Regulation					
Review policies / bylaws	6.1, 6.2, 6.3, 6.4	0	0	X	5
Criteria 7: Customer care					
Effective customer care centre	7.1, 7.2			X	X
Informative billing	7.3			X	X
Awareness: Schools and institutions	7.4	0	X	10	X
Awareness: Stakeholders and community	7.5			X	X

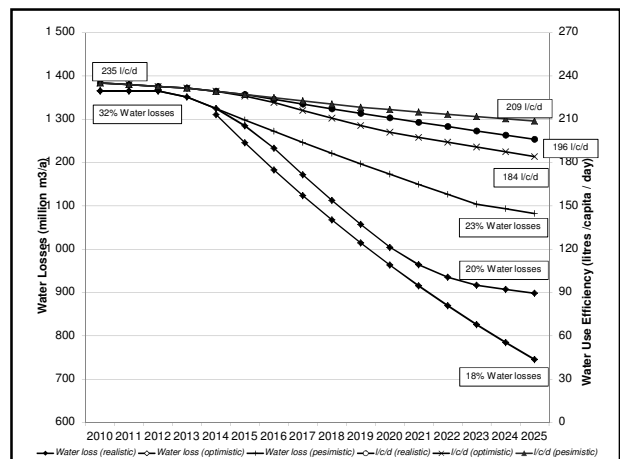
No Drop Certification: ≥90%

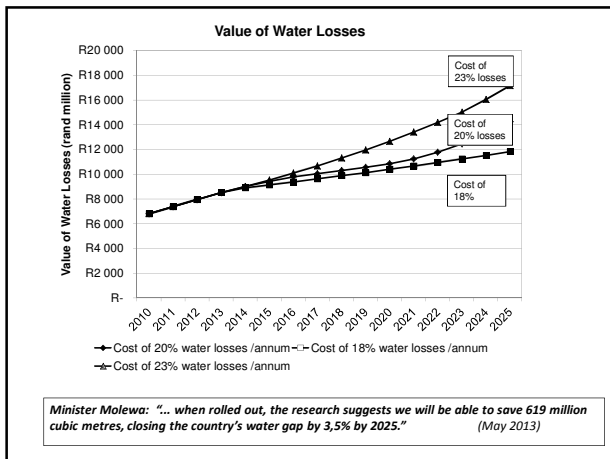
IMPLEMENTATION OF NO DROP CRITERIA AND SCORING

- Residence of the No Drop system:**
 - ... as a stand-alone system;
 - ... as a co-audit with the Blue Drop in a combined Blue Water Services Audit
 - ... as a smaller sub-set of the Blue Drop (integrated approach), retain own identity
- Frequency of No Drop assessment**
- Communication of the No Drop assessment**
- Participation in the No Drop assessment**
- Conducting the No Drop assessment**
- Moderation and quality control of No Drop results**
- Release of results from the No Drop assessment**
- Acknowledgement of No Drop certification**
- Continued monitoring**
- Gradual and continued development**

IMPACT OF INCENTIVE-BASED REGULATION : WUE

Municipal Category	Production Rate (R/kl)	Estimated cost to supply water (R million/a)	Estimated value of NRW (R million/a)
A	R5-00	R9 245.46	R3 170.96
B1	R4-50	R3076.50	R1 271.63
B2	R4-00	R1 303.49	R397.63
Urban Total		R13 624.45	R4 840.22
B3	R3-50	R807.25	R298.30
B4	R3-00	R303.42	R220.00
Rural Total		R1 110.67	R518.30
National Total		R14 735.12	R5 358.52
Extrapolated Total		R19 827.42	R7 210.38





- ### CONCLUDING REMARKS AND RECOMMENDATIONS
- [Pilot the No Drop scorecard at 3 municipalities of different sizes]
 - July – December 2013
 - Incorporate into the BWSA criteria
 - June 2013
 - Release of the Blue Drop / No Drop criteria and consultation with sector
 - July 2013 (DWA-WISA Water Quality Conference July 2013)
 - Training of Blue Drop / No Drop inspectors
 - Audits commence
 - September 2013 – February 2014
 - Release of integrated Blue Drop / No Drop result
 - May 2014 (WISA Conference: Mpumalanga).

Thank You

Struggling	Unconscious Incompetence	Old Behaviors	App...
Learning	Conscious Incompetence	Understanding of change needed	App...
Developing	Conscious Competence	Knowledge of what to do	Int...
Performing	Unconscious Competence	Automatically do it in reality	Coaching
Mastery	Aware Conscious	Constant tuning	

Contact Persons:

- ✓ Nick Tandi
- Paul Herbst
- Marlene vd Merwe-Botha

- ### CONCLUSION
- We have limited water resources
 - We can not continue building dams and transfer schemes
 - We have to use what we have efficiently
 - We have to stop wasting water
 - We need to "manage" our water much better than we are currently doing!!
 - Implement WCWDM and use tools developed and provided to measure progress

THANK YOU!!!