



# IMPACT

## A Performance Review of Kenya's Water Services Sector 2013 - 2014

ISSUE NO. 8/2015



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A Performance Review of Kenya's  
Water Services Sector 2013 - 2014

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**WATER SERVICES REGULATORY BOARD**

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A woman with her arms outstretched, standing on rocks by a lake with mountains in the background. She is wearing a white t-shirt and dark pants. The background shows a large body of water and a range of mountains under a clear sky.

***Our Vision***

To be a Model Regulator of Water Services

***Our Mission***

To Regulate Water Services in Line with  
the Human Right to Water and Sanitation

***Our Motto***

Water Services for All

## FOREWORD

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### Performance the best way of debunking fallacies about water...



A new water culture is desirable to deal with the numerous challenges the sector faces today. Writing in the year 2001, Jean Margat says there are three deeply rooted ideas about water that are inherently false: that water is unlimited and inexhaustible; that water has an essentially purifying function; and finally, that water is looked upon as a gift from heaven, in both the literal and metaphorical sense, and is therefore necessarily free. In *Towards a New Water Culture*, Margat says we must break with these preconceptions because water resources are neither unlimited nor invulnerable. I could not agree more.

The demand for water services continues to increase, driven by the growing population, urbanisation, and climate change. Climate change puts a strain on water availability. Thus, water resources are exhaustible. To improve access, we have to start by recognizing this challenge.

Water cannot be a gift from heaven... all of us need to work to make it available. Thus, it cannot be free. The inclusion of the right to water and sanitation in the Constitution of Kenya puts demands on all actors to deliver on their obligations. The actors in the achievement of the right to water and sanitation are the State, sector institutions and consumers, all of who are expected to fulfil their obligations. Therefore the two levels of government (National and County) have to create an enabling environment for development towards the realisation of this right guided by Article 189 of the Constitution. The institutions responsible for the provision of water services are expected to deliver services efficiently and effectively to ensure progress towards the achievement of the right to water. In a word, we have to work.

*Impact Report* promotes this work. In the current issue, we observe that there has been scanty improvement in water coverage as the main indicator but this is attributed to factors of population growth, which have already been highlighted. The report shows that the attainment of national targets for water continues being a challenge and innovative approaches are required to improve access levels. Huge capital expenditure and prudent investment will be required to meet both national and global targets.

Amidst this scarcity, it is appalling that we continue recording water losses on our gauge. Though Non-Revenue Water has reduced mildly, this indicator continues to pose a challenge to the sustainability of the sector. What is needed is increased efficiency in the utilization of investments and the operations of the sector.

Finally, the reason for water not being free is that the service has to be sustainable. Wasreb has been preoccupied with seeing that institutions operate on appropriate tariffs to make them sustainable. Ensuring utilities are able to cover their costs is important in facilitating the expansion and long-term sustainability of water services. The bottom line, however, is that these issues are funded by the consumer, who has to be assured of service improvement and value for their money.

It is therefore important that the sector embraces a performance-based culture so that we can be accountable to those we serve. The results depicted in this report should be scrutinised by the public with the intention of putting demands for better performance from Utility Boards and management.

I would like to congratulate utilities who have shown improvement in performance. I hope the gains and momentum realised by the reforms will be built on and sustained by County governments.

Stakeholders are invited to use the information provided in this report to deepen transparency and accountability in the management of the water services sector and, more importantly, articulate the fact that rights come with responsibilities. In my view, this is the only way we can operationalize Article 10 of our Constitution.

**Eng. Robert Gakubia**  
**Chief Executive Officer**





## **CHAPTER ONE: BACKGROUND**

*Water is an essential part of  
the world we want to live in*

# 1 BACKGROUND

## Progressive goals at global and national levels



Water and sanitation are important agenda for nations all over the world. Water that is clean, available and accessible is an essential part of the world we want to live in. However, due to bad economics or poor infrastructure, millions of people die from diseases associated with inadequate water supply, poor sanitation and low hygiene. Water scarcity, poor water quality and inadequate sanitation negatively impact on food security, livelihood choices and educational opportunities for families across the world.

Year 2015 was the period earmarked by world nations for the achievement of the Millennium Development Goals (MDGs). The target for water for this year was to reduce by half the number of people without access to safe water and basic sanitation. According to the United Nations *Millennium Development Goals Report 2015*, the MDG target for drinking water was met five years ahead of schedule in most parts of the world except Sub-Saharan Africa. Today, 91% of the global population are using improved drinking water sources against a target of 88%. The global target for sanitation has however been missed by almost 700 million people with the 2015 attainment being 68% against an MDG target of 77%.



In September this year, the United Nations summit voted for the post-2015 development agenda which adopted 17 Sustainable Development Goals to guide global development efforts for the next 15 years. Water and sanitation targets are captured in Goal number 6 which seeks to “Ensure access to water and sanitation for all”.

The goal sets the following targets:

- By 2030, achieve universal and equitable access to safe and affordable drinking water for all
- By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
- By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
- By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
- By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
- By 2030, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
- By 2030, expand international cooperation and capacity-building support to developing countries in water and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
- Support and strengthen the participation of local communities in improving water and sanitation management.

## 1.1 National goals

National goals for water and sanitation are captured in various policy instruments namely the Kenya Constitution, the Vision 2030 document, and the National Water Services Strategy.

The Kenya Constitution entrenches the water and sanitation in the Bill of Rights, effectively making them human rights. The attainment of these rights depends on the State, its institutions and the people. Therefore, both National and County governments have to create an enabling policy framework for the attainment of this goal. Institutions charged with service delivery are obliged to deliver services efficiently and effectively. Both the State and its agents have an obligation to document progress towards the achievement of the rights. The people, as consumers of the rights, have the obligation to pay a justified price for services and protect the infrastructure that facilitates efficient service provision.

### **The Kenya Constitution**

- *Every person has the right to accessible and adequate housing and to reasonable standards of sanitation*
- *Every person has the right to clean and safe water in adequate quantities*

### **Vision 2030 Goals**

- *To ensure water and improved sanitation availability and access to all by 2030*

### **Vision 2030 Targets for 2015**

- *80% access to safe and reliable water for urban areas*
- *75% (access to safe and reliable water) for rural areas*
- *Reducing levels of unaccounted-for water to below 30%*
- *77.5% and 72.5% access to safe sanitation for urban and rural households*
- *40% and 10% sewerage access for urban and rural areas*

**Unbundling the right to water**

The right to water implies the following:

- Physical access (non-discriminatory) to a water outlet in urban areas with a 30-minute cycle and in rural within a distance of 2 km
- Sustainability of access (water resources, asset resilience, O+M cost coverage)
- Acceptable water quality
- Affordability (regulated but not more than 5% of household income as maximum)
- Reliability (> 12 h as minimum service hours)
- Right to have complaints resolved (participation / access to standardised complaint mechanism)
- Transparency and accountability (access to sector information)

**The right to sanitation means**

- Physical access to an acceptable toilet (household, public, working place, recreational facilities, learning institutions)
- Storage, collection and treatment of human and other waste
- Evacuation of treated effluent according to minimum standards
- Clean environment free of solid, liquid and gaseous wastes

Thus, national goals on water and sanitation will be achieved through combined efforts between the State and the people (consumers). In this context, the activities of the Regulator and water utilities, both in urban and rural areas, play a key role in the attainment of the right to water and sanitation.

**1.2 Regulatory actions**

The Water Act 2002 vests the regulation of water services to the Water Services Regulatory Board, Wasreb. As the national Regulator, Wasreb oversees the implementation of policies and strategies relating to the provision of water and sanitation services. In this regard, Wasreb monitors and regularly reports on the performance of utilities and Water Services Boards (WSBs).

Under the framework set by the national government, which is responsible for policy and regulation; and by County governments, who are in charge of service delivery through agents, the realisation of the right to water and sanitation has the following implications for Wasreb:

- Applying standards in the provision of water and sanitation services nationally through utilities, in urban areas, and community management, in rural areas
- Phasing out informal service provision for the urban setting and replacing them with formal service provision
- Introducing standards for infrastructure development and for community management in rural areas
- Promoting efficiency in the management of water services, through WSBs, County governments and utilities, so that water can be provided at the lowest possible cost
- Working to ensure service provision is sustainable
- Taking responsibility of monitoring WSBs, utilities and community managed operators, who are accountable to County governments, and institutions at the national level under the parent ministry
- Protecting consumers and providers through a formalised complaint management system
- Providing information on access and service delivery to decision makers and the public

Thus, a sound regulatory framework is central for the continued improvement of utility performance. In fulfilment of this role, the following actions have been undertaken by the Regulator.

### **(a) Review of utility service areas**

Service areas for 41 utilities within the Very Large and Large categories have been reviewed and redesigned to ensure conformity with the Regulator's reporting framework and, more importantly, ensure services are provided efficiently and sustainably. The outputs of this exercise are digital maps of utilities; a list of all sub-locations linked to the service area; a list of sub-locations with low income areas (verified with MajiData). The goal of Wasreb is to ensure that all the Very large, Large and Medium utilities are mapped as a priority.

### **(b) Implementation of part-time inspectors programme**

To strengthen its monitoring role, Wasreb has been exploring the idea of engaging external persons as inspectors on a part-time basis. This initiative has been piloted in 12 utilities and is currently being scaled up. The goal of the Regulator is to build this pool of professionals to improve the reach to WSBs and utilities.

### **(c) Enhancement of consumer engagement**



Wasreb has scaled up the Water Action Groups (WAGs) mechanism to cover a total of 18 utilities from the previous nine utilities. The mechanism, whose objective is to facilitate public participation in water issues, now requires utilities to take full responsibility for convening public engagement forums as per the Consumer Engagement

Guideline. Similarly, the e-complaints management system, *MajiVoice*, has been rolled out to five utilities, with more targeted in future.

### **(d) Review of tariffs**

The tariff for the country's largest utility, Nairobi Water Company, has been reviewed, in addition to others, to help finance investments and improve service delivery. The new tariff will run till year 2018. During the tariff period, Nairobi Water will be expected to meet a number of performance targets. Key among them is increasing water coverage to 79% and reducing Non-Revenue Water (NRW) to below 30%. The Nairobi County Government is expected to monitor the use of funds provided for in the tariff for investment.

A total of 33 utilities spread across the country are currently operating under cost-reflective tariffs.

### (e) Implementation of sewerage levy



The National Water Master Plan seeks to have sewerage systems developed in 95 out of the 215 urban centres at an estimated cost of Ksh 476.5 billion by 2030. Out of this, Ksh 17.5 billion is to be invested in rehabilitating existing sewer systems whilst Ksh 458.9 billion is to be utilised in the development of new sewer systems. The investment in new sewer systems is expected to raise operations and maintenance costs to Ksh 25.1 billion within the period. The financing requirement for this period is therefore in excess of Ksh 500 billion out of which only

Ksh 31 billion has been identified under the sector investment plan to fund the sanitation programmes over the period. This means there is a need to look for other sources of financing, rather than solely relying on government funding and donor aid to avoid scaling down capital investment programs. In addition, investments should look at a mix of off- and on-site technologies to fast track access.

Arising from this realisation, Wasreb undertook a study on how to bridge the funding deficit. The study proposes the establishment of a ring-fenced account receiving revenue from a sewerage levy of 5% to be imposed on the water bill. The 5% levy is based on affordability studies and is expected to raise Ksh 750 million annually. The implementation of the levy is awaiting stakeholder consultation.

### (f) Development of investment planning guidelines

Wasreb has developed Investment Planning Guidelines to guide the deployment of resources by WSBs. This is expected to guide the strategic planning of the Boards and improve the manner in which the vision of the sector is cascaded from policy to implementation.

### (g) Engagement of County governments

Understanding the scope of economic regulation, by Wasreb, and quality of service regulation, by the County governments, remains critical to the provision of water services. Wasreb plans to engage County governments to enhance common understanding on a number of issues relating to water service provision including service obligations, planning and investments, monitoring and enforcement, and institutional roles and partnerships.

## **CHAPTER TWO: SECTOR DEVELOPMENT**

*The sector has seen increased funding for infrastructure development and improvements have been realised in service provision*

## 2 SECTOR DEVELOPMENT



### Yes, there is progress but yes, it can be better

The development of the water and sanitation sector depends on three crucial elements namely the investment level, the performance of providers and the orientation towards demand, seen in terms of service improvement to the poor. There is no doubt that the deterioration of service standards witnessed in the pre-reform years has greatly been reversed. The sector has also seen increased funding for infrastructure development, and improvements have been realised in service provision, with marked orientation towards the underserved and the Low income areas (LIAs). Nevertheless, national goals set under Vision 2030 have by far not been achieved.

### 2.1 Progress in investments

According to the *Annual Water Sector Review 2013/14*, investments in urban water and sanitation amounted to Ksh 12 billion in 2013/14 compared to an investment need of around Ksh 75 billion annually (Ksh 33 billion for water and Ksh 42 billion for sanitation). Funding for infrastructure development is therefore insufficient. Though investments through WSBs and the Water Services Trust Fund (WSTF) increased almost four fold in the period 2007/8 and 2013/14, they covered not more than 12% of the needs stated in the “Strategic Investment Plan for the Water and Sanitation Sector in Kenya 2014”. The overwhelming dependency on development partners with over 94% of the total investment funds provided in 2013/14 and the continuing existence of many unviable small scale utilities do not augur well for the sector.

### 2.2 Progress in serving the poor

There are approximately 2,000 LIAs in the country with an estimated population of close to 8 million. With growing urbanisation, there is an influx of more than half a million people in towns every year. Today, the water sector has a challenge of providing services to nearly 10 million underserved communities living in densely populated low-income urban areas. These millions of underserved people pay much

#### Urban setting:

*Urban water supply and sanitation requires a specialized and professional organization to manage industrialised production of water, sewerage and decentralised sludge management; a licensed utility.*

#### Rural setting:

*Rural water supply and sanitation service provision can be managed by a formalised service provider for point sources (water) and on-site sanitation without the need for sophisticated sludge management.*



higher prices for water than consumers with household connections. In the absence of an outlet from a registered utility, the water supplied by informal water service providers to this portion of the population is of doubtful and uncontrolled quality. To reach these people adequately, the sector should embrace the use of low-cost solutions such as yard taps, water kiosks and onsite sanitation solutions.

## 2.3 Improvements in service provision

### 2.3.1 The right to water

There has been progress in the attainment of the right to water with a five percentage point improvement in access in the last five years as illustrated in table 2.1.

*Table 2.1: Rights attainment*

Criteria for right to water	Development (5 years after reforms)	Status 2013/2014	Comments
Access to water	48%	53%	Improvement of utility, little progress in replacing the informal
Access to sewerage	19%	16%	Insufficient funding Rapid urbanization
Sustainability of service provision – O+M cost coverage	131%	100%	Recognition of all O+M costs
Water quality standards – compliance with bacteriological and residual chlorine standards	90%	91%	GWQEM implementation in progress
Affordability	No increase since regulation in place	Ksh 2 regulated tariff at kiosk for 20lt container, Ksh 300 monthly for households of 5	Price at kiosks not sufficiently monitored by utilities
Efficiency	11 staff per 1,000 connections; 123 utilities	7 staff per 1,000 connections; 91 utilities	Improvement – decreasing no. of utilities, increasing number of Very Large and Large utilities
Reliability	16h	17h	Slight improvement, however there is need for disaggregation of data to ensure reporting on LIA
Complaint mechanism/ Participation	4 WAGs	Formalised and monitored for all utilities, 8 WAGs in place.  MajiVoice in 5 utilities	Improved WAGs and MajiVoice to be scaled-up
Transparency / accountability	WARIS V.1, 2008	WARIS V.3 information system, online	Improved data quality Increase in number of reporting utilities Enhanced inspections of utilities More utilities operating on justified tariffs
Collection, transport and treatment of effluent	Utilities only focused on sewer in the past	Program to support utilities to cater for onsite sanitation commenced	Reporting to be gradually improved

### 2.3.2 Meeting Vision 2030 targets

While most of the Vision 2030 targets have not been met, there has been some progress nonetheless. The sector, however, falls short of most of the targets set in the National Water Services Strategy for the year 2015.

*Table 2.2: Status of national goals*

Indicator	Categorization	Status 2013/14	Goals 2015 (NWSS)	Goals 2030 (Vision 2030)
Water Coverage	Urban	53%	80%	100%
	Rural	49%	75%	100%
Sewerage	Urban	16%	40%	100%
	Rural	0%	10%	100%
NRW	Urban and Rural	42%	<30%	25%
Cost coverage	Urban and Rural	100% O+M	100% O+M	Full cost recovery

When the goals of Vision 2030 were articulated, none of the new systems elaborated during the first years of reforms (MajiData, WARIS, WSTF-IS) were in place. This explains the selection of goals which, seen from the point of improved data, might not be achievable. This becomes very obvious for instance in the case of access to sewerage. Despite the rapid urbanisation, investments in sewer systems are minimal. This explains the decline in the access rate, which is contrary to the Vision 2030 goal to double sewerage access rate from 16% to 40% by 2012.

### 2.3.3 Performance of utilities

Utility performance is crucial in efforts toward the achievement of the human right to water.



The performance of utilities in the period 2013/14 as well as the previous reporting period (2012/13) is given in Table 2.3.

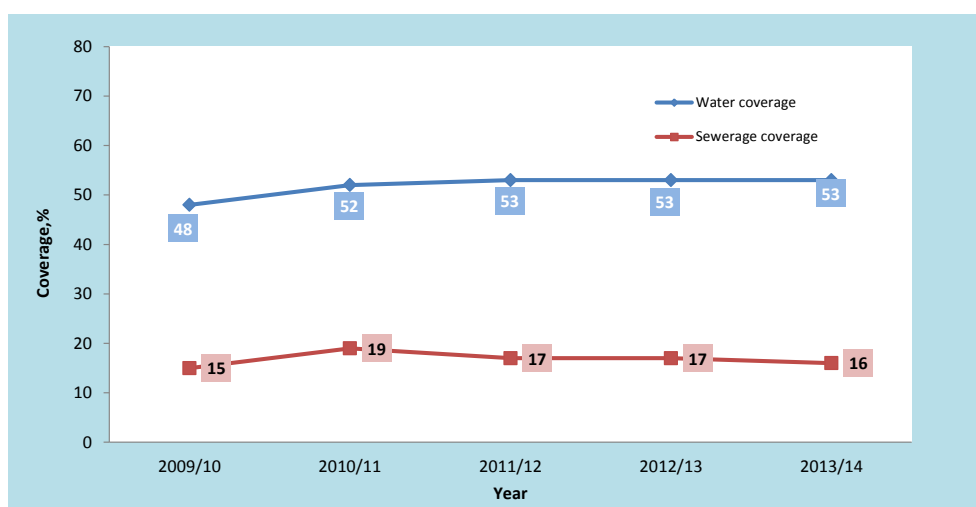
**Table 2.3: Progress on key performance indicators**

Key Performance Indicators	2012/13	2013/14	Trend
Water Coverage, %	53	53	→
Drinking Water Quality, %	92	91	↓
Hours of Supply, hrs/day	17	18	↑
Non- Revenue Water, %	43	42	↑
Metering Ratio, %	87	89	↑
Staff Productivity, Staff per 1000 Connections	7	7	→
Personnel expenditure as % of O+M Costs, %	43	42	↑
Revenue Collection Efficiency, %	85	93	↑
O+M Cost Coverage, %	113	100	↓
Sewerage, %	17	16	↓
Sector Benchmarks: <span style="color: green;">■</span> good <span style="color: yellow;">■</span> acceptable <span style="color: red;">■</span> not acceptable <span style="color: orange;">■</span> benchmark varies			

Water coverage has remained stagnant in the face of pressure exerted by a growing population, implying the need for more investment. The state of water coverage implies the target of 80% coverage by 2015 set by the National Water Services Strategy (NWSS) is beyond reach. A gloomier picture is seen in access to sewerage services where coverage levels remain static at an average of 17% within the last four years (figure 2.1). To achieve the sector targets under the National Master Water Plan (2030), increased financing is required.

It is, however, commendable that hours of supply have improved, implying a commitment by providers to serve their consumers better.

**Figure 2.1: Trend in Water and Sewerage coverage**



**(a) Ranking of utilities**

In the year 2013/14, utilities were ranked on the basis of the nine KPIs. These are:

- Water Coverage
- Drinking Water Quality
- Hours of Supply
- Non-Revenue Water
- Metering Ratio
- Staff Productivity
- Revenue Collection Efficiency
- O+M Cost Coverage
- Personnel Expenditure as a % of O+M costs

The best performing utility for the seventh year in a row was Nyeri while the lowest-ranked utility was Olkejuado. Having complied with corporate governance guidelines, Nakuru and Kisumu were now ranked, unlike the previous year where they missed out.

Utilities were also assessed based on a cluster of indicators namely Quality of Service (Water Coverage, Drinking Water Quality, Hours of Supply); Economic Efficiency ( Staff Cost, Cost Coverage, Revenue Collection Efficiency) and Operational Sustainability ( Non-Revenue Water, Staff Productivity, Metering Ratio) as indicated in Annexes 2, 3 and 4.

With regard to the cluster of indicators, the following were the best performers:

- Quality of Service – Thika
- Economic Efficiency – Nyahururu
- Operational Sustainability – Nyeri

**Table 2.4: Top and worst performing utilities**

TOP TEN UTILITIES			BOTTOM TEN UTILITIES		
Rank	WSP	Score (max 200)	WSP	Rank	Score (max 200)
1	Nyeri	172	82	Imetha	32
2	Thika	149	83	Mikutra	32
3	Meru	138	84	Tavevo	30
4	Nithi	132	85	Nyandarua	28
5	Nakuru	127	86	Moyale	22
6	Eldoret	126	87	NolTuresh Loitokitok	21
7	Karimenu	123	88	Nakuru Rural	21
8	Kisumu	121	89	Rumuruti	18
9	Ruiru Juja	117	90	Mombasa	18
10	Nairobi	115	91	Olkejuado	12

Good performance is an indication of efforts on the part of the utilities to realise the human right to water and sanitation. Poor performance on the other hand is a major setback towards the achievement of the human right to water and sanitation. Wasreb recognizes utilities that have shown significant performance improvements despite not making it to the top, and exposes utilities which have slackened in performance. To illustrate this, utilities are also ranked based on performance over the two last reporting periods.

Table 2.5 indicates the top 10 improvers as well as the bottom 10 losers, including privately-owned utilities, between the two reporting periods.

**Table 2.5: Top improvers and bottom losers**

TOP TEN IMPROVERS				BOTTOM TEN LOSERS			
WSP	Score 2012/13	Score 2013/14	Scores (+)	WSP	Score 2012/13	Score 2013/14	Scores (-)
Embe	53	106	53	Garissa	101	61	-40
Githunguri	57	94	37	Gusii	80	40	-40
Othaya Mukurweini	61	89	28	Wote	75	33	-42
Kiambu	62	89	27	Mombasa	62	18	-44
Isiolo	87	111	24	Muthambi 4K	147	99	-48
Nyasare	58	80	22	Mwala	81	33	-48
Kitui	76	98	22	Namanga	111	63	-48
Matungulu Kangundo	40	58	18	Murang'a	129	79	-50
Sibo	65	83	18	Imetha	84	32	-52
Ngagaka	95	111	16	Engineer	117	53	-64

**(b) Ranking of Water Services Boards**

Water Services Boards are ranked on the basis of investment, financial, and qualitative cluster of indicators. These indicators measure the impact of investments, operational efficiency and viability, as well performance in respect to the mandate of WSBs as licensed asset holders and principals of the utilities.

Table 2.6 shows the WSB performance ranking for 2013/14. Tana retained the first position. None of the WSBs managed to score at least 50% of the possible maximum score. There was a general decline in performance for all the WSBs except Lake Victoria South and Northern.

**Table 2.6: WSB performance ranking**

WSB	Score 2012/13 (Max 110)	Score 2013/14 (Max 110)	Change in Scores
Tana	55	48	-7
Northern	46	46	0
Athi	54	44	-10
Lake Victoria North	44	37	-7
Rift Valley	38	36	-2
Lake Victoria South	28	30	2
Tanathi	27	22	-5
Coast	23	22	-1

Table 2.7 presents the rating of the WSBs with respect to WARIS data submission on the basis of timeliness and accuracy. Compared to the previous year, Lake Victoria South and Tanathi improved their performance to good and satisfactory levels respectively. Athi on the other hand declined from good to satisfactory.

**Table 2.7: Ratings of WSBs according to data submission by utilities**

WSB Data submission rating	2012/13	2013/14
Good (>80%)	Tana, Athi	Tana, LVS
Satisfactory (>65 - 79%)	RV, LVS, Northern	RV, Northern, Tanathi, Athi
Fair (50 - 64%)	LVN, Tanathi	LVN
Poor (<49%)	Coast	Coast

### 2.3.4 Situation of water services in Counties

The status of water services in Counties is presented in terms of the proportion of the County population living within the service area of the WSPs in the County. This proportion varies from a low of 7% (Narok and Turkana) to a high of 97% (Nairobi and Mombasa). The aggregated performance of the County looks at two quality of service indicators (Water Coverage and Hours of Supply) as well as four commercial sustainability indicators (O+M Cost Coverage, unit cost of water produced, unit operating cost of water billed and average tariff). The summary data for all 47 Counties is presented in Annex1: General data on Counties.

All Counties have formal utilities either at County or Cross County level. However, for Bomet, Mandera, Tana River and Wajir Counties, data on utilities was not available for aggregation. In 29 of the Counties, more than 50% of the population lives outside areas served by formal utilities. Discrepancy in the population served by formal utilities is largely due to different degrees of urbanisation in the Counties.

There are also significant disparities as well in regard to the right to water and sanitation. In Water Coverage for example, the highest coverage is in Laikipia at 86% while the lowest is Vihiga at 15%. In 20 out of the 44 Counties that provided data, less than 50% of the population receive services from commercial utilities.

Performance on Hours of Supply looks better with 34 Counties (79%) reporting an average of at least 12 hours of supply. Lamu and Mombasa are the only Counties that fall below the acceptable threshold.

Non-Revenue Water presents a huge challenge in most Counties. In six Counties, water losses equal or exceed water sales (i.e. for every litre sold, one litre or more is lost on the way).

Financial sustainability presents a challenge as well. More than half of the Counties have utilities that cannot meet their operational costs, meaning that they are not sustainable.

## **CHAPTER THREE: DETAILED PERFORMANCE REVIEW**



*The quality of data used in performance analysis of commercialised utilities is the most important ingredient in enhancing the credibility of Impact Report*

## 3 DETAILED PERFORMANCE REVIEW

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### For sector growth, low income areas must be targeted



#### 3.1 Introduction

Utility performance and the orientation towards demand, particularly that of the poor, are important facets in policy setting, regulation, planning and monitoring. The growth of the water services sector must be based on a sound review of the prevailing situation (where we are), proper goal setting, and proper evaluation and monitoring of the same.

Benchmarking and performance ranking represent regulatory tools to instill continuous performance improvements through competition. Benchmarking increases transparency while holding utilities and asset holders (WSBs) to account by evaluating, tracking and publishing their performance against set sector benchmarks. Performance ranking as well spurs competition between utilities (and asset holders) by scoring, comparing and publishing their performance for a given period. Benchmarking and performance ranking together drive utilities to improve service delivery for universal access and improved service quality in order to realise the rights of consumers.



*Impact* is Wasreb's tool for performance reporting. It analyses providers based on nine Key Performance Indicators (KPIs). These are Water Coverage, Drinking Water Quality, Hours of Supply, Non-Revenue Water, Metering Ratio, Staff Productivity, Revenue Collection Efficiency, O+M Cost Coverage, and Personnel Expenditure as a % of O+M Costs.

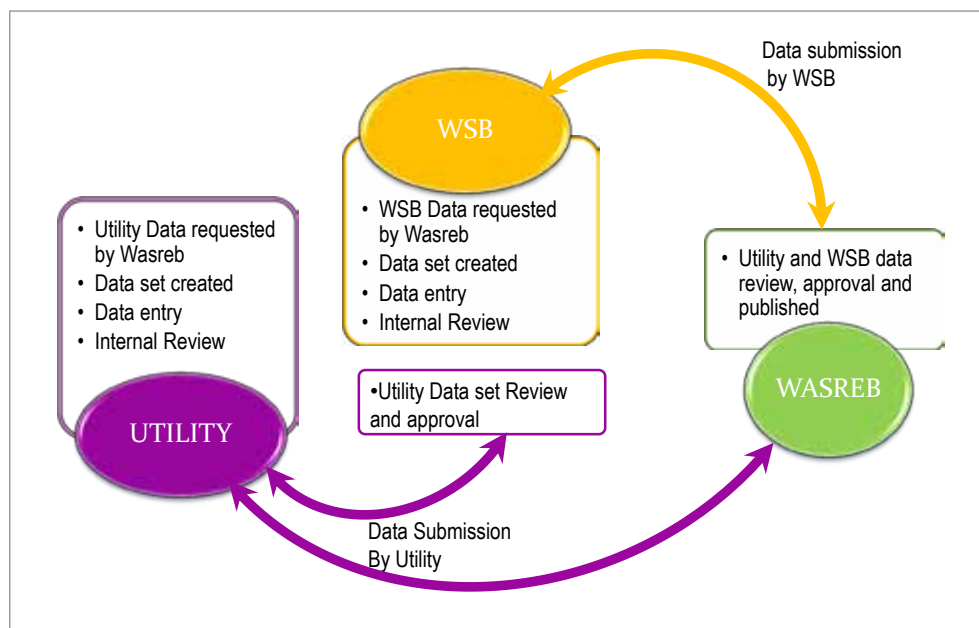


### 3.2 Data collection

Information used for performance analysis is collected through the Water Regulation Information System (WARIS). Through the system, Wasreb makes requests for data submission from the utilities and WSBs. The data undergoes a verification process within the utilities and WSBs. Thereafter all the data is submitted to Wasreb for review and approval.

The data is further corroborated by inspection reports, tariff information and annual licensee reports before it is analysed and published. In cases where cross checks show data inconsistency, utilities and WSBs are contacted directly to confirm the accuracy or make the necessary corrections.

**Figure 3.1: Data Collection Cycle**



### Compliance with data submission requirements

For the period under review, 91 commercialised utilities submitted data for analysis. Compliance with data submission dropped from a peak of 99% in the last two years to 92%. This is partly attributable to inadequate capacity within the small utilities to utilise WARIS V 3.0 for reporting. WARIS has recently been upgraded from a desktop data system to a web-based system. Compared to the year 2012/13, the number of commercialised utilities dropped from 101 to 99 as a result of clustering. For example, Gulf Water Company was merged with Kisumu, while Nyanas was partly merged with Kisumu and Kapsabet Nandi.

The utilities who did not submit data are Upper Chania, Kinja, Tia Wira and Gitei from Rift Valley; Mandera from Northern; Hola Tana River from Coast; and Kathita Kiirua and Ruiru Thau from Tana.

**WARIS has recently been upgraded from a desktop data system to a web-based system – WARIS V 3.0.**

#### WARIS V 3.0 features

- Accessible online
- Offline data entry also possible
- One central shared database
- Easy to use with improved user interface
- Different access levels and roles
- Enhanced reporting features
- Data protection and integrity is maintained
- Provides audit trail and track changes and edits
- Improved validation checks and quality assurance

**Table 3.1: Trend in data submission by utilities**

	Impact 1		Impact 2		Impact 3		Impact 4		Impact 5		Impact 6		Impact 7		Impact 8			
	2005/6		2006/7		2007/8		2008/9		2009/10		2010/11		2011/12		2012/13		2013/14	
Status of data submission	No. of WSPs	%	No. of WSPs	%	No. of WSPs	%	No. of WSPs	%	No. of WSPs	%	No. of WSPs	%	No. of WSPs	%	No. of WSPs	%	No. of WSPs	%
Complete	25	28	55	47	72	59	77	62	90	87	100	96	102	99	100	99	91	92
Incomplete	33	36	13	11	12	10	13	11	6	6	0	0	0	0	0	0	0	0
Non-Submission	33	36	50	42	38	31	34	27	8	7	4	1	1	1	1	1	8	1
Total	91		118		122		124		104		104		103		101		99	

Table 3.2 on the next page looks at general factors in these utilities that have a bearing on their performance.

Table 3.2: General data on utilities

UTILITY	Total Population in Service Area	Total Population served	Total no. of connections (active+inactive)	Total no. Active Connections	No. of towns served	Turnover (Ksh million)	Total Water Produced in m <sup>3</sup> (000)	Domestic + Kiosks billed volume in m <sup>3</sup> (000)	Total billed volume in m <sup>3</sup> (000)	Non-Revenue Water (%)	Production per capita (l/c/d)	Consumption per capita (l/c/d)	No. Of Total Staff	Validity of tariff as at June 2014
<b>Very Large WSPs (≥35,000 connections)</b>														
Nairobi	3,723,913	2,963,231	522,141	522,141	6	6,890	201,782	26,678	123,260	39	187	25	2,785	Expired RTA
Eldoret	394,991	276,914	91,135	73,112	1	462	10,822	5,594	7,047	35	107	55	252	Valid
Mombasa	1,043,785	596,739	75,076	43,337	1	887	15,341	5,026	7,982	48	70	23	405	Valid
Nakuru	446,850	409,045	53,587	47,576	1	624	12,613	5,839	8,600	32	84	39	241	Valid
Thika	209,180	201,288	44,084	38,682	1	491	11,014	4,135	7,544	32	150	56	216	Valid
Kisumu	404,097	256,364	36,935	42,839	1	452	7,733	1,765	4,459	42	83	19	274	Valid
Kakamega Busia	401,781	288,171	35,239	28,342	4	231	4,614	2,433	2,806	39	44	23	127	Valid
<b>Large WSPs (10,000-34,999 connections)</b>														
Nzoia	405,807	325,791	34,271	30,033	4	272	6,186	1,713	3,808	38	52	14	198	Expired RTA
Nyeri	146,311	124,294	33,955	29,534	1	392	5,329	3,005	4,334	19	117	66	108	Valid
Kirinyaga	437,443	116,178	25,871	15,284	5	111	5,569	1,643	1,883	66	131	39	139	Valid
Othaya Mukurweni	176,850	121,588	25,195	14,999	3	85	6,059	1,830	2,202	64	137	41	109	Valid
Malindi	286,329	236,978	22,277	18,594	2	381	6,587	3,589	4,602	30	76	41	139	Valid
Embu	178,910	110,153	21,405	19,800	1	281	6,579	2,380	4,235	36	164	59	97	Valid
Mathira	148,757	23,844	21,212	9,097	1	90	4,333	796	1,514	65	498	91	74	Valid
Kilifi Mariakani	799,788	315,980	20,896	15,517	4	401	6,902	3,458	3,844	44	60	30	158	Valid
Meru	133,461	78,643	20,826	19,438	1	136	2,382	13,973	1,703	29	83	487	80	Valid
Gatundu South	144,706	108,897	20,190	17,046	5	64	3,836	1,661	2,071	46	97	42	86	Expired ETA
Nakuru Rural	446,831	107,035	20,179	8,467	4	155	8,369	1,309	3,009	64	214	33	139	Expired RTA
Kericho	171,510	96,095	19,896	16,361	1	160	2,934	1,267	1,614	45	84	36	136	Expired RTA
Gusii	704,936	253,022	19,390	16,393	7	86	2,088	905	1,093	48	23	10	119	Expired ETA
Murang'a South	473,354	162,120	19,335	15,446	4	62	6,498	1,990	2,091	68	110	34	119	Valid
Nanyuki	86,768	80,571	18,945	18,847	1	239	3,987	1,379	2,595	35	136	47	78	Expired RTA
Kahuti	156,696	74,758	18,158	8,966	6	53	3,414	1,114	1,503	56	125	41	88	Expired RTA
Tetu	74,704	52,864	14,313	13,794	8	52	2,345	1,376	1,437	39	122	71	79	Valid
Tavevo	61,967	37,601	12,777	7,077	2	114	2,885	1,293	1,632	43	210	94	85	Expired ETA
Nyahururu	73,798	57,780	12,449	11,318	2	160	2,146	1,267	1,092	49	102	60	96	Valid
Murang'a	78,656	54,298	12,244	10,662	1	94	1,677	727	1,084	35	85	37	91	Valid
Imetha	143,587	37,333	12,000	4,220	7	38	1,757	2,615	668	62	129	192	114	Expired ETA
Kwale	294,155	194,092	11,820	7,178	5	99	2,189	1,137	1,479	32	31	16	133	Valid
Ruiru Juja	184,217	122,354	11,733	11,529	3	124	2,200	823	1,565	29	49	18	47	Expired RTA
Sibo	408,767	119,007	11,137	5,112	9	51	2,058	626	972	53	47	14	81	Valid
Garissa	147,512	90,663	10,842	10,752	2	146	5,135	2,225	2,962	42	155	67	112	Expired RTA
Ngandori Nginda	94,568	58,104	10,621	8,168	11	34	3,650	1,107	2,096	43	172	52	52	Expired ETA
<b>Medium WSPs (5,000-9,999 connections)</b>														
Gatamathi	130,482	40,928	9,419	6,245	10	45	3,110	568	782	75	208	38	58	Expired ETA
Mavoko	182,093	111,132	9,144	8,415	3	177	1,648	632	890	46	41	16	72	Valid
Oloolaiser	286,346	105,330	9,085	6,126	4	109	2,336	1,218	1,337	43	61	32	95	Valid
Gatanga	122,799	53,031	9,018	6,233	12	35	2,345	786	1,282	45	121	41	38	Expired ETA
Kikuyu	287,919	98,413	8,989	5,533	4	63	1,444	711	785	46	40	20	55	Expired RTA
Ngakaka	72,003	66,188	8,941	5,899	13	28	1,202	462	553	54	50	19	41	Expired ETA
Machakos	213,105	114,010	8,815	5,939	1	83	1,081	459	482	55	26	11	60	Valid
Nithi	79,251	60,326	8,563	6,060	14	41	1,187	571	652	45	54	26	48	Valid
Tililbei	178,352	123,762	8,536	3,883	7	31	1,578	270	630	60	35	6	47	Expired ETA
Kitui	722,820	262,457	8,406	7,571	1	105	2,483	586	854	66	26	6	76	Expired RTA
Isiolo	62,421	33,193	8,358	7,156	1	59	1,096	498	712	35	90	41	53	Valid
Limuru	235,245	108,830	7,566	7,259	3	84	1,239	796	843	32	31	20	51	Valid
Kyeni	80,324	15,260	7,365	3,722	16	18	1,040	387	387	63	187	70	30	Expired ETA
Tuuru	305,435	118,878	7,116	3,460	17	25	1,384	424	506	63	32	10	60	Expired ETA
Karimenu	94,346	63,785	6,886	5,779	9	58	3,024	1,477	1,621	46	130	63	49	Expired ETA
Lodwar	64,769	28,770	6,668	6,319	7	41	1,164	106	642	45	111	10	45	Expired RTA
Githunguri	192,879	17,521	6,645	3,243	15	31	900	304	470	48	141	48	36	Valid
Kiambu	98,858	38,453	6,537	5,316	9	78	1,615	998	998	38	115	71	51	Valid
Amatsi	229,092	35,443	6,462	2,523	5	24	1,609	524	928	42	124	41	70	Expired ETA
South Nyanza	124,028	32,727	6,404	5,961	5	23	1,169	309	802	31	98	26	63	Expired ETA
NolTuresh Loitokitok	208,819	31,524	5,517	3,043	4	34	4,563	621	661	86	397	54	88	Expired ETA
Karuri	143,759	82,716	5,157	4,443	1	39	992	618	743	25	33	20	31	Valid
Kibwezi Makindu	277,753	97,760	5,062	4,389	5	44	1,181	719	858	27	33	20	57	Expired RTA
<b>Small WSPs (&lt;5,000 connections)</b>														
Embe	46,510	18,119	4,112	1,993	20	21	815	265	328	60	123	40	24	Expired ETA
Murugi Mugumango	31,950	19,710	4,078	4,036	19	11	2,650	1,411	1,779	33	368	196	29	Expired ETA
Nyandarua	62,483	7,032	4,058	1,601	18	11	348	320	340	2	136	125	34	Valid
Eldama Ravine	35,124	14,634	3,798	1,618	1	14	999	219	305	69	187	41	34	Expired ETA
Lamu	22,085	15,509	3,660	2,595	2	20	526	316	339	36	93	56	32	Expired ETA
Kiambere Mwingi	414,895	59,606	3,094	1,789	1	44	538	234	310	42	25	11	43	Expired RTA
Narok	65,666	21,158	2,639	2,372	1	51	679	180	399	41	88	23	35	Valid
Olkejuado	48,571	3,745	2,634	698	3	8	156	91	124	20	114	66	20	Expired ETA
Naivasha	148,913	103,324	2,634	2,426	3	75	971	179	580	40	26	5	36	Expired ETA
Kapsabet Nandi	55,774	23,116	2,621	2,427	1	18	611	279	371	39	72	33	19	Expired ETA
Kapenguria	76,350	14,504	2,592	1,192	1	8	303	103	215	29	57	20	30	Expired ETA
Mikutra	158,788	20,032	2,514	1,691	3	7	114	35	73	36	16	5	27	Expired ETA
Muthambi 4K	21,804	18,792	2,279	2,277	21	10	753	425	537	29	110	62	17	Expired ETA
Ndaragwa	14,244	11,507	1,956	1,381	23	3	156	50	84	46	37	12	24	Expired ETA
Olkalou	81,913	22,861	1,921	1,233	1	14	181	98	126	30	22	12	13	Valid
Iten Tambach	51,142	9,056	1,888	1,574	2	15	390	173	265	32	118	52	25	Valid
Rukanga	7,627	6,428	1,881	1,734	22	5	360	115	144	60	153	49	17	Expired ETA
Kikanamku	47,896	17,958	1,682	1,399	24	5	392	168	235	40	60	26	11	Expired ETA
Yatta	157,871	15,462	1,668	1,633	1	7	462	138	362	22	82	24	26	Expired ETA
Maralal	39,941	9,249	1,580	1,329	1	13	350	207	210	40	104	61	32	Valid
Namanga	18,490	10,516	1,547	1,474	1	8	376	164	343	9	98	43	11	Expired ETA
Mwala	83,904	15,191	1,448	1,276	1	10	137	37	83	39	25	7	43	Expired ETA
Engineer	16,003	14,204	1,160	1,145	29	2	308	160	160	48	59	31	22	Expired ETA
Mbooni	62,377	13,939	1,135	958	31	3	8	18	22					

It can be discerned that the 91 utilities covered by this report serve a population of 10.5 million people out of a total of 20.5 million within their service areas. The utilities employ more than 9,000 staff and have a turnover of more than Ksh 15.6 billion, up from 14.6 billion in 2012/13. Their total water production increased slightly from 407,630 to 425,769 million cubic meters while NRW decreased marginally from 43% to 42%. This means that more water was available for consumption, hence the increase in service hours from 17 to 18 hours per day.

### 3.3 Classification of utilities

Utilities were classified on the basis of size (number of connections) and ownership structure to ensure fair comparison.

Categorisation by number of connections is relevant because it has a direct correlation to the financial sustainability and human resources capacity of a utility. Using the number of registered connections for both water and sewer, utilities are placed under Very Large, Large, Medium and Small categories (Table 3.3).

**Table 3.3: Categorisation of WSPs by number of connections**

Total registered water and sewerage connections	< 5,000	5,000–9,999	10,000–34,999	≥ 35,000
Size category	Small	Medium	Large	Very large

The second category considered that utilities are either publicly or privately owned (Table 3.4). The two face different constraints and require different incentives with respect to regulation. Public utilities serve a wide range of customers from high to low-income, whereas privately owned utilities have a more homogeneous medium- to high-income customer base and only cover a small population base. Presently, there are only two regulated privately owned utilities, namely Runda Water Company and Kiamumbi Water Project.

**Table 3.4: Categorisation of WSPs by public and private ownership**

Utility type	Number of utilities	Population served
Public Utilities	89	10,476,631
Private Utilities	2	19,174

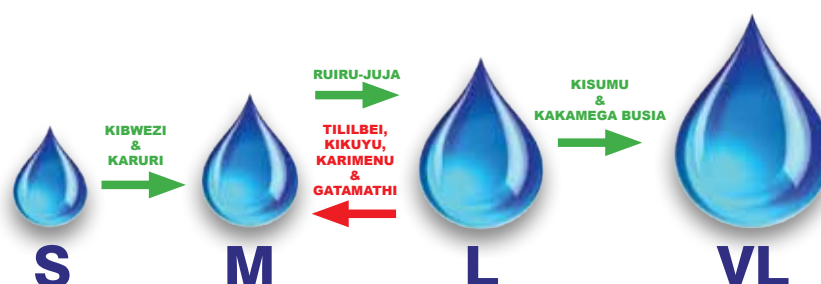
#### **Market Share**

Table 3.5 and Figure 3.2 provide information on the market share of different utility categories.

**Table 3.5: Absolute market shares of urban utilities by size category**

Utility Category	No. of Utilities	Turnover in Ksh	Production in M <sup>3</sup>	People served	No. of connections	No. of Staff
Very Large	7	10,036	263,918,258	4,991,752	858,197	4,300
Large	26	3,881	107,095,429	3,160,043	481,937	2,757
Medium	23	1,274	39,387,420	1,740,437	174,659	1,274
Small	35	539	15,367,659	603,873	68,767	773
Total	91	15,729	425,768,766	10,496,105	1,583,560	9,104

Compared to the previous year, the percentage of utilities in the Very Large and Medium size categories increased from 5% and 19% to 8% and 25% respectively. However for the Large and Small categories, the percentage decreased from 45% and 31% to 38% and 29% respectively. On the whole, five utilities graduated to higher size categories while four declined from a higher size category to lower one. Specifically the movement in size category is as depicted in Figure 3.2.

**Figure 3.2: Utilities movement within size categories**

Tililbei previously covered Kericho and Bomet Counties. However, the Bomet part was lost following the formation of the Bomet Water Company. Kikuyu, Karimenu and Gatamathi changed from Large to Medium on account of the refinement of their data.

### **Financial sustainability and market share analysis**

The size of a utility is critical to its viability. Consequently, large utilities are able to attract and retain qualified staff who then become useful in efficiency goals. They benefit from economies of scale, hence the low operating costs per cubic metre produced.

The licence issued to the WSBs requires that their agents operate within justified tariffs. However, many small utilities continue to operate under tariffs that can hardly cover their O+M costs. In a majority of cases, these utilities rely on unpredictable and unsustainable subsidies to finance their operations.

To ensure the realisation of the human right to water, utilities are expected to be financially sustainable and commercially viable. Justified tariffs enable a utility to effectively operate, maintain and in due course, in collaboration with WSBs, develop their assets.

**Figure 3.3: Combined business share by size categories**

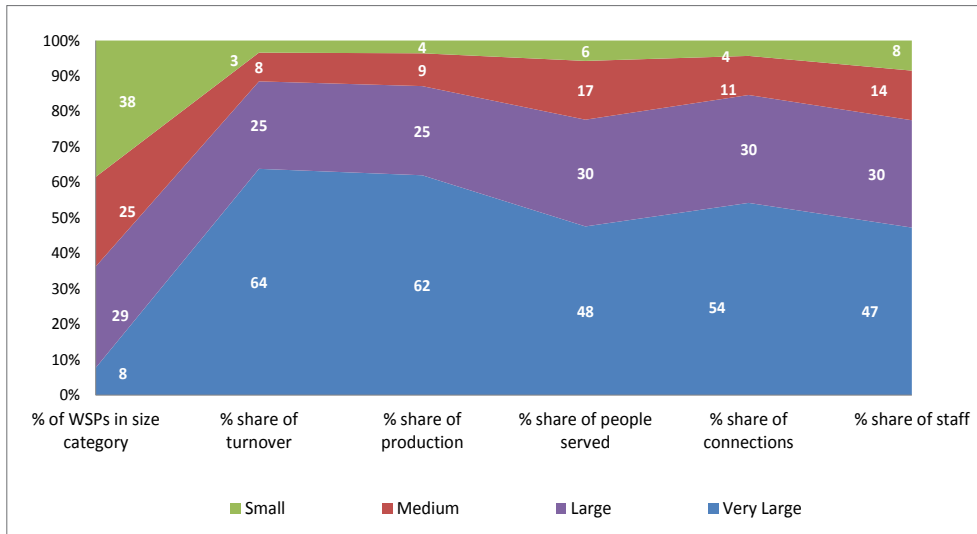


Figure 3.3 shows the market share of the four different categories of utilities. It can be seen that Very Large and Large utilities are not only more likely to be viable than smaller utilities, but they also dominate the market. While they represent 36% of all companies in the sector, they continue to account for the largest share of business (89% of the total turnover, 87% of the total water produced and 78% of the people served). Large utilities perform better on the overall and are likely to require fewer subsidies to meet their operational costs. Thus, they are likely to put less pressure for support from County governments, who own them.

Size is therefore a critical factor in the sustainability of any utility. County governments should start aggregating/clustering utilities in line with the goal of improving on the County water supplies under second Medium Term Plan (2013-2017).

### 3.4 Performance analysis and ranking

The ranking of utilities was done on the basis of the cumulative score in the nine key performance indicators (KPIs), together with compliance to corporate governance. For each of the KPIs, sector benchmarks were used to guide the scoring. The benchmarks are presented in Table 3.6 opposite.

Good corporate governance remains a strong pillar in ensuring improved sector performance. It seeks to ensure that utilities that are favoured by various environmental factors do not exploit their consumers through poor management practices. Utilities that do not comply with Corporate Governance Guidelines are not ranked irrespective of the way they score in the KPIs.

Considering that utilities have a very limited role with regard to sanitation performance, Wasreb has excluded this indicator in the ranking. A score for staff costs has been introduced and assigned a weight of 15 points to encourage economic efficiency within utilities.

Table 3.6: Performance indicators, sector benchmarks and scoring regime

KPI CLUSTER	INDICATORS		SECTOR BENCHMARKS			SCORING REGIME		
			Good	Acceptable	Not Acceptable	Performance	Score	
QUALITY OF SERVICE	1	Water Coverage, %	>90%	80 - 90%	<80%	≥90%	30	
			≤50%	0				
	2	Drinking Water Quality, %	>95%	90 - 95%	<90%	≥95%	30	
			≤90%	0				
	3	Hours of Supply, No.	Population >100,000	21 - 24	16 - 20	<16	≥20	20
							≤10	0
Population <100,000			17 - 24	12 - 16	<12	≥16	20	
						≤6	0	
ECONOMIC EFFICIENCY	4	Personnel Expenditure as Percentage of O&M Costs, %	Large and Very Large Companies	<20%	20 - 30%	>30%	≤25	15
							≥35	0
			Medium Companies	<30%	30 - 40%	>40%	≤30	15
							≥40	0
		Small Companies	<40%	40 - 45%	>45%	≤40	15	
					≥45	0		
	5	O+M Cost Coverage, %	≥150%	100 - 149%	≤99%	≥150%	25	
			≤90%	0				
6	Revenue Collection Efficiency, %	>95%	95 - 85%	<85%	≥95%	20		
		≤85%	0					
OPERATIONAL SUSTAINABILITY	7	Non-Revenue Water, %	<20%	20 - 25%	>25%	≤20%	25	
			≥40%	0				
	8	Staff Productivity (Staff per 1000 Connections), No.	Large & Very Large Companies	<5	5 - 8	>8	≤5	20
							≥8	0
			Medium & Small (less than 3 towns)	<7	7 - 11	>11	≤7	20
							≥11	0
		Medium & Small (3 or more towns)	<9	9 - 14	>14	≤9	20	
					≥14	0		
9	Metering Ratio, %	100%	95 - 99%	<95%	100%	15		
		≤80%	0					
Total Maximum Score							200	

### 3.4.1 Overall ranking

Based on the scoring regime earlier discussed, Table 3.7 on the next page presents the ranking of 89 publicly-owned utilities. The ranking of the two privately-owned utilities is presented in Table 3.8.

Table 3.7: Overall ranking and ranking by category for publicly-owned utilities

	DWQ (%)	Non-Revenue Water (%)	Water Coverage (%)	Hours of Supply (hrs/d)	Staff Productivity (no. staff per 1000 conns.)	Personnel expenditures as % of total O+M costs	Revenue Collection Efficiency (%)	O+M Cost Coverage (%)	Metering Ratio (%)	Total score	Ranking by category	Overall Ranking
<b>Very Large Utilities</b>												
Thika	96	32	96	24	6	33	100	99	100	149	1	2
Nakuru	91	32	92	20	5	31	95	96	99	127	2	5
Eldoret	95	35	70	16	3	46	100	107	100	126	3	6
Kisumu	100	42	63	24	6	23	94	103	94	121	4	8
Nairobi	95	39	80	18	5	50	91	105	94	115	5	10
Kakamega Busia	94	39	72	20	4	47	93	124	75	112	6	12
Mombasa	81	48	57	6	9	35	91	92	55	18	7	88
<b>Large Utilities</b>												
Nyeri	95	19	85	24	4	42	100	134	100	172	1	1
Meru	98	29	59	23	4	32	116	113	98	138	2	3
Ruiru Juja	75	29	66	21	4	26	98	113	91	117	3	9
Nanyuki	75	35	93	23	4	45	97	114	90	114	4	11
Nzoia	94	38	80	22	7	36	93	92	100	109	5	17
Embu	91	36	62	23	5	40	81	167	100	103	6	20
Nyahururu	46	49	78	23	8	50	97	152	100	101	7	21
Ngandori Nginda	96	43	61	24	6	52	90	139	53	100	8	22
Gatundu South	94	46	75	22	5	41	88	116	79	99	9	24
Tetu	90	39	71	24	6	57	102	108	98	94	10	28
Othaya Mukurweni	95	64	69	22	7	44	96	87	65	89	11	31
Malindi	78	30	83	22	7	n.d.	92	102	91	88	12	32
Kirinyaga	95	66	27	18	9	48	98	108	97	87	13	35
Sibo	97	53	29	19	16	17	93	50	84	83	14	36
Kericho	100	45	56	23	8	56	93	100	90	83	15	37
Murang'a	70	35	69	24	9	47	97	99	100	79	16	42
Kahuti	96	n.d.	48	21	10	53	102	105	77	76	17	44
Murang'a South	96	68	34	20	8	49	100	83	81	72	18	48
Garissa	46	42	61	22	10	27	95	93	77	61	19	55
Kwale	90	32	66	15	19	26	86	77	87	54	20	61
Kilifi Mariakani	86	44	40	14	10	29	100	88	99	52	21	65
Mathira	91	65	16	20	8	56	86	120	76	41	22	69
Gusii	93	48	36	14	7	28	82	74	71	40	23	73
Imetha	35	62	26	20	27	57	91	81	73	32	24	80
Tavevo	11	43	61	9	12	21	78	73	63	30	25	82
Nakuru Rural	84	64	24	10	16	34	95	81	38	21	26	86
<b>Medium Utilities</b>												
Nithi	96	45	76	24	8	48	94	115	98	132	1	4
Karimenu	95	46	68	22	8	51	59	162	100	123	2	7
Isiolo	96	35	53	12	7	35	105	90	100	111	3	13
Ngagaka	63	54	92	23	7	46	97	115	95	111	4	14
Limuru	96	32	46	17	7	32	87	104	100	110	5	15
Mavoko	95	46	61	10	9	27	93	104	100	110	6	16
Karuri	24	25	58	13	7	23	92	93	100	104	7	19
Kitui	95	66	36	17	10	19	105	65	100	98	8	25
Githunguri	94	48	9	14	11	31	98	78	91	94	9	27
Kiambu	71	38	39	17	10	29	105	86	99	89	10	30
South Nyanza	99	31	26	7	11	14	87	49	65	76	11	46
Kikuyu	60	46	34	10	10	32	108	83	99	70	12	49
Kibwezi Makindu	72	27	35	14	13	46	95	75	99	70	13	50
Kyeni	62	63	19	18	8	40	82	183	79	65	14	53
Gatamathi	90	75	31	22	9	56	96	88	75	61	15	56
Tililbei	53	60	69	19	12	36	91	49	35	58	16	57
Lodwar	56	45	44	19	7	27	86	85	75	57	17	59
Oloolaiser	89	43	37	10	16	30	105	95	100	52	18	63
Tuuru	47	63	39	18	17	43	88	125	99	51	19	66
Amatsi	96	42	15	12	28	40	71	91	48	42	20	68
Machakos	80	55	53	10	10	32	87	91	99	37	21	74
Gatanga	0	45	43	8	6	57	85	110	86	37	22	75
NoTuresh Loitokitok	38	86	15	21	29	65	83	51	81	21	23	85
<b>Small Utilities</b>												
Embe	96	60	39	17	12	19	94	50	100	106	1	18
Muthambi 4K	52	29	86	23	7	47	87	n.d.	100	99	2	23
Rukanga	61	60	84	23	10	59	118	100	91	95	3	26
Murugi Mugumango	33	33	62	24	7	54	96	n.d.	100	93	4	29
Kiambere Mwingi	94	42	14	14	24	22	100	54	100	88	5	33
Lamu	96	36	70	6	12	35	86	85	96	87	6	34
Nyakanja	37	34	44	8	7	18	135	n.d.	100	82	7	38
Nyasare	95	41	26	18	17	41	87	n.d.	97	80	8	39
Olkalou	33	30	28	15	11	23	94	86	100	79	9	40
Mawingo	0	40	90	13	6	16	40	69	0	79	10	41
Ndaragwa	0	46	81	21	17	29	102	n.d.	0	78	11	43
Kapsabet Nandi	47	39	41	21	8	14	90	94	96	76	12	45
Tachasis	78	31	53	24	8	45	88	101	92	73	13	47
Kapenguria	38	29	19	19	25	26	96	45	49	69	14	51
Maralal	96	40	23	8	24	25	87	31	100	67	15	52
Namanga	38	n.d.	57	8	7	26	94	96	3	63	16	54
Matungulu Kangundo	76	47	3	16	24	42	88	108	99	58	17	58
Iten Tambach	84	32	18	12	16	7	100	25	72	57	18	60
Engineer	0	48	89	20	19	44	62	n.d.	0	53	19	62
Narok	46	41	32	21	15	30	89	90	91	52	20	64
Yatta	69	n.d.	10	18	16	46	91	29	100	47	21	67
Kathiani	37	77	15	10	45	45	94	72	100	41	22	70
Eldama Ravine	83	69	42	10	21	18	93	22	35	40	23	71
Kikanamku	0	40	37	21	8	64	58	n.d.	0	40	24	72
Mbooni	34	n.d.	22	5	7	14	59	37	3	35	25	76
Naivasha	84	40	69	10	15	26	83	100	73	35	26	77
Mwala	26	39	18	12	34	59	95	77	15	33	27	78
Wote	88	n.d.	11	8	29	45	92	76	97	33	28	79
Mikutra	85	36	13	8	16	28	89	55	58	32	29	81
Nyandarua	38	n.d.	11	18	21	46	79	46	90	28	30	83
Moyale	76	38	23	8	32	27	43	n.d.	0	22	31	84
Rumuruti	45	42	19	8	27	74	92	57	73	18	32	87
Olkejuado	40	n.d.	8	12	29	57	72	39	62	12	33	89

n.d. = no data green marking = top 10 performer red marking = bottom 10 performer



For the seventh year running, Nyeri has dominated the first position, with Thika and Meru retaining the second and third positions respectively for the second year in a row.

The worst performers for the current period are Olkejuado, Mombasa and Rumuruti in the 89th, 88th and 87th positions respectively. The worst performers in the Very Large, Large, Medium and Small categories are Mombasa (fourth year in a row), Nakuru Rural (second year in a row), Nol Turesh and Olkejuado respectively. It is of concern that Mombasa is one of the worst performing utilities despite being classified as Very Large. There is need to strengthen the governance structures of the four utilities and improve their management in order to safeguard public interests.

The top 10 positions are dominated by Very Large (5), Large (3) and Medium (2) utilities. This firms the case that, save for Mombasa and Nakuru Rural, size is a critical element for the sustainability of a utility. Therefore, County governments must be encouraged to progressively merge utilities in addition to ensuring proper governance structures in order to deliver successfully on their constitutional mandate in water service provision.

For privately owned utilities, Runda dethroned Kiamumbi to take the top position.

**Table 3.8: Overall ranking for privately owned utilities**

	DWQ (%)	Non-Revenue Water (%)	Water Coverage (%)	Hours of Supply (hrs./d)	Staff Productivity (no. of staff per 1000 conms.)	Personnel expenditures as % of total O+M costs	Revenue Collection Efficiency (%)	O+M Cost Coverage (%)	Metering Ratio (%)	Total score	Ranking by category	Overall Ranking
<b>Runda</b>	95	37	93	16	20	29	99	129	100	150	1	1
<b>Kiamumbi</b>	68	33	94	22	10	4	93	139	100	130	2	2

### 3.4.2 Performance against sector benchmarks

The Regulator has defined the sector benchmarks (good/acceptable/not acceptable) for the KPIs used in assessing the performance of utilities in this report (Table 3.9). Table 3.10 provides the performance of utilities in relation to the sector benchmarks.

**Table 3.9: Assessment of KPIs against sector benchmarks**

Sector Benchmark	Key Performance Indicators								
	Quality of Service			Economic Efficiency			Operational Sustainability		
	Water Coverage	Drinking Water Quality	Hrs. of Supply	O+M Cost Coverage	Collection Efficiency	Personnel Expenditures	Staff Productivity	Non-Revenue Water	Metering Ratio
Good	7	23	43	4	32	28	22	1	29
Acceptable	0	15	22	28	43	19	30	0	12
Not Acceptable	84	53	26	59	16	44	39	90	50
TOTAL	91	91	91	91	91	91	91	91	91

% of utilities within 'not acceptable' sector benchmark	92%	58%	29%	65%	18%	48%	43%	99%	55%
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Apart from Revenue Collection Efficiency and Hours of Supply, the KPIs for most of the utilities are still way below the sector benchmarks with the highest percentage in Water Coverage (92%) and Non-Revenue Water (99%). This indicates the need for adequate planning and target setting in the water services sector. This should be backed by adequate financing.

### 3.4.3 Performance over time

Wasreb uses performance improvement over time to recognise utilities whose performance has shown progress despite not attaining top positions in the short or medium term, due to factors beyond their control (mainly different operating conditions or with respect to the condition of infrastructure).

Tables 3.10 and 3.11 show the performance over time of urban publicly and privately owned utilities respectively.



Table 3.10: Performance over time of publicly-owned utilities

Rank	WSP	Score 2012/13	Score 2013/14	Scores +/-	Rank	WSP	Score 2012/13	Score 2013/14	Scores +/-
1	Nyeri	181	172	-9	46	South Nyanza	67	76	9
2	Thika	155	149	-6	47	Tachasis	79	73	-6
3	Meru	146	138	-8	48	Murang'a South	73	72	-1
4	Nithi	124	132	8	49	Kikuyu	92	70	-22
5	Nakuru	117	127	10	50	Kibwezi Makindu	95	70	-25
6	Eldoret	117	126	9	51	Kapenguria	74	69	-5
7	Karimenu	117	123	6	52	Maralal	77	67	-10
8	Kisumu	119	121	2	53	Kyeni	51	65	14
9	Ruiru Juja	135	117	-18	54	Namanga	111	63	-48
10	Nairobi	101	115	14	55	Garissa	101	61	-40
11	Nanyuki	140	114	-26	56	Gatamathi	62	61	-1
12	Kakamega Busia	112	112	0	57	Tililbei	71	58	-13
13	Isiolo	87	111	24	58	Matungulu Kangundo	40	58	18
14	Ngagaka	95	111	16	59	Lodwar	83	57	-26
15	Limuru	112	110	-2	60	Iten Tambach	83	57	-26
16	Mavoko	108	110	2	61	Kwale	58	54	-4
17	Nzoia	93	109	16	62	Engineer	117	53	-64
18	Embe	53	106	53	63	Oloolaiser	71	52	-19
19	Karuri	99	104	5	64	Narok	69	52	-17
20	Embu	134	103	-31	65	Kilifi Mariakani	89	52	-37
21	Nyahururu	93	101	8	66	Tuuru	36	51	15
22	Ngandori Nginda	113	100	-13	67	Yatta	79	47	-32
23	Muthambi 4K	147	99	-48	68	Amatsi	37	42	5
24	Gatundu South	104	99	-5	69	Mathira	73	41	-32
25	Kitui	76	98	22	70	Kathiani	44	41	-3
26	Rukanga	118	95	-23	71	Eldama Ravine	48	40	-8
27	Githunguri	57	94	37	72	Kikanamku	45	40	-5
28	Tetu	120	94	-26	73	Gusii	80	40	-40
29	Murugi Mugumango	123	93	-30	74	Machakos	39	37	-2
30	Kiambu	62	89	27	75	Gatanga	69	37	-32
31	Othaya Mukurweni	61	89	28	76	Mbooni	45	35	-10
32	Malindi	124	88	-36	77	Naivasha	70	35	-35
33	Kiambere Mwingi	100	88	-12	78	Mwala	81	33	-48
34	Lamu	74	87	13	79	Wote	75	33	-42
35	Kirinyaga	90	87	-3	80	Imetha	84	32	-52
36	Sibo	65	83	18	81	Mikutra	50	32	-18
37	Kericho	91	83	-8	82	Tavevo	64	30	-34
38	Nyakanja	103	82	-21	83	Nyandarua	49	28	-21
39	Nyasare	58	80	22	84	Moyale	16	22	6
40	Olkalou	71	79	8	85	NolTuresh Loitokitok	39	21	-18
41	Mawingo	79	79	0	86	Nakuru Rural	38	21	-17
42	Murang'a	129	79	-50	87	Rumuruti	38	18	-20
43	Ndaragwa	89	78	-11	88	Mombasa	62	18	-44
44	Kahuti	86	76	-10	89	Olkejuado	8	12	4
45	Kapsabet Nandi	65	76	11					

Embe, Githunguri and Othaya Mukurweini are the top three improvers. Engineer, Imetha and Murang'a are the greatest losers, at the bottom. The drastic decline in performance of Mombasa is worrying considering that it is a Very Large utility serving close to 600,000 people, with a turnover of over Ksh 886 million per year. This situation requires urgent attention to save consumers in this region from the declining quality of service in spite of the utility enjoying a favourable operating environment.

**Table 3.11: Performance over time of privately-owned utilities**

Rank	WSP	Score 2012/13	Score 2013/14	Scores +/-
1	Runda	145	150	5
2	Kiamumbi	168	130	-38

In this category, Runda improved its score while Kiamumbi reported a big decline of 38 marks. This is attributed to the drop in the water quality score as a result of not carrying out bacteriological tests on their water.

Table 3.12 indicates that the overall performance for utilities has declined compared to the previous reporting period. Whereas in 2012/13, 70% of the utilities improved their performance, only 32% of the utilities recorded improvement in performance in the current period.

**Table 3.12: Number and percentage of utilities recording improvement**

Year	No. utilities	No. of improvers	% of improvers
2013/14	91	29	32
2012/13	100	70	70

### 3.4.4 Performance of utilities by indicator

#### (a) Water Coverage

Water Coverage refers to the number of people served with drinking water by a utility expressed as a percentage of the total population within the service area of the utility. It assesses performance in executing the core mandate of the utility of supplying potable water to consumers.

The performance for the year under review remained the same as the previous year at 53% (Figure 3.4). There was an increase in number of connections by 37,000. To maintain

coverage at the current level, approximately 120,000 new connections would be required annually. The performance of the Very Large utilities is still below the sector target of 80%, and is way beyond reach for the other three categories (Figure 3.4).

To fast track access therefore, utilities need to explore other options such as yard taps and water kiosks.

Figure 3.4: Water Coverage in %

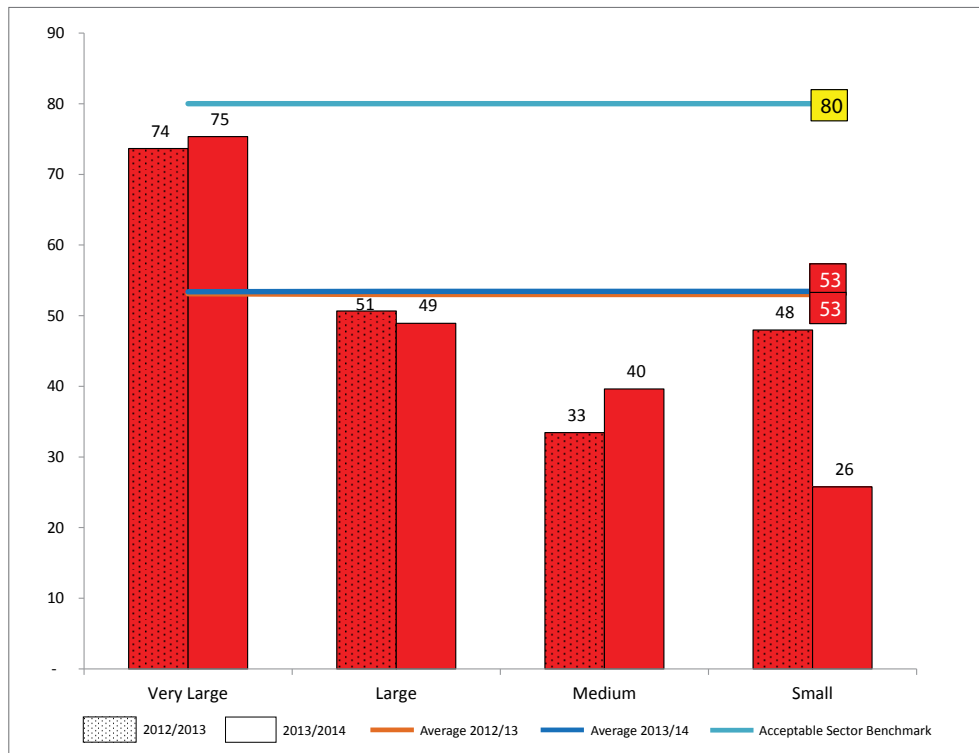
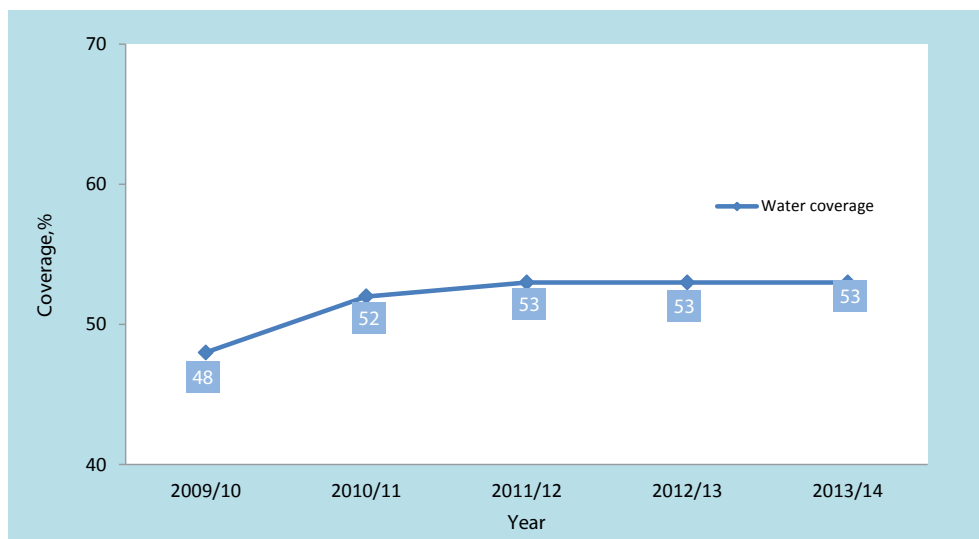


Figure 3.5: Trend in Water Coverage (%)



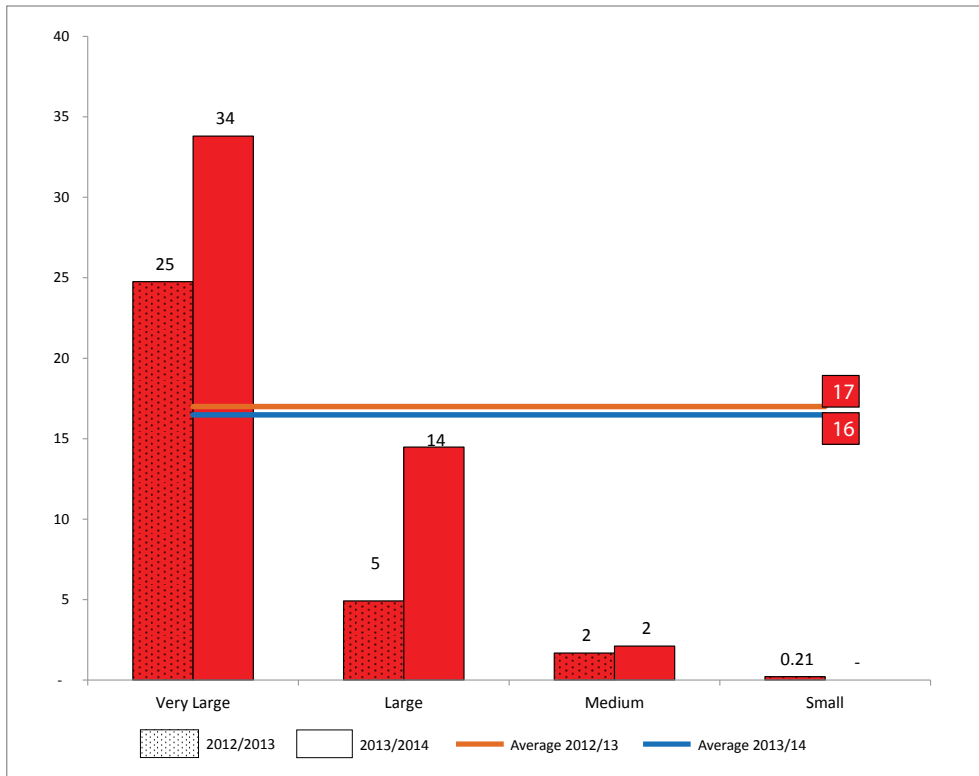
**(b) Sewerage Coverage**

Sewerage Coverage refers to the number of people served with flush or pour-flush to piped sewer systems, as a percentage of the total population within the service area of the utility. It measures the performance of utilities with sewerage systems in delivering sewerage services to consumers.

Only 27 out of 91 utilities operate their own sewerage systems. In Kapsabet Nandi and Tavevo, for example, sewerage systems are still under the direct management and operation of County governments. Therefore, while performance on sewerage coverage has been reported, it has not been employed in the ranking of utilities. The County governments of Nandi and Taita Taveta should hand over the operations of sewerage facilities to the utilities in their areas.

Performance in this indicator declined by one percentage point to 16% in the reporting period. This is way below the national target for sewerage coverage of 40% by 2015. This retarding in growth is attributed to a population growth that is not commensurate with growth in services. The decline of sewerage coverage in the current year, despite the small increase in the previous year, is a clear pointer to the need to explore other options to expand sewer services.

**Figure 3.6: Sewerage Coverage in %**



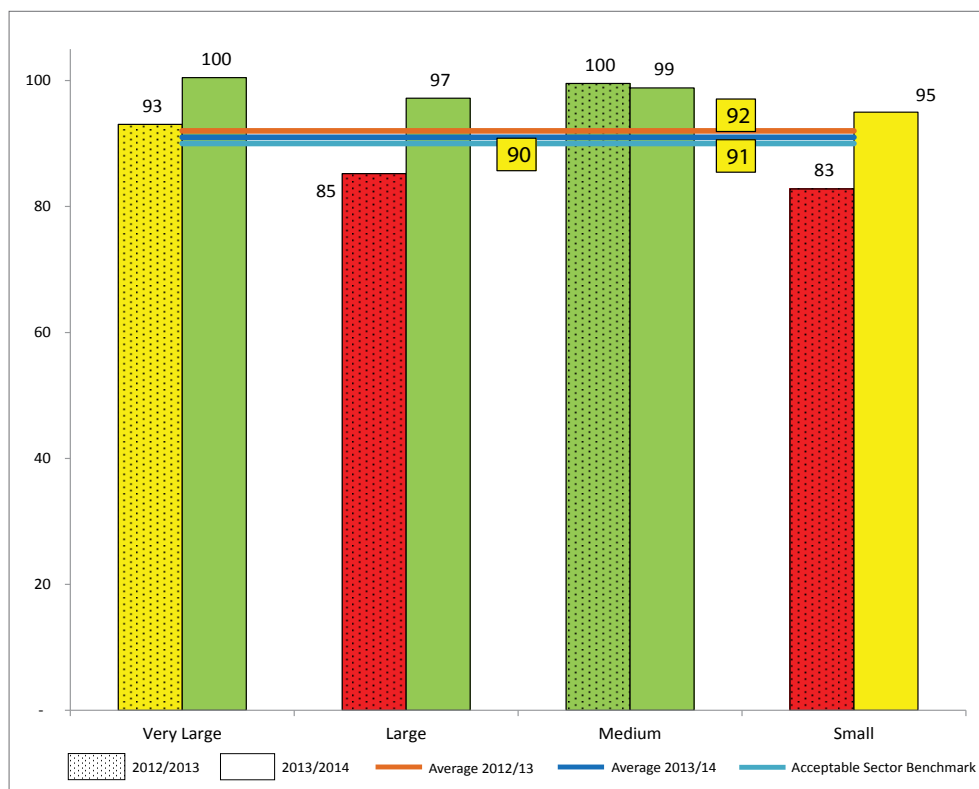
### (c) Drinking Water Quality

Drinking Water Quality (DWQ) measures the potability of water supplied by a utility. It is a critical performance indicator since it has a direct impact on the health of consumers. This is a composite indicator measuring compliance with residual chlorine standards (40%) and bacteriological standards (60%). The two sub-indicators are also composed of two components each, namely:

- i) The number of tests conducted as a percentage of the number of tests planned in accordance with the Guidelines on Water Quality and Effluent Monitoring (GWQEM). This is weighted at 67%.
- ii) The number of samples within the required norm as a percentage of total number of samples taken (weighted at 33%).

Performance in this indicator dropped from 92% in 2012/13 to 91% in 2013/14.

Figure 3.7: Drinking Water Quality



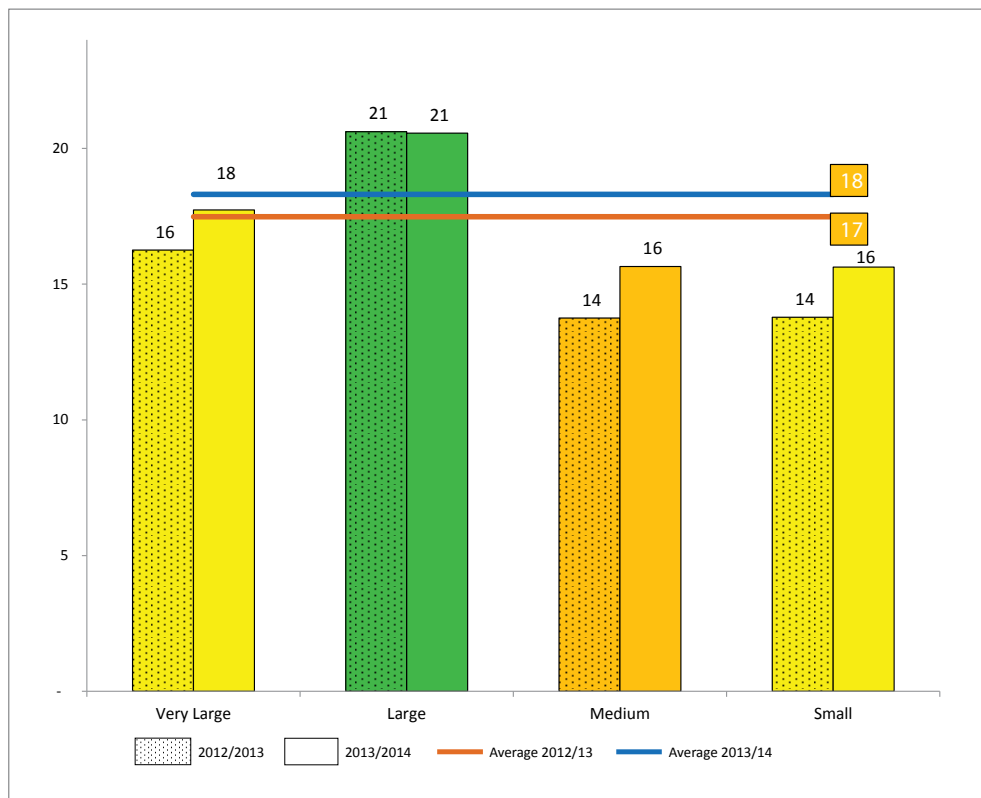
Poor performance indicates that either too few samples were taken or that many samples did not meet the required norm, or both. Non-submission of monthly water quality reports to Wasreb is factored in by capping the score at 70% of the total achievable score for the number of tests conducted. A breakdown of utility performance in the two components of the DWQ sub-indicators is provided in Annex 6.

Compliance to the GWQEM entails having elaborate sampling programmes and submitting timely reports monthly and annually. However, some utilities do not submit these reports. In this regard, it should be noted that with the exception of Tana, all other WSBs are currently not doing enough to enforce or to support utilities' compliance with the GWQEM. They could do this by investing in laboratory facilities and ensuring adequate provision for water quality analysis in tariff proposals.

**(d) Hours of Supply**

Hours of Supply refers to the average number of hours per day that a utility provides water to its customers. It measures the continuity of services of a utility and thus the availability of water to the customer. It is an important indicator of service quality and shows the extent to which the utility is making progress towards the fulfilment of the human right to water and sanitation in terms of availability of water in sufficient quantities.

*Figure 3.8: Hours of Supply*



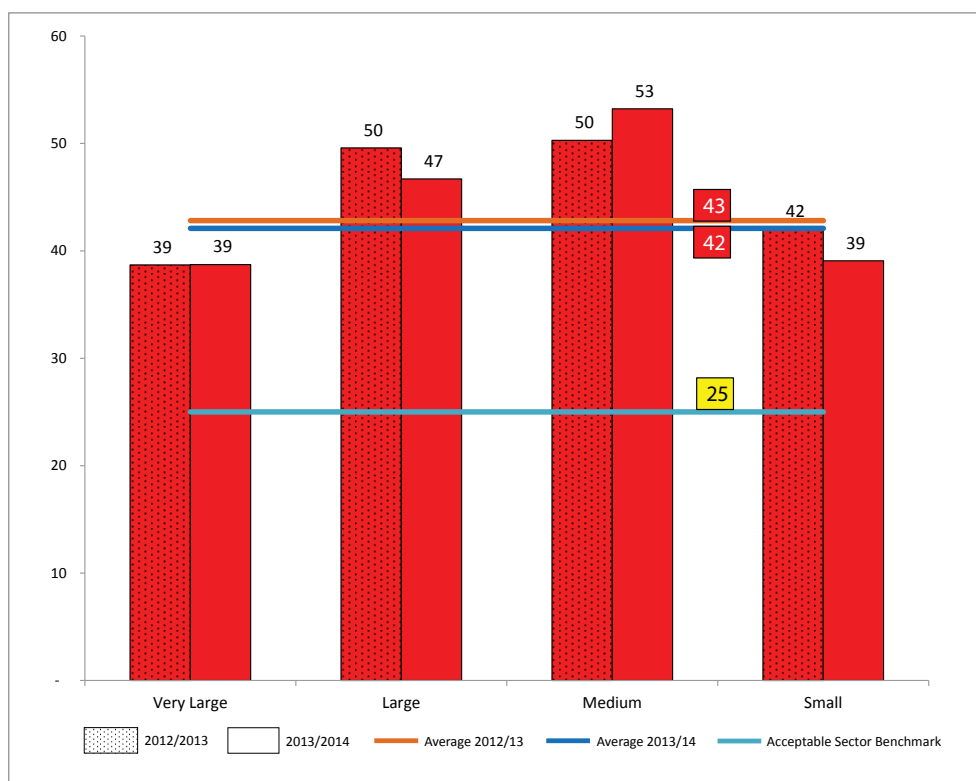
In 2013/13, average daily service hours increased from 17 to 18. This is within the acceptable benchmark. Utilities in the Large category have been able reach an acceptable level of performance in this indicator. Improvement in hours of supply positively impacts on customer satisfaction, which translates to willingness to pay. This has a direct correlation with collection efficiency.



### (e) Non-Revenue Water

Non-Revenue Water (NRW) refers to the difference between the amount of water produced for distribution and the amount of water billed to customers. It measures the efficiency of the utility in delivering the water it produces to customer take-off points. It captures both technical losses (leakages) and commercial losses (illegal connections/water theft, metering errors and unbilled authorised consumption). High levels of NRW indicate that utilities are losing revenue and will not be able to render proper service in terms of water availability and price.

Figure 3.9: Non-Revenue Water in %



Despite controlling a combined market share of 89%, the Very Large and Large utilities still record unacceptable high NRW levels of 39% and 47% respectively. The overall performance in this indicator improved from 43% in 2012/13 to 42% in 2013/14 but it still remains far below the acceptable benchmark of less than 25%.

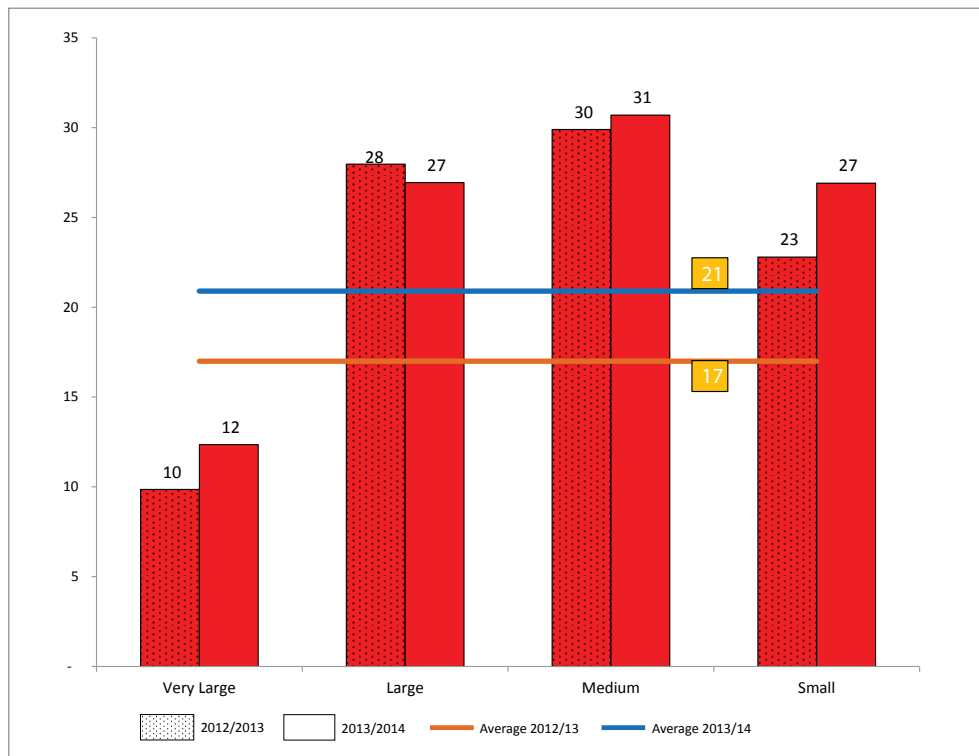
Considering the sector benchmark of NRW at 20%, the current NRW level of 42% translates to a financial loss of Ksh 5.9 billion to the sector. This not only threatens the financial sustainability of the sector but also wastes funds which could have been used to increase access and improve service delivery. In short, underperformance in NRW is a direct expense to the customer and obstructs Kenya's aspiration to move towards higher living standards. Counties that are providing subsidies to utilities with high levels of NRW are supporting management inefficiencies instead of supporting the development of infrastructure.

High NRW mainly results from poor infrastructure maintenance and above all poor commercial practices (including corruption). County governments, WSBs and utilities must put in place measures to address these challenges. Wasreb has disseminated NRW Management Standards which aim at providing a practical approach to the reduction of NRW through measures that do not require use of sophisticated equipment, high levels of skill, or major investments. The Standards require utilities to first carry out a self assessment of their NRW situation and then develop NRW reduction plans which are realistic and attainable. The self assessment should be based not on estimation, but accurate system input metering, pressure monitoring and GIS mapping. To address this challenge, utilities are required to establish NRW units to lead NRW reduction measures and to procure necessary equipment. Already, 71 utilities have established dedicated NRW units as a first step. Wasreb on its part will continue to monitor the implementation of these plans and the progress made.

**(f) Dormant Connections**

This indicator is computed as the number of connections equivalent to accounts that have been disconnected or have not received water for more than three months, expressed as a percentage of total water connections. It is an indicator of a utility’s management capacity to deliver quality services to its customers. Where the percentage of dormant connections is high, the utility is either not able to provide services to all its registered customers or it provides services of inferior quality. This forces customers to shift to alternative sources of supply, which may not be regulated. It could also imply that a large number of customers connect illegally, assuming that they still obtain water from the utility without the knowledge of the utility and thereby contributing to high NRW.

*Figure 3.10: Dormant Connections*



In the reporting period, the proportion of dormant connections increased from 17% to 21%. The highest proportion of dormant connections is within the medium category at 31%, implying that utilities in this category provide satisfactory services to less than 70% of their ready market. A high level of dormant connection could partly be due to poor governance, where in some cases, disconnected customers collude with utility staff to get new account numbers. Records of a utility may therefore have dormant accounts that do not physically exist. Alternatively, some disconnected accounts, classified as dormant, continue to receive water through illegal reconnections. This situation leads to loss of business and gives way to the mushrooming of informal providers, subsequently decreasing revenue.

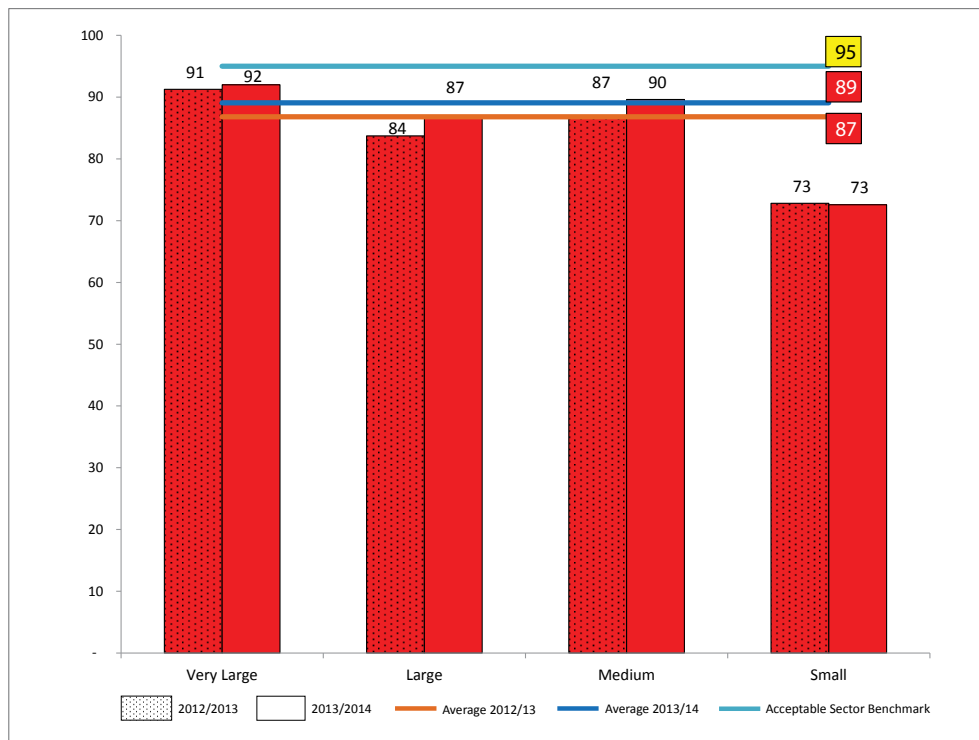
Nairobi continues to be the only utility, in the Very Large and Large categories, which still does not credibly report on this indicator. Utilities should conduct customer identification surveys to help reduce the number of dormant connections.

**(g) Metering Ratio**

Metering Ratio refers to the number of connections with functional meters expressed as a percentage of the total number of active water connections. It measures the extent to which a utility has implemented metering as a tool to manage NRW so that consumers can only pay for what they consume.

In 2013/14, metering improved from 87% to 89%. Where metering is implemented effectively (high ratio), NRW levels can be expected to be generally moderate. A high metering ratio with a corresponding high NRW level indicates that the utility either does not report the correct number of functional meters or does not effectively use metering as a management tool.

*Figure 3.11: Metering Ratio*

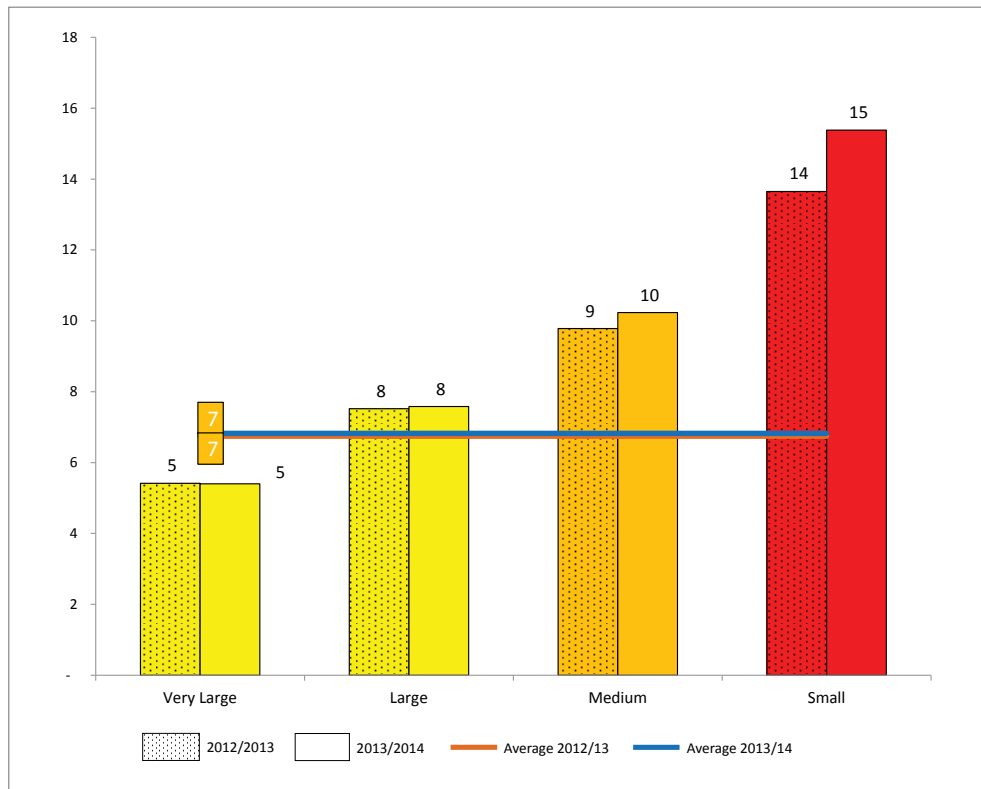


The fact that all the categories of utilities except the Small category have shown an improvement in this indicator is highly commendable, considering that the latter only control about 4% of the total production. Although none of the categories is able to reach the acceptable sector benchmark, the positive trend is encouraging. The increasing levels of NRW for the Very Large and Medium categories despite the increasing levels of metering means that utilities need to reinforce efforts to effectively use metering as a management tool. If this happens, we can expect the management of their systems to improve and, consequently, their levels of NRW to go down.

**(h) Staff Productivity (staff per 1,000 connections)**

Staff Productivity refers to the number of staff in employment for every 1,000 connections (total registered water and, where applicable, sewer connections). It measures the efficiency of utilities in utilising their staff. Thus, a low figure is desirable. It should be noted that staff productivity is affected by factors such as the nature of human settlement (distances between connections), skills mix, outsourcing, the number of schemes served and whether a utility provides water alone or water and sewerage services together.

*Figure 3.12: Staff Productivity*



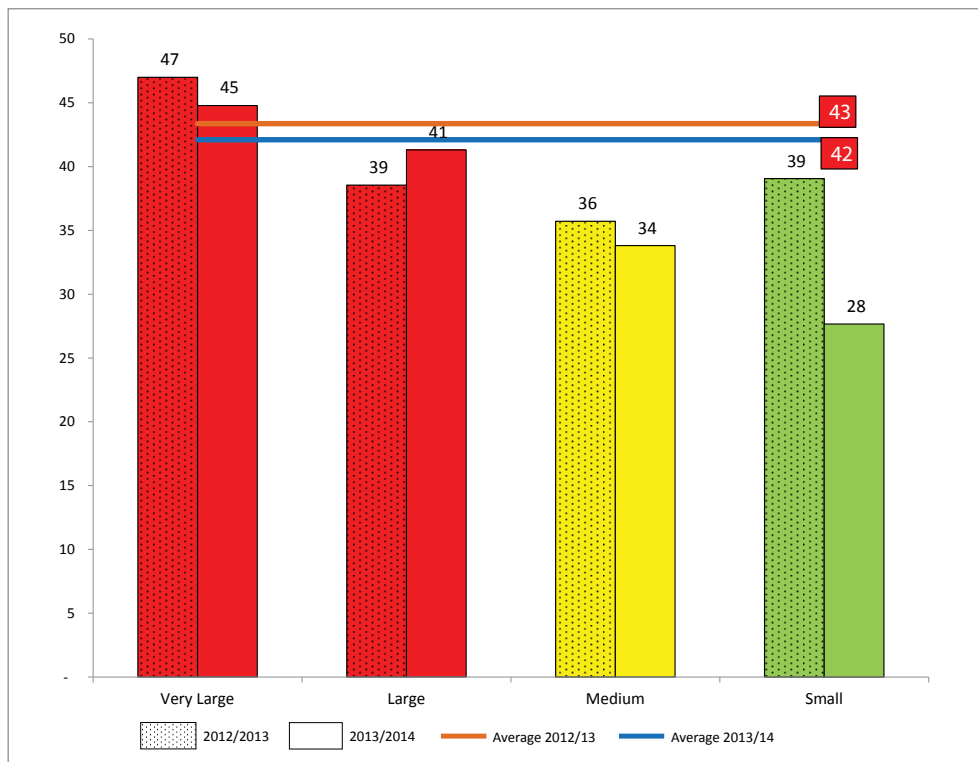
Overall performance in terms of Staff Productivity has for the second year running remained at 7 staff per 1,000 connections. The Very Large and Large utilities have been able to maintain an acceptable level of staff productivity within the last two periods mainly due to economies of scale. Utilities in these categories, however, need to ensure that this

performance in staff productivity is in consonance with the proportion of costs incurred for personnel as compared to the total O+M costs. Utilities must ensure that they have the right calibre of staff and the required skills mix in line with the Criteria for Appointment of Utilities issued by Wasreb.

### (i) Personnel Expenditure as a Percentage of O+M costs

Personnel expenditures as a percentage of O+M Costs measures whether personnel related expenses are proportionate to overall O+M costs as defined through the respective sector benchmarks.

**Figure 3.13: Personnel Expenditure as a Percentage of O + M**

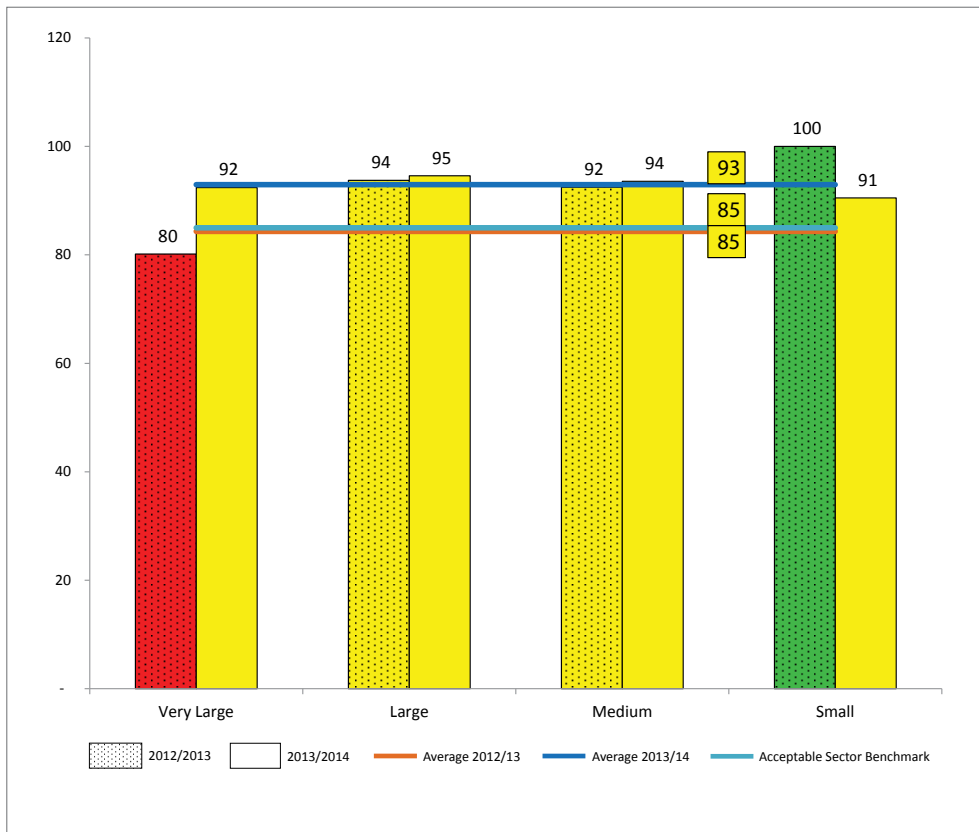


Performance in this indicator improved from 43% in 2012/13 to 42% in 2013/14 mainly by virtue of O+M costs increasing at a higher proportion (16%) than the personnel costs (12%). However, relative personnel expenditures of Very Large and Large utilities are on average higher than those of Medium and Small utilities. The very Large and Large utilities must seek to reverse this trend in order to avail enough resources for O+M. Utilities in these categories need to grow their businesses so as to be within the sector benchmark. This process is usually well guided by Wasreb in the tariff process. Therefore, utilities must strictly follow personnel expenditure levels agreed on in the approved tariffs. Wasreb will closely monitor the performance of utilities in this area to ensure that other aspects of utility operations are not compromised.

### (j) Revenue Collection Efficiency

Revenue Collection Efficiency refers to the total amount collected by a utility expressed as a percentage of the total amount billed in a given period. It measures the effectiveness of the revenue management system of a utility. Revenue collected, as opposed to amounts billed, is what impacts on a utility's ability to fund its operations. Collection Efficiency is a proxy indicator on the commitment of management in optimizing the utility revenue inflow and is, indirectly, a reflection of customers' willingness to pay and, by extension, their satisfaction with services provided.

Figure 3.14: Revenue Collection Efficiency



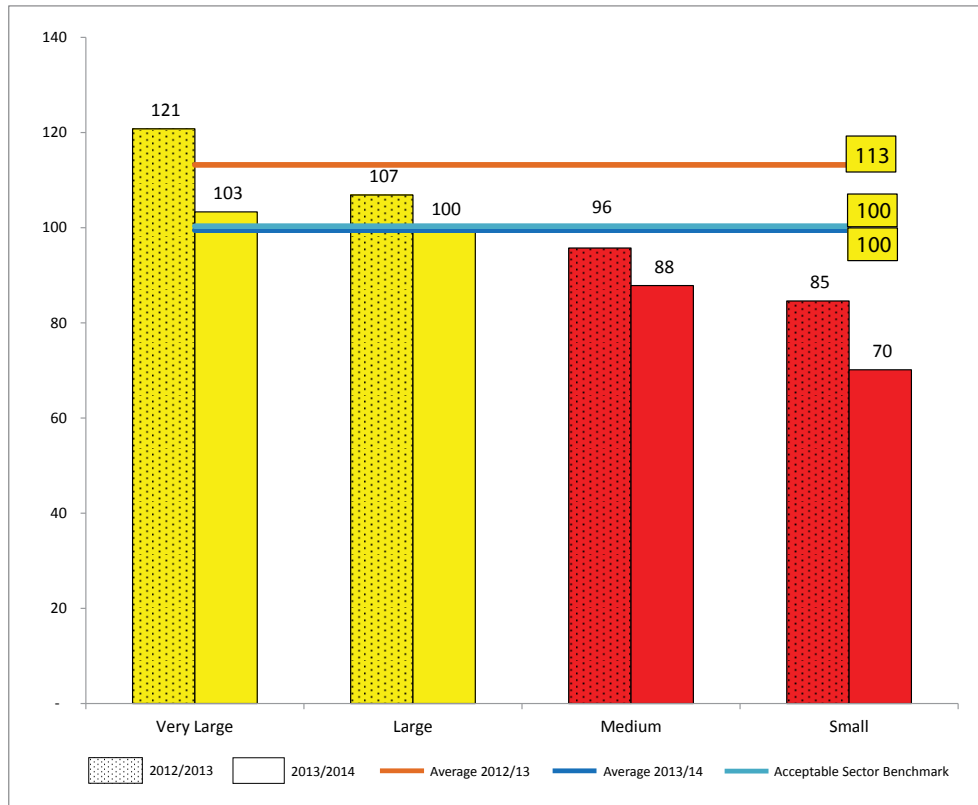
Overall performance in this indicator improved from 85% in 2012/13 to 93% in 2013/14, with performance in the two years being well above the acceptable sector benchmark of 85%. It is worth noting that all categories of utilities were above the sector benchmark for this indicator. This is attributed to the adoption of numerous payment options and increase in pay points.

The challenge to most utilities has been the separation of current collections from arrears. This has seen some utilities report figures above 100%. A figure greater than 100% reflects collection ratio as opposed to efficiency since the figures being compared do not apply to the same period. Utilities will need to implement billing systems that allow them to clearly separate collections for arrears from current collections. Wasreb has prescribed minimum requirements for billing software to be used by utilities.

### (k) Operation and Maintenance Cost Coverage

Operation and Maintenance (O+M) Cost Coverage is the extent to which internally generated funds cover the cost of running a utility. O+M Cost Coverage is critical to the performance of a utility as it is a first step towards full cost coverage. It ensures long term financial sustainability. A utility is estimated to have reached full cost coverage when it reaches above 150% O+M Cost Coverage. At this level, a utility is able to meet its O+M costs, service debt and develop infrastructure.

Figure 3.15: O+M Cost Coverage



In the reporting period, overall performance in terms of O+M Cost Coverage declined by 13 percentage points from 113% to 100%.

Decreased performance in this indicator is a result of O+M costs increasing at a higher proportion (15.6%) as a result of some of the utilities failing to adhere to the approved budget ceilings set in the tariff. Compared to the O+M costs, revenues increased by only 2.5% which is even lower than the inflation rate.

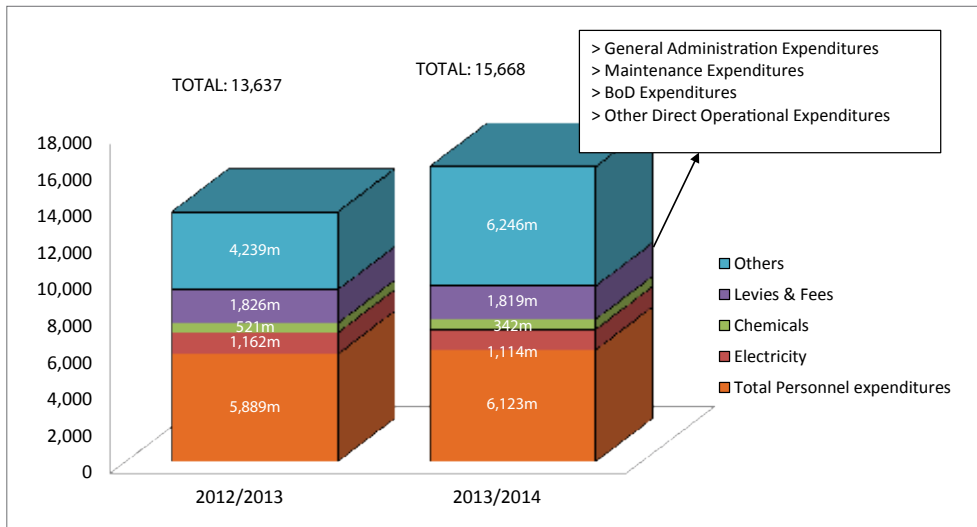
The decline in cost coverage for all categories of utilities is contrary to the sector aspiration towards self-financing.

Utilities without justified tariffs need to urgently apply for tariff reviews to ensure revenues match the cost of providing the service. The high figures reported by some utilities (refer to Table 3.7) can mainly be attributed to undisclosed subsidies. Utilities are encouraged to disclose subsidies received either for O+M or investments.

**(l) O+M Cost Breakdown**

Cost distribution in a utility is a major factor in ensuring its financial sustainability. Wasreb has set benchmarks for some of these cost components e.g. personnel, BoD and maintenance, among others. The breakdown of O+M costs into personnel, electricity, chemicals, levies & fees and other operational expenditures provides important information on the main cost drivers in the operation of utilities. These cost components differ depending on the degree to which they are under the control of the utility. Figure 3.16 shows the aggregated O+M cost breakdown for all utilities.

**Figure 3.16: Aggregated O+M Cost Breakdown for all utilities**



As illustrated, the main cost drivers for O+M are: personnel expenditure (39%), levies and fees (12%), electricity (7%) and chemicals (2%). The “other” costs constituting 40% comprise general administration expenditure, maintenance, and BoD allowances. The main cost drivers, except electricity and chemicals, increased in absolute terms from the last to the current reporting period. High personnel expenditure continues to eat up most of the budget for the majority of utilities leaving little for investment, asset operation and maintenance.

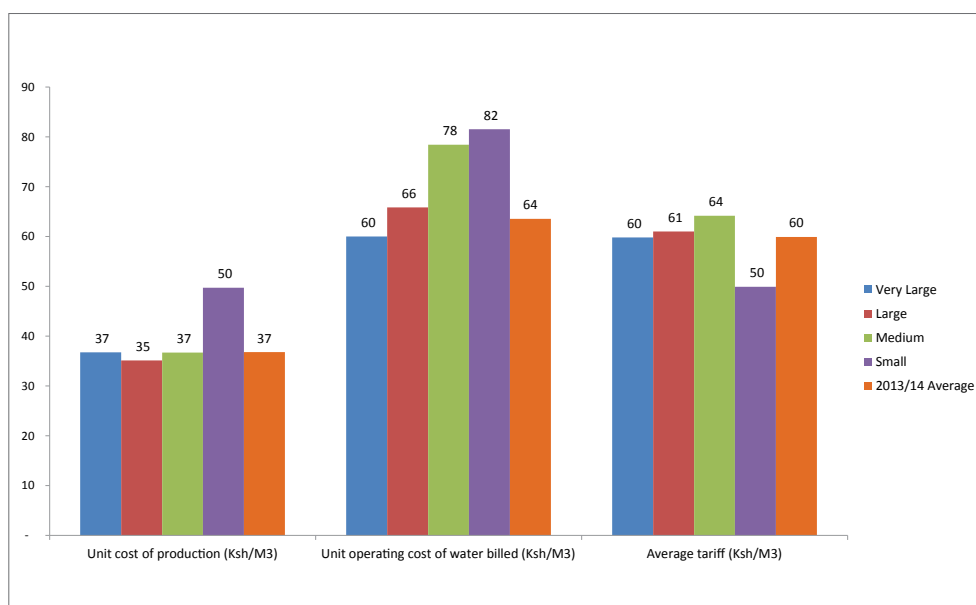
**(m) Comparison of Unit Cost of Production, Unit Cost of Water Billed and Average Tariff**

The assessment of the unit cost of production against the unit cost of water billed measures the operational efficiency of a utility. On the other hand, a comparison of the unit cost of water billed against the average tariff is central in shaping the financial sustainability of the utility. Assuming that utilities were operating within the sector benchmark of 20% as opposed to the current 42%, at the current average cost of production of Ksh 37 per M<sup>3</sup>, the average unit cost of water billed would be expected to be Ksh 46 per M<sup>3</sup> as opposed to the current Ksh 64 per M<sup>3</sup>, as seen in Fig 3.17. This means that the difference of Ksh 18 per M<sup>3</sup> goes towards paying for inefficiencies of the utilities instead of the development of infrastructure. At the current average tariff of Ksh 60 per M<sup>3</sup>, consumers are paying



Ksh 14 per M<sup>3</sup> for inefficiencies and the balance of Ksh 4 per M<sup>3</sup> is covered by subsidies or deterioration of service levels. Self-financing of the sector is central to the progressive realisation of the right to water. The foregoing situation is contrary to the aspirations of the sector. Therefore, it should be noted that tariff adjustments by Wasreb will only allow for coverage of O+M costs and contribution to infrastructure development and will not pay for inefficiencies.

**Figure 3.17: Tariff-cost comparison**



To assess the impact of size on the cost of production, a comparison of these indicators was also done for the four different categories of utilities. For the three indicators, size has a positive impact on the cost of providing services. The low tariff for the Small category stems from lack of justified tariffs. Very Large utilities have their unit cost of production and unit cost of water billed at approximately 70% of what the Small utilities incur.

### 3.5 Corporate Governance

Wasreb has developed an indicator on corporate governance based on the Corporate Governance Guideline in line with its mandate as stipulated by the Constitution and the Presidential directive on corporate governance. This is based on the hypothesis that utilities meeting governance standards are better placed to attain financial sustainability and deliver better services to their consumers.

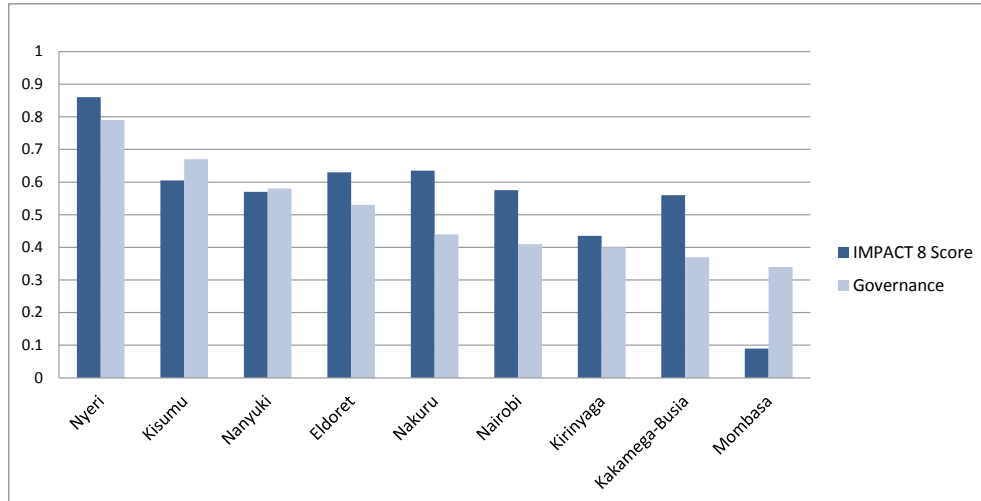
The governance indicator is a composite of six sub-indicators:

- i) Utility Oversight/Supervision – Transparency, Accountability of the leadership of the utility
- ii) Information and Control Systems – Transparency in operational functions and compliance to the set organizational systems
- iii) Financial Management – Efficiency and Compliance to financial and tariff standards
- iv) Service Standards – Consumer Engagement in delivery of WSS services

- v) Human Resources – Adherence to the competence criteria and equity in staff recruitment and retention
- vi) User Consultation – Participation of the local community in the decision-making process and sharing of information with stakeholders

The indicator has been tested in nine randomly selected utilities in the Very Large and Large categories. The score in governance has been compared with technical performance to assess their correlation.

**Figure 3.18: Comparison between the Impact 8 and governance scores**



Nyeri recorded the best performance both in *Impact* and the governance indicator, while Mombasa scored the least in the two aspects.

As indicated in Fig 3.18, a strong correlation exists between governance and performance. Thus, governance impacts directly on the performance of a utility. County governments should support the implementation of governance standards in their utilities to ensure sustainable water services.





## **CHAPTER FOUR: PERFORMANCE OF WATER SERVICES BOARDS**

*WSBs are mandated to ensure the provision of efficient, affordable and sustainable water services in their areas of jurisdiction. This role is undertaken through the development of capital works to increase water and sanitation coverage*

## 4 PERFORMANCE OF WATER SERVICES BOARDS

### Investments crucial for realisation of right to water



#### 4.1 Introduction

Water Services Boards are expected to grow investments to facilitate the realisation of the right to water and sanitation. This role is undertaken through the development of assets to increase water and sanitation coverage and by contracting utilities to provide water services. The relationship between utilities and WSBs is regulated through Service Provision agreements (SPAs). WSBs sign SPAs with utilities only after they are constituted in accordance with the Corporate Governance Guideline and the provisions of sections 55 and 57 of the Water Act 2002 which gives due regard to efficiency and sustainability.

This chapter presents the performance of the eight WSBs for the period 2013/14. The Boards are ranked based on their performance with respect to key investment, financial and qualitative indicators, developed in line with their mandate under the Water Act 2002 and the Licence given to them by Wasreb.

#### 4.2 Data collection

All the eight WSBs submitted information for the year 2013/14. Though there was a general decline in data submission especially with regard to timeliness, Tanathi and LVS improved on their performance. LVS and Tana achieved a good rating level on data reporting. The other WSBs, except Coast, improved on their previous rating (Table 2.7). However, data on rural water systems from the WSBs remains scanty, making it difficult to assess the impact of these investments.

Quality data is vital for decision making in the planning and monitoring of investments. It ensures that investments are timely and well targeted.

## General information on the Water Services Boards

The general data on the WSBs is given in Table 4.1 below.

**Table 4.1: General WSB information for the period 2013/14**

Item	Unit	Athi	Coast	Lake Victoria North	Lake Victoria South	Northern	Rift Valley	Tana	Tanathi	Total
Area in square km	No	3,239	82,816	16,977	20,340	232,737	113,771	14,272	66,614	550,766
Population in WSB service area	No	5,678,675	3,808,970	7,546,604	8,342,099	4,006,697	5,802,064	4,892,604	4,196,729	44,274,442
Total no. of WSPs	VL	2	1	2	1	0	1	0	0	7
	L	2	4	1	3	3	1	12	0	26
	M	7	1	1	3	1	1	5	6	25
	S	2	1	1	2	4	16	6	9	41
	TOTAL	13	7	5	9	8	19	23	15	99
Total no. of WSPs who have submitted the information	No	13	6	5	9	7	15	21	15	91
Population in utility service area	No	5,458,351	2,508,109	1,487,445	2,245,847	468,732	1,604,437	3,018,683	3,003,574	19,795,178
Population served water	No	3,877,693	1,396,899	949,435	925,539	284,442	811,426	1,378,806	858,186	10,482,426
Water Coverage	%	71	56	64	41	61	51	46	29	53
Population served sewerage	No	1,810,840	94,460	298,760	699,170	93,221	122,851	92,709	55,235	3,267,246
Sewerage Coverage	%	32	3	20	8	20	9	3	2	17
Total water produced	M3	231,674,263	23,841,327	12,894,320	27,116,602	34,429,598	62,093,354	17,789,468	15,632,474	425,471,406
NRW	%	39	42	37	45	40	44	51	58	42
Total no. of Viable WSPs ( $\geq 100\%$ O + M Cost Coverage)	No	8	1	5	9	7	15	22	15	82
Turnover in KShs (Total billing for water and other services)	KSh	8,044,187,685	1,005,404,817	625,596,307	1,022,557,512	1,881,396,455	1,597,563,761	814,358,725	660,158,471	15,651,223,733
No. of staff (WSPs)	No	56	63	35	40	243	93	61	51	642
Counties Served		Nairobi, Kiambu and Gatanga district in Murang'a	Kwale, Taita Taveta, Kilifi, Malindi, Mombasa, Lamu and Tana River	Kakamega, Vihiga, Busia, Bungoma, Trans Nzoia, Uasin Gishu, Nandi North within Nandi and Marakwet within Elgeyo Marakwet County	Siaya, Kisumu, Migori, Homabay, Kisii, Nyamira, Bomet, Kericho and Nandi South within Nandi County	Isiolo, Laikipia, Samburu, Marsabit, Garissa, Wajir and Mandera	Nakuru, Baringo, Narok, West Pokot, Turkana, Nyandarua and Keiyo within Elgeyo Marakwet County	Nyeri, Murang'a, Kirinyaga, Embu, Meru, and Tharaka Nithi	Kitui, Machakos, Makueni and Kajiado	

NOTE: S=Small, M=Medium, L=Large, VL=Very Large

The combined turnover of the eight WSBs, i.e. the total billing of the registered utilities within their respective jurisdictions increased by 2%, from Ksh 15.319 billion in 2012/13 to Ksh 15.651 billion in the current reporting period. The total number of viable utilities (at least 100% O+M Cost Coverage) decreased from 47% in 2012/13 to 34%, with only 6% of the utilities in Rift Valley being viable. Of the 13 utilities in Athi, eight are viable,

representing 62%. The rest of the WSBs have a big challenge as regards the viability of their utilities.

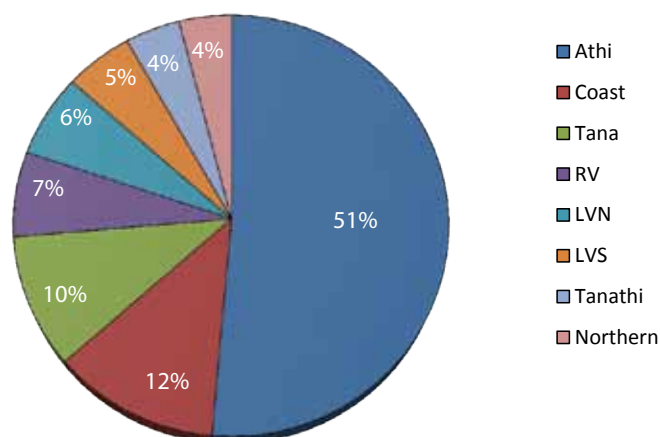
As shown in Table 4.2, all WSBs except Athi and Coast realised an increase in turnover. This increase in turnover can be attributed to the increase in production (4%) coupled with a decrease in NRW (1%). However, compared to last year, the increase in turnover was less. This can be attributed to the reduced number of utilities that had their tariffs reviewed during the period.

**Table 4.2: Sector turnover**

WSB	Turnover 2012/13	Turnover 2013/14	% Change
Athi	8,269	8,044	-3
Coast	1,876	1,881	0
LVN	923	1,005	9
LVS	798	814	2
Northern	535	626	17
RV	942	1,023	9
Tana	1,407	1,598	14
Tanathi	569	660	16
<b>Total</b>	<b>15,319</b>	<b>15,651</b>	<b>2</b>

In terms of relative share (Figure 4.1), there were minimal changes with Athi WSB, which accounts for a larger part of the sector turnover, decreasing its proportion by 3 percentage points in the year.

**Figure 4.1: Share of turnover among WSBs**



### 4.3 Sector benchmarks, performance indicators and scoring criteria

The assessment of performance of a WSB with regard to investment related indicators is an aggregation of the performance of utilities within the WSB area. The corresponding scoring

criteria is outlined in Table 4.3. The indicators adopted mirror the performance of WSBs in the planning, development and expansion of water and sanitation infrastructure; and the monitoring of utilities.

**Table 4.3: WSB performance indicators and scoring criteria**

INDICATOR		Sector Benchmarks				Adopted Scoring Regime			
		Good	Acceptable	Not acceptable	Performance	Score	Performance	Score	
INVESTMENT INDICATORS	Water Coverage	>90%	80-90%	<80%	≥90%	20	≤50%	0	
	Non-Revenue Water (NRW)	<20%	25-20%	>25%	≤20%	15	≥40%	0	
	Hours of Supply	21-24	16-20	<15	≥20	10	≤10	0	
FINANCIAL INDICATORS	Cost Coverage of operating costs through fees from Utilities	>100%	50-100%	<50%	≥100%	5	≤50%	0	
	Personnel expenditures as a % of total operating costs	<20%	70-20%	>70%	≤20%	5	≥70%	0	
	BoD expenditures as a % of total operating costs	<2%	5-2%	>5%	≤2%	5	≥5%	0	
	Operating costs of WSB as percentage of turn-over in WSB area	Turnover > 1.5 Ksh billion	<3.5%	10-3.5%	>10%	≤3.5%	5	≥10%	0
		Turnover ≥ 0.75 < 1.5 Ksh billion	<10%	20-10%	>20%	≤10%	5	≥20%	0
Turnover < 0.75 Ksh billion		<15%	25-15%	>25%	≤15%	5	≥25%	0	
QUALITATIVE INDICATORS	Adequacy of Monitoring of Utilities	Percentage of Utilities with approved tariffs	100%	50-100%	<50%	100%	10	≤50%	0
			Good	Satisfactory		Fair	Poor		
		(1) Enforcement and Compliance Strategy applied?*	3	2		1	0		
		(2) Reporting and compliance of Utilities in line with regulatory regime	3	2		1	0		
	Driving Efficient Investments in WSB Area	Facility Management System (and Register)	2	1		0.5		0	
		5 year Business and Capital Works Plan for WSB area	2	1		0.5		0	
		Implementation of 5 year Business Plan for WSB area	5	3		1		0	
		Pro-poor efforts and strategies	3	2		1		0	
		Discerned issues in procurement and management of capital projects	5	3		1		0	
	Improving Customer Service of Utilities	Use of Customer Complaints Procedure	3	2		1		0	
	Transparency and Adherence to Regulations	WARIS data submitted (timely, accurate)	9	6		3		0	
		WSB duties derived from License (Public Information Officer in place, information available on website etc.)	2	1		0.5		0	
		Provision of Performance Guarantee	3	0					
Total Maximum Score		110							

\* Scores for the qualitative indicators derived from the Licence achievement report and inspection findings

## 4.4 Performance analysis and ranking of WSBs

### 4.4.1 Overall ranking

The performance analysis and ranking of WSBs is shown in Table 4.4. It is based on the scoring regime outlined in Table 4.3 and considers the aggregate performance of utilities in 2013/14.

*Table 4.4: Performance analysis and ranking of WSBs*

PERFORMANCE INDICATORS		WSB								
		TANA	NORTHERN	ATHI	LVN	RIFT VALLEY	LVS	TANATHI	COAST	
INVESTMENT INDICATORS	Water Coverage %	46	61	71	64	51	41	46	56	
	Non-Revenue Water (NRW)	51	40	39	37	44	45	51	42	
	Hours of Supply	21	20	18	21	14	19	21	12	
FINANCIAL INDICATORS	Cost Coverage of operating costs through fees from utilities	68	29	77	49	128	17	68	51	
	Personnel expenditures as a % of total operating costs	34	33	46	37	54	43	34	49	
	BoD expenditures as a % of total operating costs	2	2	4	6	1	7	2	2	
	Operating costs of WSB as percentage of turn-over in WSB area	10	11	4	17	11	28	10	18	
QUALITATIVE INDICATORS	Adequacy of monitoring of WSPs	Percentage of utilities with regulated tariffs	43%	38%	38%	20%	26%	22%	57%	20%
		Enforcement and compliance strategy applied?*	Good	Satisfactory	Fair	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
		Reporting and compliance of utilities with the regulatory regime	Good	Poor	Poor	Satisfactory	Poor	Satisfactory	Fair	Poor
	Driving efficient investments in WSB area	Facility Management System (and register)	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
		Five year Business and Capital Works Plan for the WSB area	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
		Implementation of the five year Business Plan for the WSB area	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
		Pro-poor efforts and strategies	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
		Discerned issues in procurement and management of capital	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
	Improving customer service of WSPs	Use of customer complaints procedure	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
	Transparency and adherence to Regulation	WARIS data submitted (timely, accurate)	Good	Satisfactory	Satisfactory	Fair	Satisfactory	Good	Satisfactory	Poor
		WSB duties derived from License	Satisfactory	Satisfactory	Fair	Fair	Fair	Satisfactory	Fair	Fair
		Provision of Performance Guarantee	Poor	Good	Poor	Poor	Poor	Poor	Poor	Good
	SCORES		48	46	44	37	36	30	22	22
	RANKING		1	2	3	4	5	6	7	8



Notes to Table 4.4

Note 1: Performance for the qualitative indicators has been evaluated on the basis of the Licence Achievement Reports and findings from inspections.

Note 2: As per the Scoring Regime in Table 4.3, both 'satisfactory' and 'fair' performance have been classified as acceptable and are therefore marked in yellow. Since 'satisfactory' performance is considered to be closer to 'good' performance and 'fair' performance closer to 'poor' performance, the latter has been allocated fewer points than the former.

All WSBs were within the acceptable range for this indicator. Five WSBs recorded improvement as compared to one in the previous year. This improvement, however, is not absolute except for LVN and LVS which reported an actual decrease in personnel costs. Thus, personnel costs are seen to be within an acceptable range only because of a higher increase in operational costs for Athi and Coast. RV is the only WSB where personnel costs constituted more than 50% of the operational costs. The Board needs to take measures to reverse this.

#### 4.4.2 Performance over time

On the basis of the scoring regime outlined in Table 4.4, Athi emerged top with 55/110 points while Coast WSB for the second year running recorded the lowest score of 25/110 points. Compared to 2012/13, where all the WSBs had recorded improvement (Table 4.5), five WSBs recorded improvement in the current year.

**Table 4.5: Performance ranking over time**

WSB	Score 2012/13	Ranking 2012/13	Score 2013/14	Ranking 2013/14	Change in Scores
Tana	55	1	48	1	-7
Northern	46	3	46	2	0
Athi	54	2	44	3	-10
Lake Victoria North	44	4	37	4	-7
Rift Valley	38	5	36	5	-2
Lake Victoria South	28	6	30	6	2
Tanathi	27	7	22	7	-5
Coast	23	8	22	8	-1

### 4.5 Detailed performance analysis of WSBs

A detailed analysis of the performance of WSBs broken down into the key areas of investment, financial and qualitative analysis is presented below.

#### 4.5.1 Investment indicators

The role played by the WSBs is crucial in the realisation of the right to water and sanitation services. Investments carried out by the WSBs are expected to translate to improvement in the investment-related indicators namely Water Coverage, Hours of Supply and NRW at the utility level.

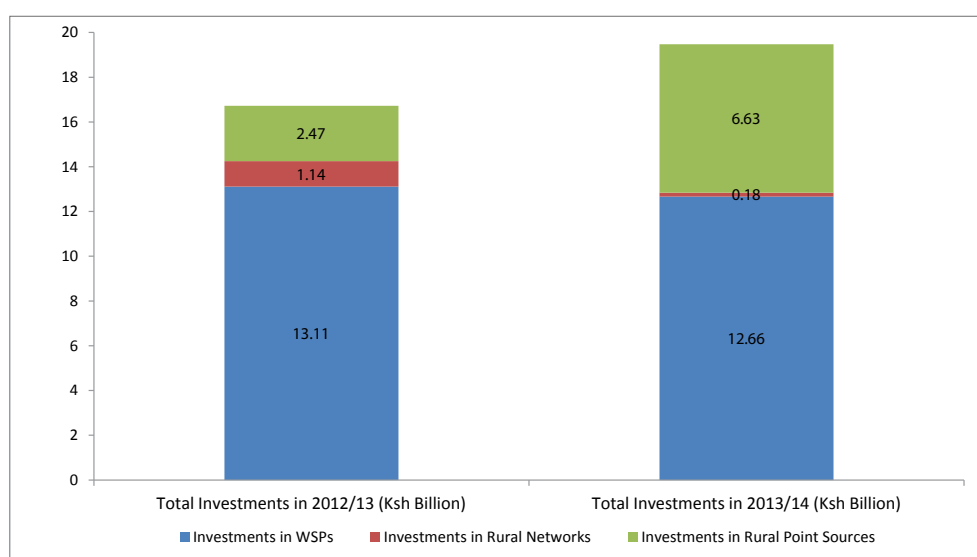
Investments by the WSBs for the period 2013/14 amounted to Ksh 19.48 billion broken down to the different investments shown in Table 4.6. This was an increase of Ksh 2.76 billion in total investments compared to the previous period and amounts to approximately 73% of the total development budget (Ksh 26.8 billion for the WSS sector during the period, according to the *Annual Water Sector Review, 2013-2014*).

**Table 4.6: Investments by WSBs**

Category of investment	LVS	LVN	North- ern	Rift Valley	Tan- athi	Athi	Tana	Coast	TOTAL
Investments in WSPs, KSh million	5,758	45	2,817	1,844	1,309	530	332	29	12,665
Investments in Rural Networks, KSh million	-	-	113	63	-	-	-	-	176
Investments in Rural Point Sources, KSh million	-	5,685	-	950	-	-	-	-	6,635
<b>TOTAL</b>	<b>5,758</b>	<b>5,730</b>	<b>2,931</b>	<b>2,857</b>	<b>1,309</b>	<b>530</b>	<b>332</b>	<b>29</b>	<b>19,476</b>

The biggest increase in investments was recorded in the rural point source category with an increase of 4.16 billion or 169% between the two years. LVN accounted for the bulk of investments here with a proportion of 86%. A breakdown of the investments in the different systems by the WSBs is presented in Figure 4.2.

**Figure 4.2: Investments in water and sewerage systems and rural infrastructure**



The highest investment levels were recorded by LVN and LVS who accounted for 29% and 30% respectively of total sector investments. Coast WSB had less than 1% of the total investments during the period. LVS, Northern and LVN made the highest investment in the WSPs, rural networks and rural point sources respectively. Considering that investments in the rural point sources may not be within areas served by respective utilities, it is critical that WSBs track the impact of the investments to ensure proper monitoring of the progressive realisation of the right to water services. Table 4.7 presents the impact of WSB investments on the three investment-related indicators.

**Table 4.7: WSB investments against performance change in investment-related KPIs**

WSB	Investments in WSPs (in mio Ksh)	Change in water coverage, %	Change in NRW, %	Change in Hours of Supply, Hrs/day
LVS	5,758	1	-5	5
Rift Valley	1,844	-1	-7	1
Tanathi	1,309	-10	1	-1
Athi	530	1	-1	0
Tana	332	-4	-1	2
LVN	45	4	-1	2
Coast	29	6	-1	0
Northern	19	2	-2	0

Out of the three investment indicators, i.e. Water Coverage, Hours of Supply, and NRW, investments made in the sector only had a marginal effect on NRW at national level. It is worrying that the increase in investments has not translated to improvement in the quality of service indicators at the utility level. WSBs are expected to ensure that there is proper planning and monitoring of investments if the desired impact is to be realised.

WSBs are licensed on the basis of 10-year Capital Works Plans. The targets agreed with Wasreb both in the license and the SPA are aligned with national goals. It is therefore the responsibility of the WSBs to ensure that the Capital Works Plans become vehicles for the delivery of national targets. The development of the plans should encompass both bottom-top and top-bottom approaches to ensure inclusivity and adequate stakeholder participation.



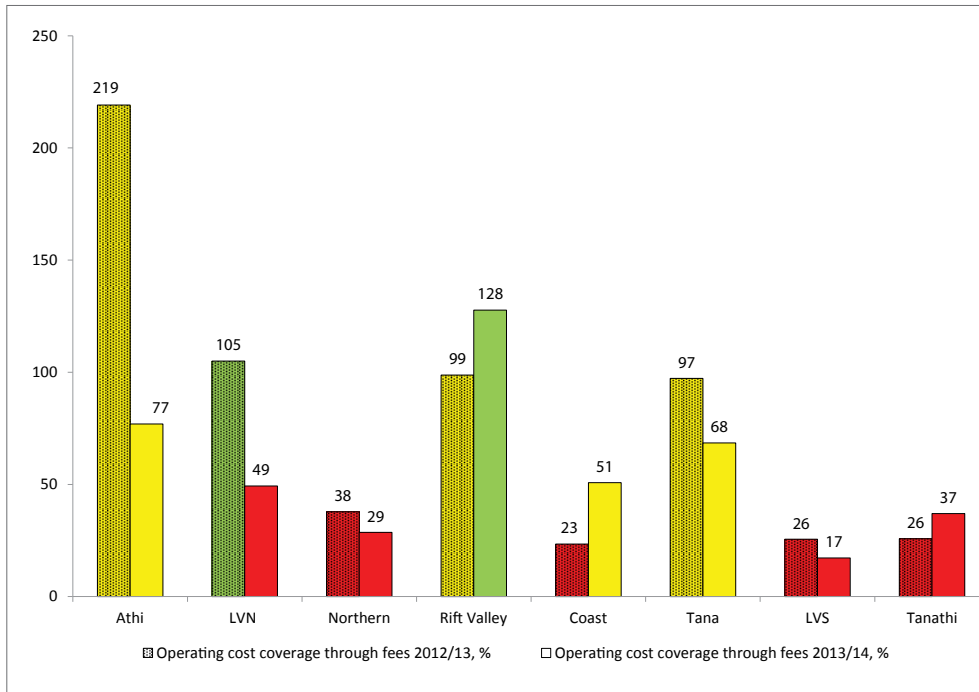
### 4.5.2 Financial indicators

#### (a) Coverage of Operating Costs

Coverage of Operating Costs measures the extent to which a WSB is able to finance its operations from the licensee administrative fees collected from its agents (utilities). In WSBs, operating costs mainly relate to administrative expenses arising from their role as principals of utilities. Full cost coverage (of at least 100%) is crucial to the financial sustainability of WSBs. On the contrary, cost coverage that is too high (above 110%) implies that the costs of the WSB may not be justified and that utilities may be paying higher licensee remuneration fees than required; or that WSBs did not separate asset renewal funds from the licensee remuneration. Asset renewal funds are intended for asset development, not for meeting operational expenditure.

Figure 4.3 shows the performance of WSBs in this indicator.

**Figure 4.3: Coverage of WSB operating costs in %**



Rift Valley was the only WSB able to fully cover its operational costs from licensee remuneration fees. Most WSBs recorded a decline in cost coverage, a situation mainly attributed to a drop in the fees received from the agents. Despite having very low cost coverage, Northern and LVS WSBs have been declining in performance, raising concern over their financial sustainability of the WSBs. The tariff process provided WSBs with adequate funds to meet their operational costs. It is worrying, however, that WSBs are not able to collect these fees from their agents. The administrative fees received from the utilities in comparison with the WSB operating costs is presented in Table 4.8.

**Table 4.8: Administrative fees from utilities vs Operating Costs**

WSB	Admin Fees from the WSPs in 2012/13 in Ksh million	Operating Cost in 2012/13 in Ksh million	Operating cost coverage through fees 2012/13, %	Admin Fees from the WSPs in 2013/14 in Ksh million	Operating Cost in 2013/14 in Ksh million	Operating cost coverage through fees 2013/14, %
Athi	581	265	219	260	338	77
LVN	129	123	105	83	169	49
Northern	22	59	38	19	66	29
Rift Valley	123	125	99	144	113	128
Coast	36	152	23	172	338	51
Tana	176	181	97	107	156	68
LVS	39	151	26	40	231	17
Tanathi	40	154	26	46	124	37

Athi and LVN, who in the previous period were able to cover their costs from licensee fees, declined in performance in the current period. For the two WSBs, the drastic drop is as a result of the drop in licensee fees as well as an increase in operational costs. Northern, LVS and Tanathi WSBs cannot even cover their personnel costs from the administrative fees, which brings into question their sustainability.

### (b) Operating Costs of WSBs as Percentage of Turnover in WSB Area

Operating Costs as a Percentage of the Turnover in the WSB area measures the efficiency of a WSB in executing its functions. It is expected that the operating costs of a WSB should be proportionate to its turnover. Therefore, different benchmarks apply to each WSB, depending on the turnover (Table 4.9). WSBs' expenditure as a percentage of their turnover is shown in Table 4.9.

**Table 4.9: Operating Costs of WSBs as Percentage of Turnover in WSB Area**

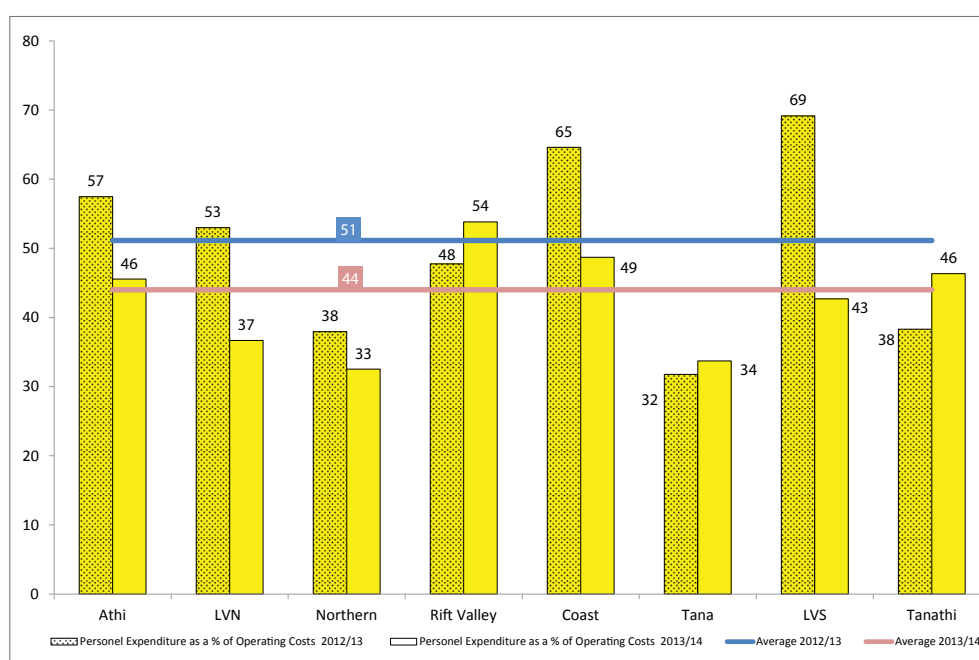
WSB	Operating Cost in 2012/13 in Ksh million	Turnover 2012/13 in Ksh million	Operating cost as a % of Turnover 2012/13	Operating Cost in 2013/14 in Ksh million	Turnover 2013/14 in Ksh million	Operating cost as a % of Turnover 2013/14
Athi	265	8,269	3	338	8,044	4
LVN	123	923	13	169	1,005	17
Northern	59	535	11	66	626	11
Rift Valley	125	942	13	113	1,023	11
Coast	152	1,876	8	338	1,881	18
Tana	181	1,407	13	156	1,598	10
LVS	151	798	19	231	814	28
Tanathi	154	569	27	124	660	19

All the WSBs, except Coast and LVS, were within the acceptable level of the sector benchmark. Athi, LVN, Coast and LVS recorded declines with the biggest decline being recorded by Coast at 10 percentage points.

### (c) Personnel Cost as percentage of Operating Costs

Personnel Cost as Percentage of Operating Cost measures whether staff costs are proportionate to the overall operating costs, as defined by the sector benchmark.

Figure 4.4: Personnel Expenditures as a Percentage of Operating Costs



A comparison of WSBs' personnel expenditure with their operating cost is presented in Table 4.10.

Table 4.10: Personnel Expenditure of the utilities vs Operating Expenditure

WSB	Personnel Expenditure in 2012/13 in Ksh million	Operating Cost in 2012/13 in Ksh million	Personnel Expenditure as a % of Operating Costs 2012/13	Personnel Expenditure in 2013/14 in Ksh million	Operating Cost in 2013/14 in Ksh million	Personnel Expenditure as a % of Operating Costs 2013/14
Athi	152	265	57	154	338	46
LVN	65	123	53	62	169	37
Northern	22	59	38	22	66	33
Rift Valley	60	125	48	61	113	54
Coast	98	152	65	165	338	49
Tana	58	181	32	53	156	34
LVS	104	151	69	99	231	43
Tanathi	59	154	38	57	124	46

All WSBs were within the acceptable range for this indicator with more WSBs (five as compared to one in the previous year) recording improvement. This improvement, however, is not absolute except for LVN and LVS which reported an actual decrease in personnel costs. Thus, personnel costs are seen to be within an acceptable range only because of a higher increase in operational costs for Athi and Coast. Rift Valley is the only WSB whose personnel costs constitute more than 50% of operational costs. The Board needs to take measures to reverse this.

#### (d) Board of Directors (BoD) Expenditure as a Percentage of Operating Costs

Board of Directors (BoD) Expenditure as a Percentage of Operating Costs measures the extent to which BoD costs are within the set benchmark. Wasreb's Corporate Governance Guideline sets these costs at 2% of the total operating costs of the WSB. It is expected that for WSBs with high turnovers such as Athi and Coast WSB, the percentage is expected to be even lower than 2%. This is because BoD expenditure and hence BoD mandate should not vary with the size of the WSB.

A comparison of WSBs' BoD expenditure with their operating cost is shown in Table 4.11.

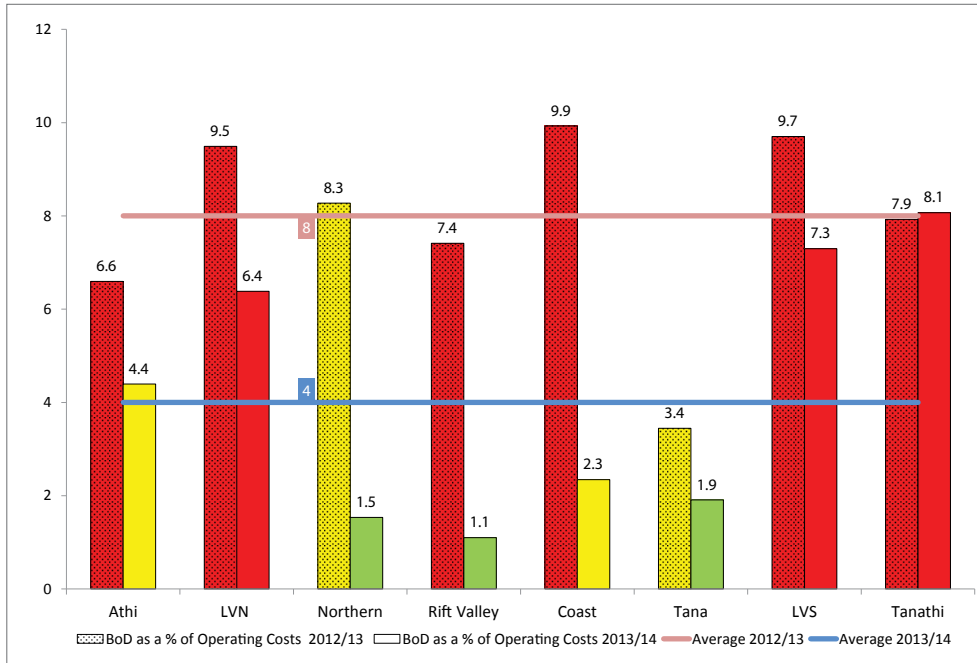
*Table 4.11: BoD expenditure of the WSBs vs Operating Expenditure*

WSB	BoD Expenditure in 2012/13 in Ksh million	Operating Cost in 2012/13 in Ksh million	BoD as a % of Operating Costs 2012/13	BoD Expenditure in 2013/14 in Ksh million	Operating Cost in 2013/14 in Ksh million	BoD as a % of Operating Costs 2013/14
Athi	17	265	7	15	338	4
LVN	12	123	9	11	169	6
Northern	5	59	8	1	66	2
Rift Valley	9	125	7	1	113	1
Coast	15	152	10	8	338	2
Tana	6	181	3	3	156	2
LVS	15	151	10	17	231	7
Tanathi	12	154	8	10	124	8

Five WSBs namely Northern, Rift Valley, Coast, Tana and Athi were able to attain acceptable levels of sector benchmark in this indicator, with four WSBs being within the good range. All the five WSBs recorded an absolute drop in Board expenses.

In absolute terms, LVS overtook Athi to incur the highest expenses in BoD allowances and related costs. The amount incurred by LVS is slightly more than the combined expenses of Northern, Rift Valley, Coast and Tana. This is highly unacceptable considering that BoD remuneration is uniform across all WSBs, as defined by the State Corporations Guidelines. Hence the huge variations between the different WSBs can only be attributed to a variation of Board activities. The huge variation between the highest and lowest spending WSBs shows non-adherence to the defined levels of expenditures and is an expression of poor governance. To contain costs, WSBs need to adhere to the schedules of planned Board meetings and approved ceilings of Board expenditures.

Figure 4.5: Board of Directors (BoD) Expenditures as a Percentage of Operating Costs





### 4.5.3 Qualitative indicators

#### (a) Enforcement and compliance

Wasreb continues to utilize the Enforcement and Compliance Strategy (ECS) to ensure adherence to the requirements of the Water Act 2002 together with the rules, regulations and guidelines that have been issued under the Act. The licence issued to WSBs requires that the performance of the utilities, who are agents of WSBs, are regularly monitored. WSBs therefore exercise some delegated regulatory functions and, in negotiating the SPA, are at liberty to set up an incentive and penalty scheme for utility performance. All WSBs, except Coast, have been rated satisfactory in the application of the ECS on their agents. After being placed under Wasreb's Special Regulatory Regime (SRR), LVS has improved its rating from Fair to Satisfactory. Table 4.12 highlights the main areas of non-compliance by WSBs.

*Table 4.12: Non-compliances in the WSBs*

WSB	Areas of Non-compliance
Athi	Failure to submit any quarterly license reports as per rule 54
	Failure to submit Audited accounts for year 2012/2013 as per rule 55(2)
Coast	Failure to submit quarter three and four reports as per rule 54(1)
	Failure to submit the Audited accounts report as per rule 55(2) for the year 2012/13
LVN	Failure to submit quarter three and four reports as per rule 54(1)
	Failure to submit the Audited accounts report as per rule 55(2) for the year 2012/13
LVS	Failure to submit quarterly reports as per rule 54(1) of the LN
	Failure to submit the Audited accounts report as per rule 55(2) for the year 2012/13
Northern	Failure to submit Audited accounts for year 2012/2013 as per rule 55(2)
Rift Valley	Failure to submit SPAs for approval as per section 55 of the Water Act 2002 for Nakuru Urban WSP, Nakuru Rural WSP and Naivasha WSP contrary to Licence condition 4
	Failure to submit the Audited accounts report as per rule 55(2) for the year 2012/13
Tanathi	Failure to submit the Audited accounts report as per rule 55(2) for the year 2012/13

#### (b) Submission and Implementation of Tariff Proposals

Justified tariffs are crucial in promoting the financial sustainability of utilities as well as ensuring that consumers pay fair prices for water services. As licensees, WSBs are required to establish the water supply and sewerage tariffs applicable for each utility in accordance with the guidelines issued by the Regulator. Additionally, the licensee has a responsibility of monitoring the correct implementation of tariffs and should notify Wasreb of any deviations by the agent.

In the period under review, all the WSBs had less than 60% of their utilities operating with justified tariffs. It is expected that the proportion of utilities with justified tariffs would have a direct correlation with the cost coverage of WSBs, who are supposed to recoup their costs from fees paid by utilities. However, this does not seem to be the case for all the WSBs.

Table 4.13 provides the proportion of utilities in WSB areas vis-a vis cost coverage from licensee administrative fees.

**Table 4.13: Proportion of utilities in the WSB areas vis-a vis cost coverage**

WSB	Proportion of Valid RTAs, %, 2012/13	Operating cost coverage through fees 2012/13, %	Proportion of Valid RTAs, %, 2013/14	Operating cost coverage through fees 2013/14, %
Athi	38	219	38	77
Coast	29	23	57	51
LVN	20	105	20	49
LVS	9	26	22	17
Northern	25	38	43	29
Rift Valley	21	99	26	128
Tana	30	97	43	68
Tanathi	13	26	20	37

### (c) Facility Management Systems

A Facility Management System is crucial for WSBs in discharging their role of asset management and development. All licensees have an obligation to develop and maintain a facility management system, including an inventory of all assets and facilities in their jurisdiction. An updated facility inventory should be submitted to the Regulator every three years based on the Regulatory Board's instructions and guidelines. It is, however, noted that a majority of the WSBs are yet to put in place a comprehensive facility management system with only six WSBs having developed a listing of their assets.

### (d) Five-year Business and Investment Plans

Providing sustainable water supply and sanitation services requires sound physical, financial and strategic planning. This is necessary to ensure that existing and future financial resources are commensurate with investment needs as well as the costs of operating and maintaining services. Investments in water and sewerage infrastructure are central to the progressive realisation of the human right to water and sanitation. The license requires WSBs to clearly demarcate and map out service areas for utilities to enable them track improvement in the provision of water. The 10-year Capital Works Plan by the licensee should include a detailed investment strategy and a financing plan and should be updated on a rolling basis in accordance with guidelines issued by the Regulator. On an annual basis, the licensee should prepare and publish an Annual Report detailing its strategic priorities and investment programme, and the achievements of the strategic priorities and investment programme for that year.

In the current period, none of the WSBs fully complied with the requirements of the licence with regard to investment planning. There is, therefore, a need to have a comprehensive sector investment plan showing investments necessary to achieve the progressive realisation of the right to water and sanitation.

Wasreb recently completed the development of investment guidelines for the sector with the objective of assisting planning initiatives in WSBs.

### **(e) Pro-poor efforts and strategies**

The license issued to WSBs requires the licensees to collaborate with their agents to develop, publish and implement a pro-poor strategy to improve service in LIAs. One such strategy would be use of low cost technology, such as water kiosks, to reach underserved consumers. All WSBs demonstrated some efforts in the development and implementation of pro-poor strategies during the reporting period. Lack of disaggregated data for utilities, however, masks service inequalities which in effect limit accountability.

To enhance the monitoring of pro-poor efforts and strategies, Wasreb has redesigned its information system (WARIS) to incorporate a pro-poor module for assessing the quality of service (access and reliability).



**(f) Discerning Issues in Procurement and Management of Capital Projects**

Adherence to proper procurement procedures in capital projects is critical to the successful implementation of those projects and is an assurance of value for money. Licensees are required to ensure that procurement of capital works and services is done on a competitive basis in accordance with the Kenyan procurement statute and any relevant Regulatory Board guidelines, rules and regulations.

All the WSBs performed satisfactorily in this indicator. The increase in investments without a commensurate increase in performance, however, shows that performance in aspects like coverage will only improve if there is value for money spent.

**(g) Use of Model Customer Contract**

The Licence, under Clause 7.1, requires the licensees to ensure that model customer contracts are developed and in use by their agents. In the period under review, all the WSBs had model contracts for use by the utilities.

**(h) Use of Customer Complaints Procedure**

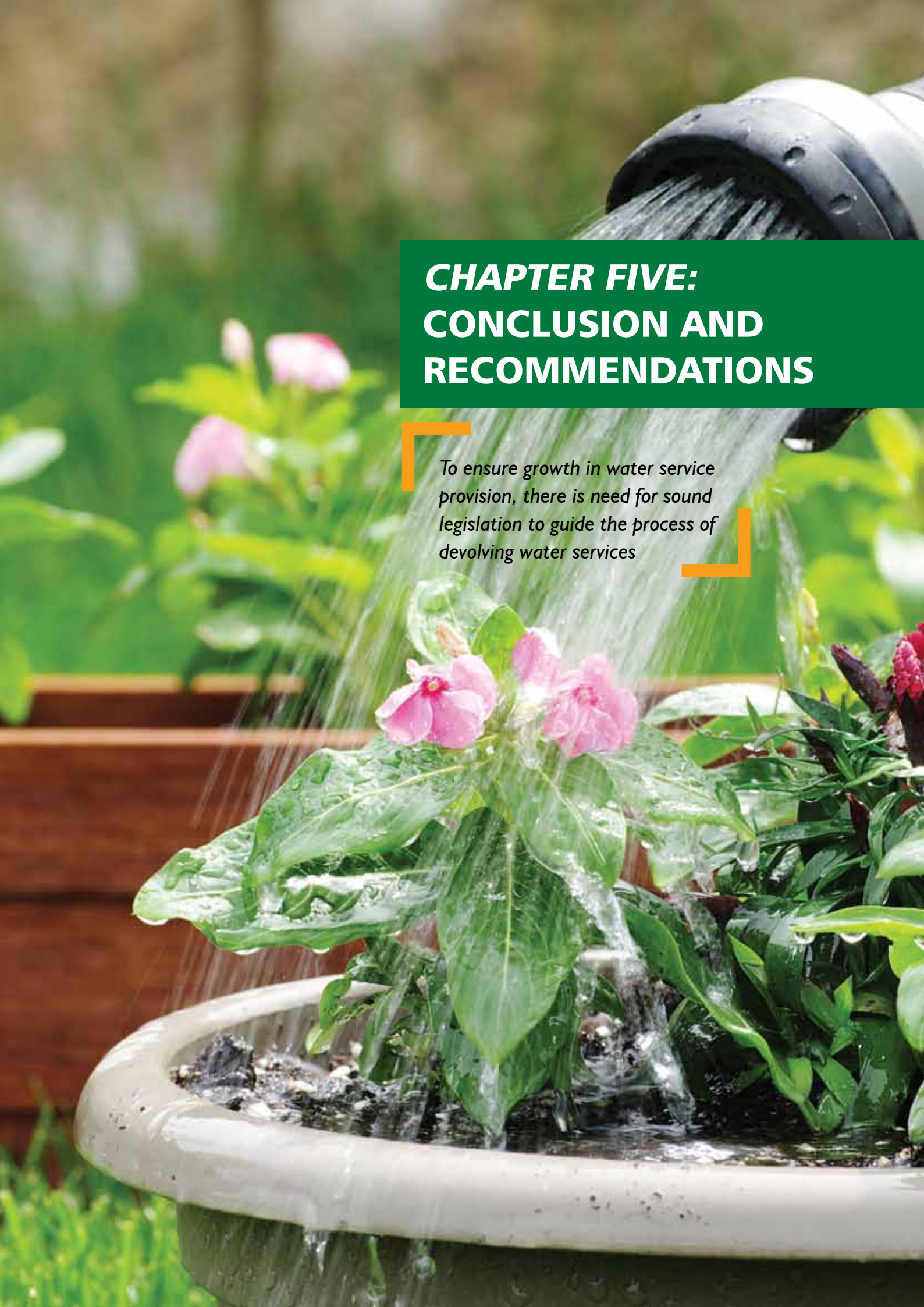


Licensees are required to adhere to the Customer Service and Complaints Procedure contained in the Model Water Service Regulations and shall thereafter implement and undertake measures to ensure that the procedures are applied by their agents. The Licensee shall seek to resolve complaints in accordance with the Customer Service and Complaints Procedure and may investigate the complaint, mediate a solution, and apply measures contained in its regulations against the party found to be in default.

Tana and Rift Valley were rated good in their efforts to use the customer complaints procedure. The performance of all the other WSBs was satisfactory except Coast which was rated as fair.

**(i) Performance Guarantee**

Licensees are required to procure and maintain a Performance Guarantee for the period of the license. Except for Coast and Northern, all WSBs did not maintain a Performance Guarantee with Wasreb during the reporting period. However, for this breach of license conditions, Wasreb continued to levy penalties for the non-compliance.



## **CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS**

*To ensure growth in water service provision, there is need for sound legislation to guide the process of devolving water services*

## 5 CONCLUSION AND RECOMMENDATIONS

### First step to 2030 begins today...

The year 2015 is particularly significant for the water sector because it represents the period when Millennium Development Goal number 7c was meant to be attained. The target set was to halve the population without access to safe drinking water and basic sanitation. Taking stock, it is reported that this MDG goal was met five years ahead of schedule in most parts of the world except sub-Saharan Africa. Thus, Africa still has a lot to be done. The same for Kenya.

#### Some gains for Kenya

In Kenya, the water coverage level in urban areas currently stands at 53%, which implies that despite the increase in people served, demand continues to increase, driven mainly by the increasing population and the high rate of urbanization.

The last ten years of water sector reforms witnessed great transformation in the country's water services sector. One of the achievements under the reforms was the formalization and commercialisation of water services. The former means that services are provided by licensed utilities, who are held accountable to provide quality services in a sustainable and affordable manner and according to the minimum standards set by Wasreb. The latter implies that utilities have been formed as public limited companies – formerly municipality-owned, and now the Counties – to operate according to commercial business principles. Revenues are ring-fenced and the utilities are controlled by their Boards of Directors, whose members are transparently appointed to represent broad stakeholder interests.



The momentum of the reforms needs to be sustained.

The vision of the sector will now be guided by the new Sustainable Development Goals whose focus remains “ensuring water services for all” by year 2030. Fifteen years down the line, it is hoped that more gains will be made. The first step towards this journey is now.

#### Sanitation is wanting...

The situation of sewerage services is, however, wanting. At the current access level of 16% , and with only 30 out of the 215 urban centres in the country having modern sewer systems, the country risks experiencing undesirable effects, such as poor health and disease, as a

result of poor sanitation. There is need for increased funding for sewerage services. The policy position should be that all investments for water in urban areas must have a sewerage component. Wasreb is exploring possibilities of implementing a sewerage services levy to cover part of the collection, treatment and disposal costs in urban centres.

## **Investment... investment**

In order to realise the target of 100% water coverage by 2030, the National Water Master Plan estimates that about Ksh 1,287 billion will be required. This calls for more capital investment, and prudent spending. Donor over-dependence should also be discouraged in preference for sustainable funding mechanisms like tariff adjustment.

## **Governance**

In the pilot study done by Wasreb on the Governance indicator, a direct correlation was established between good governance and utility performance. It is therefore necessary to have professionals with integrity at both Board and management levels in our institutions.

## **Service improvement**

Efforts to improve water services within utilities should be focused on two aspects: efficiency and sustainability. Wasreb makes the following recommendations to the Counties in order to improve service delivery:

- Develop a viability roadmap for all utilities
- Improve the technical competence of utilities
- Disclose all financial support (O+M and investments) made to utilities. Wasreb has a provision for capturing this information under WARIS, and this may be used for monitoring.

One of the impediments to the improvement of services is the high rate of Non-Revenue Water. Currently standing at 42% against a 2015 target of below 30%, NRW continues to pose a challenge to the sustainability of the sector. The water losses translate to an estimated loss of Ksh 10.6 billion in the current period. It is worrying that in six Counties, water losses still exceed water sales. The bulk of the losses are commercial in nature and are mainly attributed to integrity issues within utilities. All utilities are encouraged to actualize their NRW reduction plans based on the recently disseminated NRW reduction standards. County governments are also required to monitor the implementations of these plans.

### ***Sector monitoring***

In the advent of devolution in year 2013, some WSBs unilaterally stopped or slowed down on the function of monitoring their utilities. They left the utilities without any monitoring or backstopping support. As per the Transition to Devolved Governments Act, utilities were still supposed to be assisted with capacity building and technical support in the functions of planning, monitoring, evaluation and enforcement of the SPA. Consequently, a growing number of utilities are now operating in default of the licence (tariff and monitoring) and Service Provision Agreement conditions. This is a material non-compliance as WSBs expect to be paid the licensee administrative costs.

### ***Fees and levies***

Audited accounts of all WSBs show that licensee fees owed to Water Services Boards are outstanding and not collected in substantial arrears yet WSBs have the powers to collect this based on their corporate status under Section 51 of the Water Act 2002 and the license conditions issued under Section 57 of the Water Act 2002. The amounts owed to Water Services Boards by utilities as at 30th June 2014 was Ksh 4.6 billion. This is a material non-compliance on the part of Water Services Boards and utilities who fail to remit the amount. Uncollected amounts fail to provide incentives to improve efficiency. The licensee can collect this debt under the provisions of legal notice of 2012 as it is a recognised legal debt under the SPA. If the foregoing situation is allowed to continue, it will result in deterioration of service levels and will increase the risk of an unsustainable sector, placing development finance (loans) at risk.

### **Serving the poor**



The performance of utilities in LIAs continues to be masked by lack of disaggregated data. Water service provision in poor neighbourhoods continues to be disadvantaged. The provision of disaggregated data is crucial for tracking of utility performance with respect to service provision to the poor.

Wasreb is currently updating MajiData to ensure that data on LIAs is available. During the reporting period, only 31 of the reporting utilities had dedicated pro-poor units.

To improve service to the poor, it is important to:

- Increase the funding of low-cost technologies through WSBs and the Water Services Trust Fund (WSTF), giving more focus to sanitation.
- Report on developments in low income areas while reporting on services in towns
- Ensure that informal service providers are mapped and phased out.

### **Devolution**

It is worth noting that the provision of water services is a devolved function. However, the devolution of water services still requires greater clarity and certainty. The Water Bill 2014 tries to resolve this but more clarity will be required on functional assignments to different role-players in the sector. The roles of County governments and the national government in the development and operation of assets in the sector requires more clarification. This is to ensure that sector policy frameworks do not lead to duplicated efforts and overlapping responsibilities.





Sound legislation is necessary to minimise conflict between national and County governments. The national government has an obligation to ensure the progressive realisation of the right to water and sanitation by setting a transparent national infrastructure system, budgeting for adequate resources, setting standards, monitoring and reporting on sector performance. On the other hand, County governments bear the constitutional obligation of ensuring that utilities under their jurisdiction are commercially sustainable, operate efficiently and embrace proper governance practices in their operations. Efficient utilities attract finances for investments from the private sector.

There are ongoing efforts to have legislation to support the devolution process in the water sector. By October, the Water Bill 2014 had been taken to the senate after having being passed by the National Assembly.

Given the foregoing, it is important that the Water Bill 2014 is passed to clearly define roles of the national and County governments for better service provision.

A smooth devolution of water services will call for County leadership to drive reform but without disrupting services. County leadership may want to change the way water services are provided by, for example, changing the current governance structure or tariff determination process. However, irrespective of the responsibility County governments take in water service provision, the national government remains the primary duty bearer for the progressive realisation of the right to water and sanitation. Therefore during the transition period, the priority interest at both levels of government should be in ensuring that services are kept running.



## Quest for national Regulator

Given the nature of water as a natural monopoly and the rights issue that surrounds the provision of water services, the national government is under obligation to continue developing national standards for the progressive realisation of the right to water. It is within the interests of national government to have utilities which are commercially viable, which operate according to good corporate governance principles, and which are accountable to their customers and the public. The only way to guarantee this is by having a national Regulator who is able to balance the social interests of the public and the commercial interests of utilities/Counties.

Following a visit to Kenya in 2012, the UN special rapporteur on the human right to safe water and sanitation, Ms Caterina de Albuquerque, made a case for the existence of a national Regulator. Her verdict was that an independent body such as the Water Services Regulatory Board has a significant contribution to monitoring compliance of service providers with the normative content of the human right to water and sanitation – namely quality, affordability, availability, accessibility, acceptability as well as principles of non-discrimination, equity, sustainability, accountability and participation.

The report, *On the Right Track*, notes that even in a decentralized system, the principal human rights obligation rests with the national government which carries the overall obligation to oversee the realisation of the human right to water and sanitation. A national Regulator should set minimum mandatory standards that comply with human rights. Based on these national standards, County governments can define their own standards. The standards should include affordability of water and sanitation to ensure improved access.

In view of the above, the report calls on Parliament to urgently pass the Water Bill 2014 while clarifying the roles of the national government and County governments and in particular the role of a national Regulator.



# ANNEXES

## ANNEX 1: GENERAL DATA ON COUNTIES

No.	County	Population in the County	Percentage of County population within service areas of WSPs	INDICATORS									
				Water Coverage (%)	Sewerage Coverage (%)	Hrs of supply	NRW (%)	O+M cost coverage (%)	Unit cost of water produced (Ksh/m3)	Unit operating cost of water billed (Ksh/m3)	Average tariff (Ksh/m3)	Weighted Score	WSPs in the County
1	Nyamira	673,572	100	36	84	14	48	Cusii: 74	58	107	75	40	Gusii
2	Kericho	847,123	41	60	41	22	49	Kericho:100 Tililbei:48	52	99	79	76	Kericho, Tililbei
3	Baringo	631,638	6	42	0	10	69	Eldama Ravine:22	63	207	43	40	Eldama Ravine
4	Kirinyaga	568,864	78	32	0	19	66	Kirinyaga: 108	19	51	48	88	Gichugu Kirinyaga
5	Kisii	1,319,678	53	36	84	14	48	Gusii:73	58	107	75	40	Gusii
6	Kitui	1,129,118	100	32	0	16	61	Kiambere- Mwingi: 54 Kitui: 55	82	201	117	96	Kiambere Mwingi Kitui
7	Laikepia	483,390	36	86	49	23	40	Nanyuki: 114 Nyahururu: 152 Rumuruti: 57	66	87	88	107	Nanyuki, Nyahururu, Rumuruti
8	Siaya	960,919	43	29	0	19	53	Sibo: 50	50	105	49	83	Sibo
9	Murang'a	1,069,569	90	44	3	19	58	Gatanga: 110 Katamathi: 88 Kahuti: 105 Muranga South: 83 Muranga: 99	23	46	39	67	Gatanga, Katamathi, Kahuti, Muranga South, Muranga
10	Kajiado	856,926	66	32	0	12,491	57	Oloolaiser: 95 Olkejuado: 39 Nolturesh-Loitoktok: 51 Namanga:96	43	86	61	43	Oloolaiser, Olkejuado, Nolturesh-Loitoktok, Namanga
11	Mombasa	1,071,654	97	57	9	6	48	Mombasa: 92	64	120	107	18	Mombasa
12	Turkana	975,858	7	44	0	19	45	Lodwar: 85	44	76	60	57	Lodwar
13	Taita-Taveta	310,299	20	61	0	9	43	Tavevo: 73	57	96	68	30	Tavevo
14	Kisumu	1,105,353	37	63	14	24	42	Kisumu: 103	59	98	99	121	Gulf Nyamas Kisumu
15	Narok	1,000,899	7	32	0	21	41	Narok:90	88	143	116	52	Narok
16	Nyandarua	701,363	38	32	0	21	41	Engineer: n.d. Nyandarua: 46 Olkalou: 86	88	143	116	52	Engineer, Nyandarua, Olkalou
17	Marsabit	334,277	14	23	0	8	38	Moyale: n.d.	39	62	84	22	Moyale
18	Samburu	248,470	16	23	0	8	40	Maralal: 31	129	205	56	67	Maralal
19	Kilifi	1,289,613	84	63	0	18	37	Kilifi-Mariakani: 87 Malindi: 102	61	96	86	72	Kilifi-Mariakani Malindi
20	Migori	1,065,835	24	17	0	11	37	Mikutra: 55	85	133	56	46	Mikutra
21	Nakuru	1,895,066	55	77	21	17	38	Naivasha: 100 Nakuru: 96 Nakuru Rural: 81	49	76	69	102	Naivasha, Nakuru, Nakuru Rural
22	Garissa	747,177	20	61	5	22	42	Garissa 93	34	53	47	61	Garissa
23	Bungoma	1,697,243	24	80	31	22	38	Nzoia:92	50	78	67	109	Nzoia
24	Trans Nzoia	1,005,758	40	80	31	22	38	Nzoia: 92	50	78	67	109	Nzoia
25	Embu	561,607	84	61	6	22	44	Embe: 50 Embu: 167 Ngandori Nginda:139 Kyen: 183 Ngagaka: 115	25	37	41	100	Embe, Embu, Ngandori Nginda, Kyeni, Ngagaka
26	Kiambu	1,841,976	87	70	13	20	37	Gatundu South: 116 Kikuyu: 83 Ruiru-Juja: 113 Thika: 98 Kiambu: 85 Githunguri: 77 Karimenu: 162 Karuri:62 Limuru: 104	40	60	56	117	Gatundu South, Kikuyu, Ruiru-Juja, Thika, Kiambu, Githunguri, Karimenu, Karuri, Limuru
27	Meru	1,547,298	38	51	6	22	39	Imetha: 81 Meru: 113 Tuuru: 125	43	64	60	109	Imetha, Meru, Tuuru
28	Kwale	738,931	40	66	0	15	32	Kwale:77	57	84	60	54	Kwale
29	Isiolo	153,988	41	53	10	12	35	Isiolo:90	62	91	77	111	Isiolo
30	West Pokot	597,239	13	19	0	19	29	Kapenguria: 45	58	82	37	69	Kapenguria
31	Homa Bay	1,101,125	11	26	14	7	31	South Nyanza:49	42	59	28	76	South Nyanza
32	Lamu	114,714	19	70	0	6	36	Lamu:85	51	69	54	87	Lamu
33	Nyeri	721,748	76	69	9	23	41	Nyeri:134 Mathira: 120 Othaya Mukurweini: 87 Tetu Aberdare: 108	37	49	54	116	Nyeri, Mathira, Othaya Mukurweini, Tetu Aberdare
34	Makueni	1,015,492	34	32	0	13	27	Wote: 76 Kibwezi Makindu: 75	62	82	59	65	Wote, Kibwezi Makindu
35	Uasin Gishu	1,054,331	37	70	30	16	35	Eldoret:107	49	61	59	126	Eldoret
36	Nairobi	3,836,698	97	80	46	18	39	Nairobi:105	36	53	55	115	Nairobi
37	Nandi	868,664	9	44	0	21	37	Kapsabet Nandi: 94	39	42	37	75	Nyanas, Kapsabet Nandi
38	Machakos	1,195,193	80	43	9	11	49	Machakos: 91 Mavoko: 104 Matungulu Kangundo: 108 Mwala:77 Yatta: 29 Kathiani: 72	90	163	136	71	Machakos, Mavoko, Matungulu Kangundo, Mwala, Yatta, Kathiani
39	Busia	858,259	47	72	13	20	39	Kakamega Busia:124	68	67	76	112	Kakamega Busia
40	Kakamega	1,844,304	22	72	13	20	39	Kakamega-Busia:124	68	67	76	112	Kakamega-Busia
41	Tharaka-Nithi	423,518	31	73	0	24	38	Nithi: 115 Murugi Mugumango: n.d.	32	29	32	113	Nithi, Murugi Mugumango
42	Vihiga	652,377	35	15	0	12	42	Amatsi: 91	66	28	25	42	Amatsi
43	Elgeyo-Marakwet	424,781	12	18	0	12	32	Iten Tambach:25	n.d.	n.d.	52	57	Iten Tambach
44	Tana River	283,759	n.d.	n.d.	n.d.	n.d.	n.d.	Hola Tana River: n.d.	n.d.	n.d.	n.d.	n.d.	Hola Tana River
45	Mandera	1,245,591	n.d.	n.d.	n.d.	n.d.	n.d.	Mandera: n.d.	n.d.	n.d.	n.d.	n.d.	Mandera
46	Bomet	834,165	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	Bomet
47	Wajir	793,804	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	Wajir

n.d. no data

## ANNEX 2: METHODOLOGY FOR QUALITY OF SERVICE KPIS

Indicator	Indicator elements	Computation
<b>Water Coverage</b>	Population served through individual connections - A	Total No. of active connections x Average household size The average household size is derived from the census data and is unique for each area The allowed per capita consumption is 20l/c/day and 10l/c/day for domestic and communal water points respectively
	Population served through yard taps - B	Total No. of active yard taps x Average No. of households served by a yard tap x Average household size Allowed range of average number of households per yard tap is 4 -10
	Population served through small MDUs - C	Total No. of active small MDUs x Average No. of households per small MDU x Average household size Allowed range of average number of households per small MDU is 4-10
	Population served through medium MDUs -D	Total No. of active medium MDUs x Average No. of households per medium MDU x Average household size Allowed range of average number of households per medium MDU is 11-20
	Population served through large MDUs - E	Total No. of active large MDUs x Average No. of households per large MDU x Average household size Allowed average number of households per large MDU is >21
	Population served through Kiosks - F	Total No. taps (depends on kiosk type) x Average No. of people served per tap Allowed range for kiosks is 100-400 people Sublocation population is derived from Census data and growth rates applied appropriately
	Number of people served with water services	A+B+C+D+E+F
	Population in Service area	Sum population of all sublocations within the WSP service area
	Water Coverage	Number of people served with water services/ Population in Service area
<b>Drinking Water Quality</b>	Compliance with planned no. of residual chlorine tests	Total no. of residual chlorine tests conducted of all the schemes within the WSP service area / Total no. of residual chlorine tests planned of all the schemes within the WSP service area x 100
	Compliance with residual Chlorine standards	Total no. of residual Chlorine tests within norm for all the schemes within the WSP service area / Total no. of residual Chlorine tests conducted for all the schemes within the WSP x 100
	Drinking Water quality, Residual Chlorine	0.6 * Compliance with planned no. of residual chlorine tests + 0.4 x Compliance with residual Chlorine standards
	Compliance with planned no. of bacteriological tests	Total no. of bacteriological tests conducted of all the schemes within the WSP service area / total no. of bacteriological tests planned of all the schemes within the WSP x 100
	Compliance with bacteriological standards	Total no. of bacteriological tests within norm for all the schemes within the WSP service area / total no. of bacteriological tests conducted for all the schemes within the WSP x 100
	Bacteriological quality	0.6 x Compliance with planned no. of bacteriological tests + 0.4 x Compliance with bacteriological standards
	Drinking Water Quality	0.4 x Drinking Water quality, Residual Chlorine + 0.6 x Bacteriological quality
<b>Hours of Supply</b>	This is the average no. of hours water services are provided per day of all the zones within a scheme	Weighted average of all registered zones, factoring no. of active connections (hrs x number of active connections, zone 1) + (hrs x number of active connection, zone 2) + (hrs x number of active connection, zone n)

### ANNEX 3: METHODOLOGY FOR ECONOMIC EFFICIENCY KPIS

Indicator	Indicator elements	Computation
<b>Personnel Expenditure as a Percentage of O&amp;M Costs</b>	Total personnel expenditures	Sum of personnel expenditures incurred during the reporting period  They include basic salaries, allowances, wages, gratuity, statutory and pension contributions by employer, subscriptions and training levy, leave, Incentives (Bonus) & Any other personnel expenditure.
	Personnel Expenditure as a Percentage of O&M Costs	$(\text{Total personnel expenditures} / \text{Total O+M}) \times 100$
<b>Operation and Maintenance Cost Coverage</b>	Total operating revenues <b>A</b>	Sum of billing for water, sewerage and other services  Billing for other services include charges on connection and reconnection, illegal connections, meter rent, meter testing , replacement of stolen meters and exhauster services.
	Total operating expenditures <b>B</b>	Sum of expenses on personnel, BoD, General admin, direct operations, maintenance and levies and fees.  1. Direct operational expenditures include electricity, chemicals and fuel for vehicles.  2. Levies and fees include water abstraction fees, WSB fees, effluent discharge fees and regulatory levy.
	Operation and Maintenance Cost Coverage	$(A/B) \times 100$
<b>Revenue Collection Efficiency</b>	Total water and sewerage billing amount - <b>A</b>	Total amount of all bills on water and sewerage services during the reporting period of all the schemes within the WSP service area
	Total billing for other services - <b>B</b>	Total of all billing for other services of all the schemes within the WSP service area
	Total billing	$A + B$
	Total collection	Sum of all revenue collected of all the schemes within the WSP service area
	Collection Efficiency	$(\text{Total Collection} / \text{Total Billing}) \times 100$

**ANNEX 4: METHODOLOGY FOR OPERATIONAL SUSTAINABILITY KPIS**

Indicator	Indicator elements	Computation
<b>Non-Revenue Water</b>	Commercial Losses (Apparent Losses) <b>A</b>	Unauthorized consumption (e.g. illegal connections) + Customer meter reading inaccuracies, Estimates and Data Handling errors
	Physical Losses <b>B</b>	Leakages on transmission and /or distribution pipes + Leakages and overflows at utility storage tanks + Leakage on service connections upto the point of customer use
	Non-Revenue Water	$(A+B / \text{Volume of water water produced}) \times 100$
<b>Metering Ratio</b>	Total number of active water connections	Sum of all active individual, MDU, yard taps, institutional, schools, commercial, industrial, bulk and other water connections of all the schemes within a WSP service area
	Total number of active metered water connections	Sum of all active individual, MDU, yard taps, institutional, commercial, industrial, schools, bulk and other water connections of all the schemes within a WSP service area that are metered
	Metering Ratio	$(\text{Total number of active metered connections} / \text{Total number active of connections}) \times 100$
<b>Staff Productivity</b>	The total number of staff divided by the total number of connections within the WSP service area	Total number of staff in the utility / (total number of active water connections + total number of sewer connections)

## ANNEX 5: GOVERNANCE RANKING

	Utility Oversight/ Supervision	Information and Control Systems	Financial Management	Service Standards	Human Resources	User Consultation	Totals	% Level of Good Governance	Impact 8 Score
<b>UTILITY</b>	<b>40</b>	<b>12</b>	<b>24</b>	<b>12</b>	<b>16</b>	<b>12</b>	<b>116</b>	<b>100%</b>	<b>100%</b>
Nyeri	29	12	22	12	7	10	92	79%	86%
Kisumu	21	12	13	12	8	12	78	67%	61%
Nanyuki	29	8	9	5	8	8	67	58%	57%
Eldoret	30	8	13	5	2	4	62	53%	63%
Nakuru	4	8	13	6	8	12	51	44%	64%
Nairobi	4	4	9	12	7	12	48	41%	56%
Kirinyaga	20	4	9	5	8	0	46	40%	44%
Kakamega- Busia	0	4	12	10	9	8	43	37%	57%
Mombasa	0	0	16	5	8	10	39	34%	9%



**ANNEX 6: COMPONENTS OF DRINKING WATER QUALITY**

UTILITY	DWQ - Residual Chlorine (%)	DWQ - Bacteriological Quality (%)	DWQ (%)
Nairobi	96	94	95
Eldoret	94	96	95
Mombasa	95	72	81
Nakuru	97	87	91
Thika	96	95	96
Kisumu	99	100	100
Kakamega Busia	94	94	94
Nzoia	95	93	94
Nyeri	100	83	95
Kirinyaga	96	95	95
Othaya Mukurweni	94	96	95
Malindi	94	67	78
Embu	91	96	91
Mathira	90	92	91
Kilifi Mariakani	83	89	86
Meru	100	96	98
Gatundu South	94	94	94
Nakuru Rural	82	86	84
Kericho	100	100	100
Gusii	100	86	93
Murang'a South	96	96	96
Nanyuki	96	61	75
Kahuti	96	96	96
Tetu	94	87	90
Tavevo	0	19	11
Nyahururu	50	43	46
Murang'a	96	53	70
Imetha	89	0	35
Kwale	94	88	90
Ruiru Juja	46	95	75
Sibo	100	95	97
Garissa	59	38	46
Ngandori Nginda	96	96	96
Gatamathi	90	91	90
Mavoko	95	95	95
Oololaiser	94	85	89
Gatanga	0	0	0
Kikuyu	40	73	60
Ngagaka	90	44	63
Machakos	90	74	80
Nithi	96	96	96
Tililbei	64	45	53
Kitui	95	95	95
Isiolo	96	96	96
Limuru	96	96	96
Kyeni	96	39	62

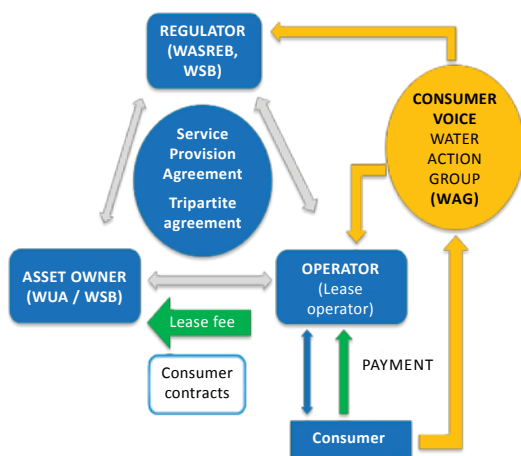
UTILITY	DWQ - Residual Chlorine (%)	DWQ - Bacteriological Quality (%)	DWQ (%)
Tuuru	0	78	47
Karimenu	96	94	95
Lodwar	81	39	56
Githunguri	92	96	94
Kiambu	94	56	71
Amatsi	96	96	96
South Nyanza	98	99	99
NoTuresh Loitokitok	96	0	38
Karuri	0	41	24
Kibwezi Makindu	96	56	72
Embe	95	96	96
Murugi Mugumango	0	56	33
Nyandarua	94	0	38
Eldama Ravine	98	73	83
Lamu	96	96	96
Kiambere Mwingi	95	93	94
Narok	82	22	46
Olkejuado	33	44	40
Naivasha	73	91	84
Kapsabet Nandi	83	22	47
Kapenguria	95	0	38
Mikutra	95	78	85
Muthambi 4K	47	56	52
Ndaragwa	0	0	0
Olkalou	0	56	33
Iten Tambach	96	76	84
Rukanga	95	39	61
Kikanamku	0	0	0
Yatta	42	87	69
Maralal	96	96	96
Namanga	96	0	38
Mwala	66	0	26
Engineer	0	0	0
Mbooni	26	39	34
Runda	95	95	95
Nyakanja	0	61	37
Moyale	59	87	76
Kiamumbi	95	50	68
Nyasare	94	96	95
Kathiani	91	0	37
Rumuruti	71	28	45
Mawingo	0	0	0
Matungulu Kangundo	72	79	76
Wote	96	83	88
Tachasis	96	67	78

**ANNEX 7: CASE STUDY**

**Public Private Community Partnership (PPCP) in delivery of rural water services**



In Kenya, 70% of the population (approximately 29 million) gets drinking water from wells, rivers, streams, ponds, and sand dams (KNBS, 2010). These sources are managed by voluntary water users associations (WUAs), with access challenges. As these WUAs lack commercial and management practices, almost one-third of these systems are mal-functional at any given time (SNV, 2013), limited resources available with NGOs and public authorities are depleted in repair and rehabilitation of these mal-functional water systems, leaving meagre resources to expand services to un-served rural and peri-urban areas, inhabited by poor men and women. Therefore, lack of an effective mechanism for sustainable operation and maintenance (O&M) of small water systems has been a key barrier to expanding services to rural and peri-urban areas in this context.



In 2012, SNV Netherlands Development Organization through the Kenya Market Assistance Programme (MAP) partnered with Lake Victoria North and South Water Services Boards (WSBs) to pilot an innovation involving the private sector as operators of water services. This case study covers five projects namely Elgon East in Bungoma, Navakholo in Kakamega, Wandiege in Kisumu, Tachasis in Nandi and Kanyadhiang in Homabay County.

The goal of the assignment was to support the two WSBs to design and demonstrate the potential of **Public Private Community Partnership (PPCP)** model and the role of private enterprises/firms in ensuring sustainability of rural water services within the two WSB areas.

### **Pre- private sector engagement phase**

The private sector has been confined to provision of support services such as billing, drilling of boreholes, development of reticulation systems and consultancy services. Private sector involvement in the management of urban and rural water systems is negligible and only limited to Runda and Kiamumbi water project on the periphery of Nairobi County.

To build the confidence of the public sector and create the necessary incentive for the private sector, a number of pre-requisite assessments and preparations had to be done. These steps are briefly described below.

#### ***(a) Market research - willingness and ability to pay***

A household survey, using a sample size of twenty households and institutions under each water system, was commissioned to understand the social, political, and economic context of the project area, in 31 potential water systems.

#### ***(b) Commercial viability analysis***

Commercial viability analysis was conducted to determine business cases for the private sector in O&M of rural water infrastructures. Financial (Revenue and expenditure), situational risk status and socio-economic (service characteristic; main water sources and technologies, income status, and willingness to pay), legal and operating environment of each of the 31 water systems was analyzed.



**(c) PPCP modelling and business planning for private sector**

For potential commercially viable water systems, all key stakeholders (local leaders, DWOs, WUAs, local enterprises, WSBs) were brought together to reflect on the operational status of each water project, potential role, obligations and responsibilities of private firms, WUAs and WSBs on O&M, and associated benefits. Based on stakeholder feedback, possible models of private sector engagement were developed (depicted below). Furthermore, business plans were developed for each potential water project.



**(d) Procurement, negotiation and contracting of private firms**

Both WSBs used a competitive and transparent two-staged bidding process to identify and select private firms as operators of their respective water systems. 18 firms responded to the call for expression of interest (EOI) and 11 were pre-qualified on assessment using a pre-defined eligibility criteria.

After a successful procurement process, five private enterprises were identified to manage the five water utilities spread over five Counties as shown in the table below.

Name of the project	County	Operator	Contractual arrangement
Elgon East	Bungoma	Romada Consultant	Private operator
Navakholo	Kakamega	Busia-Kakamega	Lease operator
Wandiege	Kisumu	Lobonyo and Associates	Private operator
Kanyadhiag	Homa bay	Breinscope Consultant	Private operator
Tachasis	Nandi	TAWASCO	Private operator

## Post- private sector engagement

Following subsequent engagement of the above mentioned private players, the WSBs together with SNV embarked on a process of supporting the 5 private operators and WUAs to improve service delivery to customers. After a thorough analysis, a number of gaps were identified and the following support was provided:

- Customer engagement and sensitization
- Organizational development (procurement, HR and financial policy)
- Revenue enhancement and cost management strategies
- Branding and repositioning
- On-job coach on NRW/GIS mapping by KEWI
- Acquisition of billing software
- Provision of Output Based Grant
- Peer learning to Kiamumbi Water Project
- Training on NRW/GIS management by KEWI
- Water quality management and continuous Monitoring along the KPI

The operators worked round the clock to ensure reliable services deliverable to consumers, improved financial performance of the water utilities, and water quality management.

### Base Fee

The Private Operator (PO) and the Water Users Association (WUAs) negotiate and agree on monthly fees for operations, administration and staffing. All revenues are collected by the private operators and deposited in the water projects account. A case of Lobonyo & Associates as PO in Wandiege: they negotiated a 40% payment of the total revenue at the end of every month. The PO raises an invoice, and payments are made by the WUA committees. On a quarterly basis, the PO and committee review performance along KPIs set on a yearly basis.

## RESULTS: Improved service delivery in project areas

Performance of the water projects has gradually improved as shown on the table below.

Name of the project	July 2012/June 2013					July 2013/June 2014				
	Water coverage	Hours of Supply	Revenue collected	NRW	No. of breakdowns	Water Coverage	Hours of Supply	Revenue collected	NRW	No. of breakdowns
Tachasis	42%	24	1,796,000	32%	10	46%	24	1,929,109	28%	6
Kanyadhiang	29%	5	45,000	50%	10	49%	10	100,990	35%	5
Wandiege	36%	12	1,413,281	48%	34	37%	16	1,566,253	35%	18
Navakholo	50%	7	269,500	54%	32	49%	11	1,505,345	27%	13
Elgon East	1%	11	500,000	54%	28	42%	8	813,000	42%	11



The figures depict a general improvement in service delivery and sustainability brought about by engaging private operators in the management of rural water systems.

## **Conclusion**

Private sector participation in water utility management has the potential of increasing access to water services (quality, reliability, convenience and adequacy), enhancing sustainability and creating business opportunities in the delivery of social services. However, such engagement should be framed on mutually beneficial relationships among the public sector, private players and community representatives.





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