FIRST ORDER NO DROP ASSESSMENT: NORTHERN CAPE PROVINCE

the status of water losses, water use efficiency and non-revenue water in municipalities

1. INTRODUCTION

Drinking water is supplied by 27 municipalities in the Northern Cape Province, made up of 27 local municipalities (1 category B1; 1 category B2; 24 category B3, 1 category B4). Data sets were received for 14 municipalities representing a total population of 704 360 and 165 032 households. These households are supplied via a total mains network of 2 957 km via 157 293 connections, with an average of 53 connections per km pipeline. A total of 138 170 (87.8%) of all connections are metered and 19 123 (12.2%) are unmetered. The average system pressure is 43 m, ranging between 35 m to 59 m reported by the various municipalities.

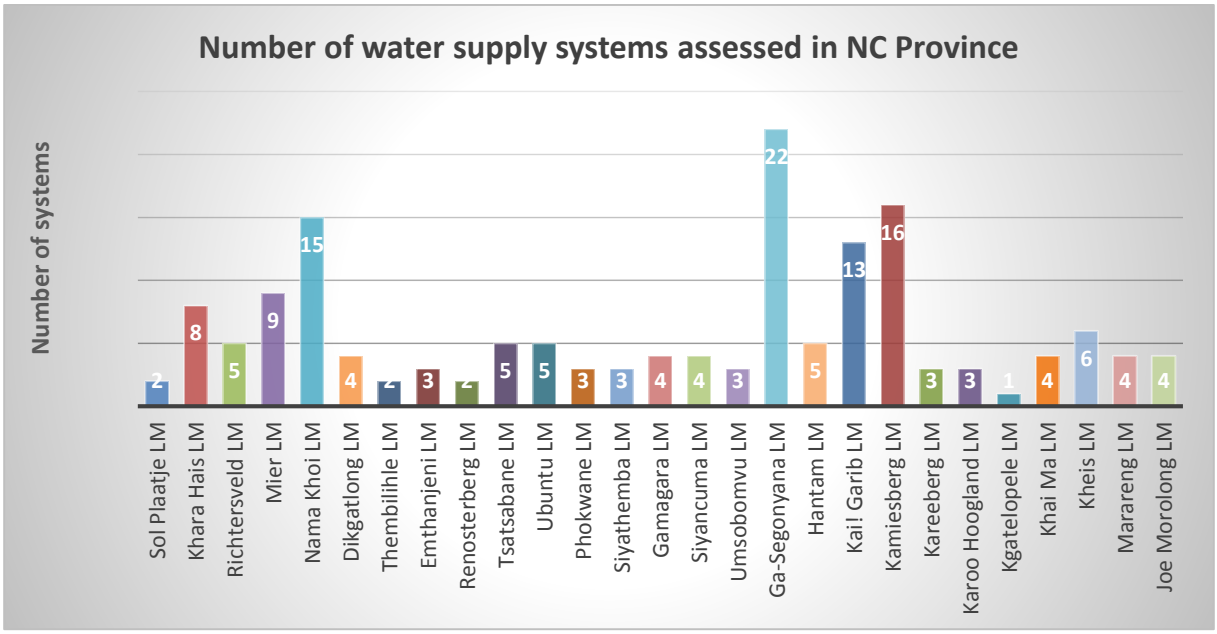
**Figures based on verified information only.*

Municipality Name [WSA]	Munic Category	No. of Systems	# credible data sets	Population and Number of Municipal Categories						
				A	B1	B2	B3	B4	C1	C2
Sol Plaatje LM	B1	2	√		284 042					
Khara Hais LM	B2	8	√			100 807				
Richtersveld LM	B3	5	√				9 100			
Mier LM	B3	9	x				x			
Nama Khoi LM	B3	15	√				3 850			
Dikgatlong LM	B3	4	x				x			
Thembilihle LM	B3	2	x				x			
Emthanjeni LM	B3	3	√				43 000			
Renosterberg LM	B3	2	x				x			
Tsatsabane LM	B3	5	x				x			
Ubuntu LM	B3	5	√				18 887			
Phokwane LM	B3	3	√				63 959			
Siyathemba LM	B3	3	x				x			
Gamagara LM	B3	4	x				x			
Siyancuma LM	B3	4	√				37 643			
Umsobomvu LM	B3	3	√				26 576			
Ga-Segonyana LM	B3	22	x				x			
Hantam LM	B3	5	√				20 568			
Kai! Garib LM	B3	13	√				66 869			
Kamiesberg LM	B3	16	√				11 252			
Kareeberg LM	B3	3	x				x			
Karoo Hoogland LM	B3	3	√				11 620			
Kgatelopele LM	B3	1	√				6 187			
Khai Ma LM	B3	4	x				x			
Kheis LM	B3	6	x				x			
Marareng LM	B3	4	x				x			
Joe Morolong LM	B4	4	x					x		
Totals		158	14	0	284 042	100 807	319 511	0	0	0
				704 360						

Municipality Name [WSA]	Munic Category	No. of Systems	# credible data sets	Population and Number of Municipal Categories						
				A	B1	B2	B3	B4	C1	C2
				0	1	1	24	1	0	0
				27						

2. NO DROP RESULTS FOR 2012/13

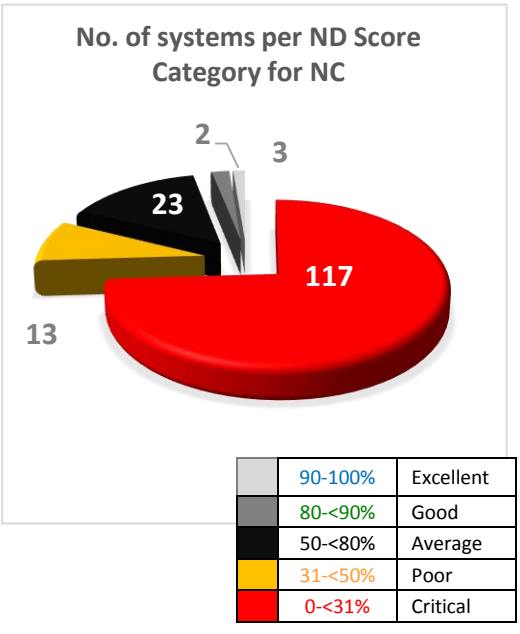
The No Drop results show that 158 water supply systems have been assessed in 27 municipalities. In some cases, DWS was necessitated to collapse some of the supply systems into one integrated system for the purposes of this No Drop Report.



A total of 7 WSAs opted to provide evidence for 'one integrated system' instead of regarding each individual supply systems separately. This accounted for 46 systems being integrated into 7 systems. The remaining 112 systems were assessed as stand-alone water supply systems. (Note: 46 systems were allocated with individual No Drop scores to ensure counting of No Drops with >90% scores).

2013 NC NO DROP COMPARATIVE ANALYSIS	
Performance Category	**Performance indicators**
Number of WSAs assessed	27 (100%)
Number of systems assessed	158 (100%)
Number of integrated systems*	7 (26%)
Average No Drop score	19,0%
Number of No Drop scores ≥50%	28 (18%)
Number of No Drop scores <50%	130 (82%)
Number of No Drop awards ≥90%	2 (1.3%)
PROVINCIAL (weighted) NO DROP SCORE	**15,5%**

* Per original scorecard data



In total, 18% of the water supply systems obtained >50% No Drop score, with the balance of 82% receiving scores of <50%. The Provincial (weighted) No Drop Score of 15.5% fall within the No Drop category of 'Critical Performance'. An average No Drop score of 19% further points to a critical performance for municipalities on average.

Hantam LM achieved excellence in their Water Efficiency management practice with a No Drop score of 92%. Emthanjeni LM scored 67%, followed by Ubuntu LM and Khara Hais LM both with a score of 64%.

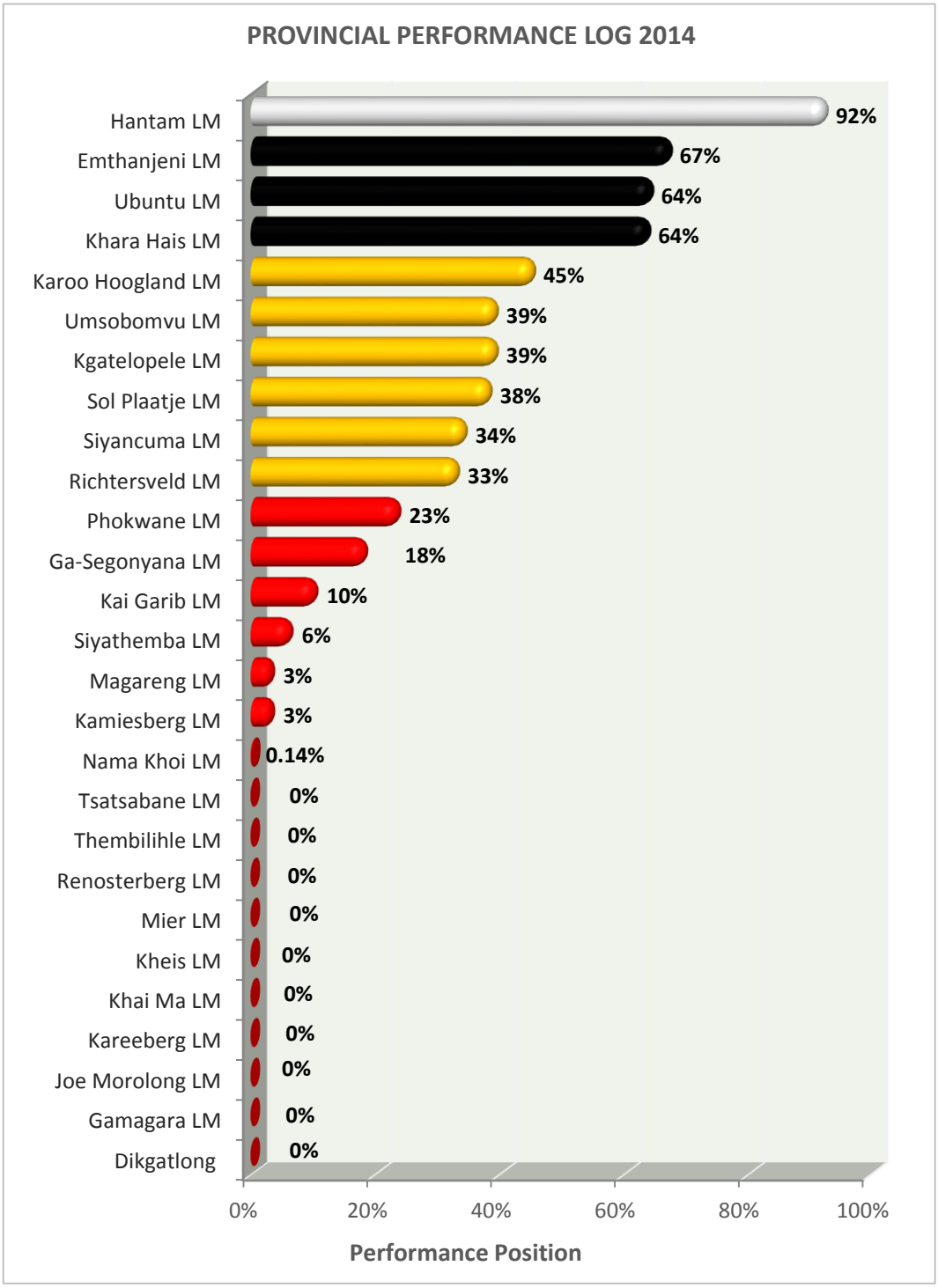
The provincial average is weighed down by a significant number of municipalities who could not provide evidence for assessment. These municipalities are not to be discouraged, as this is the first year of No Drop assessments, and the No Drop introduction has been a learning curve and awareness raising for all stakeholders to better prepare for the next (stand-alone) No Drop assessment.

Two (2) of the 158 systems achieved No Drop status and earned scores of >90%. Four WSAs achieved No Drop scores of >50% and seventeen (17) WSAs are in the 'critical state' performance category with No Drop scores of <31%. The gaps between the first 4 WSAs and the other WSAs are significant, measured from 19% (poor performance) to 41% (critical performance).

Position	WSA Name	2014 No Drop Score	No. of systems with <31% No Drop score
1	Hantam LM	**92%**	None
2	Emthanjeni LM	**67%**	None
3	Ubuntu LM	**64%**	None
3	Khara Hais LM	**64%**	None
4	Karoo Hoogland LM	**45%**	None
5	Kgatelopele LM	**39%**	None
5	Umsobomvu LM	**39%**	1 of 3
6	Sol Plaatje LM	**38%**	None
7	Siyancuma LM	**34%**	None
8	Richtersveld LM	**33%**	4 of 5
9	Phokwane LM	**23%**	1 of 3
10	Ga-Segonyana LM	**18%**	22 of 22
11	Kai Garib LM	**10%**	13 of 13
12	Siyathemba LM	**6%**	3 of 3
13	Kamiesberg LM	**3%**	16 of 16
13	Magareng LM	**3%**	4 of 4
14	Nama Khoi LM	**0,14%**	10 of 15
15	Dikgatlong	**0%**	4 of 4
15	Gamagara LM	**0%**	4 of 4
15	Joe Morolong LM	**0%**	4 of 4
15	Kareeberg LM	**0%**	3 of 3
15	Khai Ma LM	**0%**	4 of 4
15	Kheis LM	**0%**	6 of 6
15	Mier LM	**0%**	9 of 9

Position	WSA Name	2014 No Drop Score	No. of systems with <31% No Drop score
15	Renosterberg LM	0%	2 of 2
15	Thembilihle LM	0%	2 of 2
15	Tsatsabane LM	0%	**5 of 5**

The Provincial Barometer for the Province with a weighted average No Drop score of 15.5% is shown in the figure below.



The following municipality and water supply systems attained No Drop scores of >90%. The Regulator considers this municipality to be knowledgeable on the status of their water use and having the necessary strategies and plans in place to address non-conformance:

- Hantam LM: Calvinia and Loeriesfontein (2 systems)

3. THE QUALITY OF EVIDENCE PROVIDED (KPA 1 AND 2)

Municipalities were required to present evidence to satisfy 3 sub-criteria of the 2014 Blue Drop Audit:

- *Sub-criteria 6.1 of the audit measures the consistency and credibility of the MONTHLY and ANNUAL composite IWA water balance data and diagram based on actual meter readings per system as per Regulation 509 of 2001 Clause 10 of the Water Supply Regulations.*
- *Sub-criteria 6.2 reviews the Municipality's strategies and business plans (and its inclusion in the IDP) to reduce the system input volume, water losses and NRW and evaluates the progress made with the implementation of these strategies and business plans.*
- *Sub-criteria 6.3 measures the performance of the WSI against international best practice benchmarks and the water demand management regulations, and is focussed on knowing and improving the KPI status within the WSI.*

In order to derive maximum benefit from the available data, the Department has collapsed the various supply systems into one integrated system for each municipality. The results are reported accordingly:

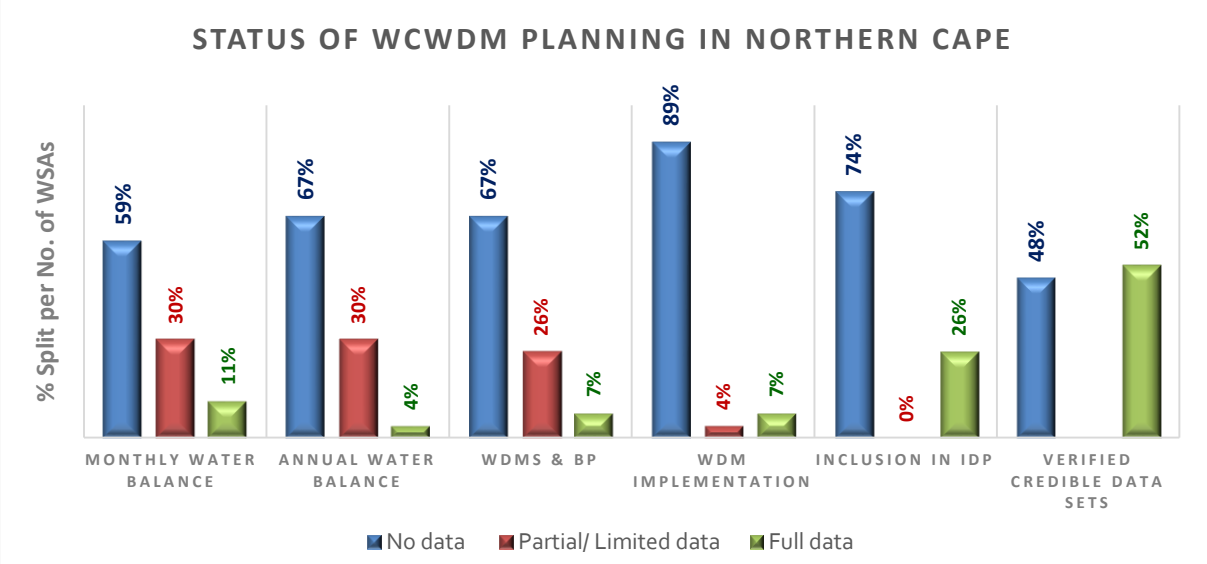
Data Status	6.1 - Water Balance		6.2 - WCWDM Strategy and Business Plan and Implementation			6.3 - Compliance and Performance
	Monthly Water Balance	Annual Water Balance	WCWDM S & BP	WCWDM Implementation	Inclusion in IDP	Verified Credible Data Sets
No data	16 (59%)	18 (67%)	18 (67%)	24 (89%)	20 (74%)	13 (48%)
Partial data	8 (30%)	8 (30%)	7 (26%)	1 (4%)	0	
Full data	3 (11%)	1 (4%)	2 (7%)	2 (7%)	7 (26%)	14 (52%)
No. of WSAs	27	27	27	27	27	27

On average the results shows that 11 of the 27 integrated systems (63%) does not have monthly and annual Water Balances in place, and 30% has partial balances in place. The following planning profile is observed:

- 7% of the municipalities have WCWDM strategies and plans in place, with 67% not having any plans in place;
- 7% of municpalities implement WCWDM projects and have budgets and capacity to support implementation;
- 89% of municpalities do not implement any water demand measures, whilst 56% implement some form of demand management;
- 26% of municipalities have their WCWDM plans included in the IDP in detail;

- 74% of municipalities do not have WCWDM projects included in the IDP;
- The No Drop auditors found the credibility of data and information satisfactory at 52% of the municipalities, and not satisfactory for 48% of the auditees.

The following figure shows the submissions made for No Drop assessment as pertaining to WCWDM planning:



4. THE PROVINCIAL WATER BALANCE (KPA 1 AND 2)

A summary of the provincial results from the 14 (of 27) credible data sets are reflected below:

2013 Provincial No Drop Score	15.5%

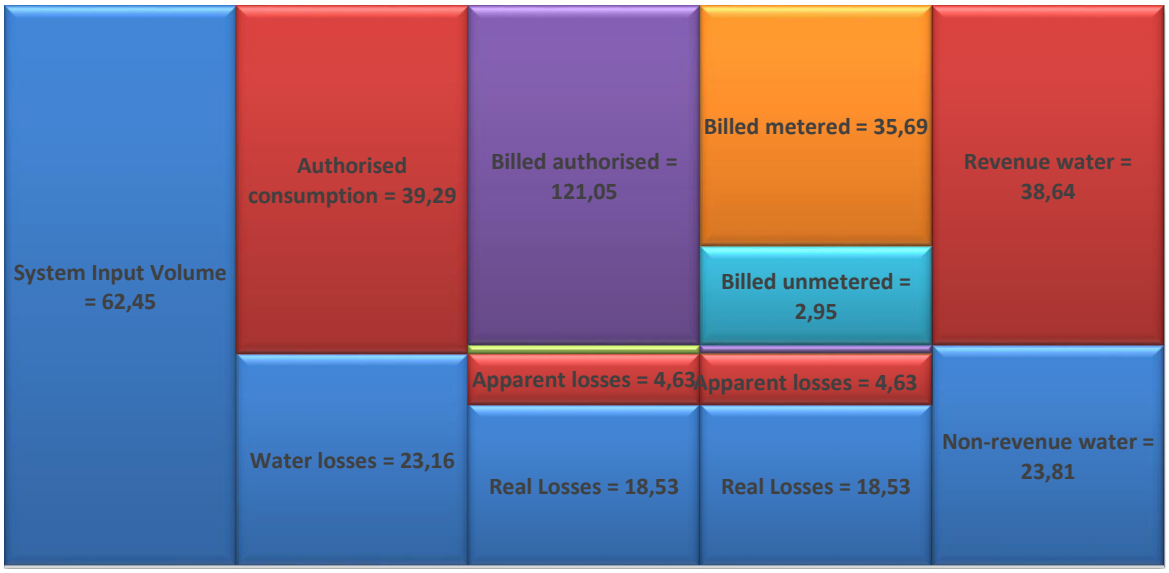
Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		0.47%
No Drop Score (2013)		15.5% Critical
INPUT DATA	Population	704 360
	Households	165 032
	Metered Connections	138 170
	Unmetered Connections	19 123
	Length of mains (km)	2 957
	Average System Pressure (m)	43
	2014 Water Use Targets (Water Balance Targets)	40.31 million
	System Input Volume (kl/annum)	62.45 million
	Billed Metered Authorised Use (kl/annum)	35.69 million
	Billed Unmetered Authorised Use (kl/annum)	2.95 million
	Unbilled Authorised Use (kl/annum)	0.65 million
	Assumed Commercial Losses (%)	20%
KPA	Authorised Use – billed & unbilled (kl/annum)	39.29 million

2013 Provincial No Drop Score	15.5%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		0.47%
No Drop Score (2013)		**15.5% Critical**
	Water Losses (kl/annum)	23.16 million
	Apparent losses (kl/annum)	4.63 million
	Real Losses (kl/annum)	18.53 million
	Revenue Water (kl/annum)	38.64 million
	Non-Revenue Water (kl/annum)	23.81 million
KPIs	Infrastructure Leakage Index (ILI)	6.64 Poor
KPIs	Apparent/ Commercial Losses (%)	7.42%
KPIs	Non-Revenue Water (%)	38.1% Poor
KPIs	Water Use Efficiency (l/cap/day)	242.9 Average
OTHER	Authorised Use (l/cap/day)	152.81
OTHER	Real Losses (l/cap/day)	72.08
OTHER	% Water Losses	37.1%

The Provincial Water Balance for the 2012/13 audit year shows a total SIV 62.45 million kl/annum of which 39.29 million kl/a (62.9%) is Authorised Consumption and 23.16 million kl/a (37.1%) is Water Losses. The Water Losses is made up of 4.63 million kl/a (20%) Apparent Losses and 18.53 million kl/a (80) Real Losses, which result in a **NRW of 23.81 million kl/annum (38.1%).**

2012/13 IWA Water Balance (million m^3/annum)



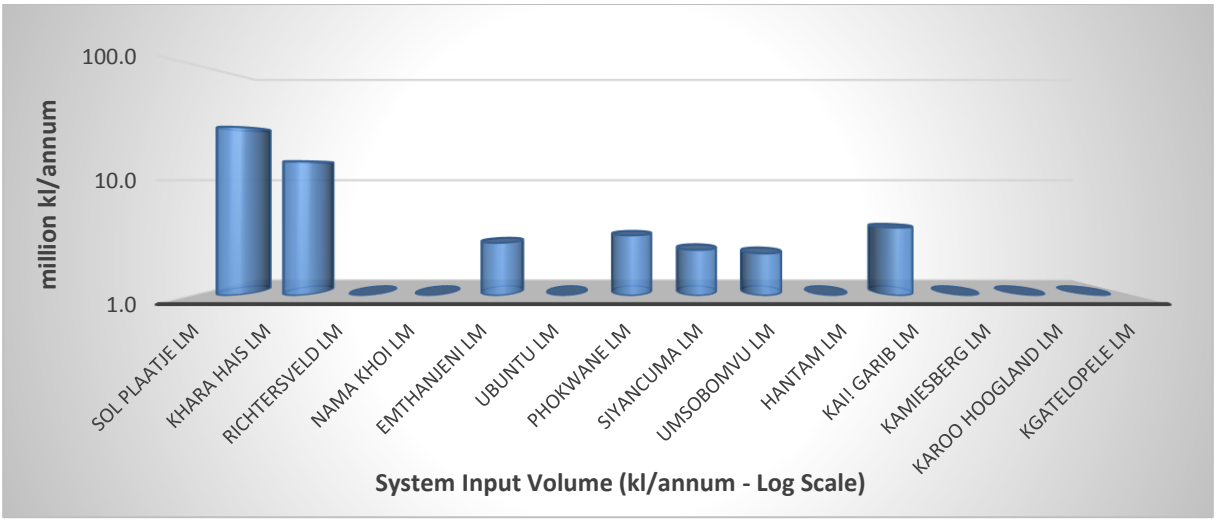
5. COMPLIANCE AND PERFORMANCE (KPA 3)

Audit Methodology

No Drop data was extracted from sub-criteria 6.3 of the Blue/No Drop assessment scorecards and the associated 2012/13 evidence/data. A secondary moderation processes ensured that the results contained in the scorecards were verified against the Water Balance historical trends. Where inconsistency and/or credibility concerns were detected, the ensuing data and results were corrected, supplemented or negated (in cases with limited data sets). Only the verified results are used in this report, and considered under the following Key Performance Indicator (KPI) headings.

5.1 System input volume (kl/a)

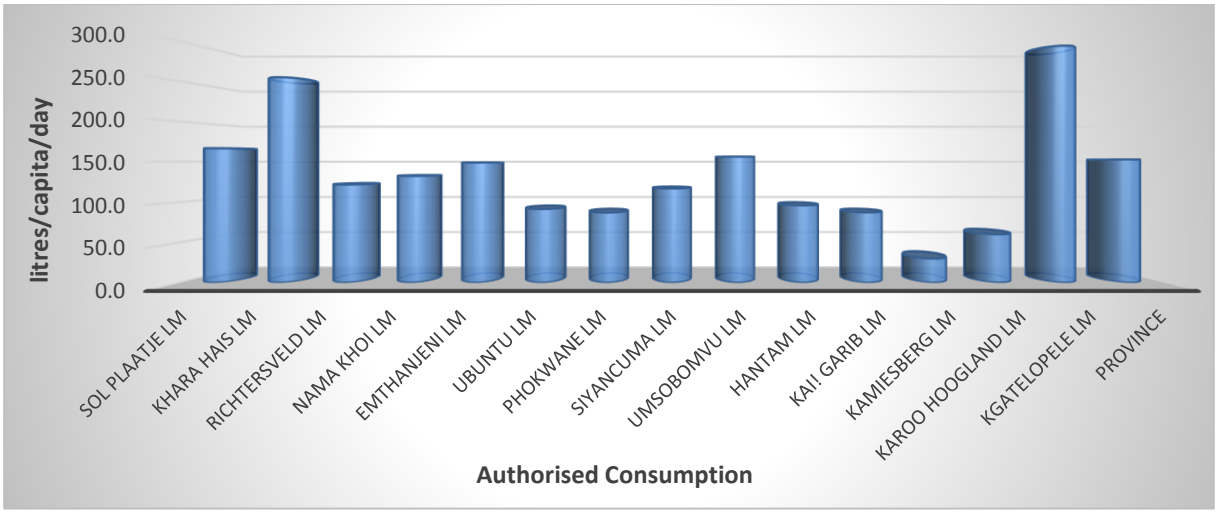
The System Input Volume represents the potable volume input to the water supply system from the water utility's own sources, as measured at the water treatment works (WTW) outlet, as well as any water imported from other sources.



A total consumption of 62.45 million kl/a is recorded for the Northern Cape, whereas Sol Plaatje LM and Khara Hais LM account for a total consumption of 69.6% (43.47 million kl/a). The water consumption for the other 12 municipalities are individually and collectively less than that of the Sol Plaatje LM and Khara Hais LM, and collectively account for the other 30.3% of the Province's consumption.

5.2 Authorised consumption (l/c/d)

Authorised consumption includes metered/unmetered and billed/unbilled consumption and provides an indication of the actual water used by the consumer.



The per capita total authorised use by the collective consumer in Northern Cape is 1372 litres/capita/day, with a weighted average per capita consumption rate of 153 ℓ/c/d. Kgatelopele LM displays the highest level of per capita authorised consumption at 294 ℓ/c/d, followed by Khara Hais LM (255 ℓ/c/d) and Sol Plaatje LM (167 ℓ/c/d). Authorised consumption per capita is the lowest in Kamiesberg LM (30 ℓ/c/d).

Only the Kgatelopele LM and Khara Hais LMs have higher Authorised Consumption figures which exceed the benchmark of ≤200 ℓ/c/d.

A high authorised unit consumption could be an indication of inefficient water use, often as a result of high internal plumbing leakage or paying consumers who do not value the scarcity of water or effective metering and billing systems. A low authorised unit consumption could be an indication of unmetered consumption not included in the water balance or a large number of unauthorised consumption or theft.

5.3 Non-revenue water (%)

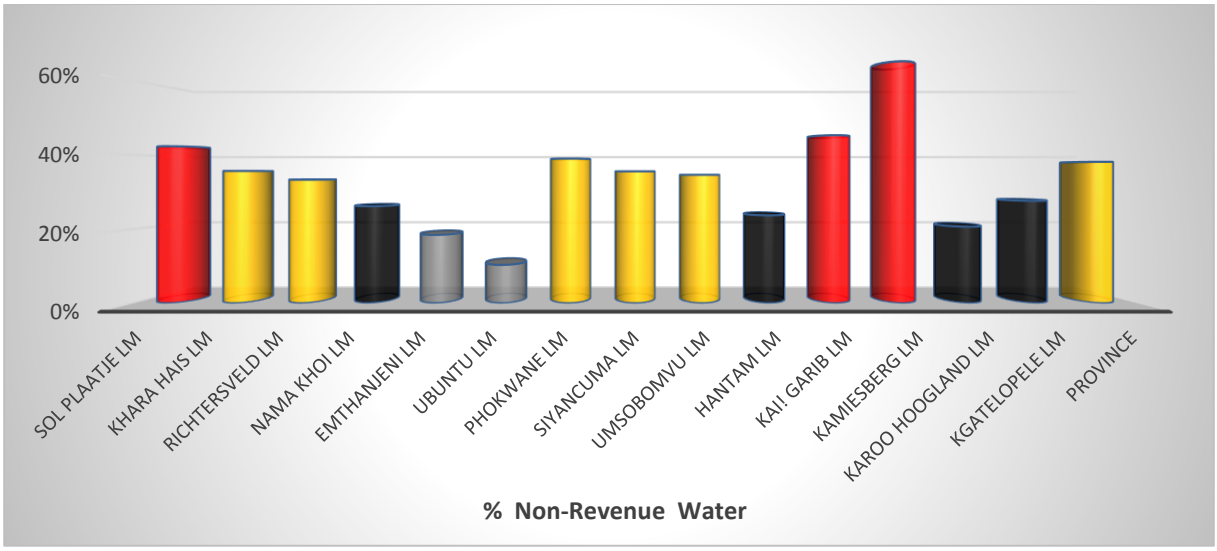
NRW is the volume of water supplied by the water utility but for which it receives no income. It should be noted that all billed water is considered revenue water, irrespective whether it is paid for or not.

Eight of the 14 municipalities (57%) have NRW in excess of 33%. The weighted average NRW is 38.1%. The highest NRW is seen for Kamiesberg LM at 65.2%, followed by Kai! Garib LM at 45.3% and Sol Plaatje LM at 42.3%. The above graph exhibits predominantly average to poor non-revenue water management.

- *No Drop Benchmark:* >40% = EXTREMELY POOR ; 30-40% = POOR ; 20-30% = AVERAGE ; 10-20% = GOOD ; <10% = EXCELLENT
- *Northern Cape Weighted Average: 38.1%* = POOR

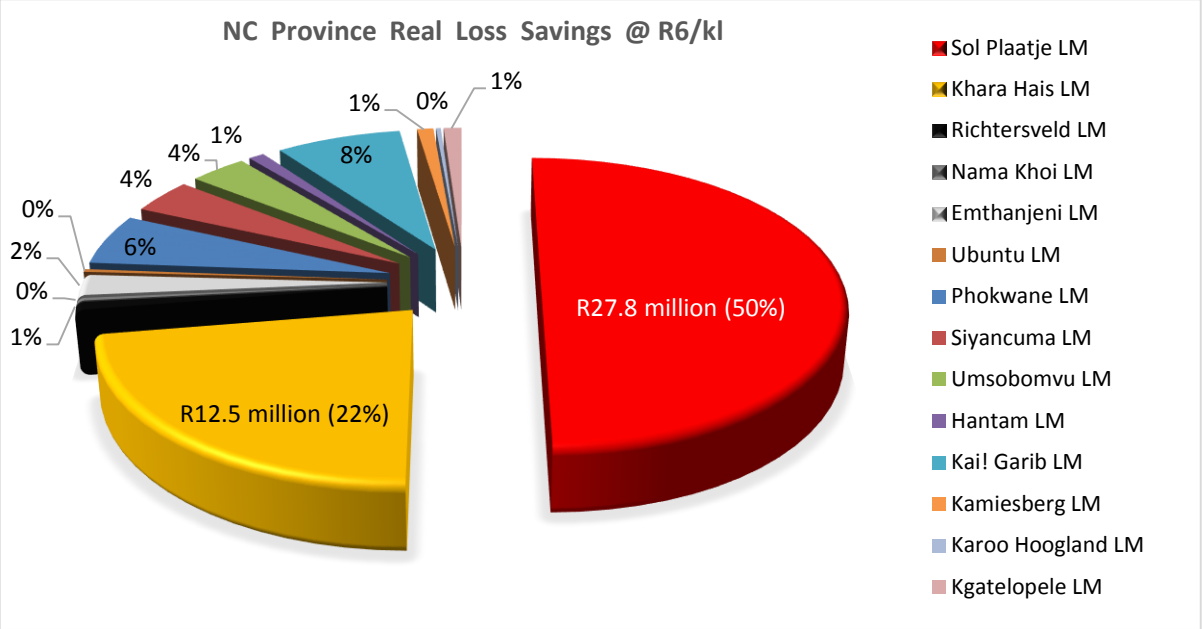
NRW(%) performance categories

	>40%	Extremely poor
	30-40%	Poor
	20-30%	Average
	10-20%	Good
	<10%	Excellent



Based on the available water balances, a total volume of 23.81 million kl/annum is lost as NRW which, calculated at a unit cost of R6/kl, amounts to R 142.9 million per annum for the province as a whole. The financial and potential saving, at a fixed unit cost of R6/kl is considered in the following table. By implementing Water Conservation and Demand Management projects, a potential saving of 9.3 million kl can be achieved per annum, which translate to R 55.6 million per year. For a province concerning itself with water conservation and economic growth based on water security, a potential **saving of R 56 million** is worth investing in. This potential saving is calculated from the 14 (52%) usable datasheets, which passed the No Drop quality assurance (credibility) checks. **Savings in excess of R90 million** can be projected if all Northern Cape municipalities' water balances are considered and extrapolated.

Municipality Name [WSA]	Munic Category	UARL kl/annum	Current		Target			Rand value (million) @ R6.00/kl		
			CARL kl/annum	ILI	TARL kl/annum	ILI	Savings kl/annum	UARL R million	CARL R million	Savings R million
Sol Plaatje LM	B1	1 276 650	9 260 754	7.25	4 630 377	3.63	4 630 377	7.66	55.56	27.78
Khara Hais LM	B2	529 326	4 163 162	7.87	2 081 581	3.93	2 081 581	3.18	24.98	12.49
Richtersveld LM	B3	53 962	161 183	2.99	80 592	1.49	80 592	0.32	0.97	0.48
Nama Khoi LM	B3	31 413	52 658	1.68	26 329	0.84	26 329	0.19	0.32	0.16
Emthanjeni LM	B3	151 854	422 346	2.78	211 173	1.39	211 173	0.91	2.53	1.27
Ubuntu LM	B3	74 391	58 028	0.78	29 014	0.39	29 014	0.45	0.35	0.17
Phokwane LM	B3	234 994	1 038 584	4.42	519 292	2.21	519 292	1.41	6.23	3.12
Siyancuma LM	B3	126 360	708 678	5.61	354 339	2.80	354 339	0.76	4.25	2.13
Umsobomvu LM	B3	125 662	642 852	5.12	321 426	2.56	321 426	0.75	3.86	1.93
Hantam LM	B3	103 603	178 648	1.72	89 324	0.86	89 324	0.62	1.07	0.54
Kai! Garib LM	B3	226 894	1 407 139	6.20	703 570	3.10	703 570	1.36	8.44	4.22
Kamiesberg LM	B3	44 365	183 584	4.14	91 792	2.07	91 792	0.27	1.10	0.55
Karoo Hoogland LM	B3	41 474	52 849	1.27	26 424	0.64	26 424	0.25	0.32	0.16
Kgatelopele LM	B3	39 312	200 378	5.10	100 189	2.55	100 189	0.24	1.20	0.60
Provincial Totals		**2 790 243**	**18 530 844**	**6.64**	**9 265 422**	**3.32**	**9 265 422**	**16.74**	**111.19**	**55.59**



The acceptable minimum level of leakage or UARL for the available datasets is 2.8 million m^3/annum which is valued at R 16.7 million/annum based on R 6.00/kl. The current level of physical leakage or CARL, however, is 18.5 million m^3/annum or 6.6.4 times higher than the acceptable minimum level of leakage. The current level of physical leakage is valued at R 111 million/a based on R 6.00/kl. If the CARL could be halved to an ILI 3.3, which is an acceptable level of leakage for developed countries, a saving of 9.3 million m^3/annum or R 56 million/annum could be realised.

The R 6.00/kl is considered a realistic bulk water supply tariff for 2013/14, based on the Water Services Tariffs Report for 2012/13 (DWA, 2013). Any escalation in water unit prices above the assumed average cost of water (R6/kl) would result in higher savings potential in future (i.e. >R90 million).

The pie chart above indicate that the majority of NRW can be addressed by focussing on Sol Plaatje and Khara Hais LMs, which account for 72% of the NRW in the province.

High %NRW could result due to customers not paying for water services, not being connected and billed by the municipality, households connected to the system through illegal connections, customers not receiving bills, incorrect billing based on estimates and difficult to understand for the average customer, and the general lack of co-operation between the finance and technical departments of the municipality.

The most common causes for high physical water losses are

- leakage on transmission and/or distribution mains,
- leakage on service connections up to point of customer metering,
- leakage and overflows at utility's storage tanks, and

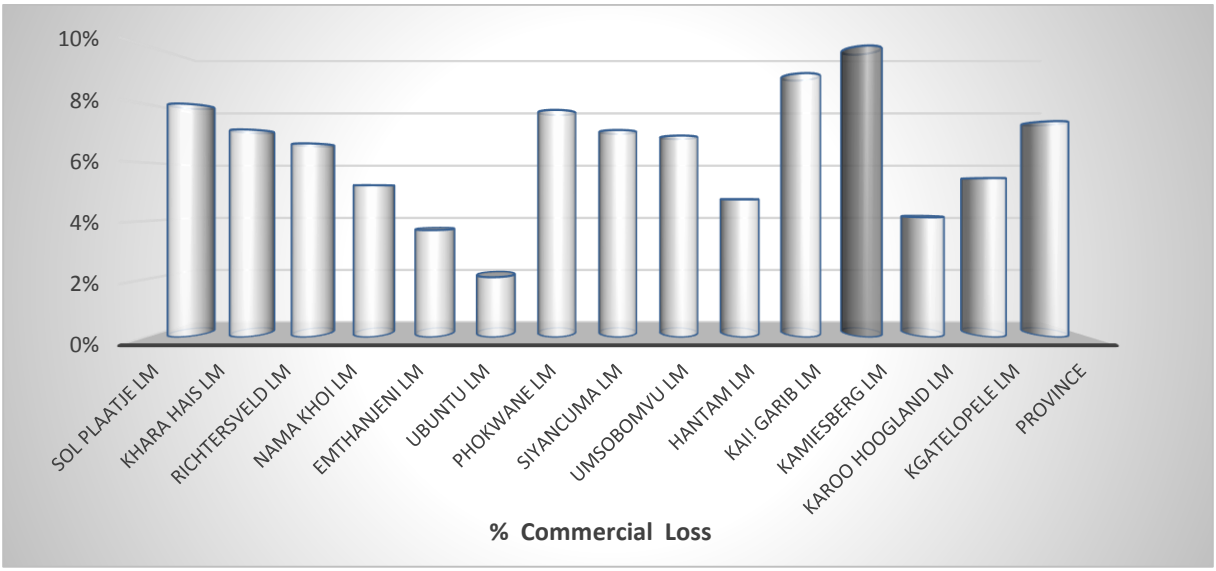
The most common causes for commercial losses are:

- unbilled unmetered consumption,

- unauthorised consumption,
- customer metering inaccuracies
- high internal plumbing leakage on private properties, and
- inefficient garden watering and household water use.

5.4 Commercial loss (%)

The commercial loss, as % of the SIV, is made up from the unauthorised consumption (theft or illegal use), plus all technical and administrative inaccuracies associated with customer metering.



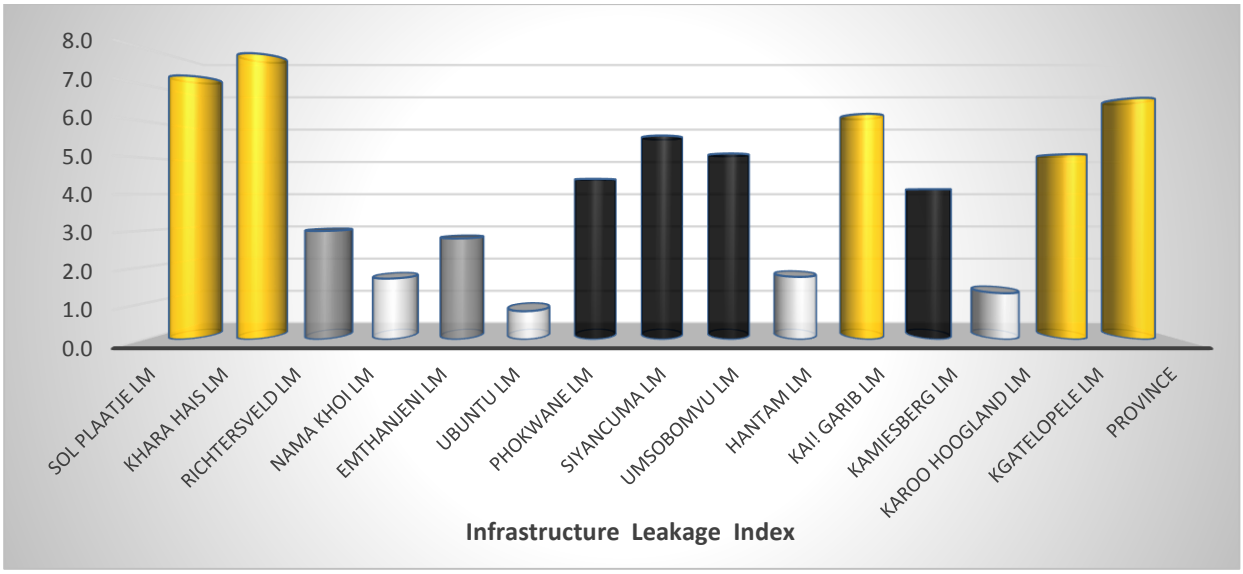
The weighted average commercial loss for the Province, as % of the SIV, is 7.4%. The graphs above show commercial losses in the order of 2-13%. Most WSA's find it difficult to calculate commercial losses, as its input parameters is not easy to measure illegal connections, meter accuracy and transfer errors. As result, most WSAs accept industry default values for commercial losses and there is almost no quantification of the actual percentage. A default value of 20% is used as the norm, unless a municipality can motivate a different value. The reported commercial losses are not considered accurate and seem unusually low. The commercial losses are expected to increase once these parameters are better quantified.

High commercial losses can be a result of high unbilled and unmetered consumption, high unauthorised consumption, and customer metering inaccuracies.

5.5 Physical water loss (ILI unit)

The Infrastructure Leakage Index (ILI) is the preferred real water loss indicator of the IWA and used in the scorecard to assess real losses. The ILI provides an indication of the current physical losses versus the expected physical losses. For example, an ILI of 3 means that the current leakage in the system is 3 times the expected minimum leakage.

- *No Drop Benchmark:* >8 = EXTREMELY INEFFICIENT ; 6-8 = POOR ; 4-6 = AVERAGE ; 2-4 = GOOD ; <2 = EXCELLENT
- *Northern Cape Weighted Average: 6.64* = POOR

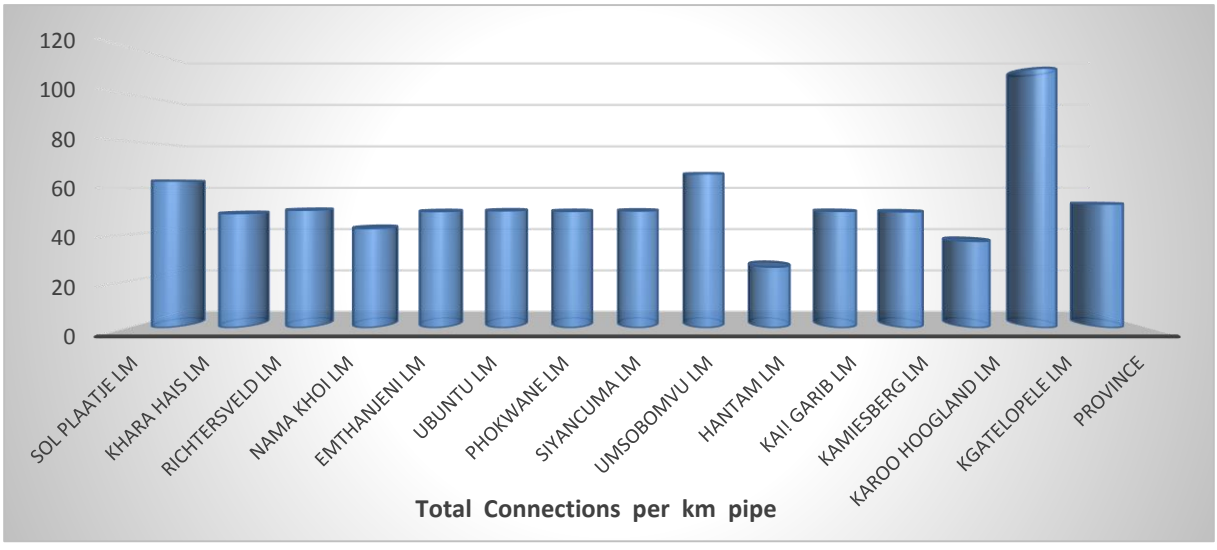


ILI performance categories

	>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

The weighted average ILI is 6.64. Khara Hais LM has the highest ILI of 7.87, followed by Sol Plaatje LM (7.25) and Kai! Garib LM (6.2). The lowest ILI can be seen for the Ubuntu LM at 0.78, Karoo Hoogland LM at 1.27, Nama Khoi LM at 1.68 and Hantam LM at 1.72 which exhibits an excellent water loss management record.

When considering that the length of mains and number of connections influences the ILI calculation, the following comparison can be made:

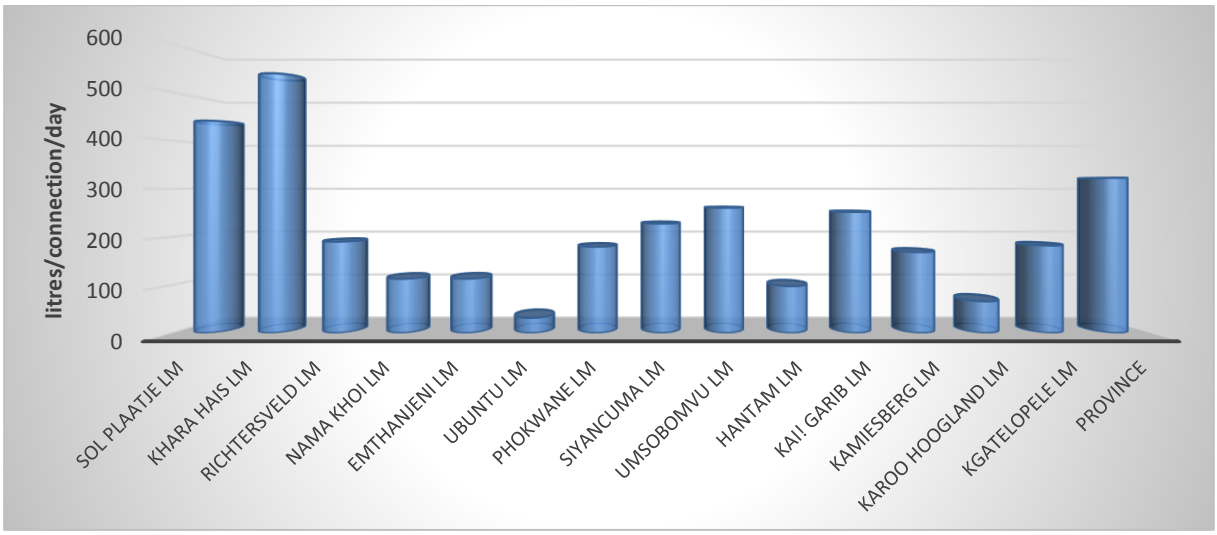


Connection density per length of pipeline is not a performance parameter, it does provide insight into the set-up of connections and meters on the existing water supply pipeline. The density of

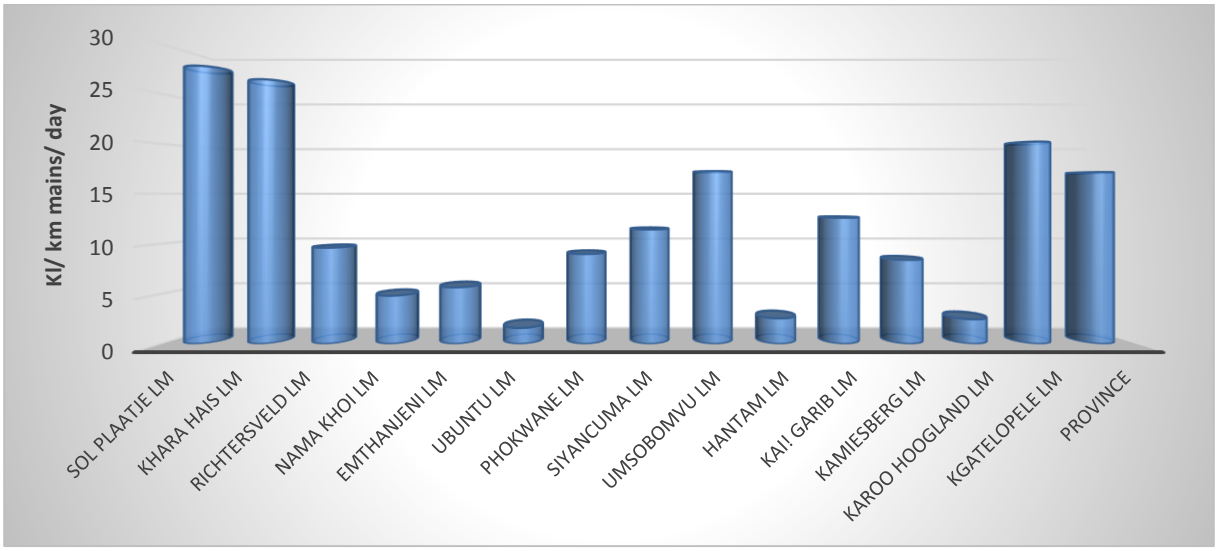
connections per km mains varies from 111 connections per km in the Kgatelopele LM to 26 connections per km mains in the Hantam LM, with an average of 53 connections per km. The high density of connections increases the unavoidable real losses (UARL) and reduces the ILI.

Some of the metros have raised the validity of the ILI as an indicator and the Department will investigate this further.

Other real water loss indicators include litres/connection/day and m^3 or kl/km mains/day.



The graph above shows that the Sol Plaatje LM and Khara Hais LM have the highest losses per connection per day (539 to 441 ℓ/connection/d), whereas Ubuntu LM and Karoo Hoogland LM shows very low losses per connection.



The graph above also shows that much higher real loss per km mains for the Sol Plaatje LM, Khara Hais and Kgatelopele LM. Similarly, the Ubuntu LM, Karoo Hoogland LM and Hantam LM show low losses per km mains.

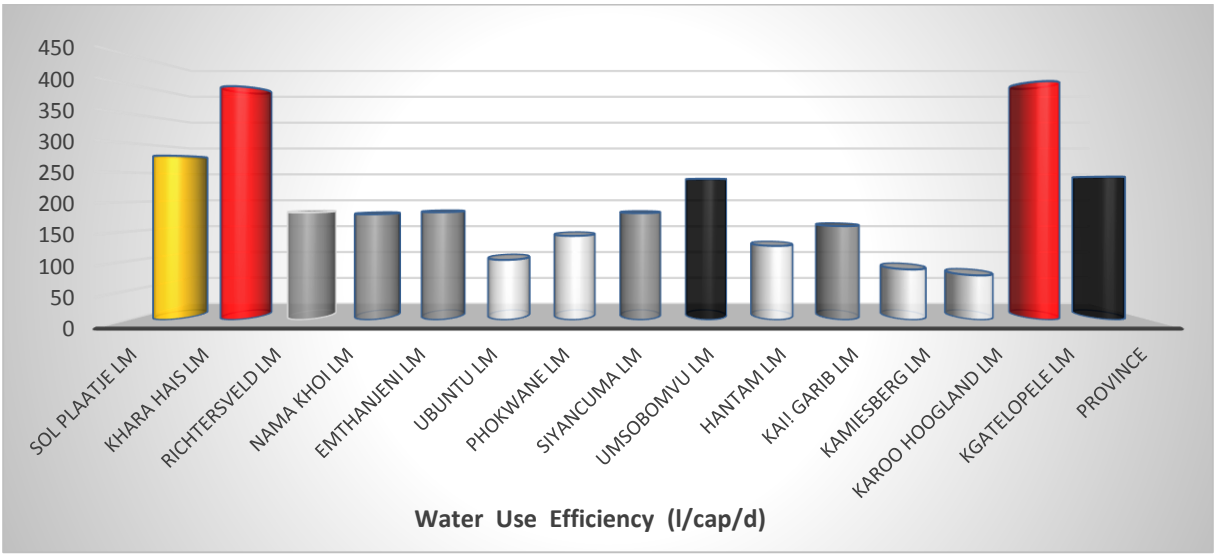
High physical losses could indicate leakages on the transmission and/or distribution mains, leakage on service connections up to point of customer metering, leakage and overflows at utility's storage tanks.

5.6 Water Use Efficiency (l/c/d)

Litres per capita per day provide an indication of the gross volume of water used per capita (person) per day. Although the calculation is based on the total system input volume (m^3/year) and not just the domestic component, it does provide a useful indicator.

- *No Drop Benchmark:* >300 ℓ//c/d = EXTREMELY HIGH ; 250-300 ℓ//c/d = POOR ; 200-250 ℓ/c/d = AVERAGE ; 150-200 ℓ/c/d = GOOD ; <150 ℓ/c/d = EXCELLENT
- *Northern Cape Weighted Average: 243* ℓ//c/d = AVE

	>300	Extremely high per capita water use
	250-300	Poor
	200-250	Average
	150-200	Good
	<150	Excellent per capita water use



Water use efficiency is typically one of the key performance indicators and reported against at national level. In the graph to follow, the weighted average WUE is 243 ℓ/c/d. The average consumption is above the international benchmark of 180 ℓ/c/d and the municipalities must continue to target an average consumption of below 200 ℓ/c/d. The results indicate that Kgatelopele LM has the highest WUE of 405 ℓ/c/d followed closely by the Khara Hais LM with 397 ℓ/c/d. Nine (9) of the municipalities are above the benchmark of 180 ℓ/c/d. Nama Khoi LM, Ubuntu LM, Phokwane LM, Hantam LM, Kai! Garib LM, Kamiesberg LM and Karoo Hoogland LM report WUE below the international benchmark values with excellent to good per capita water use management.

A high use of water per capita could be an indication of inefficient water use due to high internal plumbing leakages or paying consumers who do not value the scarcity of water. Unmetered as well as unauthorised consumption needs to be addressed to improve this status.

Dikgatlong Local Municipality

2013 Municipal No Drop Score	0%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.00%
No Drop Score (2013)	**0% Critical**

Regulatory Impression

No evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Dikgatlong is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop findings

- No monthly and annual water balances in place
- No WCWDMS and BP in place, no evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Emthanjeni Local Municipality

2013 Municipal No Drop Score	67%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		2.01%
No Drop Score (2013)		**67% Average**
INPUT DATA	Population	43 000
	Households	10 528
	Metered Connections	10 246
	Unmetered Connections	0
	Length of mains (km)	205
	Average System Pressure (m)	35
	2014 Water Use Targets (Water Balance Targets)	NA
	System Input Volume (kl/annum)	2.87 million
	Billed Metered Authorised Use (kl/annum)	2.34 million
	Billed Unmetered Authorised Use (kl/annum)	0
	Unbilled Authorised Use (kl/annum)	0
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	2.34 million
	Water Losses (kl/annum)	0.53 million
	Apparent losses (kl/annum)	0.11 million
	Real Losses (kl/annum)	0.42 million
	Revenue Water (kl/annum)	2.34 million
	Non-Revenue Water (kl/annum)	0.53 million
KPIs	Infrastructure Leakage Index (ILI)	2.78 Good
	Apparent/ Commercial Losses (%)	3.68%
	Non-Revenue Water (%)	18.4% Good
	Water Use Efficiency (l/cap/day)	182.6 Good
OTHER	Authorised Use (l/cap/day)	149.01
	Real Losses (l/cap/day)	26.91
	% Water Losses	18.4%

2012/13 IWA Water Balance (million m^3/annum)

Regulatory Impression

The No Drop score of 67% indicates that the municipality is achieving average performance with room for improvement. The municipality is advised to complete a monthly and annual water balance and to verify all input data to the balance. The water balances submitted for assessment was linked to the assessment period in question, but the historic water balance trend data was used to verify and adjust the data set accordingly.

A WCWDM Strategy is in place and various implementation projects are evident, including retrofitting on wasteful systems in the three towns of Hanover, De Aar and Britstown. Also, a project funded by DWS on War on Leaks intervention have been implemented in Emthanjeni. An allocated budget is in place for reducing water demand using local expertise at zonal level.

The NRW and ILI are demonstrating good water loss and non-revenue management, but some improvement may be possible subject to economic benefit.

No Drop Findings

- WCWDM Strategy is in place. Components listed under the WCWDM Strategy and Business Plan not clear as to whether it is included in the IDP or not.
- The ILI of 2.78 is demonstrating good water loss management but some improvement may be possible subject to economic benefit.
- The water use efficiency performance is good at 182.6 l/c/d but some improvement may be possible subject to economic benefit.
- The NRW (18.4%) is demonstrating good non-revenue management but some improvement may be possible subject to economic benefit.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Gamagara Local Municipality

2013 Municipal No Drop Score	0%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.00%
No Drop Score (2013)	**0% Critical**

Regulatory Impression

No evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Gamagara is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop findings

- No monthly and annual water balances in place
- No WCWDMS and BP in place, no evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Ga-Segonyana Local Municipality

2013 Municipal No Drop Score	18%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.54%
No Drop Score (2013)	**18% Critical**

Regulatory Impression

Limited evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Ga-Segonyana is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

The Regulator is encouraged to note that a Strategy and Plan are in place, but urge the municipality to incorporate the water balance and catchment-based targets into the plan to inform the way forward.

No Drop findings

- No monthly and annual water balances in place
- WCWDM Strategy and Business Plan are in place but only partial compliance achieved
- No evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Hantam Local Municipality

2013 Municipal No Drop Score	92.21%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		2.47%
No Drop Score (2013)		**92.21% Very good**
INPUT DATA	Population	20 568
	Households	5 017
	Metered Connections	5 017
	Unmetered Connections	0
	Length of mains (km)	192
	Average System Pressure (m)	38
	2014 Water Use Targets (Water Balance Targets)	NA
	System Input Volume (kl/annum)	0.94 million
	Billed Metered Authorised Use (kl/annum)	0.72 million
	Billed Unmetered Authorised Use (kl/annum)	0
	Unbilled Authorised Use (kl/annum)	0
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	0.72 million
	Water Losses (kl/annum)	0.22 million
	Apparent losses (kl/annum)	0.04 million
	Real Losses (kl/annum)	0.18 million
	Revenue Water (kl/annum)	0.72 million
	Non-Revenue Water (kl/annum)	0.22 million
KPIs	Infrastructure Leakage Index (ILI)	1.72 Excellent
	Apparent/ Commercial Losses (%)	4.74%
	Non-Revenue Water (%)	23.7% Average
	Water Use Efficiency (l/cap/day)	125.5 Excellent
OTHER	Authorised Use (l/cap/day)	95.78
	Real Losses (l/cap/day)	23.80
	% Water Losses	23.7%

2012/13 IWA Water Balance (million m^3/annum)

Regulatory Impression

The No Drop score of 92% indicates that the municipality has an excellent knowledge of its water uses and non-revenue water. Hantam is congratulated on this outstanding first score and encouraged to improve the status going into the 2nd round of No Drop assessments.

Monthly and annual water balance submitted was linked to the assessment period in question. The historic water balance trend data was used to verify and adjust the data set accordingly. A WCWDM Strategy is in place. Components listed under the WCWDM Strategy and Business Plan is included in the IDP. WCWDM implementation includes R23.2 million budget allocation to replace the bulk water AC Pipe between Karee dam and the WTW in Calvinia. Also, bulk meters and pipelines are being installed.

The NRW are demonstrating average non-revenue management and some improvement may be possible subject to economic benefit. The ILI and water use efficiency indicate very good performance – well done.

No Drop Findings

- The ILI of 1.72 is demonstrating excellent water loss management.
- The water use efficiency performance is excellent at 125.5 l/c/d.
- The NRW (23.7%) is demonstrating average non-revenue management with potential for marked improvement.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Joe Morolong Local Municipality

2013 Municipal No Drop Score	0%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.00%
No Drop Score (2013)	**0% Critical**

Regulatory Impression

No evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Joe Morolong LM is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop findings

- No monthly and annual water balances in place
- No WCWDMS and BP in place, no evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Kai! Garib Local Municipality

2013 Municipal No Drop Score	10%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		0.30%
No Drop Score (2013)		**10% Critical**
INPUT DATA	Population	66 869
	Households	16 814
	Metered Connections	15 316
	Unmetered Connections	0
	Length of mains (km)	306
	Average System Pressure (m)	35
	2014 Water Use Targets (Water Balance Targets)	4.30 million
	System Input Volume (kl/annum)	3.88 million
	Billed Metered Authorised Use (kl/annum)	2.13 million
	Billed Unmetered Authorised Use (kl/annum)	0
	Unbilled Authorised Use (kl/annum)	0
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	2.13 million
	Water Losses (kl/annum)	1.76 million
	Apparent losses (kl/annum)	0.35 million
	Real Losses (kl/annum)	1.41 million
	Revenue Water (kl/annum)	2.13 million
	Non-Revenue Water (kl/annum)	1.76 million
KPIs	Infrastructure Leakage Index (ILI)	6.20 Poor
	Apparent/ Commercial Losses (%)	9.06%
	Non-Revenue Water (%)	45.3% Extremely poor
	Water Use Efficiency (l/cap/day)	159.1 Good
OTHER	Authorised Use (l/cap/day)	87.07
	Real Losses (l/cap/day)	57.65
	% Water Losses	45.3%

2012/13 IWA Water Balance (million m^3/annum)

Regulatory Impression

The No Drop score indicates that the Kai! Garib's performance is in a critical state requiring urgent interventions to turnaround the current inefficient water use in the municipality. No monthly and annual water balances submitted for the assessment period in question but the historic water balance trend data was used to verify and adjust the data set accordingly. No WCWDM Strategy in place and water loss management does not feature prominently in the IDP.

The municipality is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop Findings

- No monthly and annual water balances submitted for the assessment period in
- No WCWDM Strategy in place.
- No WCWDM implementation is taking place.
- The ILI of 6.20 is demonstrating poor water loss management.
- The water use efficiency performance is good at 159.1 l/c/d but some improvement may be possible subject to economic benefit.
- The NRW (45.3%) is demonstrating extremely poor non-revenue management.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Kamiesberg Local Municipality

2013 Municipal No Drop Score	3%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		0.09%
No Drop Score (2013)		**3% Critical**
INPUT DATA	Population	11 252
	Households	3 161
	Metered Connections	2 991
	Unmetered Connections	0
	Length of mains (km)	60
	Average System Pressure (m)	35
	2014 Water Use Targets (Water Balance Targets)	NA
	System Input Volume (kl/annum)	0.35 million
	Billed Metered Authorised Use (kl/annum)	0.12 million
	Billed Unmetered Authorised Use (kl/annum)	0
	Unbilled Authorised Use (kl/annum)	0
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	0.12 million
	Water Losses (kl/annum)	0.23 million
	Apparent losses (kl/annum)	0.046 million
	Real Losses (kl/annum)	0.18 million
	Revenue Water (kl/annum)	0.12 million
	Non-Revenue Water (kl/annum)	0.23 million
KPIs	Infrastructure Leakage Index (ILI)	4.14 Average
	Apparent/ Commercial Losses (%)	13.04%
	Non-Revenue Water (%)	65.2% Extremely poor
	Water Use Efficiency (l/cap/day)	85.7 Excellent
OTHER	Authorised Use (l/cap/day)	29.81
	Real Losses (l/cap/day)	44.70
	% Water Losses	65.2%

2012/13 IWA Water Balance (million m^3/annum)

Regulatory Impression

The No Drop score indicates that the Kamiesberg LM's performance is in a critical state requiring urgent interventions to turnaround the current inefficient water use in the municipality. No monthly and annual water balances submitted for the assessment period in question but the historic water balance trend data was used to verify and adjust the data set accordingly. No WCWDM Strategy in place and water loss management does not feature prominently in the IDP.

The municipality is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water. This will also assist the Regulator to verify the good water use efficiencies reported.

No Drop Findings

- No monthly and annual water balance submitted
- No WCWDM Strategy is in place.
- No WCWDM implementation is taking place.
- The ILI of 4.14 is demonstrating average water loss management with potential for marked improvement.
- The water use efficiency performance is excellent at 85.7 l/c/d.
- The NRW (65.2%) is demonstrating extremely poor non-revenue management.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Kareeberg Local Municipality

2013 Municipal No Drop Score	0%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.00%
No Drop Score (2013)	**0% Critical**

Regulatory Impression

No evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Kareeberg LM is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop findings

- No monthly and annual water balances in place
- No WCWDMS and BP in place, no evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Karoo Hoogland Local Municipality

2013 Municipal No Drop Score	45%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		1.35%
No Drop Score (2013)		**45% Very poor**
INPUT DATA	Population	11 620
	Households	2 194
	Metered Connections	2 194
	Unmetered Connections	0
	Length of mains (km)	59
	Average System Pressure (m)	40
	2014 Water Use Targets (Water Balance Targets)	0.78 million
	System Input Volume (kl/annum)	0.32 million
	Billed Metered Authorised Use (kl/annum)	0.25 million
	Billed Unmetered Authorised Use (kl/annum)	0
	Unbilled Authorised Use (kl/annum)	0
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	0.25 million
	Water Losses (kl/annum)	0.07 million
	Apparent losses (kl/annum)	0.01 million
	Real Losses (kl/annum)	0.06 million
	Revenue Water (kl/annum)	0.25 million
	Non-Revenue Water (kl/annum)	0.07 million
KPIs	Infrastructure Leakage Index (ILI)	1.27 Excellent
	Apparent/ Commercial Losses (%)	4.12%
	Non-Revenue Water (%)	20.6% Average
	Water Use Efficiency (l/cap/day)	75.5 Excellent
OTHER	Authorised Use (l/cap/day)	59.94
	Real Losses (l/cap/day)	12.46
	% Water Losses	20.6%

2012/13 IWA Water Balance (million m^3/annum)

Regulatory Impression

The No Drop score indicates that Karoo Hoogland LM is performing poorly and requires targeted interventions to improve on the status quo. No monthly water balances was submitted for the assessment period in question. The Department used the annual water balance and historic water balance trend data to verify and adjust the data set accordingly. No WCWDM Strategy in place and water loss management does not feature prominently in the IDP.

The municipality is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water. This will also assist the Regulator to verify the good water use efficiencies and ILI values reported.

No Drop Findings

- Only the annual water balance submitted was provided for and linked to the assessment period in question. The historic water balance trend data was used to verify and adjust the data set accordingly.
- No WCWDM Strategy is in place.
- No WCWDM implementation is taking place.
- The ILI of 1.27 is demonstrating excellent water loss management.
- The water use efficiency performance is excellent at 75.5 l/c/d.
- The NRW (20.6%) is demonstrating average non-revenue management with potential for marked improvement.

Sustainability Pathway

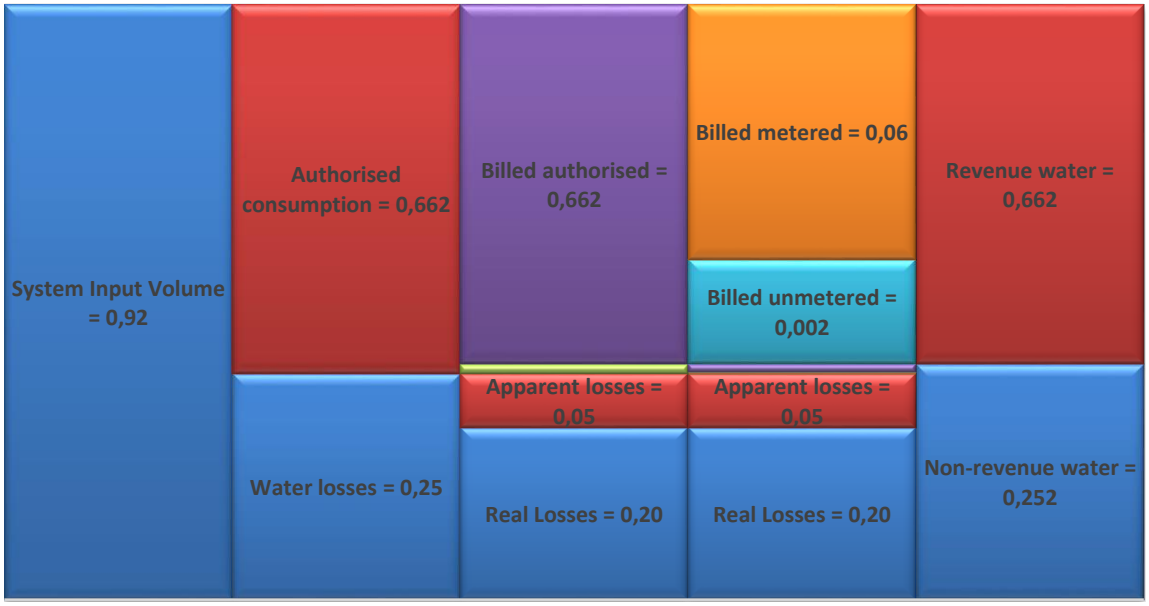
The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Kgatelopele Local Municipality

2013 Municipal No Drop Score	39%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		1.17%
No Drop Score (2013)		**39% Very poor**
INPUT DATA	Population	6 187
	Households	3 018
	Metered Connections	2 988
	Unmetered Connections	30
	Length of mains (km)	27.15
	Average System Pressure (m)	37.10
	2014 Water Use Targets (Water Balance Targets)	NA
	System Input Volume (kl/annum)	0.92 million
	Billed Metered Authorised Use (kl/annum)	0.66 million
	Billed Unmetered Authorised Use (kl/annum)	0.002 million
	Unbilled Authorised Use (kl/annum)	0.002 million
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	0.66 million
	Water Losses (kl/annum)	0.25 million
	Apparent losses (kl/annum)	0.05 million
	Real Losses (kl/annum)	0.20 million
	Revenue Water (kl/annum)	0.66 million
	Non-Revenue Water (kl/annum)	0.25 million
KPIs	Infrastructure Leakage Index (ILI)	5.10 Average
	Apparent/ Commercial Losses (%)	5.47%
	Non-Revenue Water (%)	27.6% Average
	Water Use Efficiency (l/cap/day)	405.3 Extremely poor
OTHER	Authorised Use (l/cap/day)	294.35
	Real Losses (l/cap/day)	88.73
	% Water Losses	27.4%

2012/13 IWA Water Balance (million m^3/annum)



Regulatory Impression

The No Drop score indicates that Kgatelopele LM is performing poorly and requires targeted interventions to improve on the status quo. Partially completed monthly water balances was submitted for the assessment period in question. The Department used the annual water balance and historic water balance trend data to verify and adjust the data set accordingly. No WCWDM Strategy in place and water loss management does not feature prominently in the IDP.

The municipality is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop Findings

- Partially compliant water balances were submitted and may receive attention in terms of the data input.
- No WCWDM Strategy is in place.
- No WCWDM implementation is taking place.
- The ILI of 5.10 is demonstrating average water loss management with potential for marked improvement.
- The water use efficiency performance is extremely poor at 405.3 l/c/d.
- The NRW (27.6%) is demonstrating average non-revenue management with potential for marked improvement.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Khara Hais Local Municipality

2013 Municipal No Drop Score	63.53%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		1.91%
No Drop Score (2013)		**63.53% Average**
INPUT DATA	Population	100 807
	Households	21 158
	Metered Connections	17 840
	Unmetered Connections	3 318
	Length of mains (km)	431
	Average System Pressure (m)	59
	2014 Water Use Targets (Water Balance Targets)	NA
	System Input Volume (kl/annum)	14.59 million
	Billed Metered Authorised Use (kl/annum)	9.39 million
	Billed Unmetered Authorised Use (kl/annum)	0
	Unbilled Authorised Use (kl/annum)	0
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	9.39 million
	Water Losses (kl/annum)	5.20 million
	Apparent losses (kl/annum)	1.04 million
	Real Losses (kl/annum)	4.16 million
	Revenue Water (kl/annum)	9.39 million
	Non-Revenue Water (kl/annum)	5.20 million
KPIs	Infrastructure Leakage Index (ILI)	7.87 Poor
	Apparent/ Commercial Losses (%)	7.13%
	Non-Revenue Water (%)	35.7% Poor
	Water Use Efficiency (l/cap/day)	396.6 Extremely poor
OTHER	Authorised Use (l/cap/day)	255.12
	Real Losses (l/cap/day)	113.15
	% Water Losses	35.7%

2012/13 IWA Water Balance (million m^3/annum)

Regulatory Impression

The No Drop score indicates that Khara Hais LM's 12 systems are achieving average performance with room for improvement. The water balances submitted did not comply to the Department's IWA standard and may receive attention going forward. The Department used the water balance information submitted and historic water balance trend data to verify and adjust the data set accordingly. A WCWDM Strategy in place but could be reviewed to include a more comprehensive baseline, performance parameters and catchment-based targets. The Regulator notes with appreciation the prominent mention of water loss management in the IDP.

The municipality is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to update the strategy and plan, and put resources in place to reduce water losses and non-revenue water.

No Drop Findings

- The No Drop score indicates that the
- The prescribed monthly and annual water balance formats are not being used and the data was partially sourced from other sources.
- WCWDM Strategy is in place but only with some elements covered.
- No WCWDM implementation is taking place.
- The ILI of 7.87 is demonstrating poor water loss management.
- The water use efficiency performance is poor at 396.6 l/c/d.
- The NRW (35.7%) is demonstrating poor non-revenue management.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Khai Ma Local Municipality

2013 Municipal No Drop Score	0%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.00%
No Drop Score (2013)	**0% Critical**

Regulatory Impression

No evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Khai Ma LM is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop findings

- No monthly and annual water balances in place
- No WCWDMS and BP in place, no evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Kheis Local Municipality

2013 Municipal No Drop Score	0%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.00%
No Drop Score (2013)	**0% Critical**

Regulatory Impression

No evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Kheis LM is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop findings

- No monthly and annual water balances in place
- No WCWDMS and BP in place, no evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Magareng Local Municipality

2013 Municipal No Drop Score	3%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.09%
No Drop Score (2013)	**3% Critical**

Regulatory Impression

No evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Magareng LM is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop findings

- No monthly and annual water balances in place
- No WCWDMS and BP in place, no evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Mier Local Municipality

2013 Municipal No Drop Score	0%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.00%
No Drop Score (2013)	**0% Critical**

Regulatory Impression

No evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Mier LM is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop findings

- No monthly and annual water balances in place
- No WCWDMS and BP in place, no evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Nama Khoi Local Municipality

2013 Municipal No Drop Score	0.14%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		0.004%
No Drop Score (2013)		**0.14% Critical**
INPUT DATA	Population	3 850
	Households	1 287
	Metered Connections	1 266
	Unmetered Connections	15
	Length of mains (km)	30
	Average System Pressure (m)	55
	2014 Water Use Targets (Water Balance Targets)	NA
	System Input Volume (kl/annum)	0.25 million
	Billed Metered Authorised Use (kl/annum)	0.18 million
	Billed Unmetered Authorised Use (kl/annum)	0.01 million
	Unbilled Authorised Use (kl/annum)	0
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	0.19 million
	Water Losses (kl/annum)	0.07 million
	Apparent losses (kl/annum)	0.01 million
	Real Losses (kl/annum)	0.06 million
	Revenue Water (kl/annum)	0.19 million
	Non-Revenue Water (kl/annum)	0.07 million
KPIs	Infrastructure Leakage Index (ILI)	1.68 Excellent
	Apparent/ Commercial Losses (%)	5.23%
	Non-Revenue Water (%)	26.1% Average
	Water Use Efficiency (l/cap/day)	179.2 Good
OTHER	Authorised Use (l/cap/day)	132.34
	Real Losses (l/cap/day)	37.47
	% Water Losses	26.1%

2012/13 IWA Water Balance (million m^3/annum)

Regulatory Impression

The No Drop score indicates that Nama Khoi does not have a good knowledge base, processes and systems to address its water losses and non-revenue water. Partial monthly and annual water balance submitted was linked to the assessment period in question but the historic water balance trend data was used to verify and adjust the data set accordingly.

The municipality is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to update the strategy and plan, and put resources in place to reduce water losses and non-revenue water. The reported figures for ILI, NRW and water losses looks good and the municipality should use this as lever to establish the necessary processes and plans to confirm these performance reports.

No Drop Findings

- No WCWDM Strategy is in place. Not clear as to whether components of a WCWDM Strategy and Business Plan are included in the IDP or not.
- No evidence for WCWDM implementation presented.
- The ILI of 1.68 is demonstrating excellent water loss management.
- The water use efficiency performance is good at 179.2 l/c/d but some improvement may be possible subject to economic benefit.
- The NRW (26.1%) is demonstration average non-revenue management with potential for marked improvement.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Phokwane Local Municipality

2013 Municipal No Drop Score	23.34%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		0.70%
No Drop Score (2013)		**23.34% Critical**
INPUT DATA	Population	63 959
	Households	17 660
	Metered Connections	15 861
	Unmetered Connections	0
	Length of mains (km)	317
	Average System Pressure (m)	35
	2014 Water Use Targets (Water Balance Targets)	NA
	System Input Volume (kl/annum)	3.33 million
	Billed Metered Authorised Use (kl/annum)	2.03 million
	Billed Unmetered Authorised Use (kl/annum)	-
	Unbilled Authorised Use (kl/annum)	-
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	2.03 million
	Water Losses (kl/annum)	1.30 million
	Apparent losses (kl/annum)	0.26 million
	Real Losses (kl/annum)	1.04 million
	Revenue Water (kl/annum)	2.03 million
	Non-Revenue Water (kl/annum)	1.30 million
KPIs	Infrastructure Leakage Index (ILI)	4.42 Average
	Apparent/ Commercial Losses (%)	7.80%
	Non-Revenue Water (%)	39.0% Poor
	Water Use Efficiency (l/cap/day)	142.6 Excellent
OTHER	Authorised Use (l/cap/day)	86.96
	Real Losses (l/cap/day)	44.49
	% Water Losses	39%

2012/13 IWA Water Balance (million m^3/annum)

Regulatory Impression

The No Drop score indicates that Phokwane LM does not have a good knowledge base, processes and systems to address its water losses and non-revenue water. Partial monthly and annual water balance submitted was linked to the assessment period in question but the historic water balance trend data was used to verify and adjust the data set accordingly. Water loss management does not feature prominently in the municipal IDP and should be addressed in the 2016/17 year.

The municipality is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to update the strategy and plan, and put resources in place to reduce water losses and non-revenue water. The reported figures for water use efficiency looks good and the municipality should use this as lever to establish the necessary processes and plans to confirm these performance reports.

No Drop Findings

- No WCWDM Strategy is in place. No WCWDM implementation is taking place.
- The ILI of 4.42 is demonstrating average water loss management.
- The water use efficiency performance is excellent at 142.6 l/c/d.
- The NRW (39%) is demonstrating poor non-revenue management.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Richtersveld Local Municipality

2013 Municipal No Drop Score	32.77%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		0.98%
No Drop Score (2013)		**32.77% Very poor**
INPUT DATA	Population	9 100
	Households	2 325
	Metered Connections	2 325
	Unmetered Connections	0
	Length of mains (km)	46
	Average System Pressure (m)	55
	2014 Water Use Targets (Water Balance Targets)	NA
	System Input Volume (kl/annum)	0.61 million
	Billed Metered Authorised Use (kl/annum)	0.40 million
	Billed Unmetered Authorised Use (kl/annum)	-
	Unbilled Authorised Use (kl/annum)	-
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	0.40 million
	Water Losses (kl/annum)	0.20 million
	Apparent losses (kl/annum)	0.04 million
	Real Losses (kl/annum)	0.16 million
	Revenue Water (kl/annum)	0.40 million
	Non-Revenue Water (kl/annum)	0.20 million
KPIs	Infrastructure Leakage Index (ILI)	2.99 Good
	Apparent/ Commercial Losses (%)	6.66%
	Non-Revenue Water (%)	33.3% Poor
	Water Use Efficiency (l/cap/day)	182.2 Good
OTHER	Authorised Use (l/cap/day)	121.57
	Real Losses (l/cap/day)	48.53
	% Water Losses	33.3%

2012/13 IWA Water Balance (million m^3/annum)

Regulatory Impression

The No Drop score indicates that Richtersveld LM does not have the necessary knowledge base, processes and systems in place to address its water losses and non-revenue water. Water balance data was submitted for Port Nolloth only and not the other systems. The historic water balance trend data was used to verify and adjust the data set accordingly.

Similarly, a WCWDM Strategy is in place for Port Nolloth only, which excludes other systems. Water loss management does not seem to feature prominently in the municipal IDP and should be addressed in the 2016/17 year.

The municipality is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to update the strategy and plan, and put resources in place to reduce water losses and non-revenue water. The reported figures for ILI and water use efficiency looks promising and should motivate the municipality to achieve better NRW performance going forward.

No Drop Findings

- WCWDM Strategy is in place albeit for Port Nolloth only it so appears.
- No WCWDM implementation is taking place.
- The ILI of 2.99 is demonstrating good water loss management but some improvement may be possible subject to economic benefit.
- The water use efficiency performance is good at 182.2 l/c/d but further improvement is possible.
- The NRW (33.3%) is demonstrating poor non-revenue management.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Renosterberg Local Municipality

2013 Municipal No Drop Score	0%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.00%
No Drop Score (2013)	**0% Critical**

Regulatory Impression

No evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Renosterberg LM is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop findings

- No monthly and annual water balances in place
- No WCWDMS and BP in place, no evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

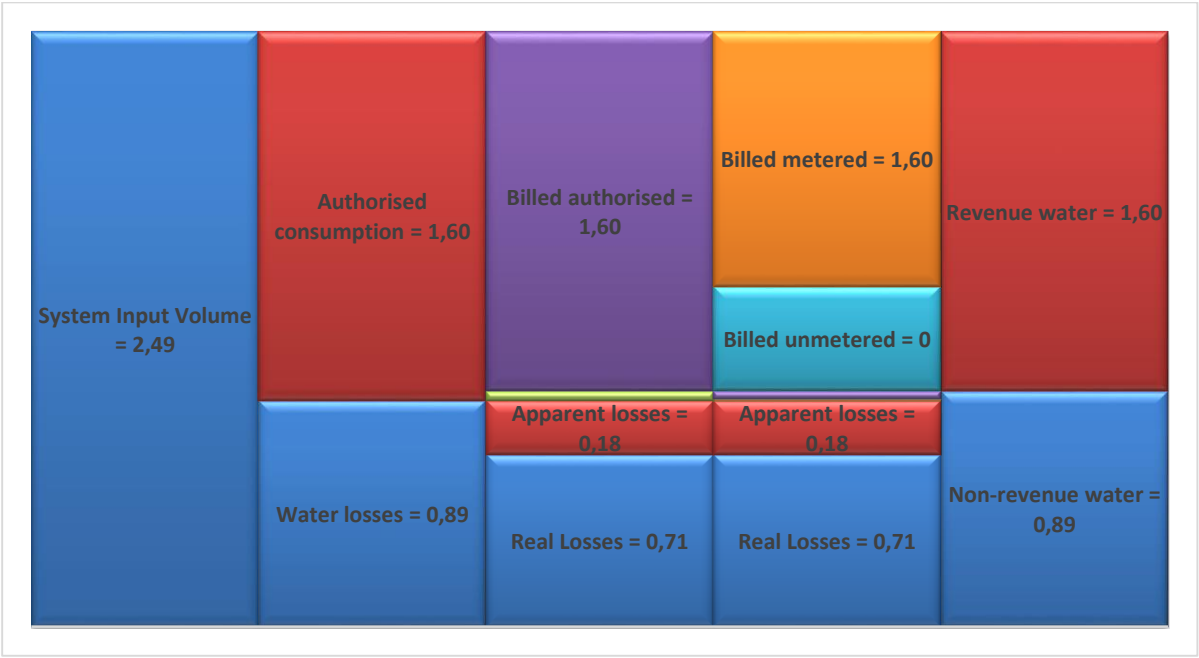
The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Siyancuma Local Municipality

2013 Municipal No Drop Score	34%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		1.02%
No Drop Score (2013)		**34% Very poor**
INPUT DATA	Population	37 643
	Households	9 644
	Metered Connections	8 539
	Unmetered Connections	0
	Length of mains (km)	170
	Average System Pressure (m)	35
	2014 Water Use Targets (Water Balance Targets)	NA
	System Input Volume (kl/annum)	2.49 million
	Billed Metered Authorised Use (kl/annum)	1.60 million
	Billed Unmetered Authorised Use (kl/annum)	0
	Unbilled Authorised Use (kl/annum)	0
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	1.60 million
	Water Losses (kl/annum)	0.89 million
	Apparent losses (kl/annum)	0.18 million
	Real Losses (kl/annum)	0.71 million
	Revenue Water (kl/annum)	1.60 million
	Non-Revenue Water (kl/annum)	0.89 million
KPIs	Infrastructure Leakage Index (ILI)	5.61 Average
	Apparent/ Commercial Losses (%)	7.11%
	Non-Revenue Water (%)	35.6% Poor
	Water Use Efficiency (l/cap/day)	181.3 Good
OTHER	Authorised Use (l/cap/day)	116.79
	Real Losses (l/cap/day)	51.58
	% Water Losses	35.6%

2012/13 IWA Water Balance (million m^3/annum)



Regulatory Impression

The No Drop score indicates that Siyancuma LM does not have the required knowledge base, processes and systems in place to address its water losses and non-revenue water. Partial completed water balances were submitted, and the municipality's historic water balance trend data was used to verify and adjust the data set accordingly.

The municipality is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to update the strategy and plan, and put resources in place to reduce water losses and non-revenue water. Siyancuma is advised to ensure a prominent presence of WCWDM in the next financial year's IDP. The reported figures for ILI and water use efficiency looks promising and should motivate the municipality to achieve better NRW performance going forward.

No Drop Findings

- No WCWDM Strategy is in place.
- No WCWDM implementation is taking place.
- The ILI of 5.61 is demonstrating average water loss management with potential for marked improvement.
- The water use efficiency performance is good at 181.3 l/c/d. but some improvement may be possible subject to economic benefit.
- The NRW (35.6%) is demonstrating poor non-revenue management.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Siyathemba Local Municipality

2013 Municipal No Drop Score	6%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.18%
No Drop Score (2013)	**6% Critical**

Regulatory Impression

No evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Siyathemba LM is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop findings

- No monthly and annual water balances in place
- No WCWDMS and BP in place, no evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Sol Plaatje Local Municipality

2013 Municipal No Drop Score	38%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		1.14%
No Drop Score (2013)		**38% Very poor**
INPUT DATA	Population	284 042
	Households	60 297
	Metered Connections	42 193
	Unmetered Connections	15 360
	Length of mains (km)	912
	Average System Pressure (m)	56
	2014 Water Use Targets (Water Balance Targets)	27.69 million
	System Input Volume (kl/annum)	28.88 million
	Billed Metered Authorised Use (kl/annum)	13.71 million
	Billed Unmetered Authorised Use (kl/annum)	2.95 million
	Unbilled Authorised Use (kl/annum)	0.65 million
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	17.30 million
	Water Losses (kl/annum)	11.58 million
	Apparent losses (kl/annum)	2.32 million
	Real Losses (kl/annum)	9.26 million
	Revenue Water (kl/annum)	16.66 million
	Non-Revenue Water (kl/annum)	12.22 million
KPIs	Infrastructure Leakage Index (ILI)	7.25 Poor
	Apparent/ Commercial Losses (%)	8.02%
	Non-Revenue Water (%)	42.3% Extremely poor
	Water Use Efficiency (l/cap/day)	278.6 Poor
OTHER	Authorised Use (l/cap/day)	166.91
	Real Losses (l/cap/day)	89.32
	% Water Losses	40.1%

2012/13 IWA Water Balance (million m^3/annum)

Regulatory Impression

The No Drop score indicates that Sol Plaatje LM does not have the required knowledge base, processes and systems in place to address its water losses and non-revenue water. Partial completed water balances were submitted, and the municipality's historic water balance trend data was used to verify and adjust the data set accordingly.

The municipality is urged to establish detailed Water Balances and to use this information to establish a WCWDM Strategy and Business Plan, supported by the necessary resources to effect water loss reduction and non-revenue water management. Sol Plaatje LM is advised to ensure a prominent presence of WCWDM in the next financial year's IDP.

No Drop Findings

- Partially compliant water balance data was submitted that linked to the assessment period in question.
- No WCWDM Strategy is in place.
- WCWDM implementation is not taking place.
- The ILI of 7.25 is demonstrating poor water loss management.
- The water use efficiency performance is poor at 278.6 l/c/d.
- The NRW (42.3%) is demonstrating poor non-revenue management.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Thembilihle Local Municipality

2013 Municipal No Drop Score	0%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.00%
No Drop Score (2013)	**0% Critical**

Regulatory Impression

No evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Thembilihle LM is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop findings

- No monthly and annual water balances in place
- No WCWDMS and BP in place, no evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Tsatsabane Local Municipality

2013 Municipal No Drop Score	0%

Key Performance Area	Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)	0.00%
No Drop Score (2013)	**0% Critical**

Regulatory Impression

No evidence was provided during the No Drop assessment. The Regulator impresses on the municipality that the first and most important step to ensure water security is to know your status. Tsantsabane is urged to establish its Water Balance as a matter of priority. Once this baseline is in place, the municipality will be able to put a strategy, plan and resources in place to reduce water losses and non-revenue water.

No Drop findings

- No monthly and annual water balances in place
- No WCWDMS and BP in place, no evidence of WCWDM implementation
- Compliance and performance evidence could not be provided
- Insufficient evidence to award a bonus.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Ubuntu Local Municipality

2013 Municipal No Drop Score	64%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		1.92%
No Drop Score (2013)		**64% Average**
INPUT DATA	Population	18 887
	Households	5 164
	Metered Connections	5 029
	Unmetered Connections	0
	Length of mains (km)	100
	Average System Pressure (m)	35
	2014 Water Use Targets (Water Balance Targets)	NA
	System Input Volume (kl/annum)	0.70 million
	Billed Metered Authorised Use (kl/annum)	0.63 million
	Billed Unmetered Authorised Use (kl/annum)	0
	Unbilled Authorised Use (kl/annum)	0
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	0.63 million
	Water Losses (kl/annum)	0.07 million
	Apparent losses (kl/annum)	0.01 million
	Real Losses (kl/annum)	0.06 million
	Revenue Water (kl/annum)	0.63 million
	Non-Revenue Water (kl/annum)	0.07 million
KPIs	Infrastructure Leakage Index (ILI)	0.78 Excellent
	Apparent/ Commercial Losses (%)	2.07%
	Non-Revenue Water (%)	10.3% Good
	Water Use Efficiency (l/cap/day)	101.8 Excellent
OTHER	Authorised Use (l/cap/day)	91.30
	Real Losses (l/cap/day)	8.42
	% Water Losses	10.3%

2012/13 IWA Water Balance (million m^3/annum)

Regulatory Impression

The No Drop score indicates that Ubuntu LM does have a fair knowledge base, processes and systems in place to address its water losses and non-revenue water. Partial completed water balances were submitted, and the municipality's historic water balance trend data was used to verify and adjust the data set accordingly.

A WCWDM Strategy is in place and key components thereof are included in the IDP. WCWDM implementation includes the installation of bulk meters and protected from vandalism, awareness campaigns around rain water harvesting and prepaid meters, and instant response times to fix pipes bursts and leaks. Six priority components were identified and five have been implemented. The Regulator wishes to congratulate the LM with the measures taken to address water losses and NRW. The good to excellent performance for NRW, WUE and ILI serves as testimony that these measures are producing the desired results.

No Drop Findings

- Partially compliant monthly and annual water balance submitted was linked to the assessment period in question.
- WCWDM Strategy is in place with some key data still outstanding. Components listed under the WCWDM Strategy and Business Plan is included in the IDP.
- The ILI of 0.78 is demonstrating excellent water loss management.
- The water use efficiency performance is excellent at 101.8 l/c/d.
- The NRW (10.3%) is demonstrating good non-revenue management but some improvement may be possible subject to economic benefit.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.

Umsobomvu Local Municipality

2013 Municipal No Drop Score	39%

Key Performance Area		Status and Performance
WATER USE EFFICIENCY & WATER LOSS MANAGEMENT (3% weight)		1.17%
No Drop Score (2013)		**39% Very poor**
INPUT DATA	Population	26 576
	Households	6 765
	Metered Connections	6 365
	Unmetered Connections	400
	Length of mains (km)	102
	Average System Pressure (m)	48
	2014 Water Use Targets (Water Balance Targets)	NA
	System Input Volume (kl/annum)	2.32 million
	Billed Metered Authorised Use (kl/annum)	1.52 million
	Billed Unmetered Authorised Use (kl/annum)	-
	Unbilled Authorised Use (kl/annum)	-
	Assumed Commercial Losses (%)	20%
WATER BALANCE DATA	Authorised Use – billed & unbilled (kl/annum)	1.52 million
	Water Losses (kl/annum)	0.80 million
	Apparent losses (kl/annum)	0.16 million
	Real Losses (kl/annum)	0.64 million
	Revenue Water (kl/annum)	1.52 million
	Non-Revenue Water (kl/annum)	0.80 million
KPIs	Infrastructure Leakage Index (ILI)	5.12 Average
	Apparent/ Commercial Losses (%)	6.92%
	Non-Revenue Water (%)	34.6% Poor
	Water Use Efficiency (l/cap/day)	239.3 Poor
OTHER	Authorised Use (l/cap/day)	156.45
	Real Losses (l/cap/day)	66.27
	% Water Losses	34.6%

2012/13 IWA Water Balance (million m^3/annum)

Regulatory Impression

The No Drop score indicates that Umsobomvu LM does not have the required knowledge base, processes and systems in place to address its water losses and non-revenue water. Partial completed water balances were submitted, and the municipality's historic water balance trend data was used to verify and adjust the data set accordingly. The Regulator is encouraged to note the existence of a WCWDM Strategy, but note that it does not feature prominently in the municipal IDP.

The municipality is urged to update and maintain detailed Water Balances and to use this information to inform the WCWDM Business Plan. The performance of the municipality in terms of NRW, WUE and ILI is not on par with the Regulator's expectation and Umsobomvu is encouraged to commit to- and execute the necessary measures to reduce water losses and improve non-revenue water.

No Drop Findings

- Partially compliant water balance data was submitted that linked to the assessment period in question.
- WCWDM Strategy is in place but not yet approved by Council.
- No WCWDM implementation is taking place.
- The ILI of 5.12 is demonstrating average water loss management with potential for marked improvement.
- The water use efficiency performance is poor at 239.3 l/c/d.
- The NRW (34.6%) is demonstrating poor non-revenue management.

Sustainability Pathway

The municipality should endeavour to implement the findings and recommendations of the No Drop assessment, which will lead to improved sustainability, and security of water services.