



# **Ministry Of Water and Environment**

## **Water Utility Regulation Department**

### **Review of NWSC Performance Contract V for the period 2015-2017**

**September 2017**

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## List of Acronyms

FY	Financial Year
GoU	Government of Uganda
KPI	Key Performance Indicator
KW	Kampala Water
MWE	Ministry of Water and Environment
NRW	Non Revenue Water
NWSC	National Water and Sewerage Corporation
PC	Performance Contract
Perf.	Performance
PSPs	Public Stand Pipes
Q	Quarter
Ushs.	Uganda Shillings
WURD	Water Utility Regulation Department

## 1. INTRODUCTION

The Ministry of Water and Environment entered into a Performance Contract (PC5) for the period 2015 to 2018. This set the Standards of Service for the National Utility with a primary goal of improving efficiency levels and water supply service delivery to consumers. The contract set clear targets for each of the three years. The Corporation (NWSC) submitted quarterly and annual progress reports on Various Key Performance Indicators (KPIs) for the period 2015 - 2017. These reports have been reviewed and data validation conducted. The validation exercise was conducted in 13 towns that were randomly selected in the different regions of; **Central** (Mityana and Mubende), **Western and South western** (Hoima, Rweneura, Kitagata and Kabira-Mutara) and **Eastern and Northern** (Kapchorwa, Sipi, Sironko Dokolo, Unyama, Gulu and Adjumani). A performance assessment report is herein presented with key recommendations and conclusions for performance sustainability and improvement where necessary.

The report presents key findings in the areas of Non-Revenue Water, Commercial and Financial Aspects, Quality of Service and Environment, Pro-poor Orientation, Customer Focus and Care, and Transparency and Governance.

## 2. NON REVENUE WATER

The analysis of Non-Revenue Water was carried out in accordance with the NWSC clustered operational regions. i.e. Kampala Area, Central region, Eastern and Northern region, Western and South-western region. The following is a presentation of the analysis based on the data availed from the quarterly reports for the two year reporting period (FY 2015-16 and 2016-17). Kampala area exhibits high NRW compared to all other areas.

### 2.1. Non Revenue Water (Kampala Area)

Kampala Area accounts for over 60% of total water supplied by NWSC in the respective regions. During the 4<sup>th</sup> quarter of FY 2016-17, the NRW in Kampala area was reported as 39.1% accounting for a performance shortfall of 7.1% against the annual target of 32%. The trend of NRW over the two-year reporting period (FY 2015-16 and 2016-17) continued to be on the rise. Based on the analysis of the average tariff for FY 2016-17, this translates into revenue losses estimated at about 77.5 Bn UGX (*see Appendix 1 . The overall performance against set targets for the two year period – decline is from 99% to 85%*). The Corporation stands to realize significant revenues of 188 Bn UGX annually if NRW is reduced to best practice of less than 25%.

The Ministry is concerned about these high levels (*and increasing trend*) of NRW in Kampala Area and urges the Corporation to make deliberate efforts to address this challenge with better efficiency measures and innovations given it's implication on the overall performance.

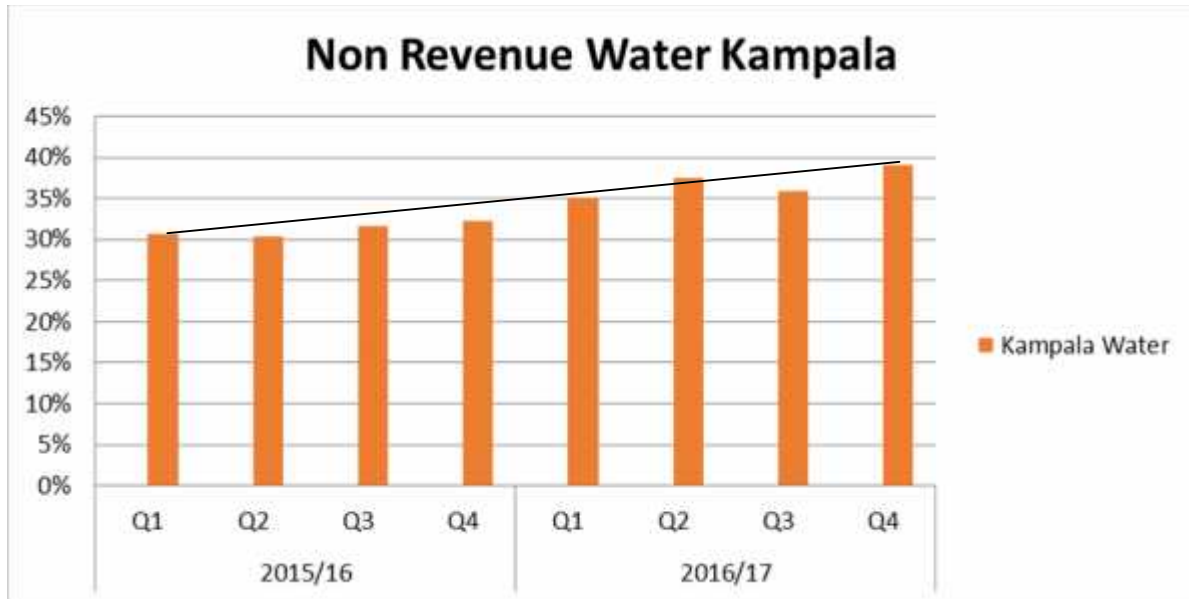


Figure 1. Analysis of Non-Revenue Water for Kampala Area

## 2.2. Non Revenue Water (Central Region)

The assessment of NRW carried out over the two year reporting period against the annual target of 32.5% shows a significant progressive improvement in performance from 68% in FY 2015-16 to 165% in FY 2016-17.

The Corporation is commended for the overall positive trend of NRW over the reporting period. The validation conducted in selected towns in the region corroborated the reported figures. The NRW in the towns of Mubende and Mityana were 9% and 29% respectively. Steps should be undertaken to ensure that this good performance is sustained or even further improved since an observation was made on the fourth quarter performance in FY 2016-17 which registered a kink (decline).

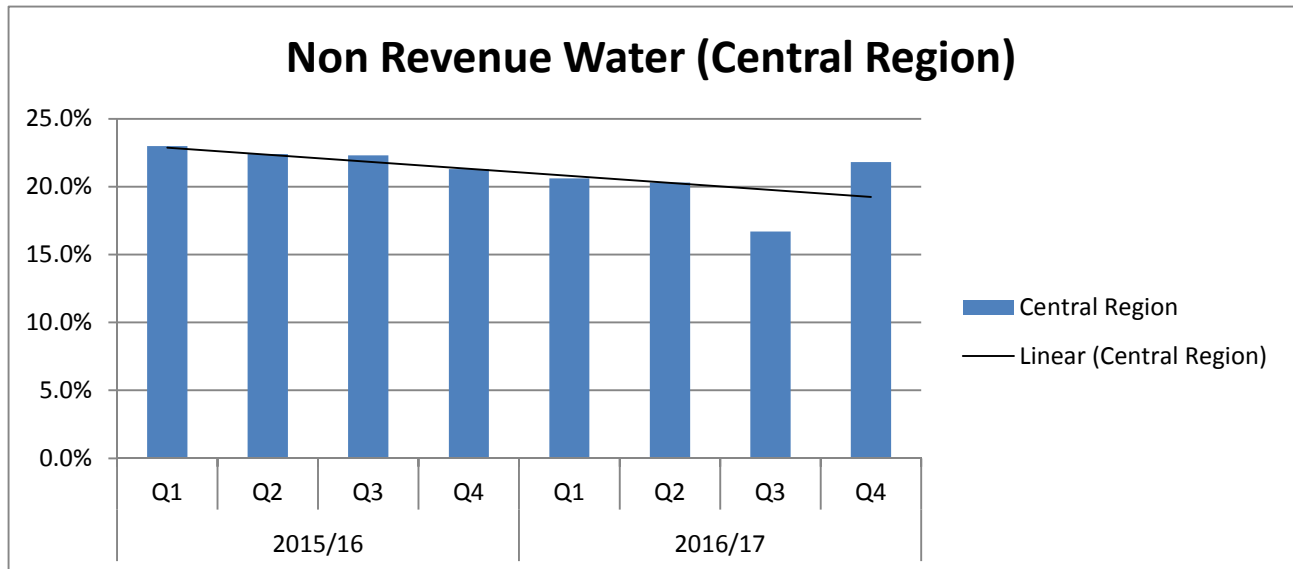


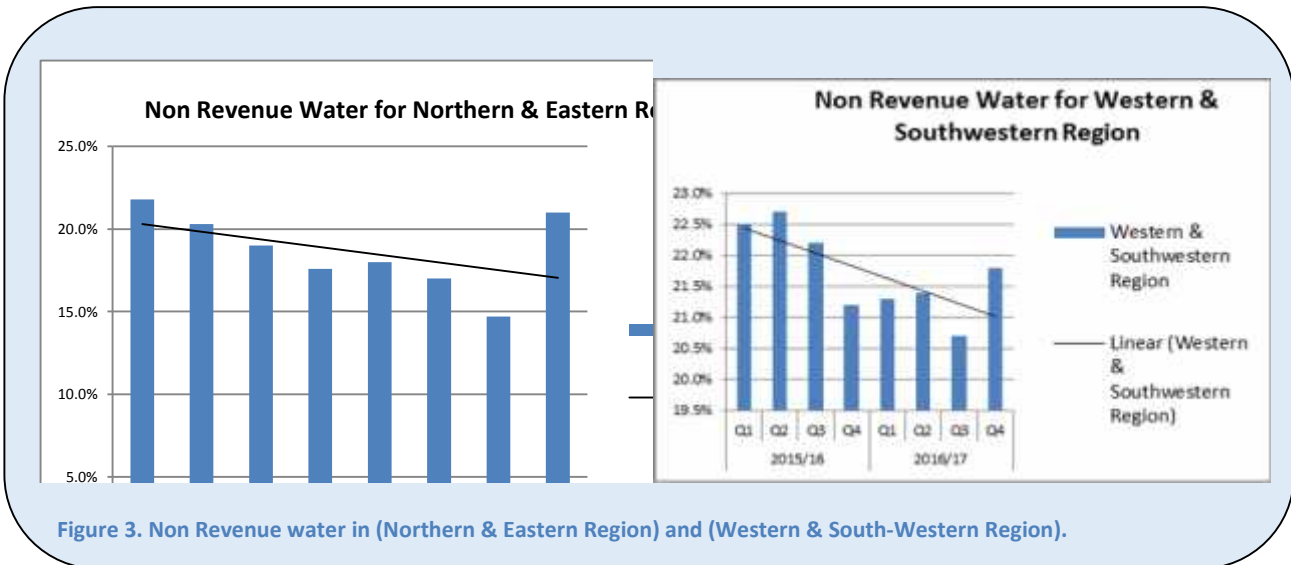
Figure 2. Analysis of Non-Revenue Water for the Central Region

### 2.3. Non Revenue Water (Northern and Eastern) and (Western and South Western) regions

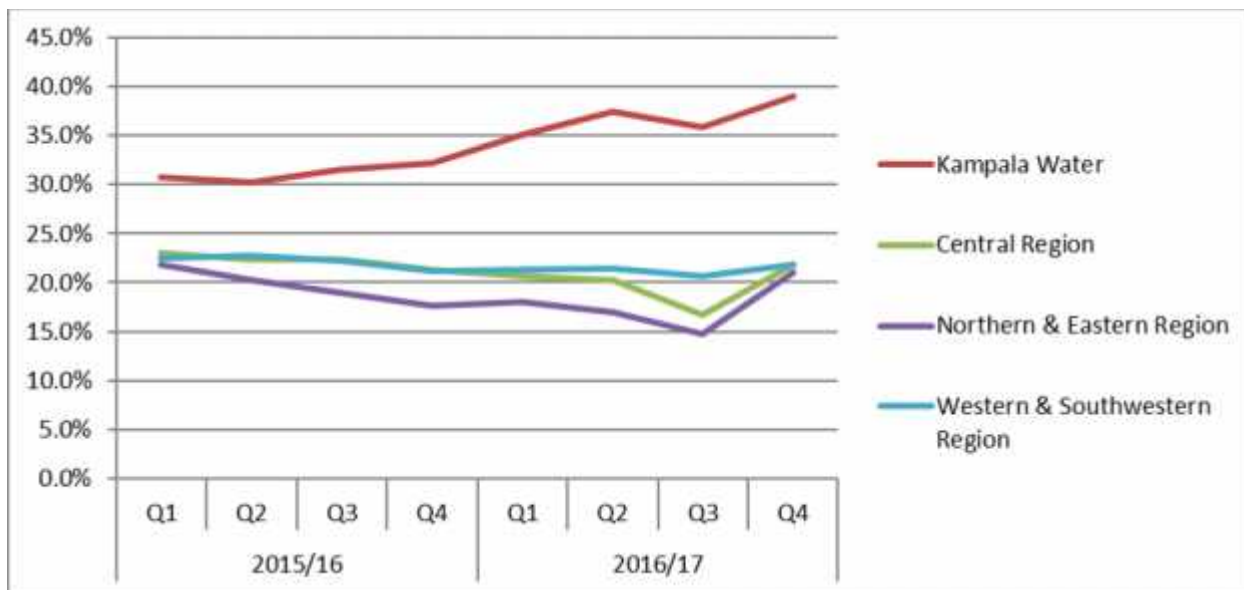
The data analysed on NRW levels for the two regions (Northern and Eastern) and (Western and South Western) generally shows a decreasing trend in the levels of NRW.

The NRW for the Northern and Eastern region registered a reduction from 19% to 18% which translated in a performance improvement from 85% to 124% based on the annual target of 22%. The Western and South Western region also achieved the set target of 21% and realised performance levels of 104% and 99% respectively for the two year reporting period. The validation exercise was conducted in the **Eastern and Northern** towns of Kapchorwa, Sipi, Sironko Dokolo, Unyama, Gulu and Adjumani. It was noted that bulk meters are installed at all key points for the towns visited save for Dokolo and Unyama where there were no bulk meters at the water sources making it difficult to determine the volume of water produced. There was also evidence of servicing bulk and micro meters since they were generally observed to be in good condition. High NRW levels were noted in Hoima (19% - 37%) for the Western region and 32% in Kapchorwa for the Eastern region. The high NRW was attributed to frequent pipe bursts on transmission mains due to road construction works, design flaws where pipes were laid close to the surface and illegal connections. Deliberate efforts must be made to address the challenge of illegal water use in the towns visited.

Below is a graphical presentation of the trend of NRW for the two regions over the two year period.



The analysis also compared the NRW levels across the four regions and below is a graphical presentation of the analysis.



From the presentation in Fig. 4. above, Kampala Area was clearly the region with the highest level of NRW over the two year period. The levels of NRW continued to increase as already discussed. The rest of the regions that are represented generally show a steady if not declining rate of NRW.

### 3. WATER SALES VOLUME GROWTH (MILLION M<sup>3</sup>):

This section presents an analysis of performance regarding the overall water sales for the two-year period. Below is a graphical illustration of the overall performance on water sales against the set targets for the period. i.e. FY 2015-16 and 2016-17.

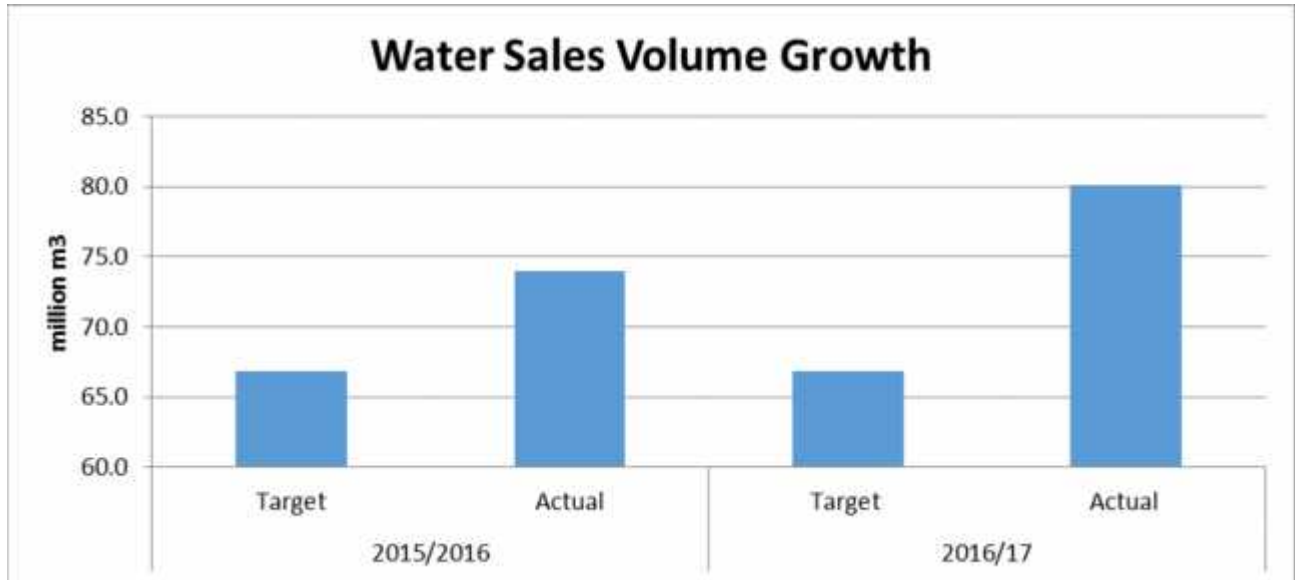


Figure 5. Analysis of Water Sales Volume Growth

The Corporation reported an increase in water sales volume growth of 6.15 million cubic meters over the two year which was an improvement of 2%. The set annual target of 66.8% for each of the two respective years was superseded. A further analysis on water sales was done to establish the implication of the levels of NRW on the water sales growth. Below is a graphical presentation of the implication of NRW for Kampala Area on the overall performance of the Corporation.

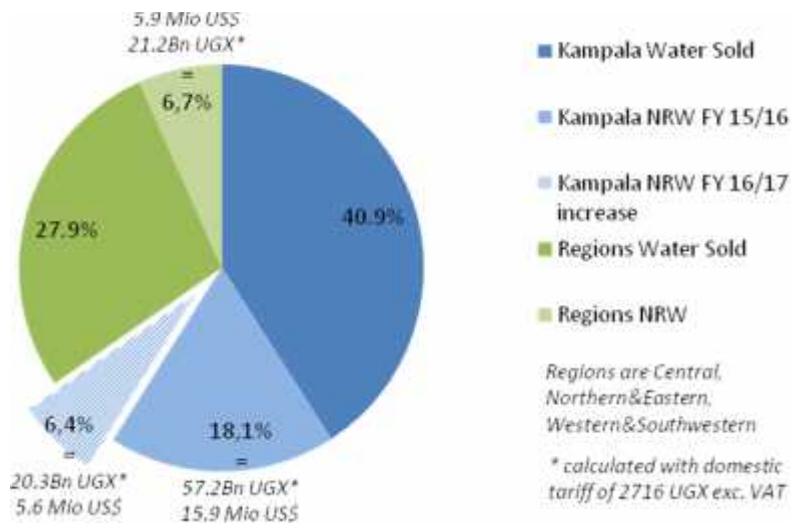




Figure 6. Analysis of implication of NRW on water sales

From Fig.6. above, the increase in NRW for Kampala Area by 6.4% translated into a loss of approx. 20.3 billion Uganda shillings. The need to curb the increasing levels of NRW for Kampala cannot be overemphasized.

#### **4. INCREASE IN ACCESS**

The increase in access for the Corporation is reported based on Sewerage and New Water Connections.

##### **4.1. Increase in Sewerage Connections (number)**

The number of sewerage connections implemented during the reporting period was 388 and 318 respectively against the annual target of 250 connections per year. This represents a performance of 155% and 127% respectively. Albeit the good performance, the set performance targets should be revised to alleviate the challenges associated with limited access to sewerage services, especially in urban areas.

##### **4.2. Increase in New Water Connections (number)**

The number of new water connections implemented during the reporting period was 38,836 and 43,241 respectively against the annual target of 28,000 connections per year. This represents a performance of 139% and 154% respectively. The gazetting or transfer of small towns to NWSC is observed as a contributing factor to the superseding of the set targets. In future, this needs to be isolated to show the new connections as a result of the towns transferred to NWSC.

#### **5. CAPITAL WORKS IMPLEMENTED (% of budget):**

The budget performance on capital investment was reported as 150% and 160% respectively for the 2-year reporting period. While capital investment is encouraged for the sector to improve access levels, this should be reflected in the planning and budgeting processes to avoid other competing budgetary demands. Further clarification can be provided to inform future synthesis on budget performance.

#### **6. COMPLIANCE WITH DRINKING STANDARDS (%):**

The compliance to drinking water standards was achieved through out the two year reporting period with an average of 98%. The target for each of the two years was also set at 98%.

#### **7. INCREASE IN NUMBER OF PRO-POOR CONNECTIONS (%)**

The PC5 set a target of 500 pro-poor connections to be installed for each of the two years in the reporting period. From performance reports, the connections achieved were 1,129 and 1,087

respectively for the two years. A brief survey was also conducted in all NWSC towns visited during the validation exercise and the findings revealed that despite the increase in the number of Public Stand Posts, the implementation of a pro-poor tariff structure is still a challenge. A considerable number of consumers was also observed to draw water from these service points which are expected to charge a pro-poor tariff of 50 Ugshs per 20 litre jerrican of water. Save for the towns of Kapchorwa, Mityana, Dokolo and Mutara-kabira where a pro-poor tariff of 50/= per 20-litre jerrican is being charged at PSPs, all towns visited were found to be charging consumers a tariff ranging from 100 to 200 shillings. It was noted that about 6% of the PSPs in the towns visited charge consumers 50 Ugshs. per 20-litre jerrican of water. The Corporation is urged to expeditiously come up with innovations to enforce the approved pro-poor tariff structure at the PSPs.

#### **8. PERCENTAGE OF AUDIT RECOMMENDATIONS IMPLEMENTED (%):**

The audit recommendations are reported to have been fully complied with. During the reporting period, the Corporation is reported to have achieved performance levels of 114% and 107% respectively in relation to the set target of 80%.

#### **9. CUSTOMER SATISFACTION INDEX (%):**

During the FY 2016/17 the Customer Satisfaction Index was reported as 84% against the annual target of 70%. There was no report availed for FY 2015/16. A customer satisfaction index of 76% was generated from the validation exercise. It was established that consumers were concerned about water quality (turbidity and hardness) in the towns of Kapchorwa, Gulu, Hoima and Mubende. There were also concerns of low water reliability in Hoima, Kapchorwa, Sipi, Mityana, Unyama, Gulu and Adjumani. Complaints of high domestic tariff were noted in Kitagata and Dokolo towns. The complaints of intermittent water supply raised by the community in Kaberebere Town Council (see attached letter) has been of great concern to the Ministry and preliminary discussions have been made with NWSC officers to ensure that an intervention is sought to rectify the water shortage in the town.

Whereas the satisfaction index values reported and validated are above the set target, customers' concerns need to be addressed.

#### **10. RECOMMENDATIONS**

The report provides several avenues that can be harnessed to improve performance and sustain the high performance levels in some areas. The following recommendations have been identified from the analysis carried out:

- The WURD received Quarterly and Annual reports for the two-year reporting period from the Corporation. This is highly appreciated and should continue in line with set provisions of PC5. However, the experience during the field validation exercise revealed

that in some instances cooperation in availing performance information was limited. This constrains the ability of the Department to carry out independent verification of NWSC's performance.


- The Clustering of data on some key indicators (*such as NRW*) encumbers the analysis to be carried out. It is highly recommended that the subsequent data to be provided on NRW should be broken down to monthly performance. This will also be key in developing performance patterns on a basis of a 12-months moving average to further appreciate the Corporation's challenges and limitations.
- The different regions present clear unique features. It is therefore important to appreciate these unique features (*and challenges in some cases*) since they directly impact on the performance of a region in particular and the Corporation as a whole. It is therefore recommended that, just like different targets have been derived on NRW for the different regions, SMART (*and unique*) targets should also be developed to discern the uniqueness of each region.
- **Appendix 3** of PC5 provides that "*Over the three years, system input meter coverage should improve by at least three percentage points*". This therefore creates a need to track the meter installations done for system input volumes and at other key points. It is recommended that subsequent reports should provide this information as an avenue of tracking efficiency gains.


Appendix 1: Table 1 Summary of performance data reported by NWSC based on set KPIs

#	Key Performance Indicator	Weight %	2015/2016					Actual	% Perf.	2016/17					% Perf.	
			Target	Q1	Q2	Q3	Q4			Target	Q1	Q2	Q3	Q4		Actual
<b>Te. TECHNICAL</b>																
<b>Te.01</b>	<b>Non-Revenue Water (%)</b>	<b>20%</b>														
	Kampala Water	<b>10%</b>	<b>32.0</b>	30.7	30.3	31.6	32.2	31.79	<b>99%</b>	32.00	35.10	37.50	35.90	39.10	37.50	<b>85%</b>
	Central Region	<b>4%</b>	<b>32.5</b>	23.0	22.4	22.3	21.3	22.0	<b>68%</b>	32.50	20.60	20.30	16.70	21.80	19.70	<b>165%</b>
	Northern & Eastern Region	<b>3%</b>	<b>22.0</b>	21.8	20.3	19.0	17.6	18.66	<b>85%</b>	22.0	18.0	17.00	14.70	21.00	17.80	<b>124%</b>
	Western & Southwestern Region	<b>3%</b>	<b>21.0</b>	22.5	22.7	22.2	21.2	21.79	<b>104%</b>	21.0	21.30	21.40	20.70	21.80	21.20	<b>99%</b>
<b>Te.02</b>	System Input Metering Coverage(%)	<b>5%</b>	<b>67.0</b>					70.0	<b>105%</b>	67.0					70	<b>104%</b>
<b>Te.03</b>	New Water Connections (No.)	<b>5%</b>	<b>28,000</b>	10,805	8,279	9,376	10,152	38,836	<b>139%</b>	28,000	7,216	13,773	10,772	11,480	43,241	<b>154%</b>
<b>Te.04</b>	New Sewerage Connections (No.)	<b>5%</b>	<b>250</b>	157	54	33	67	388	<b>155%</b>	250	62	96	74	86	318	<b>127%</b>
<b>Te.05</b>	Capex Budget Implemented (%)	<b>5%</b>	<b>80.0%</b>					<b>150</b>	<b>188%</b>	80.0%					160	<b>200%</b>
<b>Co. COMMERCIAL</b>																
<b>Co.01</b>	Water Sales Volume Growth (m3 million)	<b>15%</b>	<b>66.8</b>	18.5	18.1	37.1	18.8	74	<b>111%</b>	66.8	19.9	19.8	20.8	20.2	80.15	<b>113%</b>
<b>Co.02</b>	Collection/Billing Ratio (%)	<b>10%</b>	<b>95.0</b>	100	98	97	97	97	<b>102%</b>	95.0	94.00	96.00	95.00	93.00	93	<b>102%</b>
<b>Co.03</b>	Average Days Receivables (days)	<b>5%</b>	<b>80</b>						<b>98%</b>	80					90	<b>109%</b>
<b>Fi. FINANCIAL</b>																
<b>Fi.01</b>	Return On Capital Employed (ROCE)(%)	<b>5%</b>	<b>1.00%</b>							1.00%					6.00%	<b>600%</b>
<b>Fi.02</b>	Operating Cost/Revenue (Work Ratio) (%)	<b>4%</b>	<b>85.0</b>	75	76	79	78	78.2	<b>92%</b>	85	77	74	73	78	78	<b>109%</b>
<b>Qu. QUALITY OF SERVICE AND ENVIRONMENT</b>																
<b>Qu.01</b>	Compliance to Drinking Water Standards (%)	<b>4%</b>	<b>98</b>	97.5	98	98.1	98.2	98.2	<b>100%</b>	98.00	98.50	98.30	98.20	98.20	98.20	<b>100.2%</b>
<b>Qu.02</b>	Compliance to Sewerage Standards (%)	<b>4%</b>	<b>50.0</b>	27.5	39	42.3	45.3	45.3	<b>91%</b>	50.00	50.0	49.40	50.20	48.30	48.30	<b>96.6%</b>
<b>Pp.01 PRO-POOR ORIENTATION</b>																
<b>Pp.01</b>	Pro-Poor Connections Growth	<b>4%</b>	<b>500</b>	153	228	235	289	1,129	<b>226%</b>	500	212	316	310	249	1087	<b>217%</b>
<b>Tg. TRANSPERANCE AND GOVERNANCE</b>																
<b>Tg.01</b>	Audit Recommendations implemented (%)	<b>4%</b>	<b>80.0</b>	71	74	86.0	92	91.5	<b>114%</b>	80.0	74.00	76.53	77.90	89.30	85.74%	<b>107%</b>
<b>Cu. CUSTOMER FOCUS AND CARE</b>																
<b>Cu.01</b>	Customer Satisfaction Index (%)	<b>4%</b>	<b>70.0%</b>							70.0%					84%	<b>120%</b>


Appendix 2: Water shortage in Isingiro district

AC/SUM  
Eng. Herbert N  
Pse study & Deal.  
16/07/2017

 **KABEREBERE TOWN COUNCIL**  
**ISINGIRO DISTRICT**  
P.O BOX 1561, MBARARA



OFFICE OF LC3 CHAIRPERSON  
TEL: 0772-918046



The Ministry of Water and Environment,  
Directorate of Water Development,  
**Attn:**  
Commissioner, Urban Water & Sewerage Services,  
Kampala.


**RE: SEVERE WATER SHORTAGE IN KABEREBERE TOWN COUNCIL.**  
Reference is made to the above subject matter. As you are aware, a tap water supply system was constructed by your Ministry and later handed over to National Water and Sewerage Corporation for operation and maintenance in 2004.

During the beneficiary community sensitization meetings, the general public was informed that tapping could only be made on the return supply pipe line. I'm aware that tapings have been made on the transmission pipeline from Mbarara to Kaberebere reservoir tank. As a result, supply is only consistent to those tapping from the transmission pipeline and a few on the return pipeline in low lying areas.

I have received several appeals and complaints from the community about the inconsistent water supply and of late total failure to supply water. One of the complaint letters is hereto attached. The only bore hole with useful water is over stretched and the mini gravity flow scheme in the area is dilapidated and non functional. The small Water ponds have dried up.

The purpose of this letter is to request for your ministry's intervention to address the community concerns by installing motor pump and storage facility at the bore hole, to meet the overwhelming need for water.

Yours faithfully,  
KAJUMBA PATRICK  
LC 3 CHAIRPERSON



CC: Member of Parliament - Isingiro North  
CC: Town Clerk - Kaberebere.  
CC: District Water officer - Isingiro.