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# IMPACT

A Performance Report of Kenya's Water Services Sector - 2019/20

WASREB
Water Services Regulatory Board

KENYA VISION 2030

CERTIFIED ISO 9001:2015 COMPANY

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WASREB
Water Services Regulatory Board

## VISION

A proactive and dynamic water services regulator

## MISSION

To provide a regulatory environment that facilitates efficiency, effectiveness and equity in the provision of water services in line with the human right to water and sanitation

## MOTTO

Water Services for All

# FOREWORD

## *Sector Development through a 30+ year Lens....*

**"...the sector has made very great strides"**

The results have just been released and the class of 83 is officially out in the job market. These former students had many options at that time; join various local authorities, join the central government ministries or the various technically inclined parastatals or even continue to post graduate studies. I chose the Ministry of Water and here began my 38-year journey in the water sector. During these three plus decades in the sector, so much has happened. From the transformation of the Ministry both in role and name, the call of duty in various parts of the country, to the radical reforms that were undertaken in the last 20 years.

At the global level, the UN Water Decade, the Millennium Development Goals (MDGs) have come and gone. We are currently almost at the midway in the horizon to the Sustainable Development Goals (SDGs) 2030. The UN also pronounced 2018 – 2028 as the International Decade for Action with the theme 'Water and Sustainable Development'. Perhaps at this point I should mention that the global water community is excited as it looks forward to 2023 for the second UN Conference on Water or rather the '2nd Mar del Plata', to review the progress of the International Decade for Action. With these developments, the centrality of water in achieving the 2030 SDGs is clear.

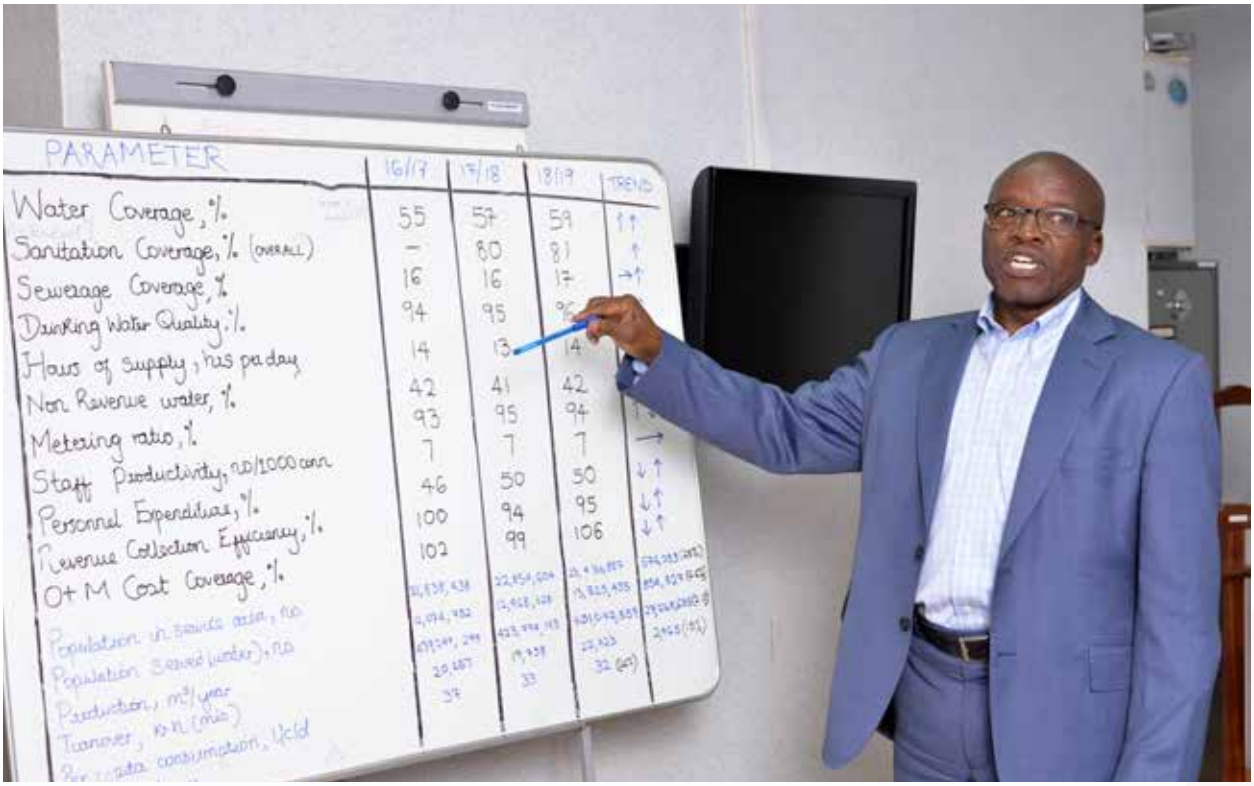
At the local level, the sector has seen a transformation in the institutional landscape in terms of policy, legal frameworks and organization, resulting in a complete paradigm shift in the management of the sector. The Water Act 2002 was a watershed moment for the water sector which was followed by an even bigger one – the 2010 Constitution [CoK 2010]. I must say it is this reform agenda that has greatly

changed the way the sector is managed. The clear separation of roles between policy, regulation and service provision and the adoption of a socially responsible commercialization in the provision of water services has brought with it a lot of gains for the sector.

Having spent the last 12 years in regulation and having the responsibility to track sector development, I can say without a doubt that the sector has made very great strides following this change. This positive development can be seen right from policy, where we have a sector that has aligned itself with the country's governance structure with the Water Act 2016, appreciating the shared roles that the two levels of government have in the provision of water services.

With regard to the key regulatory mandate of consumer protection, ensuring service provider efficiency and promoting sector development, it is evident that positive developments have been recorded. It will be noted that a majority of the regulated utilities can finance their operations sustainably from internal resources with greater respect for standards and a strive for performance and efficiency. Regulation has also pushed utilities to ensure that there is equity and non-discrimination in the provision of services, consumers have the correct information and are well informed on their rights and obligations. Under sector development, the gains have been realized in ring fencing of revenues and thus avoiding capital leakage and drain, enhancing and optimizing financing and increasing transparency. In all these areas great developments have been witnessed.

However, despite all these developments the major challenge of public finance efficiency still remains. The sector continues to experience a huge financing gap. Notwithstanding, I believe we can do better with available resources including, using it to attract more. There is a bias towards infrastructure development but it should be balanced with improving performance and efficiency of WSPs, addressing access and equity issues, as priority parts of overall quality of service improvement.



At the service provision level, increased formalization and commercialization of services have greatly transformed the sector. The sector is now customer centric and there is increasing push to expand the scope of regulation to include all operators. One key lesson for the sector drawn from the COVID-19 pandemic is that sustainable services provided by regulated utilities is key in any public health emergency. In a post-COVID era this situation must change and Government at both levels must lead the change.

Turning to the current report which is Issue number 13, we review the performance of the water services sector for the period 2019/20. The report analyses the performance of 91 regulated utilities, as well as, presenting the water services situation in rural and other underserved areas, based on data collected with the support of the Water Works Development Agencies (WWDAs). Using these two sets of data, the report also provides an analysis of the water services situation within the counties.

The absence of robust data on access and functionality of rural systems undermines development of the rural water sub-sector mainly as a result of uncoordinated infrastructural investments. Tracking of progress towards SDGs will remain a challenge in the absence of credible data as a baseline. The data presented in this report was collected with the help of the Water Works Development Agencies (WWDAs) and subsequently validated with the respective County Governments. We are happy that we have begun the journey to presenting the outlook of the water services situation nationally.

Comparative competition through ranking of utility performance remains a key tool for driving utility efficiency. The verdict this time around is however not encouraging. There is a general decline in performance with only three indicators recording improvement while five declined and one stagnated. This, is a departure from the previous reporting period where improved performance was recorded in four indicators, a drop in three and stagnation in two.

Water coverage for areas served by regulated utilities declined from 59% in 2018/19 to 57% in 2019/20 mainly as a result of population growth surpassing growth in access. In absolute terms, there was an additional 854,514 people served against a population increase in service area of 2,229.267. Similarly, sewer coverage declined from 17% recorded in 2018/19 to 15% in the current period. If we look at the total water coverage; considering the contribution of the Small-Scale Service Providers (SSSPs), the national coverage is 45% with huge variances between counties. Embu County has the highest coverage at 84% while Narok is the lowest at 10%.

Non-Revenue Water increased from 43% to 47% far from the National Water Services Strategy [NWSS] target of less than 30% and Vision 2030 goal of less than 25%. The indicator has not recorded significant improvement despite the commercialization of services.

Operation and Maintenance[O+M] Cost coverage marginally declined from 105% to 103% against the target of 150% for full cost recovery. This is mainly due to costs increasing at a higher proportion compared to revenues a situation that can be attributed to a higher proportion of utilities not having justified tariffs. There is therefore need to increase self-financing of the sector to guarantee sustainability of services.

On the bright side, Sanitation Coverage improved by seven percentage points up

from 81 to 88 while Hours of Supply moved from 14 to 15.

Further, the best utility dropped by eight points from a score of 177 in 2018/19 to 169 in the current period. It is also important to note that competition between utilities in the Very Large and Large categories continued even in the current year. They jostled for the top 10 positions with the utility at position 10 realizing 128 points up from 122 in the previous period. This is encouraging as it proves that each utility is following laid down standards and regulations for better performance.

As we look to the future, our focus continues to be formalization of service provision through licensing of all WSPs. Over 50 utilities have submitted applications for licensing with 35 having been licensed, laying a foundation for better services with serious commitment and responsibility for customer satisfaction and driving the progressive realization of the right to water.

I congratulate utilities that have shown improvement in performance and wish to call on County Governments to continue building on the gains that have been realized.

This report should serve as a tool to all stakeholders to continue pushing for transparency and accountability in the management of water services and more importantly, to articulate the fact that rights come with responsibilities. It is only through this that Article 10 of our constitution can be operationalized.

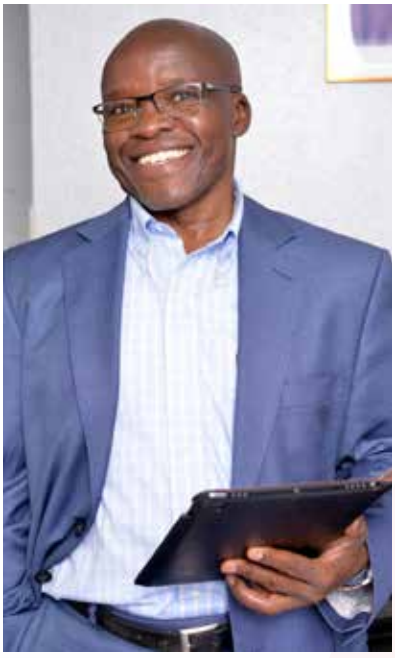
Finally, I wish to thank the Government at both levels, the Water Sector institutions, our Development Partners, WSPs, the NGOs/Civil society, my colleagues at WASREB and all the stakeholders who have walked with me and particularly WASREB, in this journey. It has been a long journey but worth every penny!

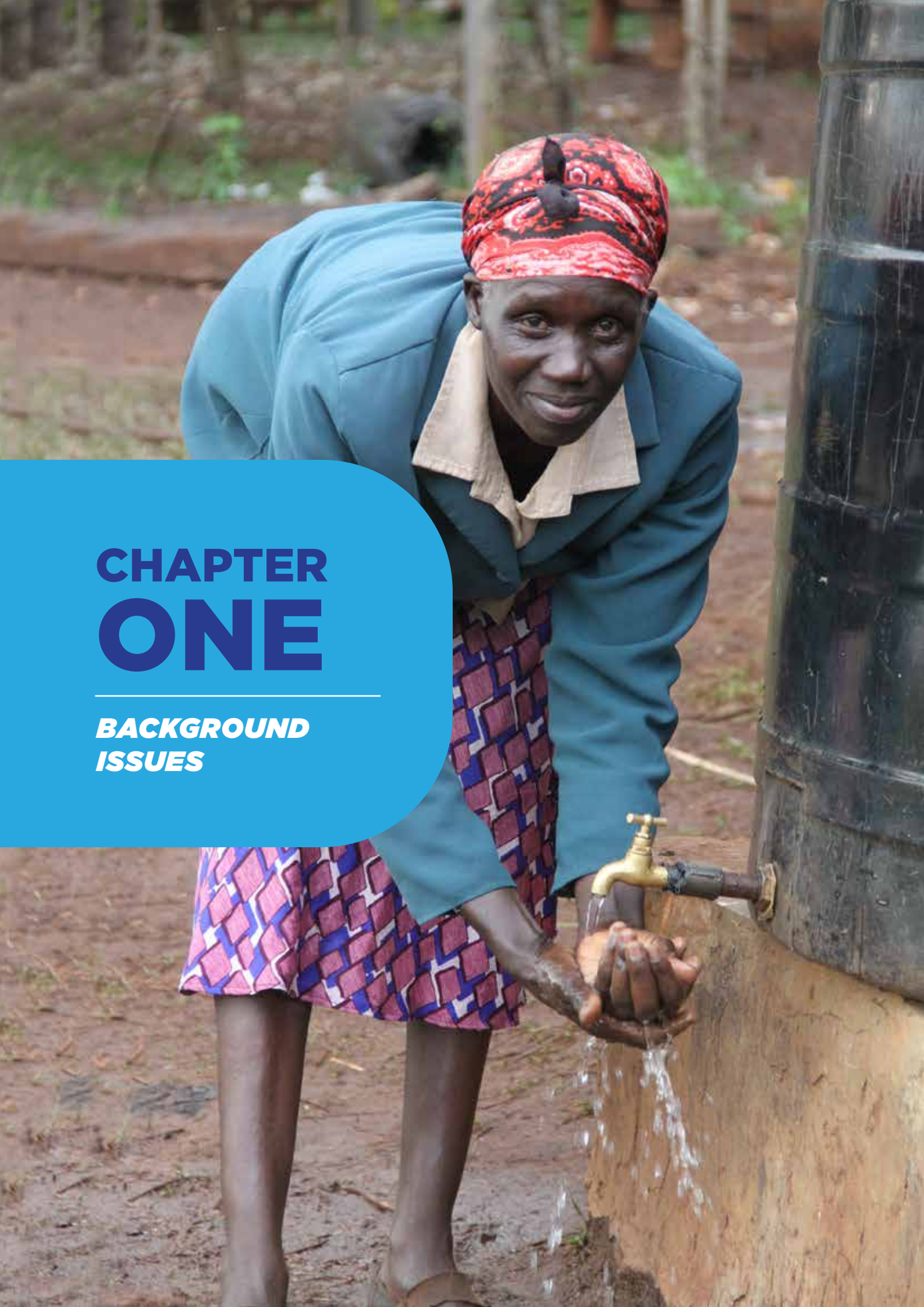
THANK YOU ALL AND GOOD BYE!

***Eng. Robert Gakubia***

***Outgoing CEO, WASREB***

# The journey 38 years apart....



# CHAPTER ONE

## BACKGROUND ISSUES

# PRESSING ON IN THE FACE OF ADVERSE CHALLENGES

The regulator continued to execute its mandate of protecting the interests and rights of all in the provision of water services, despite the challenges posed by COVID-19. The pandemic has made water and sanitation services provision an imperative, especially in urban low-income areas that is home to the most vulnerable members of our society. The poor state of water and sanitation services in these areas exacerbates the disease risk and burden especially in a public health emergency. Going forward, duty bearers must put in place deliberate measures to address these inequalities. On its part, the regulator through assessing the utility performance in these areas, continues to push for improved services with an increased focus on strong governance and impact. In the midst of the pandemic, it was clearly evident that sustainable services provided by regulated utilities is key in countering any public health pandemic. In a post-COVID era this situation must change and Government at both levels must lead in ensuring increased investment for water infrastructure and sustainable provision of water services.

## 1.1 Impact of COVID-19 Pandemic on Water Service Provision

### 1.1.1 Crisis Management on the International and Local Scene

A report dubbed *'The Financial Impact of the COVID-19 Crisis on U.S Drinking Water Utilities'* released in April 2020 by American Water Works Association and Association of Metropolitan Water Agencies paints a grim picture on the American water sector.

The results of the assessment indicate that the aggregate financial impact of COVID-19 on drinking water utilities will likely be approximately USD 13.9 Billion, representing an overall 16.9% financial impact on the drinking water sector. These impacts are a result of drinking water utilities eliminating shut offs for non-payment, anticipated increased delinquencies as a result of high unemployment rates, reductions in non-residential water demands and associated revenues offset by increases in residential consumption and lower customer growth.

According to another report released by International Finance Corporation (IFC) (a member of World Bank) in June 2020 on *'The Impact of COVID- 19 on Water and Sanitation Sector'*, the outbreak of COVID-19 is projected to slow down investments in the water sector worldwide. It has also increased the importance of operational reliability due to the cost of disruption. These operational needs derive from shifts in demand patterns, supply disruptions and the various emergency measures employed by governments to cope with the pandemic.

Globally, the partial suspension of water billing for low-income users and moratoriums on water service cut-offs have been the most common responses to the crisis. Several countries have announced crisis emergency measures that will affect revenues.

In Brazil, a water utility announced three months of tariff exemptions for low-income households, a three-month postponement of tariff adjustments and the donation of water tanks to one of the biggest informal settlements in its service area. These measures have led to revenue losses for utilities.

Closer home, with the confirmation of COVID-19 in mid-March 2020, the Government of Kenya requested citizens to adhere to guidelines on handwashing, hygiene and social

distancing. To support the prevention and containment of the pandemic in these areas, the government issued a directive and pronounced measures requiring public Water Services Providers (WSPs) to ensure continuous and accessible supply of water and hygiene services.

As a follow up to the above efforts and cognizant of the impact posed by COVID-19 pandemic in the provision of water and sanitation services across the country, the Government through the Ministry of Water, Sanitation and Irrigation (MWSI), invested Kshs. 1.62 Billion to drill and equip 193 boreholes and construct 193 elevated steel water tanks to supply 33 million litres per day of water to enable 1,600,000 residents access water in the informal settlements in Nairobi.

In addition, the World Bank moved to allocate the Ministry Kshs. 6.9 Billion early 2021 for the implementation of a Conditional Liquidity Support Grant (CLSG) Programme with the objective to provide short-term liquidity support to Water Service Providers (WSPs) to maintain operations and service levels during the COVID-19 crisis.

The CLSG facility which will be managed by the Water Sector Trust Fund (WSTF) and WASREB will act as the independent performance monitoring and verification agent for the grant facility. WSPs will utilize the grant to finance Operational and Maintenance (O+M) costs necessary to keep water flowing (examples chemical costs, electricity/ energy costs, regulatory levies and other fees, and spare parts for essential maintenance), as well as, short-term COVID-19 emergency response interventions that can be executed within three months. The Bank is also considering a second phase of this grant to support utilities develop and implement Financial Recovery Plans (FRPs). This will however go to those utilities that can demonstrate financial recovery within a period of 12 months with an improvement of cost recovery through own revenues.

How have the WSPs responded to the call from government and what role are they playing? Most critically, what can be done to ensure that WSPs are able to provide water services in a sustained manner that removes the need for repeated emergency responses? These questions require answers sooner than later.

### 1.1.2 Assessment of Impact of COVID-19 on Water Service Providers

An assessment done jointly between WASREB and WASHFIN Kenya in May 2020 on experiences of five WSPs in providing water services to informal settlements during the pandemic from Kilifi, Kiambu, Nakuru, Mombasa and Nyeri Counties, revealed that WSPs are struggling. The findings were shared in a paper titled '*COVID-19 Update 2: Rethinking the Role of Water Services Providers in Informal Settlements' June 2020*. The findings are summarized below;

COVID-19 has exposed the gaps and inequalities in water services provision especially as these relate to residents in informal settlements. According to WASREB, 40% of the urban population in Kenya lives in low-income informal settlements. Of this population, only 53% are served by WSPs. The percentage of people living in informal settlements in the five WSPs ranges from 20% (Thika) to 60% (Nakuru). Similarly, the percentage served by WSPs varies though only Malindi in Kilifi county provided data showing that they serve 75% of the population in informal settlements.

In response to the Government's directive, the assessment showed that the WSPs were undertaking a range of tasks including; installation of water storage tanks for domestic use and handwashing in public places, trucking water to vulnerable consumers and reactivation of disconnected accounts and hygiene promotion among other interventions.

Whilst these responses from the utilities have made a difference, it was far from adequate, largely temporary, and not part of a long-term solution. It was also costly. On average each of the regulated WSPs spent Kshs. 7 Million on these emergency activities. By the end of four months, approximately Kshs. 6 Billion was spent on a non-permanent solution. This is equivalent to 26% of the sector turn over. The Ministry of Water, Sanitation and Irrigation TrackFin 2016/17 estimates that if per capita expenditure of Kshs.1,386 is taken as representing actual services provided, then the Kshs. 6 Billion could have provided permanent services for at least 445,000 people or a third of the population in the informal settlements of the five WSPs.

### 1.1.3 WASREB Response to COVID-19 Pandemic

Apart from being in the forefront in guiding the Ministry and development partners in identifying deserving WSPs for support to deal with the ravages of COVID-19, the regulator has come up with initiatives and strategies to ensure continuity of services in the new normal. WASREB developed and disseminated Guidelines for conducting virtual public consultation meetings on licence and tariff consultations. The guidelines allowed the WSPs to engage with their stakeholders virtually and in certain cases and in compliance with the protocols issued, a hybrid system was adopted. This has ensured that the WSPs engage stakeholders in decision making while meeting public health guidelines to ensure continuity of service.

The regulator also continued with the surveillance of the sector with minimal on-site activities. The WSPs were also encouraged to move their services to on-line platforms and avoid as much as possible physical contacts with their consumers. In a post COVID era the following is desirous:

- Improve public and self-financing of water services to stem the persisting financing gap in a market with tremendous growth of demand
- Authority for service provision should be delegated to a utility accompanied by the duty to give account for results including in the rural areas
- Stakeholders should seek to re-prioritize the water sector after decades of under-investment and lack of political prioritization of water
- Water utilities apart from raising awareness on the importance of good hygiene practices to prevent the spread of COVID-19, must have clear plans on expanding access to vulnerable populations within their service areas with a focus on removing these consumers from exposure to informal service provision and focusing on public health concerns
- More investments do not necessarily increase access. There is need for a technology paradigm shift and finding the right mix of (social) household connections, yard taps and kiosks.

The string through all these is the need for coordinated planning. To realise these, both levels of government must take the lead.

## 1.2 Closing on Coverage Gap in Water Service Provision and Ensuring Inclusion 'Leaving No One Behind'

### 1.2.1 United Nations Estimates on Demand for Water

The United Nations World Water Development Report 2019: *'Leaving No One Behind'* shows water use has been increasing worldwide by about 1% per year since the 1980s, driven by a combination of population growth, socio-economic development and changing consumption patterns. Global water demand is expected to continue increasing at a similar rate until 2050, accounting for an increase of 20% to 30% above the current level of water use, mainly due to rising demand in the industrial and domestic sectors. Over 2 billion people live in countries experiencing high water stress and about 4 billion people experience severe water scarcity during at least one month of the year. Three out of 10 people do not have access to safe drinking water. Almost half of people

drinking water from unprotected sources live in Sub-Saharan Africa. Who are left behind? The vulnerable and disadvantaged, women and girls who are typically not connected to piped systems, suffer disproportionately from inadequate access to safe drinking water and sanitation services. They often pay more for their water supply services than their connected counterparts. Those living in rural areas are predisposed to more inequalities than their urban counterparts.

The Report concludes that piped water which is the least costly method to transport water in densely populated areas should be available and accessible to all with the least cost. Sanitation whether on, or off-site facilities for the collection, transport, treatment and disposal of wastewater, must be available under hygienic conditions. Good water governance involves measures and mechanisms that promote effective policy implementation along with sanctions against poor performance, illegal acts and abuses of power.


### 1.2.2 Government of Kenya increases Access to Water to the Underserved

The National Water Master Plan 2030 projects that urban population will increase from 13 million in year 2010 to 46 million in year 2030. Most of these people will live in urban low-income areas (LIAs) creating a huge strain on water resources. Drought and other effects of climate variability should be lessons to the sector that the development of water resilient systems is fundamental to achieving Sustainable Development Goals (SDGs) to ensure no one is left behind.

The Constitution of Kenya 2010 in Article 43 (1), (b), (c), (d) guarantees reasonable standard of sanitation, freedom from hunger and safe water in adequate quantities. In this regard, the Government through the Ministry of Water, Sanitation and Irrigation, is implementing key water projects across the country.

Sewerage projects are also being implemented in Narok, Olkalou, Marsabit, Mandera and Kapenguria.

The Kenya Towns Sustainable Water Supply and Sanitation Program (KTSWSSP) is another key project being implemented with support from the African Development Bank. The project's main objective is to improve access, quality and availability of water supply in 19 towns and wastewater management services in 17 towns.

The Water and Sanitation Development Project (WSDP) being funded by the World Bank, is being implemented in six counties namely; Mombasa, Wajir, Garissa, Kwale, Kilifi and Taita Taveta.

The completion of the ongoing sewerage projects will see the number of counties having sewer systems in some of their towns increase from the current 21 to 27.

### 1.2.3 Efforts on Ensuring Inclusivity in Provision of Water and Sanitation

The Water Act 2016 Section 72 (1) (p) confers to WASREB the mandate to make recommendations on how to provide basic water services to marginalised areas. However, the current population served by the regulated WSPs within their licenced service area is at 57% implying that the rest of the population is still dependent on services that are not regulated.

The roll out of the Guideline on Provision of Water Services in the Rural and other Underserved Areas, whose aim is to drive uniform standards under the rights to water and sanitation, has widened WASREB's mandate in the counties by leaps and bounds. Firstly, the Regulator has started collecting data on Small-Scale Water Service Providers in the country with collaboration of the nine Water Works Development Agencies (WWDAs) and some Development Partners. This is a promise being fulfilled after years of planning and deliberations. The bottom line is inclusivity of all citizens whether living in urban or rural areas. Standard, regulated services will be offered to all Kenyans. Counties are expected to use the data collected to improve planning and management of water services in these areas.

A majority of WSPs now acknowledge the importance of improving and extending services to underserved areas, also referred to as the Low-Income Areas (LIAs). Providing water and sanitation services to low-income customers is happening but requires a clear strategy both in terms of capacity and structure at the utility level.

In order to push utilities to improve services and address the inequality in water access in urban areas, the regulator continues to expand the reach of the indicator that looks at utility performance in LIAs. Like never before more utilities have taken up the challenge and responsibility to connect rural areas and other underserved consumers under the pro-poor framework. These utilities have been assessed and results shared in this report.

On Sanitation, it is estimated that 63% of the population is served through Non-Sewered Sanitation (NSS) and this percentage is expected to increase, as we move towards 2030. The establishment of a sanitation department at the policy level will go a long way in providing the much-needed policy guidance on NSS. Notable initiatives towards improvement of NSS include the following:

- Development of a Guideline on Sanitation Levy aimed at providing an enabling framework for WSPs to recover the full cost of providing onsite sanitation services across the service chain;
- Piloting of the City-Wide Inclusive Sanitation Services Assessment and Planning (CWIS SAP) tool to provide evidence-based decision making in sanitation investment and
- Development of a sanitation management policy by the Ministry.

All these initiatives seek to ensure that waste is managed sustainably to ensure continued service provision that protects both public health and the environment. In addition, everyone should benefit from adequate sanitation service delivery outcomes embracing the principles of safety, equity, and sustainability.

## 1.3 Collaboration between National and County Governments: Focus on Oversight, Investment Planning and Subsidy

Devolution under Kenya's new 2010 Constitution has wide-ranging implications for the water sector. The Constitution recognizes that access to safe and sufficient water is a basic human right. It also assigns responsibility for water supply and sanitation provision to the 47 Counties.

County Governments are required by the County Government Act to ensure that services are provided in a financially sustainable manner. A lot of progress has been made in the water sector in Kenya over the last 10 years by applying principles of financial viability and sustainability. As a result, increased services have been provided to more people more reliably.


### 1.3.1 Oversight Role by County Governments Encouraged

Providing reliable water services in a sustainable, equitable way involves a substantial investment in ongoing operations, maintenance and rehabilitation costs. Improvements in coverage over the last 10 years have been underpinned by a regulatory framework that ensures cost recovery tariffs, ring-fencing of revenues to support operation, maintenance and extending connections. Therefore, it is WASREB's position that these utilities should not be seen as sources of revenue to fund other county functions.

In the absence of proper accounting for revenues and expenses, there is a risk in under-provision for the necessary maintenance and operation expenses to sustain the utility over time and to support the necessary investments in asset replacement and expansion. This compromises services to customers (current and prospective) while resulting in poor performance and inefficient use of resources.

### 1.3.2 Driving Investment Planning and Subsidy for WSPs

Investment planning is the process of matching financial goals and objectives with available financial resources. Are counties in control of the resources realized by WSPs they oversee? Are they involved in the budgeting process of the utilities? The Corporate Governance Guideline developed by WASREB requires county representation in the Boards of all WSPs. Hence, their voice should be heard in investment planning exercise to eliminate the mismatch that is evidenced in poor investment plans being observed among utilities when put to test by the Regulator.

Since resources are at the centre of investment planning, very few WSPs can boast of a robust financial base required to guarantee sustainable service provision. Subsidies by and large are helping utilities to remain afloat. County Governments should be at the forefront in ensuring that their utilities have justified tariffs and any subsidy provided is clearly linked to performance. To support investments, counties need to work closely with donor partners who have rolled out subsidies tailored for the water sector. An example is the Results-Based Financing (RBF) investment programme which is a commercial financing facility that became operational in 2014. There is potential to scale this up following the success of this program. The counties and utilities need to ensure that the enabling environment is put in place.

## 1.4 Licensing and Commercial Viability: To Cluster or De-Cluster?

The ongoing licensing process by WASREB has unearthed a worrying trend. Most WSPs are not commercially viable. For a WSP to be issued with a full-term licence of five years, it must attain a score of 70% on commercial viability criteria. So far only six WSPs have been issued with 5 -year licence. 58 WSPs are under two-year interim licence. Would clustering and therefore taking advantage of economies of scale be the way to go for majority of these WSPs to achieve commercial viability? Yet in the period under review WASREB has received requests for de-clustering by some WSPs. Counties that own them are pushing for separation of cross-county WSPs, while others who had de-clustered are seeking clustering. Thus, to cluster or de-cluster is the main question. The Guideline on Clustering developed and disseminated by WASREB puts these issues into perspective.

Commercially viable and financially sustainable WSPs can ensure efficient provision of water services so as to fulfil the rights to water. In this regard, the formation of sustainable companies that can naturally enjoy economies of scale is highly encouraged by WASREB.

The formation of commercially viable and financially sustainable utilities is an important prerequisite of a successful clustering. In the Water Act 2016 the task of defining the standards of commercial viability have been assigned to WASREB as specified under section 77(2) and section 86(2). Clustering of water service providers is guided by section 97 of the Water Act 2016.

### 1.4.1 Legal Obligations of County Governments

The County Governments have been assigned the responsibility to provide water services in efficient and economical way so as to fulfil the rights to water and sanitation in the constitution.

Specifically, County Governments are supposed to take care of;

- Asset Development: Establish medium and long-term investment plans which shall be aggregated by the Water Works Development Agency (WWDA) into the national water sector investment plans
- Asset Management: Establish water service providers (utilities) based on the criteria set by the Water Services Regulatory Board (WASREB) and with the objective to operate and maintain the county owned water and sewerage infrastructure.

In this context, County Governments are obliged to review the efficiency and commercial viability of their existing licensed water utilities which previously operated as agents of WWDAs through a Service Provision Agreement (SPA). Further, section 77 of the Water Act 2016 requires County Governments to establish Water Service Providers complying with the standards for commercial viability as set out by the Regulatory Board. One of the key measures at the disposal of County Governments is to embrace clustering of existing utilities to improve their commercial viability in order to enable them deliver services efficiently and effectively.

The process of clustering can be initiated by the owner-the County, or in case of a cross-County clustering by the involved counties. The counties are the sole shareholder of the Water Service Providers. The County Executive Committee Member (CECM) of water is the legal person in charge of instructing a cluster of county-owned water utilities.

### 1.4.2 Legal Obligations of the Regulator

Under the Water Act 2016 WASREB has been mandated to set rules and enforce standards

that guide the sector towards ensuring that consumers are protected and have access to efficient, adequate, affordable and sustainable services. This is achieved by ensuring that only those who meet the criteria set out for a water service provider under the law and regulatory requirements are licensed by WASREB to provide water services.

WASREB is expected to:

- License only WSP which meet the water service provision criteria as per law and regulatory requirements
- Promote and approve clustering of urban Water Service Providers to increase effective and efficient provision of water services
- Create awareness among the County Governments, Water Service Providers, any other water sector institutions and the public for the need of clustering of urban water service providers
- Ensure that County Governments and Water Service Providers follow a systematic way toward a viable clustered urban Water Service Provider
- Provide guidance in the process of clustering urban Water Service Providers
- Define the roles and responsibilities of all parties involved.

Thus, in regard to a proposed clustering the County Government(s) needs to consult with the Regulator who can permit or deny the application.

# CHAPTER TWO

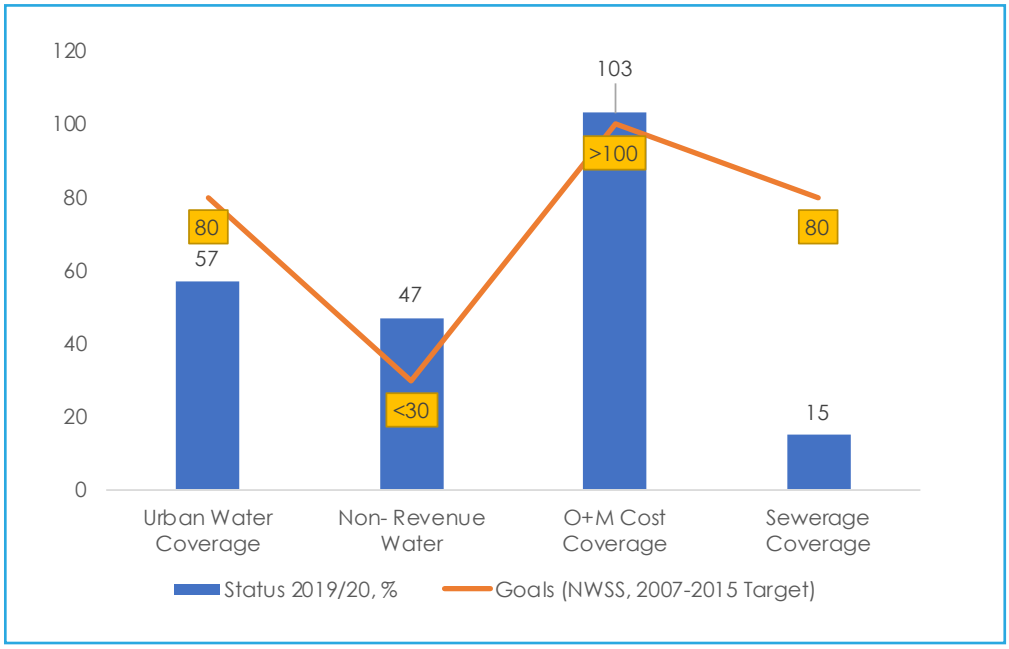
## SECTOR DEVELOPMENT

# GROWTH IN POPULATION OUTSTRIPS GROWTH IN ACCESS

The rapid population increase in most urban areas Impacted on the marginal growth in access. This scenario will remain with us going forward with the National Water Masterplan projecting that by 2030, the urban population will have increased by 280% while rural population will decrease by 15%. The foregoing scenario calls for more innovative approaches in raising more resources, as well as, efficiency in the use of available resources.

Figure 2.1 presents the current status of national goals with respect to the targets set under Vision 2030 for the three main goals under the National Water Services Strategy (NWSS 2007-2015) which are; improvement of access (water and sewerage), reduction of water losses (NRW) and Recovery of O+M costs (seen in terms of cost coverage). The target is to achieve universal access for each area which is 100%.

**Figure 2.1: Status of National Goals, %**




Unfortunately, five years after 2015, which was the target for attainment of these goals, none has achieved the projected levels.

## 2.1 Access to Water and Sanitation Services

Water coverage in regulated areas declined from 59% to 57% mainly due to the population growing at a faster rate (7%) compared to growth in access (5%).

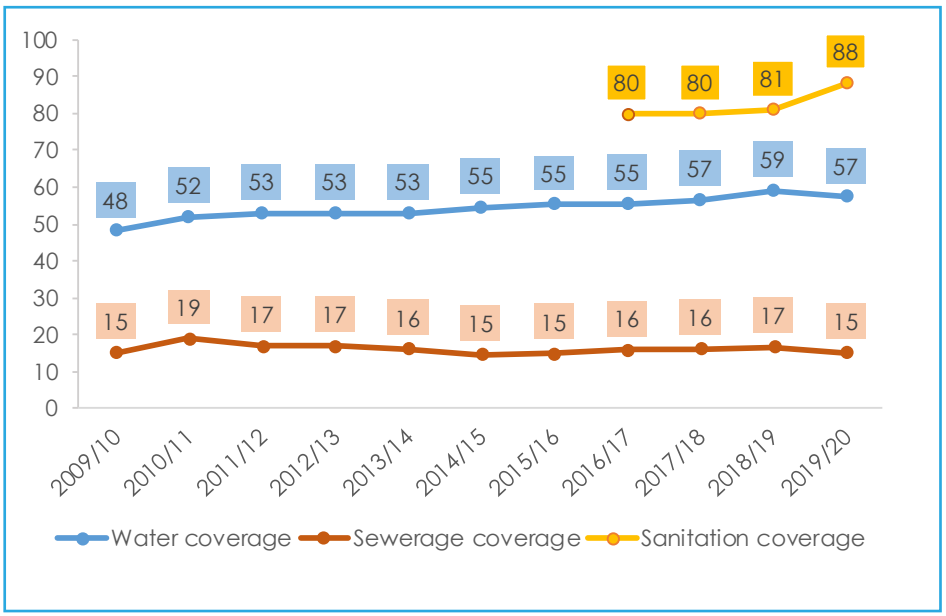
During the period, there was an additional 854,514 people served compared to an increase in number of people within the service area of the WSPs of 2,229,267. It should further be noted that the amount of water produced declined by 1% between the two periods. This decline coupled with increasing NRW from 43% to 47% and the increasing number of people served, implies a decline in quality of service. This is confirmed by the decrease in per capita consumption from 32 to 31 l/c/day. The above trend in coverage is particularly worrying considering that we are nine years to the target of universal access. The situation will also be further complicated by the expected rural urban migration. This therefore calls for very deliberate steps to be taken to get to the targets in Kenya's Vision 2030 of universal access. Access must grow by at least four (4) percentage points annually to get to this target.

| Parameter | 2018/19 | 2019/20 |
|---|---|---|
| Total Population in Service Area, No. | 23,430,887 | 25,660,154 |
| Total Population Served - Water, No | 13,823,455 | 14,677,969 |
| Population Served - Sewer, No. | 3,909,335 | 3,921,094 |
| Population Served - Sanitation, No. | 19,081,584 | 22,345,399 |
| Production, $M^3$/year | 272,092,927 | 449,572,682 |
| Turnover, Kshs/year | 22,634,589,875 | 22,796,171,562 |
| Per Capita Production, l/c/d | 90 | 84 |
| Per Capita Consumption, l/c/d | 32 | 31 |

Sewered sanitation dropped by two percentage points, with a meagre 11, 759 additional number of people served, representing 0.5% of the increase of the population in service area.

The trend in overall sanitation has recorded an improvement due to increase in NSS by seven percentage points and maintaining the trajectory will drive the sector towards attaining universal coverage by 2030.

**Figure 2.2: Trend in Water and Sanitation Coverage**




## 2.2 Operational Efficiency

Efficiency of the utilities is a means to the realization of the national targets and by extension the progressive realization of the rights to water and sanitation. The personnel expenditure ratio and collection efficiency both contribute to improvement of the Operating Cost Coverage Ratio (OCCR), which has a direct correlation with the ability of the utility to provide services. At a cost coverage level of 110%, the utility can only guarantee the current level of service. The regulator has determined an OCCR of 150% as a proxy indicator of full cost recovery and utilities are encouraged to continue improving on their revenues while cutting on costs to attain this level of performance.

## 2.3 Sector Sustainability

The service provision framework follows the paradigm of access followed by compliance and then sustainability. The main operational sustainability indicator in this case is NRW. NRW has a direct correlation with the quality service seen in terms of access, reliability and affordability. To improve on the operational sustainability more focus should be put on NRW reduction. The continued decline of this indicator in the last two years despite improvement in other KPIs does not give comfort that the current level of service can be sustained going forward.

## 2.4 Performance of Utilities

Utilities as vehicles of service delivery need to be efficient to be able to advance the progressive realization of the rights to water and sanitation. Hence, performance being a proxy measure of efficiency is crucial to ensuring realization of this goal. Like in the previous periods, utilities were ranked on the basis of nine Key Performance Indicators (KPIs) as shown in Table 2.1.

**Table 2.1: Progress on Key Performance Indicators**

| Key Performance Indicators | 2018/19 | 2019/20 | Trend |
|---|---|---|---|
| Water Coverage, % | 59 | 57 | ↓ |
| Drinking Water Quality, % | 96 | 92 | ↓ |
| Hours of Supply, hrs/day | 14 | 15 | ↑ |
| Non- Revenue Water, % | 43 | 47 | ↓ |
| Metering Ratio, % | 94 | 96 | ↑ |
| Staff Productivity, Staff per 1000 Connections | 7 | 7 | → |
| Personnel expenditure as % of O+M Costs, % | 50 | 49 | ↑ |
| Revenue Collection Efficiency, % | 92 | 89 | ↓ |
| O+M Cost Coverage, % | 105 | 103 | ↓ |
| Sewered Sanitation Coverage, % * | 17 | 15 | ↓ |
| Sanitation Coverage, % * | 81 | 88 | ↑ |
| Good | Acceptable | Not Acceptable | Benchmark Varies |

** Not used in ranking*

## 2.5 Utility Ranking

On the basis of the performance assessment outlined, Nyeri retained the top position with a total of 169 points out of a maximum of 200. This was however a drop compared to a score of 177 in 2018/19. The 2nd and 3rd ranked WSPs were Nakuru and Meru respectively. The lowest ranked utilities were Homabay at position 88 while Kwale and Gusii tied at position 86. Following the governance reforms undertaken in Kakamega and Nzoia WSPs, the two utilities were eligible for ranking in the current period and were consequently ranked at positions 28 and 30 respectively. Table 2.2 presents the overall top and bottom 10 utilities.

**Table 2.2: Overall Top and Bottom 10 Utilities**

| TOP TEN UTILITIES 2019/20 | | |
|---|---|---|
| Rank | Utility | Score (Max 200) |
| 1 | Nyeri | 169 |
| 2 | Nakuru | 152 |
| 3 | Meru | 146 |
| 4 | Ruiru-Juja | 141 |
| 4 | Murang'a | 141 |
| 4 | Isiolo | 141 |
| 7 | Thika | 134 |
| 7 | Nanyuki | 134 |
| 9 | Eldoret | 131 |
| 10 | Ngandori Nginda | 128 |

| BOTTOM TEN UTILITIES 2019/20 | | |
|---|---|---|
| Rank | Utility | Score (Max 200) |
| 79 | Lodwar | 33 |
| 80 | Kikuyu | 29 |
| 81 | Gatanga | 27 |
| 82 | Chemususu | 25 |
| 82 | Nol Turesh Loitokitok | 25 |
| 84 | Kapenguria | 23 |
| 85 | Amatsi | 22 |
| 86 | Gusii | 21 |
| 86 | Kwale | 21 |
| 88 | Homabay | 20 |

Comparative performance assessment appreciates that utilities operate under different conditions and therefore certain aspects of their performance may be affected differently as a result of the prevailing environment. Consequently, and despite great efforts, some utilities may not easily rise to the top in the short term. The converse is also true that some utilities despite enjoying favourable environments may drop in performance. Recognition of the former effort is important and is shown by comparing a utility position at present against itself at an earlier position. However, in order to depict consistency in performance improvement, the positive change must be recorded in two consecutive years. In the current case the periods considered are 2018/19 and 2019/20. The utility in addition, must have attained a score of at least 50% in the two reporting periods.

**Table 2.3: Top Improvers and Bottom Losers**

| TOP IMPROVERS | | | |
|---|---|---|---|
| **WSP** | **Score 2018/19** | **Score 2019/20** | **Variance** |
| Malindi | 81 | 113 | **32** |
| Isiolo | 110 | 141 | **31** |
| Thika | 126 | 134 | **9** |
| Nakuru | 144 | 152 | **8** |
| Ngandori Nginda | 122 | 128 | **7** |
| Meru | 142 | 146 | **4** |
| Nanyuki | 131 | 134 | **3** |
| Naivasha | 101 | 103 | **2** |

| BOTTOM LOSERS | | | |
|---|---|---|---|
| **WSP** | **Score 2018/19** | **Score 2019/20** | **Variance** |
| Gatanga | 49 | 27 | **-23** |
| Kiambu | 108 | 83 | **-25** |
| Kathiani | 62 | 37 | **-25** |
| Kyeni | 70 | 39 | **-31** |
| Kikuyu | 62 | 29 | **-33** |
| Matungulu Kangundo | 70 | 36 | **-34** |
| Naromoru | 104 | 70 | **-35** |
| Amatsi | 60 | 22 | **-38** |
| Lodwar | 76 | 33 | **-43** |
| Nithi | 94 | 46 | **-48** |

Using the criteria outlined above, only eight WSPs recorded improvement in performance in the current period. This is attributed to improvement in submission of data, water coverage and hours of supply, an example is Malindi. Others like Isiolo improved in water coverage and hours of supply. For utilities that declined, the main reason was increase or expansion of service area coverage, example in Nithi, while Lodwar declined in hours of service and collection efficiency. From Table 2.3, the most improved utility is Malindi while the worst loser is Nithi.

# CHAPTER THREE

## *DETAILED PERFORMANCE REVIEW*

# REPORTING FOR ACCOUNTABILITY – IF YOU CAN'T MEASURE YOU CAN'T MANAGE!

## 3.1 Introduction

The establishment of a vehicle for service delivery by a County Government relieves the devolved unit of the pressure for demand for services and gives it time to plan for the improvement of services. A well performing utility therefore goes a long way in easing the pressure on providing services and leaves the duty bearer to oversight and planning for improvement of services. Counties who have majority of their populations within areas of WSPs have therefore more time to focus on expanding and improving access to services. It is in this regard that the counties should strive to establish utilities to cover all populations within their areas of jurisdiction.

The Guideline on Provision of Water and Sanitation Services in Rural and Underserved Areas in Kenya, seeks to regularize the operations of small-scale operators and bring in an accountability mechanism either to the already existing regulated utilities or those to be established, to manage services in these areas. This arrangement discharges the County Government from the day-to-day oversight of these small operators and shifts the same to the regulated urban or rural WSPs. Through the establishment of utilities in all areas of jurisdiction, all planning and implementation by the devolved units could be done through regulated utilities. The data collected on the small operators provides a baseline for the counties to plan and organize service provision. There is need therefore to improve on the data collection in terms of quality and accuracy to ensure that all interventions are based on evidence on the ground.

The determination to improve data quality and accuracy has pushed the regulator to develop a data management tool meant to assist the WSPs in aggregating, cleaning and organizing the data in WARIS. This is currently being piloted and shall be subsequently rolled out to all WSPs. The tool processes the data into information required by the regulator while checking for accuracy and consistency based on an agreed criterion. This vision of having a consistent sector data has motivated the regulator in the current year to recognize utilities that have demonstrated accuracy and consistency in the submitted data. The regulator on the other hand, will continue to use comparative performance assessment and ranking to spur competition between utilities. *Impact* uses the approach of scoring, ranking and reporting on utility performance over a given period.

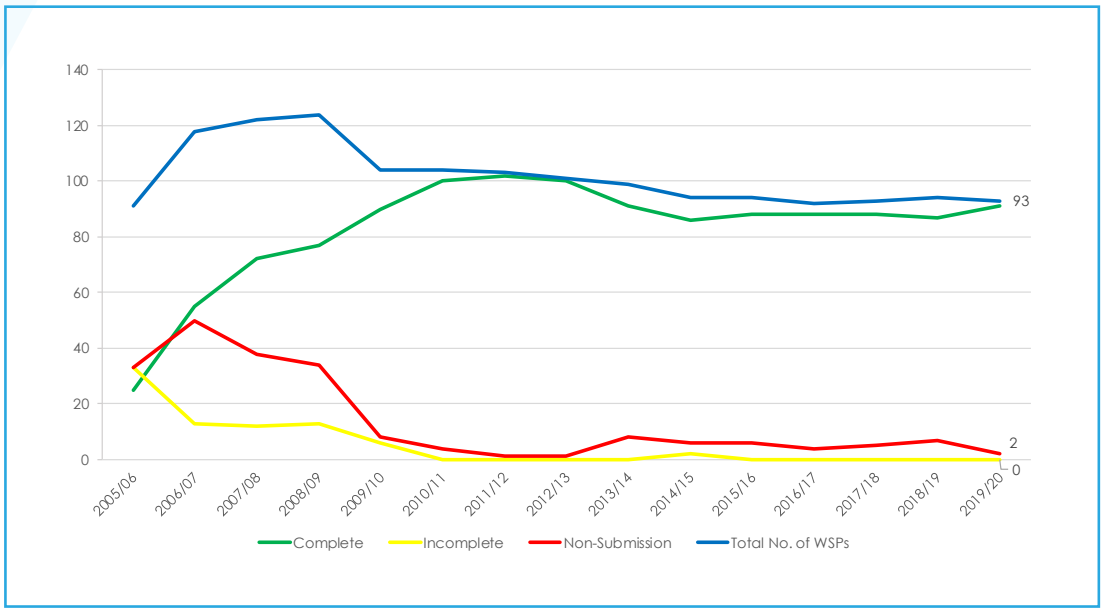
The regulator collects and analyzes performance of the utilities using a number of indicators. However, for ranking, nine KPIs have been selected. The nine KPIs are Water Coverage, Drinking Water Quality, Hours of Supply, O+M Cost Coverage, Personnel Expenditure as a % of O+M Costs, Revenue Collection Efficiency, Non-Revenue Water, Staff Productivity and Metering Ratio.

## 3.2 Data Collection

The data for performance reporting is collected using the Water Regulation Information System (WARIS). This data is further subjected to validation using data from other sources that include; inspection reports, tariff applications and the quarterly monitoring and evaluation reports from the utilities. This is to ensure the continuity in improvement of the quality and consistency of the reported data.

For the period under review, 88 public and three private utilities submitted data for analysis. The compliance was rated at 99%. Hola Tana River, now Tana Water and Sanitation company (Tanawasco) and Two Rivers are the only two WSPs that have not reported in the current period.

**Figure 3.1: Trend in Data Submission by Utilities**




The general data for the various utilities assessed is presented in Table 3.1a.

# Table 3.1a: General Data on Utilities 2019/20

| WSP | Total Population in Service Area | Total PopulationServed | Total no. of connections (active+inactive) | Total No.ActiveConnections | No. of towns served | Turnover (KSh million | Total Water Produced in m3 (000) | Domestic + Kiosks billed volume in m3 (000) | Total billed volume in m3 (000) | Non-Revenue Water (%) | Production per capita (l/c/d) | Consumption per capita (l/c/d) | Total no. of staff | Validity of Tariff as at June 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Very Large (≥35,000 conns.)** | | | | | | | | | | | | | | |
| **Nairobi** | 4,632,703 | 3,639,807 | 605,633 | 570,939 | 1 | 9,177 | 176,036 | 58,537 | 90,036 | 49 | 133 | 44 | 3,335 | Expired RTA |
| **Eldoret** | 485,387 | 371,916 | 99,768 | 90,854 | 1 | 762 | 15,104 | 7,307 | 8,753 | 42 | 111 | 54 | 330 | Expired RTA |
| **Mombasa** | 1,208,333 | 644,171 | 87,837 | 43,670 | 1 | 752 | 12,114 | 4,348 | 5,834 | 52 | 52 | 18 | 345 | Valid |
| **Nakuru** | 533,686 | 486,636 | 65,525 | 61,965 | 1 | 1,004 | 12,081 | 5,983 | 8,322 | 31 | 68 | 34 | 214 | Valid |
| **Nzoia** | 872,977 | 335,981 | 63,126 | 34,498 | 6 | 376 | 9,328 | 2,229 | 4,069 | 56 | 76 | 18 | 271 | Valid |
| **Thika** | 253,919 | 246,301 | 54,954 | 49,905 | 1 | 664 | 13,673 | 7,014 | 10,254 | 25 | 152 | 78 | 253 | Expired RTA |
| **Kisumu** | 457,258 | 388,499 | 54,378 | 53,626 | 1 | 834 | 10,525 | 3,627 | 6,667 | 37 | 74 | 26 | 330 | Expired RTA |
| **Nyeri** | 162,477 | 118,618 | 50,717 | 42,245 | 1 | 488 | 6,941 | 4,372 | 5,879 | 15 | 160 | 101 | 200 | Expired RTA |
| **Murang'a South** | 782,137 | 396,770 | 44,871 | 33,403 | 1 | 158 | 5,193 | 2,495 | 2,484 | 52 | 36 | 17 | 158 | Expired RTA |
| **Ruiru-Juja** | 367,139 | 335,546 | 39,948 | 36,133 | 2 | 596 | 9,955 | 5,389 | n.c.d. | n.c.d. | 81 | 44 | 199 | Expired RTA |
| **Gatundu** | 253,354 | 168,972 | 39,711 | 24,886 | 1 | 141 | 7,472 | 4,653 | 4,847 | 35 | 121 | 75 | 153 | Expired ETA |
| **Kakamega** | 410,453 | 237,056 | 38,636 | 37,898 | 2 | 224 | 4,437 | 1,905 | 2,397 | 46 | 51 | 22 | 175 | Expired RTA |
| **Kirinyaga** | 477,302 | 267,770 | 37,034 | 26,851 | 1 | 159 | 6,258 | 2,035 | 2,492 | 60 | 64 | 21 | 157 | Expired RTA |
| **Embu** | 234,373 | 195,973 | 36,532 | 35,042 | 1 | 365 | 8,428 | 2,689 | 4,402 | 48 | 118 | 38 | 130 | Valid |
| **Kericho** | 373,238 | 134,145 | 36,000 | 24,946 | 2 | 225 | 5,151 | 1,591 | 2,348 | 54 | 105 | 33 | 214 | Expired RTA |
| **Kilifi Mariakani** | 1,013,533 | 575,125 | 35,593 | 24,507 | 3 | 496 | 11,173 | 3,431 | 4,785 | 57 | 53 | 16 | 225 | Valid |
| **Large (10,000-34,999 conns.)** | | | | | | | | | | | | | | |
| **Malindi** | 524,836 | 371,694 | 33,692 | 23,500 | 1 | 446 | 6,239 | 3,813 | 4,787 | 23 | 46 | 28 | 206 | Valid |
| **Othaya Mukurweni** | 180,218 | 74,556 | 32,813 | 19,724 | 1 | 143 | 6,461 | 3,064 | 3,574 | 45 | 237 | 113 | 102 | Expired RTA |
| **Mathira** | 157,041 | 60,425 | 26,087 | 14,443 | 1 | 116 | 3,180 | 1,040 | 1,514 | 52 | 144 | 47 | 81 | Expired RTA |
| **Nakuru Rural** | 515,246 | 367,600 | 25,942 | 17,200 | 2 | 261 | 7,957 | 1,237 | 3,603 | 55 | 59 | 9 | 145 | Valid |
| **Tavevo** | 440,692 | 78,711 | 23,751 | 15,469 | 3 | 259 | 4,782 | 2,260 | 2,945 | 38 | 166 | 79 | 185 | Valid |
| **Kahuti** | 150,242 | 84,215 | 22,646 | 11,556 | 1 | 70 | 3,475 | 784 | 1,216 | 65 | 113 | 26 | 75 | Expired RTA |
| **Nanyuki** | 131,668 | 109,755 | 22,545 | 22,121 | 1 | 325 | 4,647 | 1,601 | 2,850 | 39 | 116 | 40 | 135 | Valid |
| **Murang'a** | 78,787 | 73,247 | 22,149 | 19,482 | 1 | 201 | 2,450 | 1,165 | 1,845 | 25 | 92 | 44 | 121 | Expired RTA |
| **Meru** | 158,858 | 111,335 | 19,416 | 15,678 | 1 | 206 | 3,137 | 2,045 | 2,532 | 19 | 77 | 50 | 104 | Expired RTA |
| **Sibo** | 660,946 | 346,440 | 18,977 | 18,572 | 5 | 105 | 3,221 | 752 | 1,469 | 54 | 25 | 6 | 80 | Valid |
| **Kwale** | 517,902 | 151,297 | 17,972 | 14,357 | 1 | 134 | 3,982 | 1,329 | 1,469 | 63 | 72 | 24 | 115 | Expired RTA |
| **Gusii** | 827,807 | 322,845 | 23,162 | 17,149 | 7 | 135 | 2,372 | 561 | 1,067 | 55 | 20 | 5 | 136 | Valid |
| **Ngandori Nginda** | 120,020 | 110,586 | 17,414 | 16,859 | 1 | 62 | 2,703 | 681 | 1,779 | 34 | 67 | 17 | 62 | Expired RTA |
| **Nyahururu** | 125,583 | 87,556 | 17,177 | 17,177 | 2 | 225 | 3,206 | 1,111 | 2,027 | 37 | 100 | 35 | 151 | Valid |
| **Garissa** | 135,754 | 105,160 | 16,625 | 13,929 | 1 | 438 | 6,716 | 1,708 | 3,796 | 43 | 175 | 45 | 141 | Expired RTA |
| **Bomet** | 146,533 | 87,920 | 16,482 | 12,615 | 1 | 232 | 4,626 | 650 | 2,167 | 53 | 144 | 20 | 191 | Valid |
| **Nithi** | 146,179 | 70,216 | 15,800 | 7,471 | 1 | 67 | 3,651 | 878 | 1,285 | 65 | 142 | 34 | 79 | Expired RTA |
| **Mavoko** | 400,901 | 159,802 | 15,508 | 14,087 | 1 | 175 | 832 | 378 | 563 | 32 | 14 | 6 | 81 | Expired RTA |
| **Kitui** | 420,488 | 238,123 | 15,279 | 8,915 | 1 | 155 | 3,268 | 1,072 | 1,450 | 56 | 38 | 12 | 122 | Expired RTA |
| **Kikuyu** | 369,408 | 213,230 | 13,838 | 8,647 | 1 | 110 | 2,281 | 624 | 1,419 | 38 | 29 | 8 | 70 | Expired RTA |
| **Gatanga** | 120,933 | 42,990 | 13,447 | 9,250 | 1 | 42 | 1,895 | 627 | 1,080 | 43 | 121 | 40 | 66 | Expired RTA |
| **Tetu Aberdare** | 80,772 | 37,190 | 13,356 | 11,982 | 1 | 60 | 2,737 | 1,670 | 1,925 | 30 | 202 | 123 | 72 | Expired RTA |
| **Isiolo** | 92,640 | 82,012 | 12,664 | 11,912 | 1 | 83 | 1,741 | 1,050 | 1,218 | 30 | 58 | 35 | 64 | Expired RTA |
| **Gatamathi** | 132,280 | 73,920 | 12,244 | 8,164 | 1 | 59 | 2,747 | 634 | 912 | 67 | 102 | 23 | 56 | Expired RTA |
| **Kiambu** | 146,201 | 118,329 | 12,156 | 9,779 | 1 | 176 | 3,349 | 1,317 | 1,821 | 46 | 78 | 30 | 68 | Expired RTA |
| **Ngagaka** | 79,739 | 74,058 | 12,090 | 8,203 | 1 | 36 | 1,111 | 548 | 659 | 41 | 41 | 20 | 30 | Expired ETA |
| **Busia** | 311,648 | 139,528 | 11,869 | 10,094 | 3 | 80 | 865 | 372 | 429 | 50 | 17 | 7 | 61 | No RTA |
| **Oloolaiser** | 349,473 | 188,523 | 11,825 | 6,020 | 3 | 135 | 2,407 | 1,370 | 1,461 | 39 | 35 | 20 | 119 | Expired RTA |
| **Limuru** | 236,062 | 166,357 | 10,949 | 10,303 | 1 | 103 | 1,799 | 729 | 1,100 | 39 | 30 | 12 | 60 | Expired ETA |
| **Imetha** | 172,621 | 112,749 | 10,755 | 6,515 | 1 | 58 | 1,123 | 287 | 657 | 42 | 27 | 7 | 84 | Expired RTA |
| **Kyeni** | 90,468 | 28,343 | 10,314 | 5,646 | 1 | 11 | 1,040 | 472 | 536 | 48 | 101 | 46 | 31 | Expired RTA |
| **Karuri** | 323,143 | 173,093 | 10,210 | 7,139 | 1 | 70 | 1,279 | 317 | 872 | 32 | 20 | 5 | 50 | Expired RTA |
| **Medium (5,000-9,999 conns.)** | | | | | | | | | | | | | | |
| **Machakos** | 225,068 | 147,508 | 9,850 | 6,299 | 1 | 124 | 1,025 | 314 | 742 | 28 | 19 | 6 | 69 | Expired RTA |
| **Githunguri** | 196,398 | 29,158 | 9,842 | 5,225 | 1 | 63 | 1,003 | 512 | 677 | 33 | 94 | 48 | 49 | Expired RTA |
| **Amatsi** | 273,134 | 28,866 | 9,506 | 3,382 | 2 | 46 | 1,688 | 783 | 1,124 | 33 | 160 | 74 | 68 | Expired RTA |
| **Lodwar** | 71,970 | 40,504 | 9,288 | 8,027 | 2 | - | 2,211 | 331 | 1,068 | 52 | 150 | 22 | 74 | Expired RTA |
| **Tuuru** | 340,598 | 101,275 | 9,014 | 3,259 | 1 | 19 | 1,762 | 321 | 378 | 79 | 48 | 9 | 67 | Expired ETA |
| **Kibwezi Makindu** | 272,058 | 98,307 | 8,519 | 6,360 | 1 | 74 | 1,057 | 594 | 776 | 27 | 29 | 17 | 61 | Expired RTA |
| **Homabay** | 210,066 | 89,107 | 8,498 | 5,775 | 1 | 63 | 1,107 | 496 | 527 | 52 | 34 | 15 | 102 | Expired RTA |
| **Naivasha** | 208,813 | 181,156 | 7,574 | 6,925 | 1 | 155 | 1,608 | 693 | 1,102 | 31 | 24 | 10 | 84 | Expired RTA |
| **Nol Turesh Loitokitok** | 174,033 | 35,254 | 7,257 | 5,570 | 1 | 88 | 4,563 | 1,124 | 1,326 | 71 | 355 | 87 | 52 | Expired ETA |
| **Embe** | 43,929 | 32,347 | 6,699 | 3,258 | 1 | 28 | 964 | 329 | 409 | 58 | 82 | 28 | 31 | Expired ETA |
| **Narok** | 108,197 | 40,754 | 6,519 | 4,335 | 1 | 80 | 1,098 | 452 | 752 | 32 | 74 | 30 | 74 | Expired RTA |
| **Kapsabet Nandi** | 76,386 | 28,990 | 5,670 | 4,556 | 2 | 44 | 1,093 | 287 | 670 | 39 | 103 | 27 | 51 | Expired RTA |
| **Small (<5,000 conns.)** | | | | | | | | | | | | | | |
| **Murugi Mugumango** | 42,003 | 20,368 | 4,918 | 4,045 | 1 | 14 | 2,256 | 1,419 | 1,771 | 21 | 303 | 191 | 23 | Expired ETA |
| **Chemususu** | 81,002 | 46,294 | 4,862 | 2,170 | 1 | 11 | 738 | 191 | 232 | 68 | 44 | 11 | 27 | No RTA |
| **Kirandich** | 34,543 | 10,188 | 4,830 | 3,132 | 1 | 25 | 1,185 | 375 | 456 | 62 | 319 | 101 | 24 | No RTA |
| **Nyandarua** | 74,524 | 16,373 | 4,827 | 3,257 | 1 | 38 | 509 | 242 | 267 | 48 | 85 | 40 | 51 | Expired ETA |
| **Kiambere Mwingi** | 171,504 | 118,462 | 4,803 | 3,133 | 2 | 70 | 752 | 343 | 470 | 38 | 17 | 8 | 40 | Expired ETA |
| **Iten Tambach** | 73,514 | 41,837 | 4,790 | 4,428 | 1 | 30 | 1,118 | 416 | 760 | 32 | 73 | 27 | 51 | Expired ETA |
| **Lamu** | 33,348 | 24,868 | 4,639 | 2,872 | 1 | 38 | 684 | 434 | 434 | 37 | 75 | 48 | 85 | Valid |
| **Migori** | 213,013 | 44,922 | 4,044 | 4,044 | 3 | 23 | 860 | 104 | 137 | 84 | 52 | 6 | 52 | Valid |
| **Mandera** | 119,905 | 55,480 | 3,914 | 1,951 | 1 | 205 | 571 | 203 | 291 | 49 | 28 | 10 | 64 | Expired ETA |
| **Olkejuado** | 267,064 | 17,658 | 3,368 | 993 | 1 | 21 | 269 | 85 | 195 | 28 | 42 | 13 | 39 | Expired ETA |
| **Ol Kalou** | 139,004 | 48,756 | 3,324 | 2,882 | 1 | 32 | 653 | 229 | 294 | 55 | 37 | 13 | 22 | Expired ETA |
| **Muthambi 4K** | 26,035 | 14,700 | 2,940 | 2,214 | - | 8 | 636 | 335 | 458 | 28 | 119 | 62 | 16 | Expired ETA |
| **Samburu** | 310,000 | 80,000 | 2,800 | 2,500 | 1 | 8 | 320 | 92 | 193 | 40 | 11 | 3 | 79 | Expired ETA |
| **Wote** | 92,565 | 21,102 | 2,619 | 1,807 | 1 | 29 | 371 | 79 | 217 | 41 | 48 | 10 | 43 | Expired ETA |
| **Kapenguria** | 188,277 | 18,000 | 2,494 | 723 | 1 | 6 | 232 | 56 | 108 | 53 | 35 | 9 | 37 | Expired ETA |
| **Rukanga** | 7,874 | 7,594 | 2,246 | 1,893 | - | 7 | 186 | 107 | 125 | 33 | 67 | 39 | 14 | Valid |
| **Namanga** | 15,586 | 8,022 | 2,038 | 1,294 | 1 | 12 | 326 | 212 | 223 | 32 | 111 | 72 | 12 | Expired ETA |
| **Naromoru** | 25,836 | 7,023 | 2,007 | 1,833 | 1 | 11 | 242 | 107 | 171 | 29 | 94 | 42 | 23 | Expired ETA |
| **Marsabit** | 40,000 | 20,000 | 1,900 | 1,500 | 1 | 0 | 115 | 39 | 39 | 67 | 16 | 5 | 20 | Expired ETA |
| **Ndaragwa** | 18,444 | 14,837 | 1,800 | 1,310 | - | 3 | 65 | - | n.d. | n.c.d. | 12 | - | 20 | Expired ETA |
| **Yatta** | 77,690 | 43,164 | 1,779 | 1,563 | 1 | 17 | 282 | 157 | 198 | 30 | 18 | 10 | 29 | Expired ETA |
| **Matungulu Kangundo** | 58,207 | 8,146 | 1,655 | 888 | 1 | 13 | 176 | 83 | 96 | 46 | 59 | 28 | 10 | Expired ETA |
| **Wajir** | 99,110 | 10,219 | 1,241 | 1,241 | 1 | 26 | 758 | 22 | 22 | n.c.d. | 203 | 6 | 206 | No RTA |
| **Kiamumbi** | 17,380 | 6,983 | 1,235 | 1,108 | - | 22 | 327 | 173 | 272 | 17 | 128 | 68 | 11 | No RTA |
| **Mbooni** | 136,080 | 13,000 | 1,202 | 742 | 1 | 2 | 38 | 25 | 25 | 35 | 8 | 5 | 28 | Expired ETA |
| **Nyasare** | 113,585 | 40,696 | 1,202 | 781 | - | 6 | 139 | 74 | 91 | 35 | 9 | 5 | 7 | Expired RTA |
| **Runda** | 10,354 | 10,354 | 1,147 | 1,112 | - | 63 | 821 | 622 | 636 | 22 | 217 | 165 | 20 | Expired RTA |
| **Mwala** | 60,114 | 16,152 | 1,062 | 662 | 1 | 7 | 57 | 25 | 45 | 21 | 10 | 4 | 23 | Expired ETA |
| **Tachasis** | 27,785 | 23,333 | 1,023 | 1,023 | - | 3 | 312 | 188 | 227 | 27 | 37 | 22 | 10 | Valid |
| **Kathiani** | 21,614 | 10,936 | 992 | 524 | - | 8 | 82 | 27 | 82 | n.c.d. | 21 | 7 | 16 | Expired ETA |
| **Tatu City** | 185 | 185 | 79 | 79 | - | 54 | 167 | 3 | 146 | 13 | 2,480 | 44 | 17 | Expired RTA |
| **TOTALS** | **25,660,154** | **14,677,969** | **2,129,434** | **1,726,001** | **116** | **22,796** | **449,573** | **166,453** | **237,826** | **47** | **84** | **31** | **11,733** | |

## 3.3 Categorisation of Utilities

Size and ownership structure are key considerations in the categorization of utilities. The size of a utility is determined by the total number of water and sewer connections. The ownership on the other hand is informed by the structure of the asset holding which can be either public or private. This categorization seeks to ensure that there is a fair comparison of performance.

Also the number of connections is significant as it indicates the potential business size of the company. However, this potential is undermined by the unacceptably high levels of dormant connections in certain circumstances. Some of the utilities where more than half of the connections are dormant, include Kapenguria (71%), Olkejuado (71%), Amatsi (64%), Tuuru (64%), Mombasa (60%); Chemususu (55%), Nithi (53%), Mathira (51%), Embe (51%), Nzoia (50%) and Mandera (50%).

### Table 3.1b: Correlation between dormant connections and NRW

| Utility | % of dormant connections | NRW% |
|---|---|---|
| Kapenguria | 71 | 53 |
| Tuuru | 64 | 79 |
| Mombasa | 60 | 51 |
| Chemususu | 55 | 69 |
| Mathira | 51 | 52 |
| Embe | 51 | 51 |
| Nzoia | 50 | 56 |

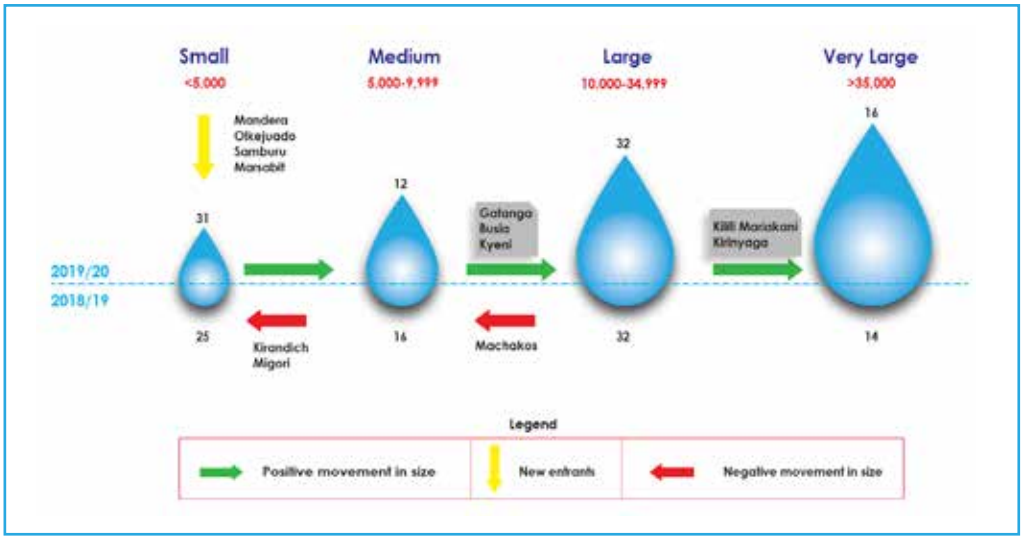
Compared to the previous period, Embe, Mathira, Mombasa, and Nithi have continued to register an increase in the proportion of dormant connections. In summary, the total number of dormant connections is 72% of the combined number of connections of the 32 large WSPs or 1.3 times the number of connections within the city of Nairobi. Looking at the correlation between this indicator and the level of NRW, all the WSPs except Mandera, Nithi and Olkejuado have losses exceeding 50% which may point to a positive correlation between the level of dormant connections and NRW.

### Table 3.1c: Dormant Connections

| WSP | Dormant connections (2018/19) | Dormant connections (2019/20) | % change |
|---|---|---|---|
| Nithi | 11,917 (23%) | 15,800 (53%) | 32% |
| Embe | 6,469 (31%) | 6,699 (51%) | 3.5% |
| Mathira | 26,582 (50%) | 26,087 (51%) | 1.9% |
| Mombasa | 86,326 (59%) | 87,837 (60%) | 1.8% |

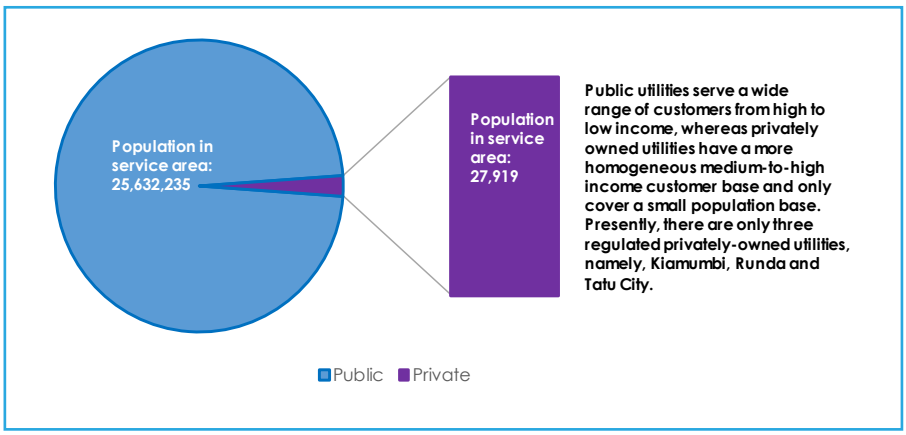
Based on the total number of registered connections for both water and sewer, utilities have been categorised as Very Large (>35,000), Large (10,000-34,999), Medium (5,000-9,999) and Small (<5,000) as per the thresholds indicated in Figure 3.2. In total nine WSPs graduated to higher size categories while three shrunk in size. The reduction in size was mainly due to data clean up by the utilities where they were able to identify the true position of their connections. These are Machakos from Large to Medium while Kirandich and Migori moved from Medium to Small. The case of Migori is particularly worrying considering that the WSP recently benefited from a new project financed by African Development Bank at a cost of Kshs. 1.6 Billion.

**Figure 3.2: Movement in Size Categories**




The second categorization is on the basis of ownership structure. This appreciates that public and privately-owned utilities have different operating environments. Therefore, they 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.

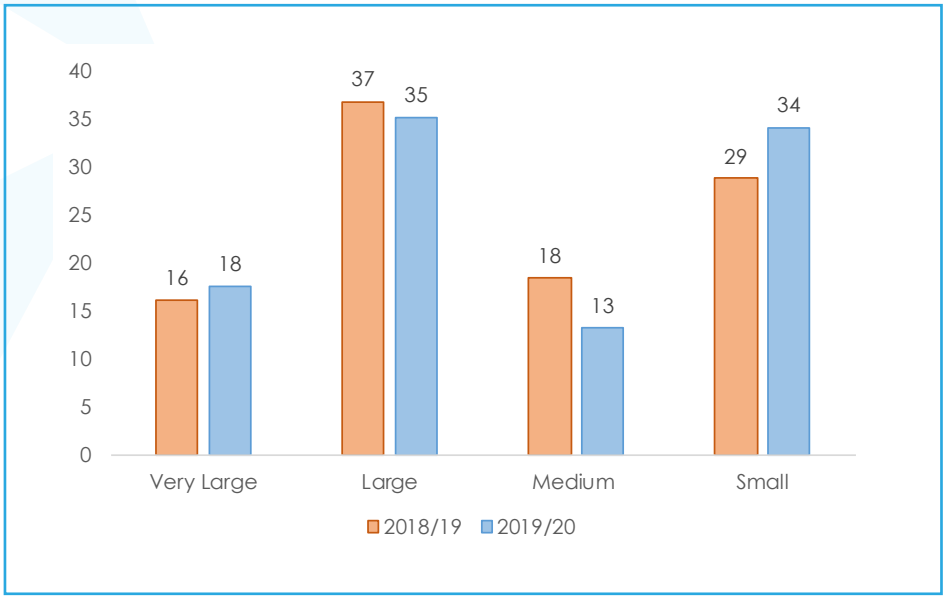
**Figure 3.3: Categorization by Ownership**



## 3.4 Market Share and Movement in Utility Category

Compared to the previous year, the Very Large and Small categories registered increases from 16% to 18% and from 29% to 34% respectively. The Large and Medium categories registered a decline of two and five percentage points respectively.

### Figure 3.4: Proportion of Utilities in Size Categories




The development in the Very Large category is encouraging and positive indicator that WSPs are growing to eventually take advantage of the economies of scale.

### Figure 3.5: Market Share by Utility Size

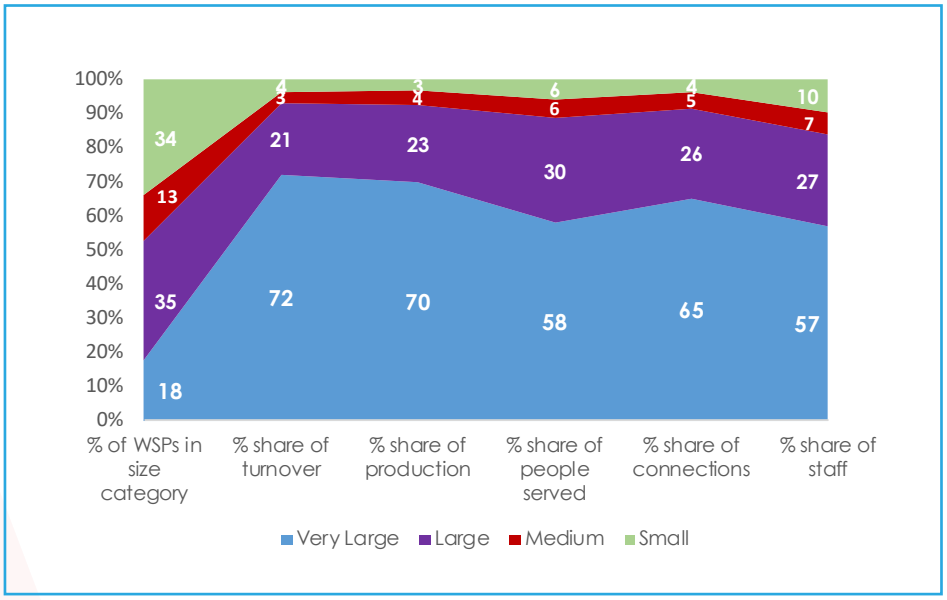


Figure 3.5 indicates that the number of utilities in the category of Very Large and Large remained at 53% of all regulated utilities- in the sector. The WSPs account for the largest share of business (93% of the total turnover, 93% of the total water produced and 88% of the people served).

## 3.5 Performance Analysis and Ranking

The performance analysis and ranking is based on the score of a utility in the nine KPIs. The scoring limits and the benchmarks of the KPIs are presented in Table 3.2.

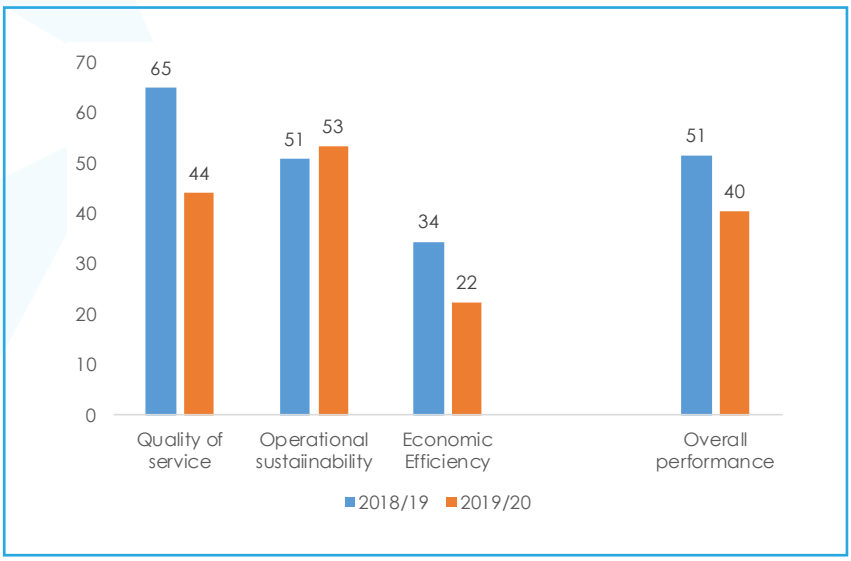
### Table 3.2: Performance Indicators, Sector Benchmarks and Scoring Regime

| 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** |

### 3.5.1 Overall ranking

The national aggregated performance using the three indicator clusters is shown in Figure 3.6.

**Figure 3.6: KPI Performance by Cluster**




Quality of service and economic efficiency recorded a significant decline while operational sustainability marginally improved. Overall, there was a significant decline in average performance.

Table 3.3 presents the individual ranking of the 88 publicly-owned utilities based on the scoring regime outlined in Table 3.2.

## Table 3.3: Overall Ranking and Ranking by Category for Publicly-Owned Utilities

| Indicator / Utilities | DWQ (%) | Non-Revenue Water (%) | Water Coverage (%) | Hours of Supply (hrs./d) | Staff Productivity (no. staff/K conns.) | Revenue Collection Efficiency (%) | Personnel expenditures as % of total O+M costs | O+M Cost Coverage (%) | Metering Ratio (%) | Total score | Ranking by category | Overall Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Very Large Utilities** | | | | | | | | | | | | |
| Nyeri | 100 | 15 | 73 | 24 | 5 | 97 | 48 | 143 | 100 | 169 | 1 | 1 |
| Nakuru | 93 | 31 | 91 | 20 | 3 | 96 | 30 | 111 | 100 | 152 | 2 | 2 |
| Ruiru-Juja | 93 | n.c.d. | 91 | 19 | 6 | 92 | 33 | 143 | 100 | 141 | 3 | 4 |
| Thika | 92 | 25 | 97 | 18 | 5 | 92 | 46 | 112 | 100 | 134 | 4 | 7 |
| Eldoret | 97 | 42 | 77 | 24 | 4 | 94 | 46 | 108 | 100 | 131 | 5 | 9 |
| Kisumu | 93 | 37 | 85 | 24 | 6 | 95 | 35 | 104 | 100 | 125 | 6 | 12 |
| Embu | 93 | 48 | 84 | 24 | 4 | 83 | 40 | 126 | 100 | 116 | 7 | 16 |
| Kakamega | 93 | 46 | 58 | 8 | 5 | 105 | 57 | 97 | 100 | 85 | 8 | 28 |
| Nzoia | 93 | 56 | 38 | 20 | 8 | 101 | 40 | 107 | 100 | 83 | 9 | 30 |
| Murang'a South | 93 | 52 | 51 | 13 | 5 | 93 | 48 | 99 | 98 | 80 | 10 | 33 |
| Kirinyaga | 93 | 60 | 56 | 18 | 6 | 87 | 57 | 102 | 99 | 80 | 10 | 33 |
| Nairobi | 91 | 49 | 79 | 8 | 6 | 91 | 61 | 103 | 100 | 74 | 12 | 39 |
| Kericho | 93 | 54 | 36 | 21 | 9 | 93 | 46 | 81 | 100 | 73 | 13 | 40 |
| Gatundu | 50 | 35 | 67 | 20 | 6 | 76 | 67 | 104 | 100 | 71 | 14 | 42 |
| Mombasa | 98 | 52 | 53 | 14 | 8 | 88 | 40 | 93 | 93 | 58 | 15 | 53 |
| Kilifi Mariakani | 91 | 57 | 57 | 12 | 9 | 87 | 28 | 86 | 100 | 45 | 16 | 65 |
| **Large Utilities** | | | | | | | | | | | | |
| Meru | 98 | 19 | 70 | 24 | 7 | 94 | 45 | 123 | 100 | 146 | 1 | 3 |
| Murang'a | 93 | 25 | 93 | 22 | 6 | 91 | 58 | 116 | 100 | 141 | 2 | 4 |
| Isiolo | 93 | 30 | 89 | 18 | 5 | 104 | 54 | 104 | 100 | 141 | 3 | 4 |
| Nanyuki | 98 | 39 | 83 | 23 | 6 | 95 | 49 | 114 | 100 | 134 | 4 | 7 |
| Ngandori Nginda | 93 | 34 | 92 | 24 | 4 | 93 | 42 | 89 | 100 | 128 | 5 | 10 |
| Ngagaka | 40 | 41 | 93 | 19 | 4 | 99 | 53 | 124 | 100 | 119 | 6 | 13 |
| Malindi | 93 | 23 | 71 | 24 | 9 | 94 | 43 | 99 | 100 | 113 | 7 | 17 |
| Nyahururu | 96 | 37 | 70 | 24 | 9 | 101 | 55 | 105 | 100 | 110 | 8 | 18 |
| Tetu Aberdare | 93 | 30 | 46 | 23 | 6 | 90 | 51 | 104 | 100 | 98 | 9 | 21 |
| Othaya Mukurweni | 93 | 45 | 41 | 22 | 5 | 89 | 53 | 113 | 100 | 92 | 10 | 24 |
| Nakuru Rural | 99 | 55 | 71 | 19 | 8 | 98 | 52 | 108 | 71 | 91 | 11 | 25 |
| Tavevo | 93 | 38 | 18 | 18 | 12 | 95 | 26 | 90 | 100 | 91 | 11 | 25 |
| Kiambu | 93 | 46 | 81 | 10 | 7 | 89 | 31 | 98 | 100 | 83 | 13 | 30 |
| Kahuti | 98 | 65 | 56 | 21 | 6 | 83 | 48 | 109 | 99 | 80 | 14 | 33 |
| Limuru | 93 | 39 | 70 | 4 | 6 | 89 | 41 | 96 | 100 | 77 | 15 | 37 |
| Oloolaiser | 93 | 39 | 54 | 17 | 20 | 90 | 49 | 85 | 100 | 64 | 16 | 45 |
| Karuri | 82 | 32 | 54 | 13 | 7 | 89 | 27 | 86 | 100 | 62 | 17 | 47 |
| Mathira | 90 | 52 | 38 | 21 | 6 | 88 | 49 | 108 | 93 | 60 | 18 | 51 |
| Imetha | 93 | 42 | 65 | 3 | 13 | 74 | 49 | 134 | 90 | 54 | 19 | 56 |
| Mavoko | 60 | 32 | 40 | 4 | 6 | 81 | 46 | 124 | 100 | 54 | 19 | 56 |
| Busia | 93 | 50 | 45 | 10 | 6 | 53 | 34 | 129 | 67 | 52 | 21 | 59 |
| Sibo | 77 | 54 | 52 | 7 | 4 | 92 | 39 | 91 | 99 | 50 | 22 | 60 |
| Garissa | 40 | 43 | 77 | 22 | 10 | 33 | 29 | n.c.d. | 73 | 49 | 23 | 61 |
| Kitui | 84 | 56 | 57 | 14 | 14 | 88 | 23 | 63 | 100 | 49 | 23 | 61 |
| Bomet | 93 | 53 | 60 | 14 | 15 | 32 | 38 | 107 | 52 | 46 | 25 | 63 |
| Nithi | 81 | 65 | 48 | 24 | 11 | 84 | 45 | 116 | 100 | 46 | 25 | 63 |
| Gatamathi | 88 | 67 | 56 | 22 | 7 | 86 | 54 | 104 | 57 | 41 | 27 | 67 |
| Kyeni | 0 | 48 | 31 | 6 | 5 | 121 | 73 | 86 | 82 | 39 | 28 | 70 |
| Kikuyu | 64 | 38 | 58 | 14 | 8 | 82 | 47 | 101 | 90 | 29 | 29 | 80 |
| Gatanga | 93 | 43 | 36 | 3 | 7 | 78 | 46 | 81 | 47 | 27 | 30 | 81 |
| Gusii | 93 | n.c.d. | 39 | 8 | 8 | 79 | 50 | 79 | 41 | 21 | 31 | 86 |
| Kwale | 73 | 63 | 29 | 3 | 8 | 91 | 31 | 83 | 84 | 21 | 31 | 86 |
| **Medium** | | | | | | | | | | | | |
| Naivasha | 94 | 31 | 87 | 23 | 12 | 85 | 44 | 105 | 100 | 103 | 1 | 20 |
| Kibwezi Makindu | 93 | 27 | 36 | 15 | 10 | 93 | 50 | 98 | 100 | 98 | 2 | 21 |
| Embe | 93 | 58 | 74 | 13 | 10 | 85 | 56 | 103 | 100 | 81 | 3 | 32 |
| Machakos | 93 | 28 | 66 | 7 | 11 | 71 | 44 | 107 | 100 | 70 | 4 | 43 |
| Tuuru | 76 | 79 | 30 | 24 | 21 | 95 | 59 | 106 | 100 | 62 | 5 | 47 |
| Githunguri | 91 | 33 | 15 | 3 | 9 | 69 | 32 | 100 | 100 | 56 | 6 | 54 |
| Narok | 65 | 32 | 38 | 4 | 17 | 90 | 37 | 78 | 100 | 41 | 7 | 67 |
| Kapsabet Nandi | 93 | 39 | 38 | 10 | 11 | 90 | 47 | 64 | 100 | 36 | 8 | 73 |
| Lodwar | 0 | 52 | 56 | 8 | 9 | n.d. | n.d. | n.d. | 100 | 33 | 9 | 79 |
| Nol Turesh Loitokitok | 0 | 71 | 20 | 7 | 9 | 77 | 47 | n.c.d. | 100 | 25 | 10 | 82 |
| Amatsi | 91 | 33 | 11 | 9 | 20 | 63 | 38 | 59 | 71 | 22 | 11 | 85 |
| Homabay | 79 | 52 | 42 | 7 | 18 | 78 | 38 | 84 | 100 | 20 | 12 | 88 |
| **Small Utilities** | | | | | | | | | | | | |
| Rukanga | 97 | 33 | 96 | 23 | 7 | 100 | 38 | 73 | 100 | 127 | 1 | 11 |
| Tachasis | 93 | 27 | 84 | 24 | 10 | 83 | 68 | 151 | 85 | 117 | 2 | 14 |
| Muthambi 4K | 0 | 28 | 56 | 21 | 7 | 100 | 47 | 145 | 100 | 117 | 2 | 14 |
| Nyasare | 93 | 35 | 36 | 8 | 9 | 100 | 38 | 130 | 100 | 108 | 4 | 19 |
| Murugi Mugumango | 0 | 21 | 48 | 16 | 6 | 116 | 65 | 82 | 100 | 98 | 5 | 21 |
| Mwala | 93 | 21 | 27 | 11 | 35 | 100 | 49 | 56 | 100 | 89 | 6 | 27 |
| Kiambere Mwingi | 93 | 38 | 69 | 3 | 13 | 93 | 30 | 63 | 100 | 85 | 7 | 28 |
| Lamu | 90 | 37 | 75 | 10 | 30 | 108 | 41 | 72 | 100 | 79 | 8 | 36 |
| Ol Kalou | 34 | 55 | 35 | 20 | 8 | 91 | 43 | 100 | 100 | 75 | 9 | 38 |
| Iten Tambach | 71 | 32 | 57 | 10 | 12 | 95 | 43 | 111 | 100 | 72 | 10 | 41 |
| Naromoru | 0 | 29 | 27 | 22 | 13 | 98 | 46 | 93 | 100 | 70 | 11 | 43 |
| Ndaragwa | 33 | n.c.d. | 80 | 23 | 15 | 100 | n.c.d. | n.c.d. | n.d. | 63 | 12 | 45 |
| Yatta | 78 | 30 | 56 | 19 | 19 | 85 | 61 | 112 | 100 | 61 | 13 | 49 |
| Nyandarua | 61 | 48 | 22 | 18 | 16 | 95 | 35 | 87 | 88 | 61 | 13 | 49 |
| Wote | 93 | 41 | 23 | 8 | 24 | 101 | 47 | 76 | 100 | 60 | 15 | 51 |
| Mbooni | 38 | 35 | 10 | 8 | 38 | 100 | 52 | 123 | 93 | 55 | 16 | 55 |
| Namanga | 40 | 32 | 51 | 5 | 9 | 100 | 46 | 121 | 51 | 53 | 17 | 58 |
| Olkejuado | 35 | 28 | 7 | 24 | 39 | 77 | 42 | 73 | 71 | 44 | 18 | 66 |
| Marsabit | 90 | 67 | 50 | 15 | 13 | 100 | n.d. | n.d. | 7 | 40 | 19 | 69 |
| Wajir | n.c.d. | n.c.d. | 10 | 18 | 166 | 86 | n.c.d. | n.c.d. | 100 | 37 | 20 | 71 |
| Kathiani | 73 | n.c.d. | 51 | 8 | 31 | 69 | 33 | 99 | 98 | 37 | 20 | 71 |
| Samburu | 69 | 40 | 26 | 18 | 32 | 47 | 50 | 16 | 100 | 35 | 22 | 75 |
| Mandera | 93 | 49 | 46 | 13 | 33 | 20 | n.c.d. | n.c.d. | n.c.d. | 35 | 22 | 75 |
| Migori | 1 | 84 | 21 | 10 | 13 | 50 | 31 | 70 | 89 | 34 | 24 | 77 |
| Kirandich | 18 | 62 | 29 | 7 | 8 | 70 | 28 | 45 | 68 | 34 | 24 | 77 |
| Chemususu | 0 | 68 | 57 | 3 | 12 | 99 | 67 | 65 | 27 | 25 | 26 | 82 |
| Matungulu Kangundo | 46 | 46 | 14 | 7 | 11 | 89 | 47 | 88 | 99 | 25 | 27 | 73 |
| Kapenguria | 22 | 53 | 10 | 22 | 51 | 65 | 44 | 44 | 63 | 23 | 28 | 84 |

n.c.d. = non-credible data; green marking = top 10 performer; red marking = bottom 10 losers

## Top and Worst Performers


Nyeri led with a score of 169 points. However, this was a decline of eight points from the score of 177 recorded in 2018/19. Nakuru and Meru took up the second and third positions with scores of 152 and 146 respectively.

The worst performers in the bottom three positions for the current period are Homabay, Kwale and Gusii at position 88 and a tie for the latter two at 86 respectively. These three worst performers had scores of 20, 21 and 21 out of a possible score of 200 points. The worst performers in the Very Large, Large, Medium and Small categories are Kilifi-Mariakani, Kwale, Homabay and Kapenguria respectively. Mombasa is commended for continuing to improve its score for the second consecutive year with a significant increase in the current year from 34 to 58. Further, the number of utilities recording a performance above the national average dropped from 40 to 39. However, the number of utilities attaining at least 50% of the score increased from 22 to 23. This scenario points to a skewed quality of service between the very well performing WSPs and the weak ones. This is an indictment of the rights to water and sanitation where norms and standards are the driving forces.

The regulator will continue to enforce the license conditions to ensure that efficiency is entrenched in utility operations and customers are able to reap the benefits accruing from these efficiencies.

## Privately Owned

In the privately-owned category, Runda Water Company greatly improved its score from 126 points to 158 points to overtake Tatu City at 155 points and take the first position.

### Table 3.4: Overall Ranking for Privately-Owned Utilities

| Indicator / Utilities | DWQ (%) | Non-Revenue Water (%) | Water Coverage (%) | Hrs of supply- for weight-ing | Staff Productivity (no. staff/K conns.) | Revenue Collection Efficiency (%) | Personnel expenditures as % of total O+M costs | O+M Cost Coverage (%) | Metering Ratio (%) | Total score | Ranking by category | Overall Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Runda | 93 | 22 | 100 | 16 | 18 | 94 | 25 | 132 | 100 | **158** | **1** | 1 |
| Tatu City | 98 | 13 | 100 | 24 | 215 | 117 | 30 | 90 | 100 | **155** | **2** | 2 |
| Kiamumbi | 93 | 17 | 40 | 24 | 10 | 96 | n.c.d. | 130 | 100 | **123** | **3** | 3 |

## 3.5.2 Performance against Sector Benchmarks

The three ranges of sector benchmarks classified as 'good, acceptable and not acceptable' (Table 3.2) are used to define performance in relation to the KPIs. On the basis of performance in these KPIs, utility performance can also be classified along the three performance ranges using the limits of performance defined in Table 3.2 to determine the cut-off score. Table 3.5 provides the performance of utilities in relation to the sector benchmarks and the number of utilities within each performance range.

### Table 3.5: Assessment of KPIs against Sector Benchmarks

| Sector Benchmark | Quality of Service | | | Economic Efficiency | | | Operational Sustainability | | |
|---|---|---|---|---|---|---|---|---|---|
| | Water Cov-erage | Drinking Water Quality | Hrs. of Supply | O+M Cost Cover-age | Collection Efficiency | Personnel Expenditures | Staff Produc-tivity | Non Reve-nue Water | Metering Ratio |
| **Good** | 9 | 10 | 29 | 1 | 27 | 7 | 46 | 4 | 59 |
| **Acceptable** | 8 | 45 | 18 | 43 | 37 | 19 | 24 | 5 | 5 |
| **Not Acceptable** | 74 | 35 | 44 | 40 | 26 | 59 | 21 | 78 | 25 |
| **n.d.** | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 1 |
| **n.c.d.** | 0 | 1 | 0 | 5 | 0 | 3 | 0 | 4 | 1 |
| **TOTAL** | **91** | **91** | **91** | **91** | **91** | **91** | **91** | **91** | **91** |
| | | | | | | | | | |
| **% of utilities within sector benchmark** | **19%** | **60%** | **52%** | **48%** | **70%** | **29%** | **77%** | **10%** | **70%** |

In terms of overall performance, staff productivity is the KPI where most utilities (70) have reached the 'acceptable range' and 'good' of the sector benchmarks while NRW is still the least performed KPI with only nine WSPs being within the same sector benchmarks. Five KPIs have at least 50% of the WSPs meeting the 'acceptable range' of sector benchmarks. These are Service Hours, Drinking Water Quality, Collection Efficiency, Staff Productivity and Metering Ratio. Compared to the previous period, three KPIs, down from five, recorded an improvement in the number of WSPs attaining the sector benchmark while a decline was recorded in five, with Staff Productivity remaining constant. On the basis of cluster of indicators, the highest performance is on Operational Sustainability at 53% followed by Quality of Service at 44% and the least was Economic Efficiency at 22%. The decline in performance in Quality-of-Service indicators is particularly of concern, since these indicators have a direct impact on the consumers' perception on the service. The regulator on its part will continue to give incentives for good performance while the licensing requirement provides an opportunity to sanction poor performance.

### 3.5.3 Performance Over Time

Utilities operate under different conditions with respect to condition of their infrastructure. The condition of infrastructure may impact on their performance in the short term. Being cognizant of these realities, the regulator employs performance improvement over time to recognise utilities whose performances have improved despite not attaining the top positions in the short or medium term, due to factors beyond their control. The Tables 3.6 and 3.7 show the performance of publicly and privately-owned utilities respectively over time.

**Table 3.6: Performance Over Time of Publicly-Owned Utilities**

| Rank | WSP | Score 2018/19 | Score 2019/20 |
|---|---|---|---|
| 1 | Nyeri | 177 | 169 |
| 2 | Nakuru | 144 | 152 |
| 3 | Meru | 142 | 146 |
| 4 | Ruiru-Juja | 134 | 141 |
| 4 | Murang'a | 137 | 141 |
| 4 | Isiolo | 110 | 141 |
| 7 | Thika | 126 | 134 |
| 7 | Nanyuki | 131 | 134 |
| 9 | Eldoret | 145 | 131 |
| 10 | Ngandori Nginda | 122 | 128 |
| 11 | Rukanga | 120 | 127 |
| 12 | Kisumu | 105 | 125 |
| 13 | Ngagaka | 110 | 119 |
| 14 | Tachasis | 117 | 117 |
| 14 | Muthambi 4K | 98 | 117 |
| 16 | Embu | 134 | 116 |
| 17 | Malindi | 81 | 113 |
| 18 | Nyahururu | 93 | 110 |
| 19 | Nyasare | 55 | 108 |
| 20 | Naivasha | 101 | 103 |
| 21 | Murugi Mugumango | 90 | 98 |
| 21 | Kibwezi Makindu | 76 | 98 |
| 21 | Tetu Aberdare | 91 | 98 |
| 24 | Othaya Mukurweni | 91 | 92 |
| 25 | Nakuru Rural | 67 | 91 |
| 25 | Tavevo | 88 | 91 |
| 27 | Mwala | 55 | 89 |
| 28 | Kiambere Mwingi | 86 | 85 |
| 28 | Kakamega | n/a | 85 |
| 30 | Nzoia | n/a | 83 |
| 30 | Kiambu | 108 | 83 |
| 32 | Embe | 67 | 81 |
| 33 | Murang'a South | 60 | 80 |
| 33 | Kahuti | 83 | 80 |
| 33 | Kirinyaga | 58 | 80 |
| 36 | Lamu | 93 | 79 |
| 37 | Limuru | 79 | 77 |
| 38 | Ol Kalou | 67 | 75 |
| 39 | Nairobi | 76 | 74 |
| 40 | Kericho | 73 | 73 |
| 41 | Iten Tambach | 55 | 72 |
| 42 | Gatundu | 93 | 71 |
| 43 | Machakos | 54 | 70 |
| 43 | Naromoru | 104 | 70 |
| 45 | Oloolaiser | 50 | 64 |
| 45 | Ndaragwa | 35 | 63 |
| 47 | Karuri | 75 | 62 |
| 47 | Tuuru | 30 | 62 |
| 49 | Yatta | 64 | 61 |
| 49 | Nyandarua | 63 | 61 |
| 51 | Wote | 32 | 60 |
| 51 | Mathira | 76 | 60 |
| 53 | Mombasa | 34 | 58 |
| 54 | Githunguri | 59 | 56 |
| 55 | Mbooni | 26 | 55 |
| 56 | Imetha | 48 | 54 |
| 56 | Mavoko | 68 | 54 |
| 58 | Namanga | 64 | 53 |
| 59 | Busia | 23 | 52 |
| 60 | Sibo | 12 | 50 |
| 61 | Garissa | 54 | 49 |
| 61 | Kitui | 65 | 49 |
| 63 | Bomet | 34 | 46 |
| 63 | Nithi | 94 | 46 |
| 65 | Kilifi Mariakani | 23 | 45 |
| 66 | Olkejuado | n/a | 44 |
| 67 | Narok | 44 | 41 |
| 67 | Gatamathi | 32 | 41 |
| 69 | Marsabit | n/a | 40 |
| 70 | Kyeni | 70 | 39 |
| 71 | Wajir | 57 | 37 |
| 71 | Kathiani | 62 | 37 |
| 73 | Matungulu Kangundo | 70 | 36 |
| 73 | Kapsabet Nandi | 58 | 36 |
| 75 | Samburu | n/a | 35 |
| 75 | Mandera | n/a | 35 |
| 77 | Migori | 39 | 34 |
| 77 | Kirandich | 55 | 34 |
| 79 | Lodwar | 76 | 33 |
| 80 | Kikuyu | 62 | 29 |
| 81 | Gatanga | 49 | 27 |
| 82 | Chemususu | 24 | 25 |
| 82 | Nol Turesh Loitokitok | 20 | 25 |
| 84 | Kapenguria | 11 | 23 |
| 85 | Amatsi | 60 | 22 |
| 86 | Gusii | 28 | 21 |
| 86 | Kwale | 11 | 21 |
| 88 | Homabay | 34 | 20 |

To be recognized as an improver, a utility must have shown improvement over two reporting periods and the score must be at least 50 points. On this basis, Malindi, Isiolo and Thika are the top three improvers while Nithi, Lodwar and Amatsi are the greatest losers.

**Table 3.7: Performance Over Time of Privately-Owned Utilities**

| Rank | WSP | Score 2018/19 | Score 2019/20 |
|---|---|---|---|
| 1 | Runda | 126 | 158 |
| 2 | Tatu City | 135 | 155 |
| 3 | Kiamumbi | 131 | 123 |

In the Private category, Runda and Tatu City improved in performance while Kiamumbi recorded a decline.

Table 3.8 indicates that the overall performance for utilities remained constant at 38% despite the number of improvers declining from 49 (56%) to 46 (51%) during the period.

**Table 3.8: Number and Percentage of Utilities Recording Improvement**

| Year | No. of Utilities | No. of Improvers | % of Improvers | Average Score |
|---|---|---|---|---|
| 2018/19 | 87 | 49 | 56 | 38 |
| 2019/20 | 91 | 46 | 51 | 38 |

### 3.5.4 Performance of Utilities by Indicators

#### a) Water Coverage

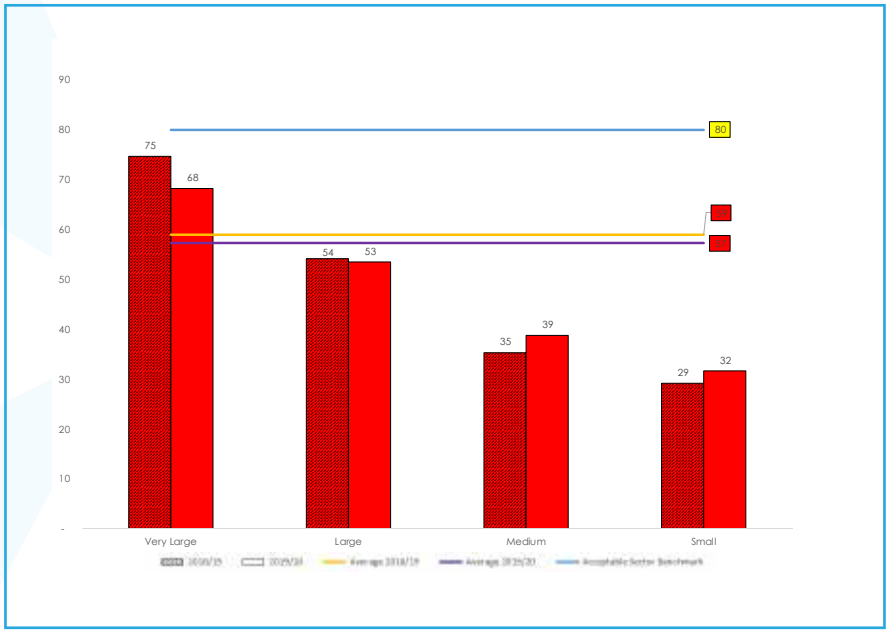
Water Coverage refers to the number of people served with drinking water expressed as a percentage of the total population within the service area of a utility. It is critical in tracking the progressive realization of the right to water with regard to the accessibility component in the normative content of the right to water.

In the current period, the population in the service area of the 91 utilities was 25.66 million. At an average of 3.9 members per household, this represents 6.6 million households. Out of these, the utilities were able to serve 14.67 million, representing 3.76 million households.

The average Water Coverage was 57%, a drop from 59% in the previous reporting period (Figure 3.7). Though the number of people served increased by 854,514, the population growth was higher by 2,229,267. This shows that the population is growing faster than water and sanitation services. The utilities were however able to serve an additional 571,606 households. The average for Very Large utilities was 68%, 12 percentage points short of the sector benchmark of 80%. For the Small utilities, the average increased to 32% from 29%.

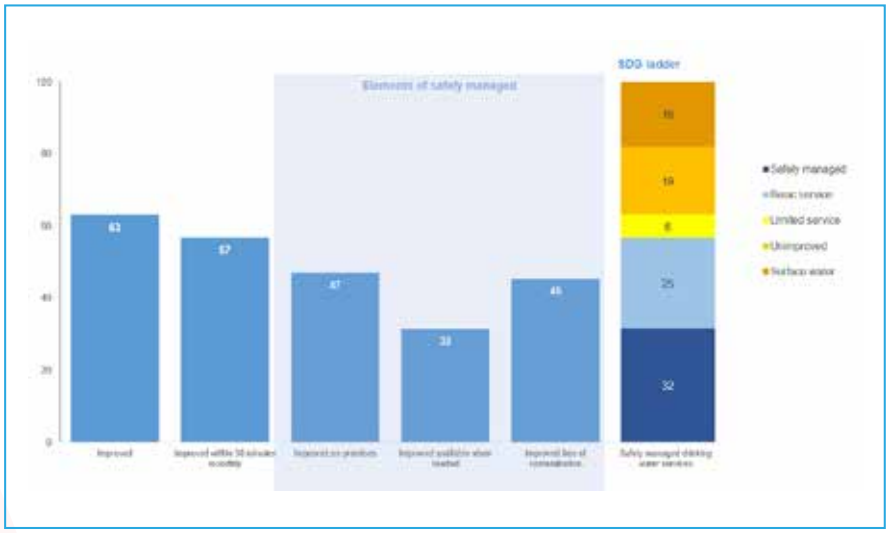
The number of new water connections increased by only 64,791 equivalent to 5% against a target of 15% annually or 200,000 connections to be able to meet the target of universal access under Vision 2030. This growth in connections was an increase of 80% of what was recorded in the previous period. Accordingly, the average number of people served per connection remained at 11.2 indicating a continuous decline in quality of service. Also recording a decline is the per capita consumption which dropped from 32 to 31 litres per capita per day.

**Figure 3.7: Water Coverage by WSP category, %**




SDG 6.1 has defined different service levels to enable tracking of progress towards goal number six. Figure 3.8 presents the proportion of the total population that is within the five different service levels namely Surface water, Unimproved, Limited, Basic and Safely managed.

**Figure 3.8: Proportion of Population using Safely Managed Drinking Water Services**



The target under SDG 6.1a is 'By 2030 achieve universal and equitable access to safe and affordable drinking water for all' with the indicator being the proportion of population using safely managed drinking water services. In the current period 32% of the population in the service areas of the WSPs have access to safely managed services. This figure is three percentage points higher than the figure of 29% reported in 2018/19.

The improvement above is attributed to an increase in population using services which are available when needed from 45% (2018/19) to 50% (2019/20).

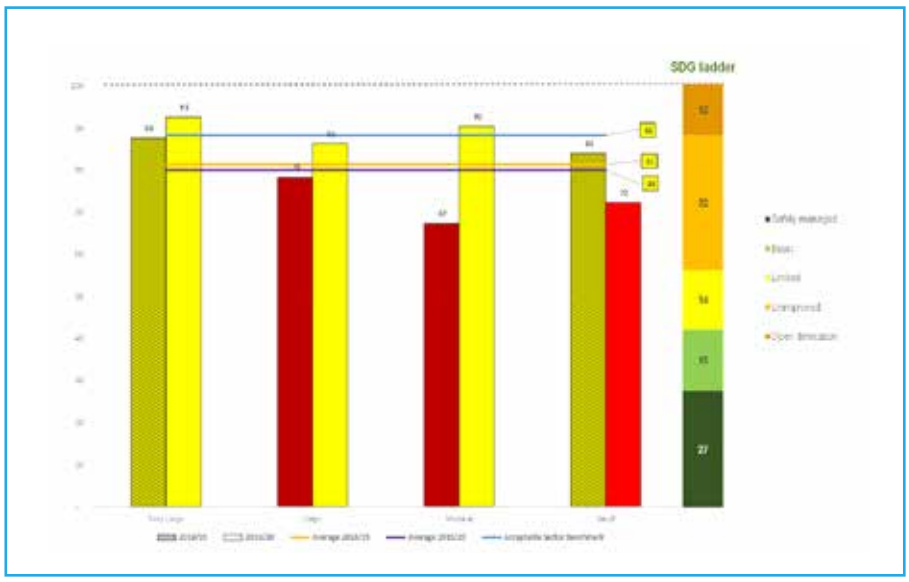
### b) Sanitation Coverage

Sanitation Coverage refers to the number of people with access to improved sanitation facilities as a percentage of the total population within the service area of the WSP. It measures performance with regard to the provision of sewerage and on-site sanitation services. Improved facilities include flush or pour-flush to piped sewer systems, septic tanks, ventilated improved pit latrines and traditional pit latrines (with a squatting slab).

The overall sanitation for the period is at 88%, an increase from the previous reporting period of 81% (Figure 3.9). The regulator has continued to apply more rigorous validation on the data and for this reporting period, the 2019 census formed the basis for validation. It should be noted that there have been challenges in the reporting of on-site sanitation since WSPs lack a clear mandate on on-site sanitation and therefore rely on external data sources, such as the Department of Public Health. The draft sanitation policy being developed by the Ministry should strengthen WSPs' mandate on on-site sanitation, including providing financial incentives for rapid upscaling of access — especially in underserved areas.

To assess the adequacy of waste water management in line with the requirements of SDG 6.2, Figure 3.9 incorporates the SDG ladder with respect to sanitation.

**Figure 3.9: Sanitation Coverage by WSP Category, %**



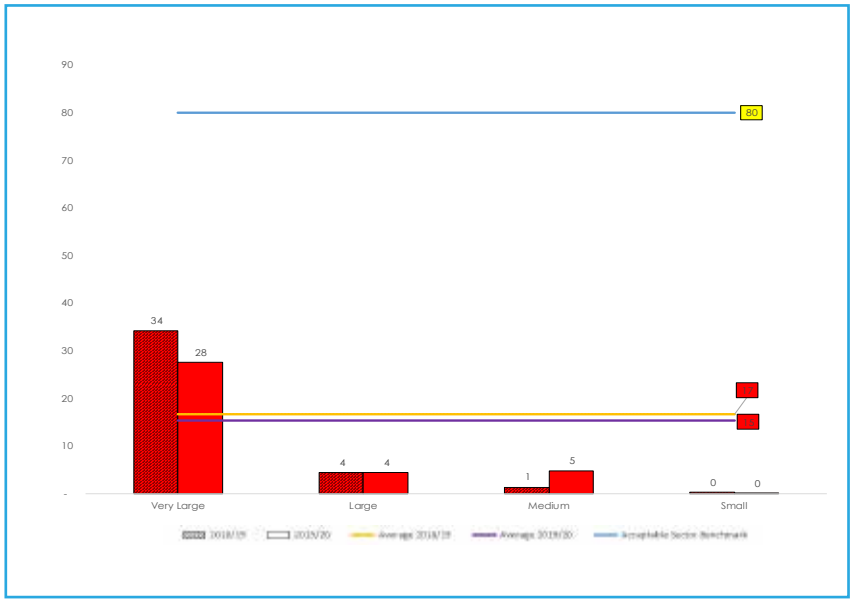
Sewered sanitation coverage, a sub-set of sanitation coverage refers to the number of people served with flush or pour-flush to piped sewer systems, as a percentage of the total population within the service area of the utility. It measures the performance of utilities with sewerage systems in delivering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

The sewered sanitation coverage in the current period declined from 17%to 15%. (Figure 3.10). The total number of sewer connections decreased by one percentage point. On the other hand, the population served remained constant at a marginal increase of 0.3%. This implies that similar to water services coverage, the population is increasing at a higher rate than the sector can grow sewerage services. The number of people served per connection has stagnated at 3.9. The sewer coverage for the Very Large declined from 34% to 28% in the previous period implying a further shift from the 2015 target of 40%. This was also due to graduation to the Very Large category of, Kirinyaga and Kilifi-Mariakani, which are utilities that have no sewer network.

It will however be noted that sewerage services are only available in urban 35 centers spread across 23 counties. This means that 24 counties do have urban centers that solely rely on onsite solutions for the management of wastewater.

WASREB, recognizes that the provision of safe sewered and non sewered sanitation services across the service chain may practically go beyond the financial capacity of WSPs to provide based on the regular tariff structure whose basic aim is to ensure full cost recovery for water and sewerage services. To mitigate against this risk, the regulator has developed guidelines on sanitation surcharge and WSPs that offer or facilitate the development of on-site sanitation services and will be eligible for a special sanitation surcharge reflecting real costs that can be added to the tariff. The guidelines are currently going through stakeholder validation.

**Figure 3.10: Sewered Sanitation Coverage by WSP Category, %**




## c) Drinking Water Quality

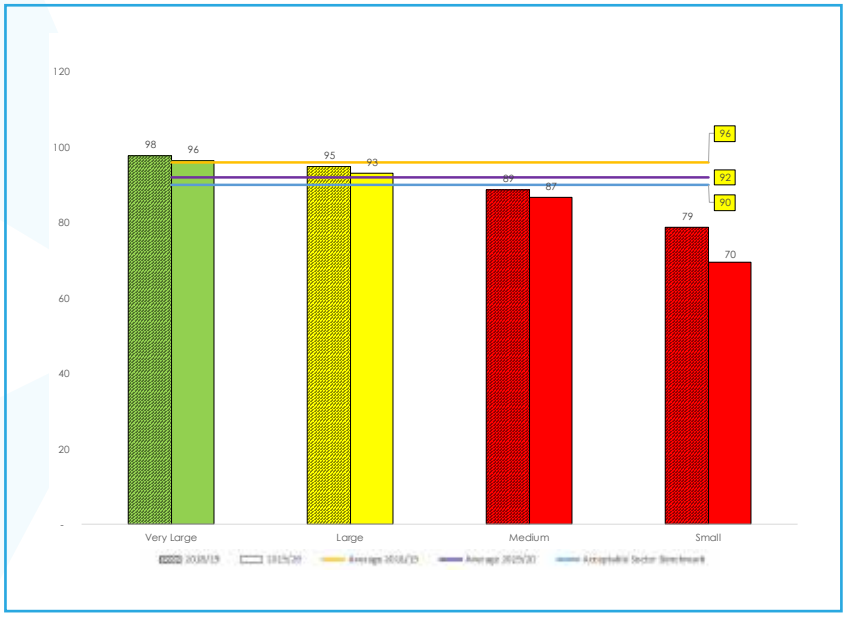
Drinking Water Quality (DWQ) measures the potability of the water supplied by a utility. It is a critical performance indicator since it has a direct impact on the health of consumers. This is a weighted composite indicator measuring compliance with residual chlorine standards (40%) and bacteriological 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 per the Guidelines on Water Quality and Effluent Monitoring (GWQEM) weighted at 67%

ii. The number of samples within the required norm as a percentage of the total number of samples taken weighted at 33%.

The performance on this indicator declined from 96% to 92% with the lowest average reported among the Small WSP category, at 70%, which is way below the acceptable range.

**Figure 3.11: Drinking Water Quality, %**



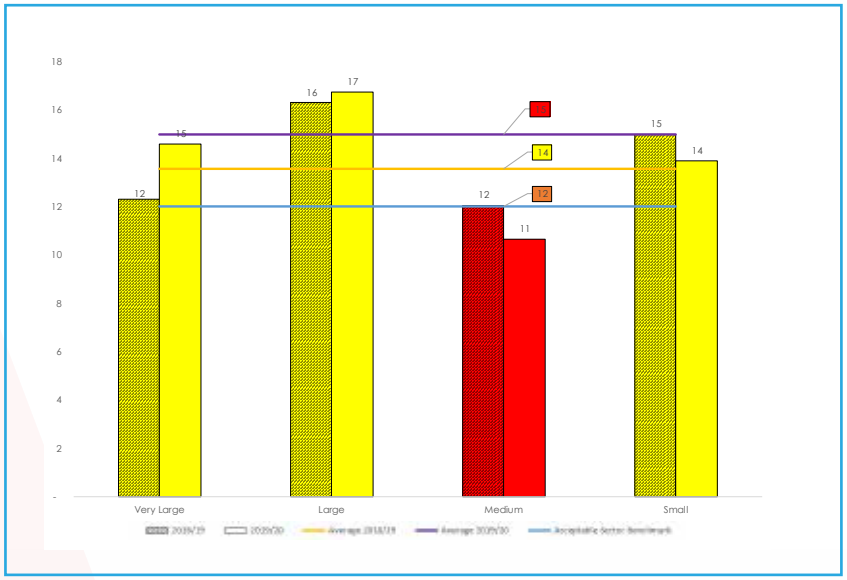

WASREB continues to monitor monthly reporting on water quality by the utilities and all utilities are required to put in place a water safety plan within the first year of issuance of a license.

A breakdown of utility performance in the two components of the DWQ sub-indicators is provided in Annex 4.

### 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 on quality of service 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.

**Figure 3.12: Hours of Supply, No.**

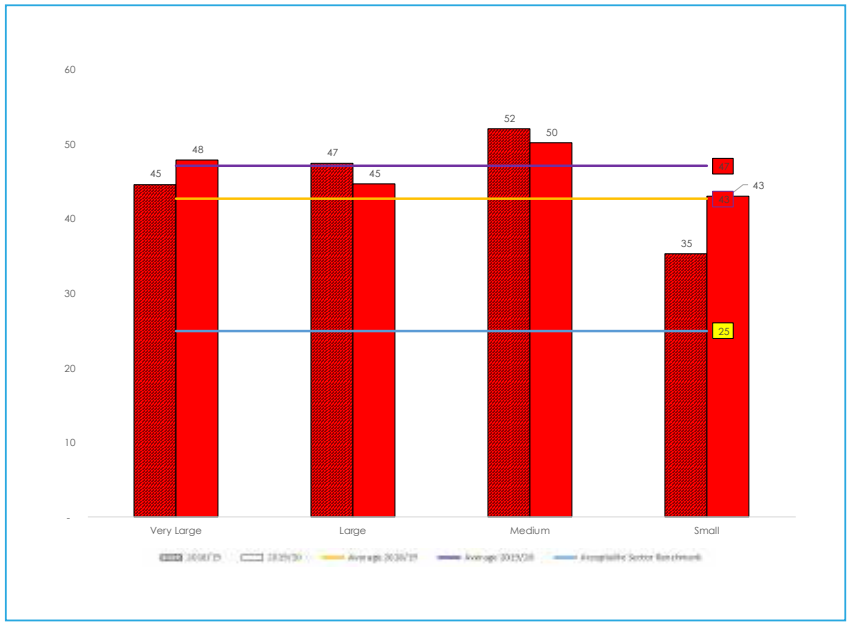


In 2019/20, average daily service hours improved from 14 to 15. There were improvements in the Very Large and Large categories while Medium and Small Categories recorded a decline in performance. The Medium Category continues to register a performance that is below the sector benchmark of at least 12 hours per day. The marginal improvement in reliability however, did not translate to increased consumption since the per capita consumption which decreased from 32 litres per capita per day to 31 litres per capita per day. At an average household size of 3.9, this consumption translates to 3.7 cubic metres per month which implies a majority of the households still consume below the lifeline block of 6M3.

### e) Non-Revenue Water

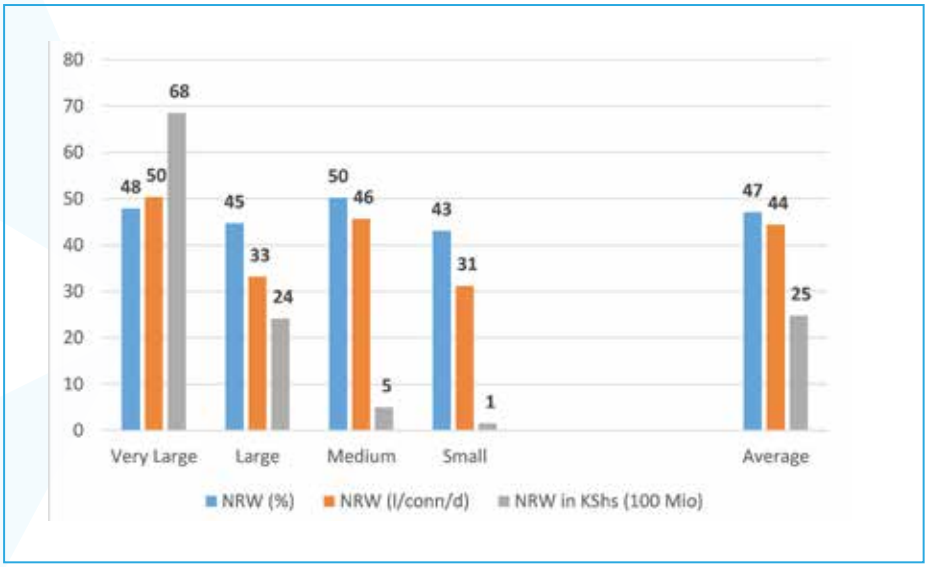
Non-Revenue Water is the difference between the amount of water put into the distribution system and the amount of water billed/unbilled as authorized consumption. It comprises of both commercial (apparent) losses and physical (real) losses. It is an operational indicator contributing to the sustainability question of the utilities and therefore is a significant measure that facilitates evaluation of the efficiency of operations by the utilities.

**Figure 3.13: Non-Revenue Water, %**




In the current period, NRW increased from 43% to 47% when compared to 2018/19.

**Figure 3.14: Breakdown of NRW**




In financial terms at the current average of NRW at 47% and the sector turnover of Kshs. 22.8 Billion, against an acceptable sector benchmark of 20%, then conservatively, the sector is losing slightly more than Kshs. 11.61 Billion. On the other hand, in terms of volume, the amount lost annually after allowing for the 20% acceptable level of losses is 151 million cubic meters. This is adequate to serve Nairobi County with a daily demand of 750,000M3/ day for approximately six and a half months. It is therefore apparent that the impact of this loss is substantial. Concerted efforts are therefore required from all actors to deal with this challenge.

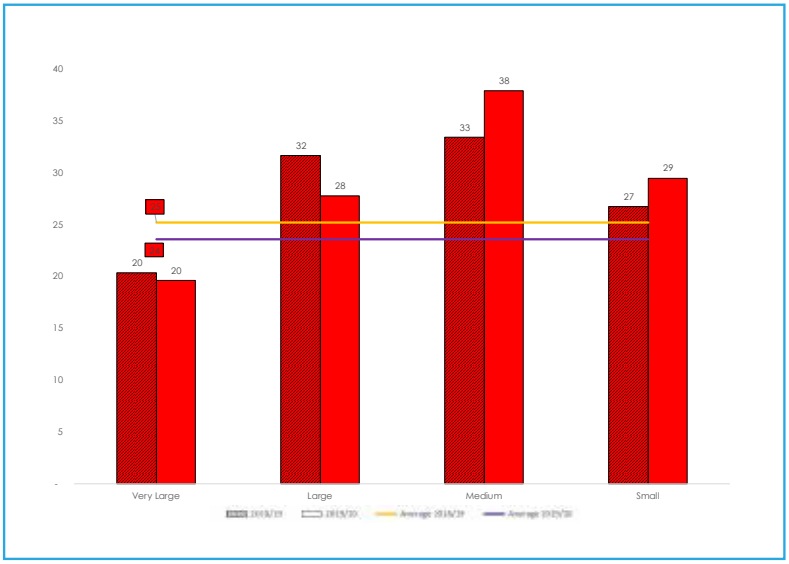
To deal with this challenge, the regulator is reviewing the NRW management standards to incorporate experiences from the last six years of implementation. The licensing process also provides an avenue to entrench some of the practises proposed in the standards.

### 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. Increase in dormant connections is an indicator of shrinking business base of the utility which will ultimately lead to poor quality of service or services which are not sustainable.

Lack of clear and concrete customer management policies leads to duplication of accounts in the billing system or disconnected customers being registered as new accounts. The Regulator has put a condition for all licensed utilities to be conducting a customer identification exercise, every two years to wind off unregulated accounts.

**Figure 3.15: Dormant Connections, %**




In the reporting period, the proportion of dormant connections marginally decreased from 25% to 24%. The highest proportion of dormant connections is within the Medium and Small categories with the level being 38% and 29% respectively. This implies utilities in these categories operate at less than 70% of their ready market. The Medium category utilities continue to record a very high number of dormant connections an indication of governance and demand-supply issues.

Some of the utilities where more than half of the connections are dormant include Kapenguria (71%), Olkejuado (71%), Amatsi (64%), Tuuru (64%), Mombasa (60%), Chemususu (55%), Nithi (53%), Embe (51%), Mathira (51%), Mandera (50%) and Nzoia (50%). Compared to the previous period, Amatsi, Tuuru, Mombasa, Chemususu and Mathira have continued to register dormant connections of over 50% for three years in a row.

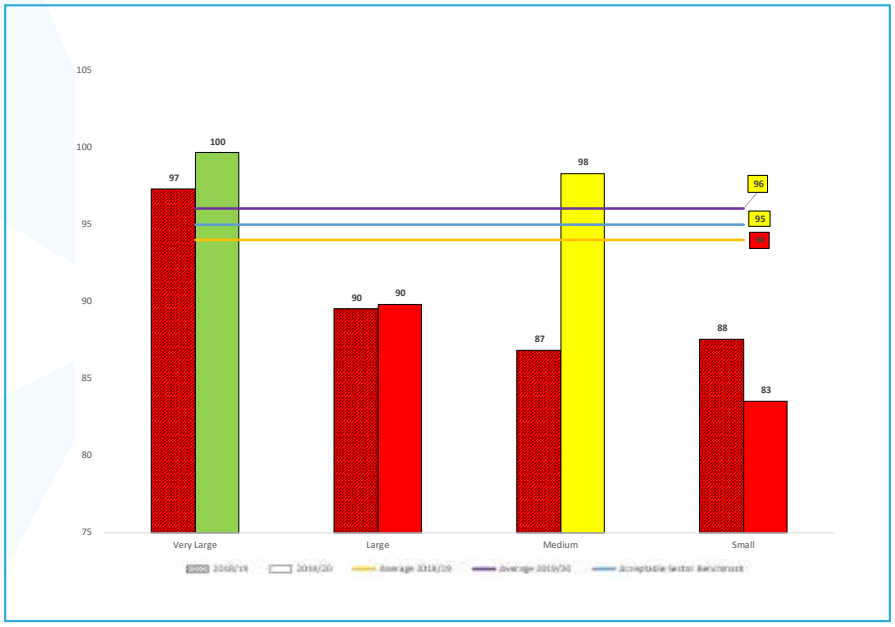
As a license condition, utilities are required to undertake a Customer Identification Survey (CIS) once every two years and ensure their customer databases are updated regularly.

### g) Metering Ratio

Metering ratio is the number of connections with functional meters expressed as a percentage of the total number of active water connections. It is an empirical way for a utility to ensure that consumers only pay for what they consume. It is expected that the functionality of these meters is occasionally ascertained by the utility by sampling them for calibration or replacing the aged ones through the adoption of a metering policy.

In 2019/20, the metering level recorded an increase of two percentage points from 94% to 96 %. Moving forward, WASREB requires utilities to preserve a record of all working meters and a record of meters that have been tested and serviced.

**Figure 3.16: Metering ratio, %**



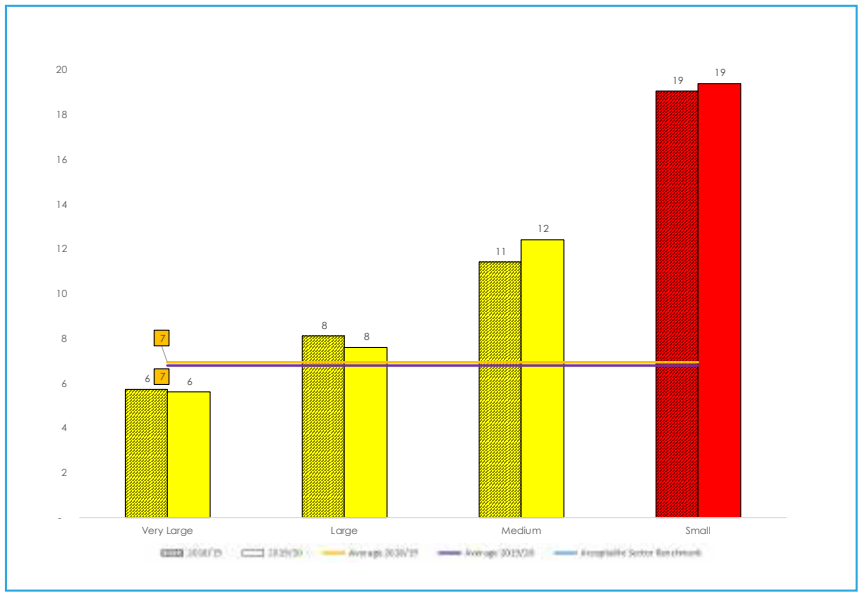

## h) Staff Productivity (staff per 1,000 connections)

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 in staff utilization. Staff productivity is affected by factors such as size of a utility, the nature of human settlement (distances between connections and number of towns served), skills mix and the extent of outsourcing for services and whether a utility provides water alone or water and sewerage services together, among others.

In assessing staff productivity, the expectation is that big utilities should benefit from economies of scale. Therefore, there are different sector benchmarks depending on the size category of the utility.

For the fourth year in a row, performance in this indicator remained at seven staff per 1,000 connections. The number of staff increased by 233 (2%), while the connections increased by 58,156 (2.73%). Except for the Small Category all the size categories have been able to maintain an acceptable level of staff, a scenario that can be attributed to economies of scale. Utilities 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 which continues to be significantly much outside the acceptable levels of sector performance with 23 utilities committing more than half their O+M expenditures to meet staff costs. Within the reporting period, only seven utilities have a staff cost to O+M ratio of less than 30%.

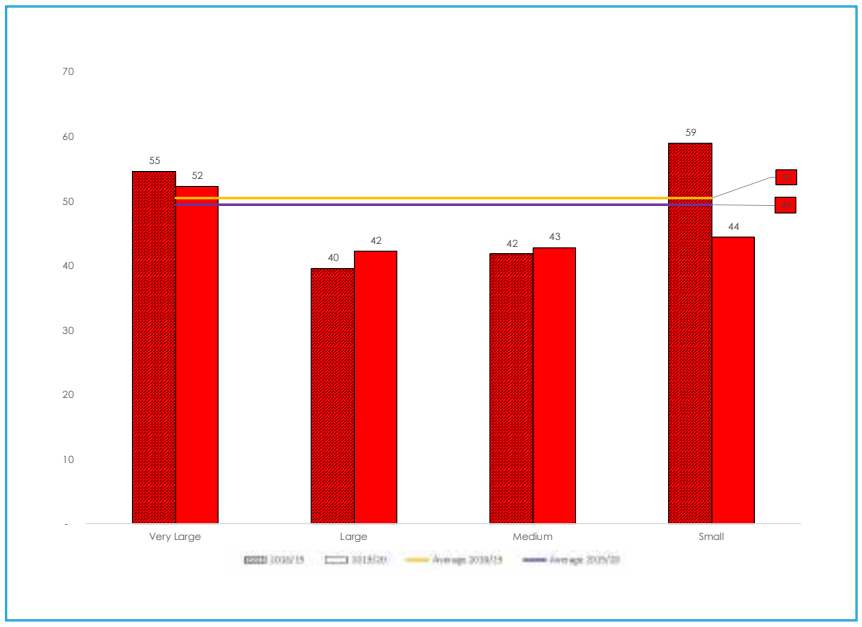
**Figure 3.17: Staff Productivity, Staff No. per 1,000**




## 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 by the respective sector benchmarks.

**Figure 3.18: Personnel Expenditure as a Percentage of O+M, %**



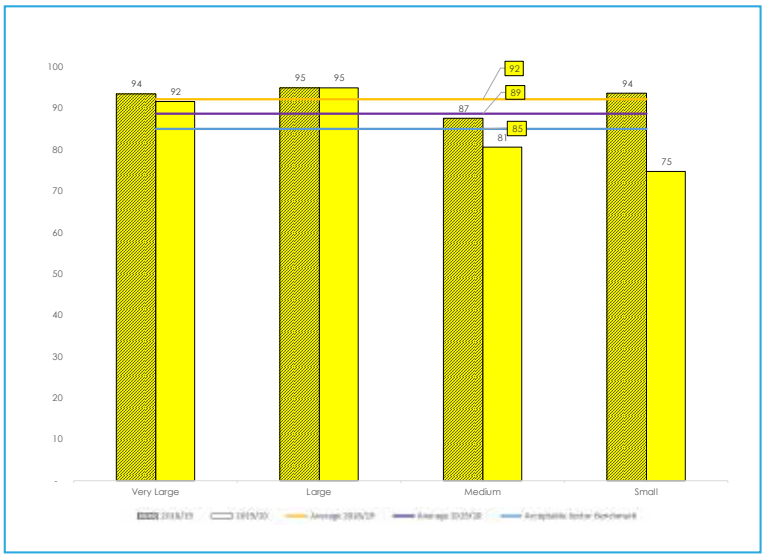
Performance in this indicator improved marginally from 50% in 2018/19 to 49% in 2019/20. The Very Large and Large categories recorded a decline in performance in this indicator. The Small category recorded a much-improved performance compared to the previous reporting period. The performance of Very Large category at 52% implies that more than half of the utility resources are used to cater for personnel expenses, with the bulk of it being salaries and wages. Left unchecked, this situation may stifle resources for other operations hence, compromising on the quality of rendered services. Utilities with approved tariffs are expected to grow their expenses as per the agreed projections in the tariff and WASREB will closely monitor to ensure that other aspects of utility operations are not compromised.

The regulator has issued guidelines on remuneration level at the utility level guided by the level of business. Furthermore, the model HR guidelines are expected to provide guidance to WSPs on proper management of the human capital and also provide guidance in negotiations during Collective Bargaining Agreements (CBAs). This indicator together with NRW and O+M cost coverage form the core of the commercial viability assessment of the WSPs. These shall closely be monitored through the licensing process.

### j) Revenue Collection Efficiency

Revenue Collection Efficiency refers to the total amount of money collected by a utility expressed as a percentage of the total amount billed over the same period. It has been used to measure the effectiveness of the revenue management system in a utility. Revenue collected, as opposed to amounts billed, is what impacts a utility's direct ability to fund its operations.

**Figure 3.19: Revenue Collection Efficiency, %**



Overall performance in this indicator declined from 92% in 2018/19 to 89% in 2019/20. It is worth noting that all categories of utilities were above the sector benchmark of 85% for this indicator. The accumulated receivables due to water utilities increased by a figure of 1.5 Billion or 0.14% in a sample of 67 utilities. This demonstrates the effect of COVID-19 pandemic on the water sector. The Ministry of Water, Sanitation and Irrigation in this regard, is implementing a program aimed at offering conditional liquidity grant to all public water utilities to alleviate the effects of the COVID-19 pandemic.

### 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 the 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 can meet its O+M costs, service debt and renew its assets.

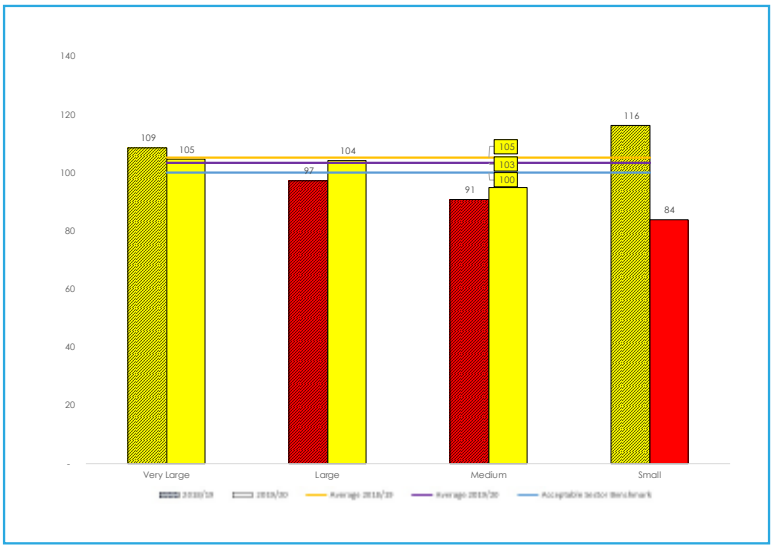
For a utility to be sustainable, the following levels of cost-coverage have been defined (Table 3.9):

**Table 3.9: Levels of Cost Coverage and Cost Components**

| Cost Components | % O+M Cost Coverage |
|---|---|
| O+M Cost | 100% |
| O+M Cost + Debt Service + Minor Investments | 101-149% |
| Full Cost Recovery | ≥150% |

At over 150% O+M Cost Coverage, a utility is considered to have attained full cost recovery i.e., able to meet O+M costs, service debt and renew its assets.

**Figure 3.20: O+M Cost Coverage**

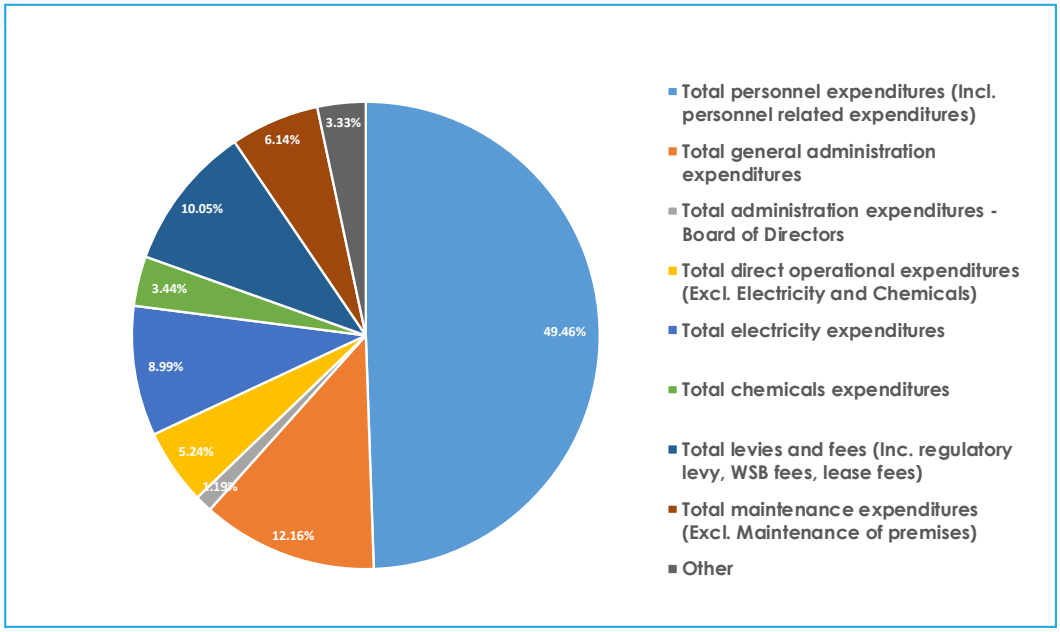


There was a notable improvement in the O+M coverage among the large and medium categories. Overall, this KPI registered a decline of two percentage points from 105% to 103%. The performance of this indicator continues to remain below the sector benchmark of between 130% and 150% required to cover justified O+M costs, debt service and undertake new capital works.

### I) O+M Cost Breakdown

Cost distribution in a utility is a major factor in ensuring its financial sustainability. The regulator has set benchmarks for some of these cost components e.g. Personnel, BoD and Maintenance expenses among others. The breakdown of O+M costs into personnel, electricity, chemicals, levies and fees and other operational expenditures, provides crucial 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 3.21 shows the aggregated O+M cost breakdown for all utilities.

**Figure 3.21: Aggregated O+M Cost Breakdown for All Utilities**



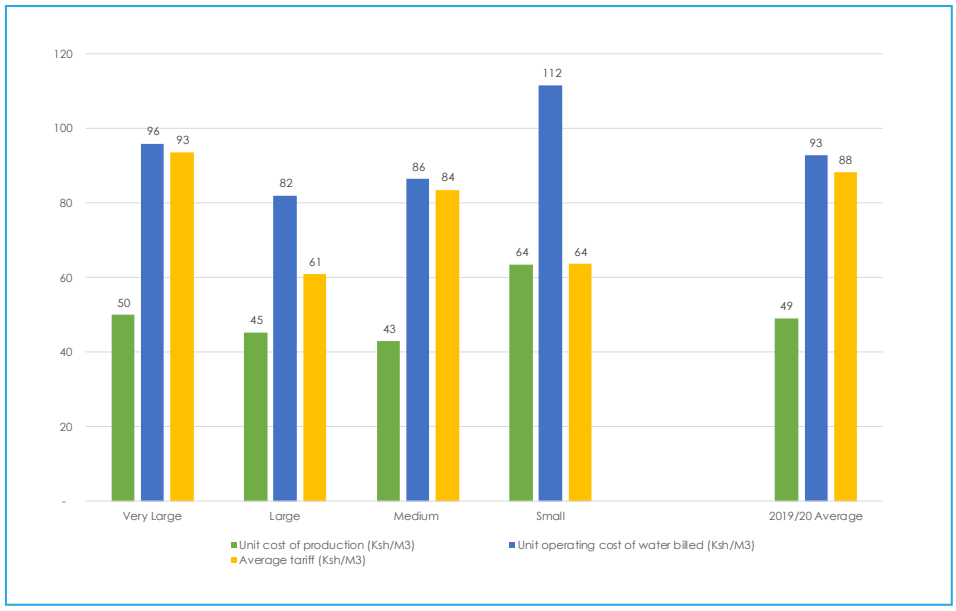

As illustrated, the main cost drivers for O+M are: personnel expenditure (49%) which improved by four percentage points from last reporting period. Electricity and chemical costs increased by three and two percentage points to 9% and 4% respectively. There was a slight improvement in maintenance costs by one percentage point to 6%. This is a positive development towards the benchmark of 8%-15%. The regulator, through the license will continue to drive the utilities to develop and implement comprehensive asset maintenance schedules. This is expected to translate to better performance on 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 the 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 NRW of 20% as opposed to the current 47%, the unit cost of water billed would be expected to be Kshs. 62 per cubic meter as opposed to the current Kshs. 93 per cubic meter, as shown in Fig 3.22. This means that the difference of Kshs. 31 per cubic meter goes towards paying for inefficiencies of the utilities, instead of the development of infrastructure. At the current average tariff of Kshs. 88 per cubic meter, consumers are paying Kshs. 26 per cubic meter for inefficiencies and the balance of Kshs. 5 per cubic meter is covered by subsidies or decline in quality of service. A tariff that is less than the unit cost of water billed starves the utility of funds to put into asset renewal.

When compared to the previous reporting period, where there was a slight decline in unit cost of production, the unit cost of water billed and the average tariff increased by 7% and 3.5% respectively in the current period. Considering that the revenue collection efficiency was 89%, the amount of actual revenue per cubic metre is Kshs. 78. This is Kshs. 15 lower than the unit cost of water billed. This deficit must be provided either as subsidy or a decline in quality of service will be noted. Assuming the current level of efficiency, the sector requires an average tariff of Kshs. 102 per cubic metre to realise a cost recovery of 110% which is the minimum requirement to guarantee the current level of service.

**Figure 3.22: Tariff-Cost Comparison**



## n) Water Services in Low Income Areas

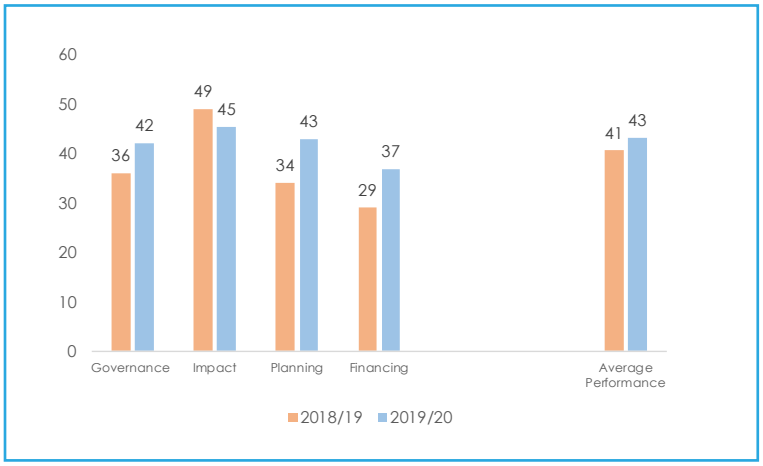
One of the fundamental issues that have been discerned in the water services provision arising from the challenges presented by COVID-19 is the poor service, inequality and discrimination in water service provision. This is the situation being experienced especially within our low-income areas. This is an issue that the regulator has persistently focused on and efforts have been made to ensure that low-income areas (LIAs) are not left behind in the progressive realization of the rights to water and sanitation. The adoption of socially responsible commercialization sought to ensure that utilities do not misuse their monopolistic powers to the detriment of services to the poor. The desire of the poor in the low-income areas is to move from informal to formalized service provision as a first step in the service provision ladder. The Pro-poor Water and Sanitation Guideline has been rolled out by the regulator. It is to support this agenda. The assessment of the WSPs on provision of pro-poor water services is used in evaluating their proposals by Water Sector Trust Fund (WSTF) based on this Guideline.

Recognizing that this state of affairs will continue unless deliberate actions are taken to address the same, the regulator continues to assess utility efforts with respect to improving services in the marginalized areas. The following are the four dimensions assessed with their corresponding weights.

- **Governance (30%)**: The sub-indicator has three components. These are Adoption of a pro-poor policy; establishment of a pro-poor unit and Board representation/ constitution
- **Impact (30%)** : Level of access (water); Level of access (sanitation); Growth in access over time; Service levels with focus on rationing programmes
- **Planning (20%)**: Availability of LIAs specific plans (development and implementation); Mapping (Baseline and regular updating); Pro-poor business model
- **Financing (20%)**: LIA budget drawn from the plan; Resource provision (disbursements) vis a vis budget; Equitable allocation of financing.

For the reporting period 2019/20, a total of 54 utilities submitted complete data on their pro-poor performance compared to 52 utilities in the previous period. Figure 3.23 presents the aggregated performance in Pro-poor parameters for the 54 utilities.

**Figure 3.23: Performance in Pro-poor Parameters**




In the current period, the best performing utility for the third year in a row is Nakuru with score of 92% with an improvement of five percentage points. Embe with a score 6% was the least performing. On the basis of aggregated performance of the utilities at sub-indicator level, Impact was the best performed at 45% albeit with a drop from 49%. It is followed by Planning and Governance at 43% and 42% respectively. Financing has the least performance at 37%. The three indicators that recorded improvement represent means to better outcome. It is our hope that they will eventually translate into the improvement of Impact.

## 3.5.5 Governance Assessment

Good governance of the water sector remains a priority at national and county levels in the quest to ensure that the progressive realisation of the right to water and sanitation is achieved.

For the fifth year running, WASREB has continued to implement the governance assessment tool to measure the degree of utility adherence to national governance standards. The sector continues to experience challenges with regard to practice of good governance in many WSPs. This is sometimes compounded by new changes in the utility management brought by County Governments as they take up their role in management of WSPs in line with the Water Act 2016. Changes which are not in line with good corporate governance are always counterproductive.

Numerous challenges were faced in the implementation of the Water Act 2016 with devolved units. Some devolved units are still struggling to appreciate and recognize the importance of national standards, shared monitoring and need to improve enforcement in the Water Service Providers. The goal of governance assessment is to entrench good practices with the aim of ensuring efficiency in service provision. The six sub-indicators of the tool and the inherent challenges in these areas are enumerated below:

### a) Utility Oversight and Supervision

The challenges in this area are:

- Maintaining the appointment of board of directors as open and competitive process. This is to ensure the right calibre of professionals of tested integrity are appointed to the board of directors to offer oversight and strategic vision;

- Improving on the role of the general meeting as a useful governance tool to foster improved performance by the board of directors;
- Exploiting the dual role of constitutional functional owner and main shareholder by the County Government to improve performance by sheltering the utilities from short term political interests.

**b) Information and Control Systems**

This parameter looks at transparency in operational functions and compliance to set organisational systems. The main issue is whether the utility prepares a budget based on the approved tariff and regulatory conditions. In addition, it is to be checked whether the annual stakeholder forum is effectively held and relevant utility issues are laid before the citizenry in the forum. The analysis of this area shows that it is a weak point among the utilities which needs to be improved. The alignment of the budget to the approved tariff continues to be undermined by many utilities. This is shown further by the small number of utilities with justified tariffs, currently at 17 (18%).

**c) Financial Management**

This parameter monitors whether a utility fully complies to financial rules and regulations. The analysis shows that this is still a weak area for many WSPs. The use of the internal audit function needs to be strengthened by the management and board of directors. Similarly, the fact that utilities do not apply for a tariff adjustment due to local county factors shows that this area remains a challenge in the drive to create commercially viable Water Service Providers.

**d) Service Standards**

This parameter focuses on customer services and complaints resolution. It is affected greatly by the quality of the infrastructure, competence of the personnel and the culture practiced in the utility. The role of the County Government as the sole owner of the utility, with an oversight responsibility, should oblige them in setting the ethical values in service delivery in the whole county. The taking up of this role by counties will foster and enforce adherence to the service standards by all utilities within their respective areas of jurisdiction.

**e) Human Resources**

The technical competence criteria for WSPs is set in the Legal Notice 137 of 2012. The utilities are required to have Human Resource Policies that foster efficiency, ensure fairness and equity. This is an ongoing challenge in most utilities. Utilities are especially facing challenge in enforcing a performance-based employment culture which is vital in creating a viable utility with good management and performance. The regulator has developed the Model Human Resources Guideline for the utilities. This has been integrated in the licensing process. It is anticipated that this will guide the utilities to better performance.

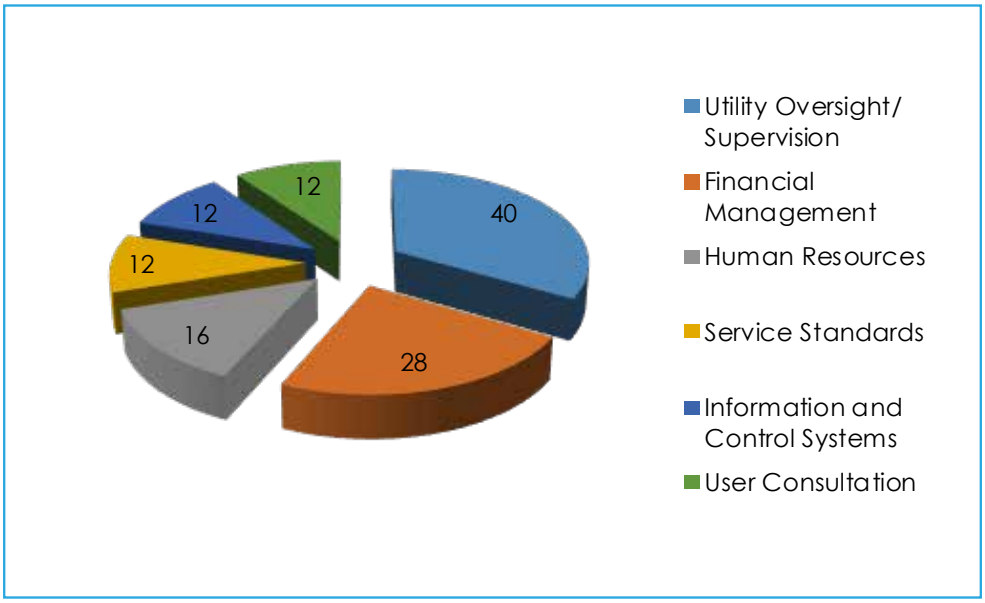
**f) User Consultation**

This parameter measures the participation of the local community in the decision-making process of their service provider. This is an essential l issue in the provision of water services as it affects investment decisions, catchment protection, infrastructure protection, prevention of illegal connections and prompt payment of water bills. In addition, it enables the utility to execute its role in the community as an important player, committed

to improving the wellbeing of the entire community. Unfortunately, this parameter has also fallen victim to the election cycle. It is used negatively for political gains.

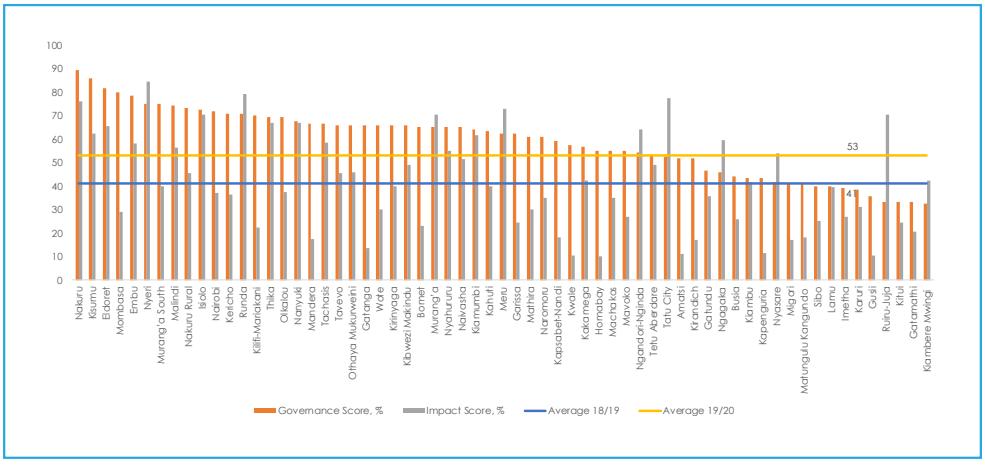
The six sub-indicators have been allocated different weights with Utility Oversight and Financial Management allocated the highest weights (Fig. 3.24).

**Figure 3.24: Weights of Water Governance Sub- Indicators**



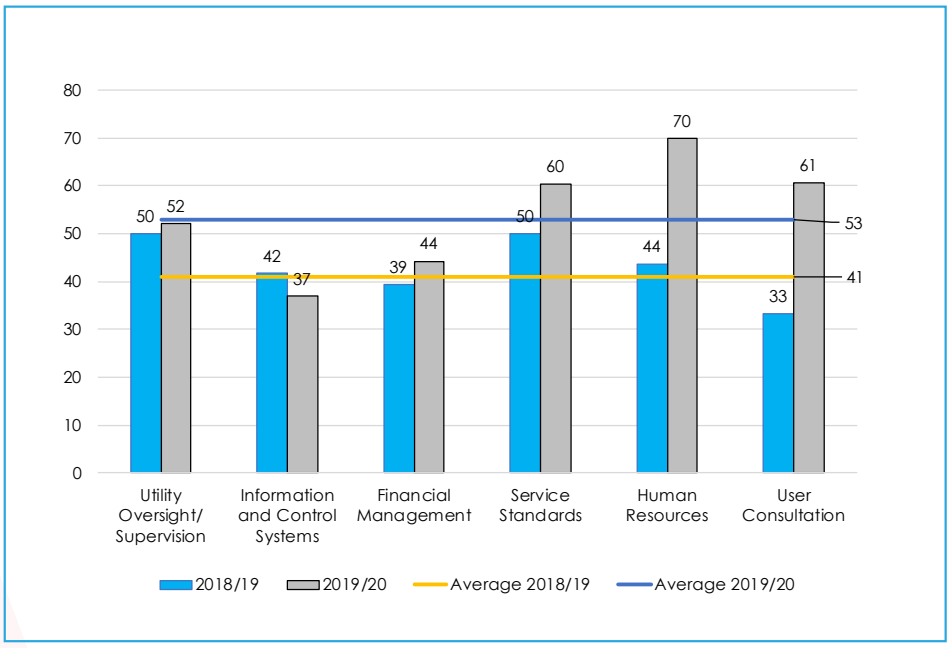

In the reporting period 2019/20, 74 utilities representing 81% of all reporting utilities, submitted their data on water governance. Although there was an increase of four WSPs, the proportion when compared to the total, remained fairly constant. The performance of these 74 utilities compared to the technical performance is provided in Fig 3.25.

**Figure 3.25: Governance Score Vs KPIs Score, %**



A comparison of the six dimensions over the two reporting periods is provided in Figure 3.26. The figure shows that there was an improvement in five out of the six dimensions assessed. Only Information and Control Systems recorded a drop. The average performance improved from 41% to 53%.

**Figure 3.26: Governance Performance Comparison**



### 3.5.6 Creditworthiness Analysis

This section provides a snapshot of indicative creditworthiness of selected utilities based on their operational and financial performance for the period 2019/20. For ease of reference, the well-known rating symbols (AAA, BB, etc.) have been used for the creditworthiness index. The Social- Economic and Governance indicators have not been used in this assessment. The analysis presented in this report is based on the financial and operational data for the 2019/2020 financial year as reported in WARIS and the unaudited financial statements for 2019/20.
The index is calculated from 23 weighted indicators outlined in Annex 7.

**Table 3.10: CWI Scoring Parameters**

| Score | Indicative Credit Worthiness Level | Description |
|---|---|---|
| > 85 | Creditworthy probably AAA category | Denotes the lowest expectation of default risk. Assigned only in cases of exceptionally strong capacity for payment of financial commitments. Highly unlikely to be adversely affected by foreseeable events. |
| 71 to 85 | Creditworthy probably AA category | Denotes expectations of very low default risk. Very strong capacity for payment of financial commitments. Not significantly vulnerable to foreseeable events. |
| 61 to 70 | Low-Creditworthy, probably in A category | Denotes expectations of low default risk. Capacity for payment of financial commitments is considered strong. Capacity may, nevertheless, be more vulnerable to adverse business or economic conditions than is the case for higher ratings .In a credit rating, this definition is equivalent is equivalent to an A rating. |
| 51 to 60 | Low-Creditworthy, probably in BBB category | Indicates that expectations of default risk are currently low. Capacity for payment of financial commitments is considered adequate but adverse business or economic conditions are more likely to impair this capacity. In a credit rating, this definition is equivalent is equivalent to an BBB rating. |
| 41 to 50 | Low-Creditworthy, probably in BB category | Indicates an elevated vulnerability to default risk, particularly in the event of adverse changes in business or economic conditions over time; however, business or financial flexibility exists which supports the servicing of financial commitments .In a credit rating, this definition is equivalent is equivalent to BB rating. |
| 31 to 40 | Lower-Creditworthy, probably in B category | Indicates that material default risk is present, but a limited margin of safety remains. Financial commitments are currently being met; however, capacity for continued payment is vulnerable to deterioration in the business and economic environment .In a credit rating, this definition is equivalent to B rating. |
| ≤ 30 | No Rating awarded | Indicative of substantial to exceptionally high risk of default. |

The focus in the current period was in the Very Large and Large utilities. A total of 46 utilities fall in these two categories. They represent 96% of the provided data for assessment. The performance summary of these 46 utilities is presented in Table 3.11.

**Table 3.11: CWI Performance Summary**

| Score | >85 | 71to 85 | 61 to 70 | 51 to 60 | 41 to 50 | 31 to 40 | <=30 |
|---|---|---|---|---|---|---|---|
| **Number of Utilities** | 0 | 2 | 2 | 10 | 19 | 11 | 2 |
| **Rating** | AAA | AA | A | BBB | BB | B | No Rating |

A comparison of performance with the previous period shows that an additional six utilities scored at least a double B which is an improvement of 22%.

The performance of each the 46 utilities assessed including performance in the previous period is presented in Table 3.12.

### Table 3.12: Creditworthiness Index

| Utility | 2019-20 | | 2018-19 | | Change in Score |
|---|---|---|---|---|---|
| Murang'a | 72 | AA | 61 | BBB | 11 |
| Nyeri | 71 | A | 67 | A | 4 |
| Ngandori Nginda | 66 | A | n/a | | n/a |
| Nakuru | 61 | BBB | 63 | A | -3 |
| Ngagaka | 60 | BBB | n/a | | n/a |
| Nyahururu | 59 | BBB | 36 | B | 23 |
| Nairobi | 58 | BBB | 53 | BBB | 5 |
| Embu | 57 | BBB | 69 | A | -12 |
| Nithi | 57 | BBB | n/a | | n/a |
| Meru | 55 | BBB | 50 | BB | 5 |
| Ruiru-Juja | 54 | BBB | 63 | A | -9 |
| Isiolo | 52 | BBB | 41 | BB | 11 |
| Tetu Aberdare | 51 | BBB | n/a | | n/a |
| Kahuti | 51 | BB | n/a | | n/a |
| Thika | 49 | BB | 47 | BB | 2 |
| Mavoko | 48 | BB | 53 | BBB | -5 |
| Imetha | 48 | BB | n/a | | n/a |
| Gusii | 47 | BB | 33 | B | 14 |
| Othaya Mukurweni | 47 | BB | 52 | BBB | -5 |
| Nanyuki | 46 | BB | 42 | BB | 5 |
| Tavevo | 46 | BB | 30 | NO RATING | 16 |
| Kikuyu | 46 | BB | 48 | BB | -2 |
| Nzoia | 46 | BB | 45 | BB | 1 |
| Kirinyaga | 46 | BB | 36 | B | 9 |
| Mathira | 46 | BB | 44 | BB | 2 |
| Kisumu | 45 | BB | 48 | BB | -2 |
| Karuri | 44 | BB | n/a | | n/a |
| Gatamathi | 42 | BB | n/a | | n/a |
| Kakamega | 42 | BB | 51 | BBB | -9 |
| Eldoret | 41 | BB | 49 | BB | -8 |
| Kilifi Mariakani | 41 | B | 28 | NO RATING | 13 |
| Gatundu | 41 | B | 52 | BBB | -11 |
| Machakos | 41 | B | 38 | B | 2 |
| Limuru | 40 | B | 47 | BB | -7 |
| Sibo | 38 | B | 39 | B | -1 |
| Kiambu | 38 | B | 44 | BB | -6 |
| Garissa | 38 | B | 45 | BB | -7 |
| Nakuru Rural | 38 | B | 28 | NO RATING | 9 |
| Mombasa | 36 | B | 38 | B | -2 |
| Oloolaiser | 32 | B | 32 | B | 1 |
| Malindi | 32 | B | 41 | BB | -9 |
| Kitui | 32 | B | 33 | B | -1 |
| Kericho | 32 | B | 29 | NO RATING | 2 |
| Murang'a South | 31 | B | 32 | B | -1 |
| Kwale | 30 | NO RATING | 23 | NO RATING | 8 |
| Bomet | 22 | NO RATING | n/a | | n/a |

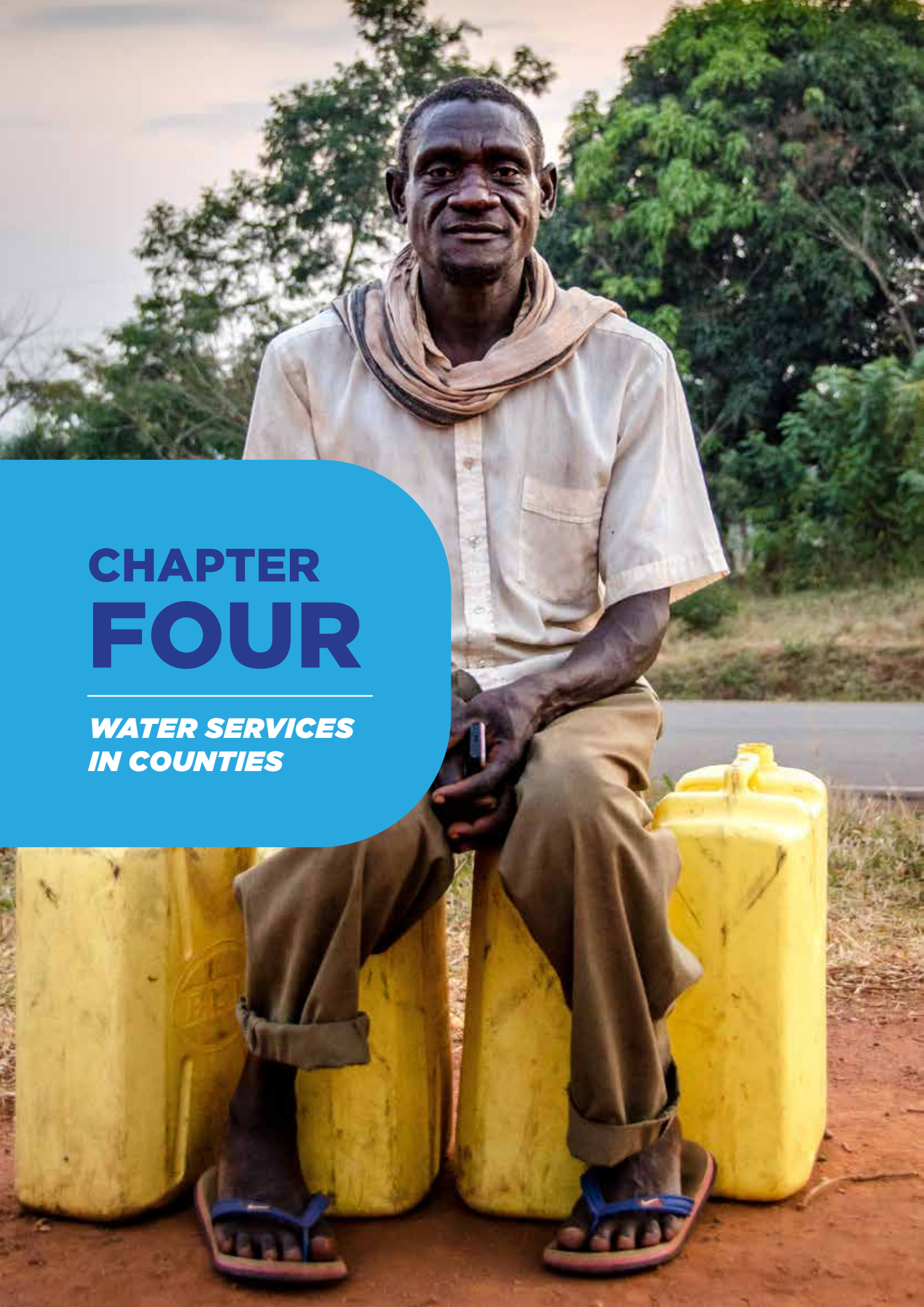
The analysis was also carried out considering the most improved/ declined in the reporting period. Nyahururu was the most improved having moved from a "B" to "BBB". On the other hand, the worst decline was recorded by Embu with a drop from "A" to "BBB". The results are presented in the tables below.

### Table 3.13: Improvers

| TOP IMPROVERS | | | | | |
|---|---|---|---|---|---|
| **Utility** | **2019-20** | | **2018-19** | | **Change in Score** |
| Nyahururu | 59 | BBB | 36 | B | 23 |
| Tavevo | 46 | BB | 30 | NO RATING | 16 |
| Gusii | 47 | BB | 33 | B | 14 |
| Kilifi Mariakani | 41 | B | 28 | NO RATING | 13 |
| Isiolo | 52 | BBB | 41 | BB | 11 |

### Table 3.14: Bottom Losers

| BOTTOM LOSERS | | | | | |
|---|---|---|---|---|---|
| **Utility** | **2019-20** | | **2018-19** | | **Change in Score** |
| Ruiru-Juja | 54 | BBB | 63 | A | -9 |
| Malindi | 32 | B | 41 | BB | -9 |
| Kakamega | 42 | BB | 51 | BBB | -9 |
| Gatundu | 41 | B | 52 | BBB | -11 |
| Embu | 57 | BBB | 69 | A | -12 |



# CHAPTER FOUR

## *WATER SERVICES IN COUNTIES*

# ENHANCING SECTOR FUNCTIONALITY THROUGH COORDINATION

One of the cardinal roles of the County Governments is to transform water services in the counties through a correct vision. This mandate can be achieved through:

1. Conforming to the law and standards in the provision of water services
2. Ensuring harmony with other players in the sector for progressive realisation of the right
3. Providing / facilitating provision of resources
4. Demanding accountability and results.

For effective delivery of this mandate, counties need to establish autonomous service delivery vehicles with authority to provide services but accompanied by the duty to give account for results.

## 4.1 Situation of Water Services in Counties

The population in the service area of the regulated utilities is 25.7 million out of the total national population of 48.12 million. This translates to 53% of the population. This is an increase of four percentage points from the figure of 49.1% which was reported in the previous period. This may be explained by increased migration to the urban areas as a result of the stimulus created by devolution. In order to advance the rights to water and sanitation and ensure equity in service provision, the regulator collected data on small scale operators both within and outside the service areas of regulated utilities in the current period. This endeavour seeks to ensure that the interest of consumers is protected. The consumer protection specifically ensures that water services standards are adhered to in terms of quality, cost and customer care in order to guarantee the health and safety of consumers.

The data collected on these types of operators will provide a baseline for the County Governments for planning and streamlining of water services in the respective areas. The data was collected using a simple excel tool. The tool was structured to provide data on the aspects of right to water which includes access, reliability, cost and quality. Data on other operational aspects of these systems will be collected on an incremental basis.

Building on these gains, the regulator is going to support the County Governments in streamlining water services in these areas that were considered to be commercially unviable. WASREB considers that working with the County Governments will enable all consumers to benefit from water services from utilities that are regulated. In addition, the utilities will become more accountable on their operations to the consumers.

## 4.2 Counties Data Analysis

The situation of water services in the counties is presented based on data from the regulated utilities (both public and private) and the data collected on the Small-Scale Service Providers (SSSPs). The data on SSSPs was collected jointly with the support of the Water Works Development Agencies (WWDAs) based on their current areas of jurisdiction. The data was subsequently validated with the respective County Governments.

The regulated utilities are not uniformly distributed across the various counties. They also exhibit a diversity of characteristics in terms of size, number, capacities, revenue among others. On the other hand, the data on SSSPs shall continually be updated to provide a more accurate picture of the overall water services situation in each of the counties.

**Table 4.1: Distribution of Number of Water Utilities by Counties**

| Number of Utilities | 1 | 2 | 3 | 4 | 5 | 6 | 10 | 91 |
|---|---|---|---|---|---|---|---|---|
| Number of Counties | 27 | 8 | 5 | 1 | 3 | 1 | 1 | 47 |

All the 47 counties have at least a regulated utility. They vary in their different levels of compliance. 27 counties have one regulated utility each. However, two cut across two counties. The utilities are Nzoia (serving Bungoma and Trans Nzoia Counties) and Gusii (serving Kisii and Nyamira Counties). Kiambu County has the highest number of regulated utilities at 10 (eight public and two private), followed by Machakos with six regulated utilities.

# Table 4.2 (a): County Data for Regulated Utilities

| ID. | County | Population in the County | Utilities in the county | Percentage of County population within service areas of Utilities (%) | INDICATORS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Water Coverage (%) | Drinking Water Quality (%) | Hrs of supply (hrs./d) | Personnel Exp. As % of O+M | O+M cost coverage (%) | | Revenue Collection Efficiency (%) | NRW (%) | Staff per 1000 (no. staff per 1000 conns.) | Metering Ratio (%) | Sewerage Coverage (%) | Unit cost of water produced (Kshs/m³) | Unit operating cost of water billed (Kshs/m³) | Average tariff (Kshs/m³) |
| 001 | Mombasa | 1,208,333 | Mombasa | 100 | 53 | 98 | 14 | 40 | 93 | Mombasa: 93 | 88 | 52 | 8 | 93 | 8 | 67 | 139 | 122 |
| 002 | Kwale | 866,820 | Kwale | 60 | 29 | 73 | 3 | 31 | 83 | Kwale: 83 | 91 | 63 | 8 | 84 | 0 | 41 | 110 | 83 |
| 003 | Kilifi | 1,453,787 | Kilifi Mariakani Malindi | 100 | 62 | 93 | 18 | 35 | 92 | Kilifi Mariakani: 86<br>Malindi: 99 | 90 | 45 | 9 | 100 | 0 | 59 | 107 | 95 |
| 004 | Tana River | 315,943 | Tana River | 51 | n.d. | n.d. | n.d. | n.d. | n.d. | Tana River: n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. |
| 005 | Lamu | 143,920 | Lamu | 23 | 75 | 90 | 10 | 41 | 72 | Lamu: 72 | 108 | 37 | 30 | 100 | 0 | 78 | 123 | 74 |
| 006 | Taita-Taveta | 340,671 | Tavevo | 100 | 18 | 93 | 18 | 26 | 90 | Tavevo: 90 | 95 | 38 | 12 | 100 | 0 | 60 | 98 | 82 |
| 007 | Garissa | 841,353 | Garissa | 16 | 77 | 40 | 22 | 29 | 164 | Garissa: n.c.d. | 33 | 43 | 10 | 73 | 2 | 40 | 70 | 115 |
| 008 | Wajir | 781,263 | Wajir | 13 | 10 | n.c.d | 18 | 91 | 17 | Wajir: n.c.d. | 86 | n.c.d | 166 | 100 | 0 | 198 | n.c.d. | n.c.d. |
| 009 | Mandera | 867,457 | Mandera | 14 | 46 | 93 | 13 | 11 | 262 | Mandera: n.c.d. | 20 | 49 | 33 | 0 | 0 | 137 | 268 | 0 |
| 010 | Marsabit | 459,785 | Marsabit | 9 | 50 | 90 | 15 | n.d. | n.d. | Marsabit: n.d. | 100 | 67 | 13 | 7 | 0 | n.d. | n.d. | 6 |
| 011 | Isiolo | 268,002 | Isiolo | 35 | 89 | 93 | 18 | 54 | 104 | Isiolo: 104 | 104 | 30 | 5 | 100 | 9 | 46 | 66 | 63 |
| 012 | Meru | 1,545,714 | Meru<br>Imetha<br>Tuuru | 43 | 48 | 93 | 18 | 47 | 123 | Meru: 123<br>Imetha: 134<br>Tuuru: 106 | 90 | 41 | 10 | 97 | 3 | 38 | 64 | 64 |
| 013 | Tharaka-Nithi | 393,177 | Nithi<br>Murugi Mugumango<br>Muthambi 4K | 54 | 49 | 68 | 21 | 49 | 111 | Nithi: 116<br>Murugi Mugumango: 82<br>Muthambi 4K: 145 | 90 | 46 | 9 | 100 | 0 | 12 | 23 | 24 |
| 014 | Embu | 608,599 | Embu<br>Ngandori<br>Nginda<br>Ngagaka<br>Kyeni<br>Embe | 93 | 78 | 88 | 21 | 43 | 117 | Embu: 126<br>Ngandori Nginda: 89<br>Ngagaka: 124<br>Kyeni: 86<br>Embe: 103 | 87 | 45 | 4 | 98 | 6 | 30 | 55 | 57 |
| 015 | Kitui | 1,136,187 | Kitui<br>Kiambere<br>Mwingi | 52 | 60 | 85 | 11 | 25 | 63 | Kitui: 63<br>Kiambere Mwingi: 63 | 90 | 52 | 13 | 100 | 0 | 89 | 186 | 101 |
| 016 | Machakos | 1,421,932 | Mavoko<br>Machakos<br>Yatta<br>Matungulu<br>Kangundo<br>Mwala<br>Kathiani | 59 | 46 | 72 | 6 | 46 | 112 | Mavoko: 124<br>Machakos: 107<br>Yatta: 112<br>Matungulu Kangundo: 88<br>Mwala: 56<br>Kathiani: 99 | 78 | 30 | 9 | 100 | 14 | 126 | 179 | 191 |
| 017 | Makueni | 987,653 | Kibwezi<br>Makindu<br>Wote<br>Mbooni | 51 | 26 | 93 | 13 | 49 | 91 | Kibwezi Makindu: 98<br>Wote: 76<br>Mbooni: 123 | 95 | 31 | 15 | 99 | 0 | 79 | 113 | 95 |
| 018 | Nyandarua | 638,289 | Nyandarua<br>Ol Kalou<br>Ndaragwa | 36 | 34 | 45 | 20 | 39 | 95 | Nyandarua: 87<br>Ol Kalou: 100<br>Ndaragwa: n.c.d. | 94 | 54 | 12 | 77 | 0 | 63 | 137 | 114 |
| 019 | Nyeri | 759,164 | Nyeri<br>Othaya<br>Mukurweni<br>Mathira<br>Tetu Aberdare<br>Naromoru | 80 | 49 | 93 | 23 | 49 | 127 | Nyeri: 143<br>Othaya Mukurweni: 113<br>Mathira: 108<br>Tetu Aberdare: 104<br>Naromoru: 93 | 94 | 33 | 5 | 99 | 12 | 33 | 49 | 58 |
| 020 | Kirinyaga | 610,411 | Kirinyaga<br>Rukanga | 79 | 57 | 93 | 18 | 56 | 100 | Kirinyaga: 102<br>Rukanga: 73 | 88 | 59 | 6 | 99 | 0 | 26 | 64 | 54 |
| 021 | Murang'a | 1,056,640 | Murang'a South<br>Kahuti<br>Murang'a<br>Gatanga<br>Gatamathi | 100 | 53 | 93 | 16 | 52 | 105 | Murang'a South: 99<br>Kahuti: 109<br>Murang'a: 116<br>Gatanga: 81<br>Gatamathi: 104 | 89 | 52 | 6 | 89 | 3 | 32 | 67 | 63 |
| 022 | Kiambu | 2,417,735 | Thika<br>Ruiru-Juja<br>Gatundu<br>Kikuyu<br>Kiambu<br>Limuru<br>Karuri<br>Githunguri<br>Kiamumbi<br>Tatu City | 89 | 67 | 87 | 16 | 41 | 113 | Thika: 112<br>Ruiru-Juja: 143<br>Gatundu: 104<br>Kikuyu: 101<br>Kiambu: 98<br>Limuru: 96<br>Karuri: 86<br>Githunguri: 100<br>Kiamumbi: 130<br>Tatu City: 90 | 90 | 48 | 6 | 99 | 11 | 43 | 82 | 91 |
| 023 | Turkana | 926,976 | Lodwar | 8 | 56 | n.d. | 8 | n.d. | n.d. | Lodwar: n.d. | n.d. | 52 | 9 | 100 | 0 | n.d. | n.d. | 63 |
| 024 | West Pokot | 621,241 | Kapenguria | 30 | 10 | 22 | 22 | 44 | 44 | Kapenguria: 44 | 65 | 53 | 51 | 63 | 0 | 61 | 132 | 57 |
| 025 | Samburu | 310,327 | Samburu | 100 | 26 | 69 | 18 | 50 | 16 | Samburu: 16 | 47 | 40 | 32 | 100 | 0 | 150 | 249 | 39 |
| 026 | Trans-Nzoia | 990,341 | Nzoia | 50 | 38 | 93 | 20 | 40 | 107 | Nzoia: 107 | 101 | 56 | 8 | 100 | 21 | 38 | 86 | 84 |
| 027 | Uasin Gishu | 1,163,186 | Eldoret | 42 | 77 | 97 | 24 | 46 | 108 | Eldoret: 108 | 94 | 42 | 4 | 100 | 30 | 47 | 80 | 73 |
| 028 | Elgeiyo Marakwet | 454,480 | Iten Tambach | 16 | 57 | 71 | 10 | 43 | 111 | Iten Tambach: 111 | 95 | 32 | 12 | 100 | 0 | 24 | 36 | 37 |
| 029 | Nandi | 885,711 | Kapsabet<br>Nandi Tachasis | 12 | 50 | 93 | 13 | 48 | 66 | Kapsabet Nandi: 64<br>Tachasis: 151 | 90 | 36 | 11 | 97 | 0 | 50 | 79 | 47 |
| 030 | Baringo | 666,763 | Chemususu<br>Kirandich | 17 | 49 | 18 | 5 | 37 | 50 | Chemususu: 65<br>Kirandich: 45 | 79 | 64 | 10 | 51 | 0 | 38 | 105 | 50 |
| 031 | Laikipia | 518,560 | Nanyuki<br>Nyahururu | 50 | 77 | 97 | 23 | 52 | 110 | Nanyuki: 114<br>Nyahururu: 105 | 97 | 38 | 7 | 100 | 38 | 64 | 102 | 106 |
| 032 | Nakuru | 2,162,202 | Nakuru<br>Nakuru Rural<br>Naivasha | 58 | 82 | 93 | 20 | 36 | 110 | Nakuru: 111<br>Nakuru Rural: 108<br>Naivasha: 105 | 95 | 40 | 5 | 93 | 17 | 60 | 99 | 105 |
| 033 | Narok | 1,157,873 | Narok | 9 | 38 | 65 | 4 | 37 | 78 | Narok: 78 | 90 | 32 | 17 | 100 | 0 | 93 | 136 | 103 |
| 034 | Kajiado | 1,117,840 | Oloolaiser<br>Nol Turesh<br>Loitokitok<br>Olkejuado<br>Namanga | 72 | 31 | 64 | 12 | 48 | 102 | Oloolaiser: 85<br>Nol Turesh Loitokitok: n.c.d.<br>Olkejuado: 73<br>Namanga: 121 | 85 | 58 | 16 | 93 | 0 | 33 | 78 | 75 |
| 035 | Kericho | 901,777 | Kericho | 41 | 36 | 93 | 21 | 46 | 81 | Kericho: 81 | 93 | 54 | 9 | 100 | 9 | 54 | 119 | 83 |
| 036 | Bomet | 875,689 | Bomet | 17 | 60 | 93 | 14 | 38 | 107 | Bomet: 107 | 32 | 53 | 15 | 52 | 0 | 47 | 100 | 54 |
| 037 | Kakamega | 1,867,579 | Kakamega | 22 | 58 | 93 | 8 | 57 | 97 | Kakamega: 97 | 105 | 46 | 5 | 100 | 12 | 52 | 96 | 92 |
| 038 | Vihiga | 590,013 | Amatsi | 46 | 11 | 91 | 9 | 38 | 59 | Amatsi: 59 | 63 | 33 | 20 | 71 | 0 | 47 | 70 | 40 |
| 039 | Bungoma | 1,670,570 | Nzoia | 23 | 38 | 93 | 20 | 40 | 107 | Nzoia: 107 | 101 | 56 | 8 | 100 | 21 | 38 | 86 | 84 |
| 040 | Busia | 893,681 | Busia | 35 | 45 | 93 | 10 | 34 | 129 | Busia: 129 | 53 | 50 | 6 | 67 | 1 | 72 | 144 | 127 |
| 041 | Siaya | 993,183 | Sibo | 67 | 52 | 77 | 7 | 39 | 91 | Sibo: 91 | 92 | 54 | 4 | 99 | 0 | 36 | 79 | 70 |
| 042 | Kisumu | 1,155,574 | Kisumu | 40 | 85 | 93 | 24 | 35 | 104 | Kisumu: 104 | 95 | 37 | 6 | 100 | 20 | 76 | 120 | 119 |
| 043 | Homabay | 1,131,950 | Homabay | 19 | 42 | 79 | 7 | 38 | 84 | Homabay: 84 | 78 | 52 | 18 | 100 | 3 | 69 | 144 | 98 |
| 044 | Migori | 1,116,436 | Migori<br>Nyasare | 29 | 26 | 36 | 10 | 32 | 78 | Migori: 70<br>Nyasare: 130 | 60 | 77 | 12 | 91 | 0 | 38 | 165 | 95 |
| 045 | Kisii | 1,266,860 | Gusii | 48 | 39 | 93 | 8 | 50 | 79 | Gusii: 79 | 79 | 55 | 8 | 41 | 11 | 72 | 161 | 121 |
| 046 | Nyamira | 605,576 | Gusii | 34 | 39 | 93 | 8 | 50 | 79 | Gusii: 79 | 79 | 55 | 8 | 41 | 11 | 72 | 161 | 121 |
| 047 | Nairobi | 4,397,073 | Nairobi<br>Runda | 100 | 79 | 91 | 8 | 61 | 103 | Nairobi: 103<br>Runda: 132 | 91 | 49 | 6 | 100 | 51 | 51 | 99 | 95 |
| **National** | | **47,564,296** | | **57.6** | **57** | **92** | **15** | **49** | **103** | | **89** | **47** | **7** | **96** | **15** | **49** | **93** | **88** |

**n.d.** no data **n.c.d.** non-credible data

## Table 4.2 (b): Aggregated County Data – All Operators

| ID | County | Total County Population (2019 Census, projection as at June 2020) | SSSPs | | Regulated WSPs | | Total population served, no | TOTAL Water Coverage, % |
|---|---|---|---|---|---|---|---|---|
| | | | No. | Population served | No. | Population | | |
| 1 | Mombasa | 1,236,434 | 9 | 6,484 | 1 | 644,171 | 650,655 | 53 |
| 2 | Kwale | 890,326 | 36 | 23,699 | 1 | 151,297 | 174,996 | 20 |
| 3 | Kilifi | 1,490,647 | 24 | 44,366 | 2 | 946,819 | 991,185 | 66 |
| 4 | Tana River | 324,211 | 59 | 25,733 | | 27,333 | 53,066 | 16 |
| 5 | Lamu | 148,902 | 10 | 37,699 | 1 | 24,868 | 62,567 | 42 |
| 6 | Taita Taveta | 346,113 | 101 | 95,009 | 1 | 78,711 | 173,720 | 50 |
| 7 | Garissa | 866,285 | 63 | 155,040 | 1 | 105,160 | 260,200 | 30 |
| 8 | Wajir | 792,845 | 271 | 315,580 | 1 | 10,219 | 325,799 | 41 |
| 9 | Mandera | 856,091 | 173 | 182,944 | 1 | 55,480 | 238,424 | 28 |
| 10 | Marsabit | 481,780 | 28 | 34,220 | 1 | 20,000 | 54,220 | 11 |
| 11 | Isiolo | 287,414 | 84 | 110,062 | 1 | 82,012 | 192,074 | 67 |
| 12 | Meru | 1,563,640 | 104 | 466,488 | 3 | 325,359 | 791,847 | 51 |
| 13 | Tharaka Nithi | 395,369 | 64 | 135,649 | 3 | 105,284 | 240,933 | 61 |
| 14 | Embu | 617,656 | 134 | 76,151 | 5 | 441,307 | 517,458 | 84 |
| 15 | Kitui | 709,179 | 374 | 197,998 | 2 | 356,585 | 554,583 | 78 |
| 16 | Machakos | 1,456,720 | 449 | 288,987 | 6 | 385,708 | 674,695 | 46 |
| 17 | Makueni | 997,109 | 125 | 234,579 | 3 | 132,409 | 366,988 | 37 |
| 18 | Nyandarua | 642,097 | 67 | 169,210 | 3 | 79,666 | 248,876 | 39 |
| 19 | Nyeri | 765,218 | 175 | 212,061 | 5 | 297,812 | 509,873 | 67 |
| 20 | Kirinyaga | 618,339 | 76 | 132,445 | 2 | 275,364 | 407,809 | 66 |
| 21 | Murang'a | 1,067,307 | 55 | 214,150 | 5 | 671,142 | 885,292 | 83 |
| 22 | Kiambu | 2,516,725 | 138 | 282,343 | 9 | 1,458,154 | 1,740,497 | 69 |
| 23 | Turkana | 933,423 | 180 | 111,702 | 1 | 40,504 | 152,206 | 16 |
| 24 | West Pokot | 632,376 | 122 | 55,633 | 1 | 18,000 | 73,633 | 12 |
| 25 | Samburu | 320,300 | 215 | 116,440 | 1 | 80,000 | 196,440 | 61 |
| 26 | Trans Nzoia | 1,008,011 | 1 | 1,500 | 1 | 191,173 | 192,673 | 19 |
| 27 | Uasin Gishu | 1,192,932 | 187 | 322,850 | 1 | 371,916 | 694,766 | 58 |
| 28 | Elgeiyo Marakwet | 463,249 | 185 | 135,447 | 1 | 41,837 | 177,284 | 38 |
| 29 | Nandi | 899,054 | 214 | 58,798 | 2 | 52,323 | 111,121 | 12 |
| 30 | Baringo | 678,017 | 30 | 18,150 | 2 | 56,482 | 74,632 | 11 |
| 31 | Laikipia | 531,522 | 522 | 98,275 | 2 | 197,311 | 295,586 | 56 |
| 32 | Nakuru | 2,225,437 | 253 | 199,193 | 3 | 1,035,392 | 1,234,585 | 55 |
| 33 | Narok | 1,193,021 | 47 | 80,423 | 1 | 40,754 | 121,177 | 10 |
| 34 | Kajiado | 1,176,090 | 106 | 243,968 | 4 | 249,457 | 493,425 | 42 |
| 35 | Kericho | 917,003 | 23 | 36,301 | 1 | 134,145 | 170,446 | 19 |
| 36 | Bomet | 890,519 | 25 | 37,267 | 1 | 87,920 | 125,187 | 14 |
| 37 | Kakamega | 1,887,802 | 78 | 109,167 | 1 | 237,056 | 346,223 | 18 |
| 38 | Vihiga | 593,401 | 53 | 203,437 | 1 | 28,866 | 232,303 | 39 |
| 39 | Bungoma | 1,701,300 | 10 | 19,500 | 1 | 144,808 | 164,308 | 10 |
| 40 | Busia | 909,323 | 276 | 356,421 | 1 | 139,528 | 495,949 | 55 |
| 41 | Siaya | 1,008,587 | 913 | 260,303 | 1 | 346,440 | 606,743 | 60 |
| 42 | Kisumu | 1,174,644 | 54 | 122,219 | 1 | 388,499 | 510,718 | 43 |
| 43 | Homabay | 1,148,992 | 104 | 105,039 | 1 | 89,107 | 194,146 | 17 |
| 44 | Migori | 1,137,229 | 482 | 474,204 | 2 | 85,618 | 559,822 | 49 |
| 45 | Kisii | 1,277,873 | 34 | 69,434 | 1 | 239,228 | 308,662 | 24 |
| 46 | Nyamira | 606,400 | 39 | 41,257 | 1 | 83,617 | 124,874 | 21 |
| 47 | Nairobi | 4,544,059 | 213 | 96,297 | 2 | 3,650,161 | 3,746,458 | 82 |
| | **Total** | **48,120,971** | **6,985** | **6,814,122** | **92** | **14,705,002** | **21,519,124** | **45** |

### 4.2.1 Access to Water Services

In the current period, more than half (53.3%) of the national population reside in areas served by regulated utilities. This proportion however varies from one county to the other. Four counties namely Mombasa, Murang'a, Nairobi and Taita Taveta have all their county populations in areas of regulated WSPs. The counties with the least proportion are Turkana and Marsabit at 8% followed by Narok at 9%.

On the basis of areas served by regulated utilities, only three counties (6%), down from six, achieved at least 80%(Table 4.2a). This is the acceptable level of performance for this indicator. They were led by Isiolo at 89%, followed by Kisumu at 85% and Nakuru at 82%. The four counties that had earlier been within the acceptable level but dropped in the current period are Bungoma, Laikipia and Trans Nzoia. The counties with the worst performance in this indicator are West Pokot and Wajir both at 10% and Vihiga at 11%. West Pokot recorded a huge drop from 19% to the current 10%.

When the total county population is considered, with the contribution by the SSSPs factored in, Embu has the highest water coverage at 84% (Table 4.2b). Murang'a and Nairobi Counties follow closely at 83% and 82% respectively. On the least coverage, Narok and Bungoma are ranked lowest followed by Marsabit and Baringo with access levels of 10%, 10%, 11% and 11% respectively. Under the human right framework, access is the primary indicator for the state to measure the progressive realization of the right to water.

While it is noted that a number of counties have made investments in water projects in their areas, there is need to streamline the operations of these operators to be in line with the sector standards. This will ensure that there is accountability and tracking of progress.

### 4.2.2 Sewered Sanitation Coverage

Access to sewerage services remains low. Only 21 out of the 47 counties have some form of sewerage system. The low coverage is mainly due to the pro-sewerage disposition in many areas. However, considering the huge capital investment required for sewerage development, universal or higher sewerage coverage is not tenable by 2030 (Vision 2030 Goal) or in the future. The current annual investments in the sector do not match the high rate of urbanization and annual investment requirement for achieving universal access. This calls on duty bearers in the counties to rethink their sanitation planning to match with resources which the sector can raise realistically. The needs of this growing population can only be met using different appropriate sanitation technologies with low capita costs. More investments do not necessarily increase access and there is need for a technology paradigm shift. There is need to find the right mix of Sewered and Non-sewered Sanitation (NSS). Guidelines on NSS have been developed with two-fold objectives which are to:

a) Provide guidance on service provision requirements from containment, emptying, transportation, storage and treatment facilities, as well as, disposal/reuse mechanisms
b) Promote the use of appropriate, safe and sustainable technologies and service delivery. These should include community participation, cost-effectiveness, disability, social inclusion and gender consideration in planning, designing and implementation.

The counties should enforce proper implementation of NSS according to set standards, to ensure environmental protection and public health safety.

Nairobi with access levels of 51% is the only county with at least half the population having access to sewered sanitation services. Busia, Garissa and Homabay have almost negligible access levels at 1%, 2% and 3% respectively.

### 4.2.3 Reduction of Non-Revenue Water

Water loses continues to be the biggest challenge to a majority of counties. It is worrying that 21 counties up from the previous year's 14, lose more than 50% of the water they produce. Migori county has the highest losses at 77%. Looking at the current period and comparing with the previous period, the unit cost of water produced remained fairly constant. However, the foregoing situation has contributed to the significant change in unit cost of water billed from Kshs. 87/cubic metre to Kshs. 93 per cubic metre. If this state of affairs is not mitigated, there is going to be a very great risk, which will undermine the progressive realization of the right to water as is enshrined in the constitution. In addition, the achievement of operational sustainability by the respective water utilities based on the principle of social commercialization, may not be realized. The issue of concern is that the reasons contributing to the very high levels of NRW are not technical, but largely commercial and governance (corruption and illegal practices). This means that with minimal resources and strict enforcement of guidelines/rules, these losses can be reduced to acceptable levels. This call for goodwill from all the actors such as staff members, Boards of Directors of utilities, National and County Governments, political leaders, community leaders, consumers, judiciary, law enforcement personnel and development partners.

Counties are encouraged to support their utilities to implement the required interventions to deal with this challenge. These interventions include close oversight of the utilities and strengthening of enforcement mechanisms within the county water legal framework. The county legal framework should help in discouraging the offenders by putting necessary penalties in place. The regulator on its part, will continue to intensify efforts to deal with the challenge. This will be done by enforcing the regulatory standards through imposing conditions in both licenses and tariffs, as one means of institutionalizing NRW management function at respective utilities.

In the reporting period, 21 counties an increase from 14 in the last period, recorded water losses in excess of 50% as shown in Table 4.3. This is a worrying trend that calls for action from all key actors.

**Table 4.3: Counties with NRW exceeding 50%**

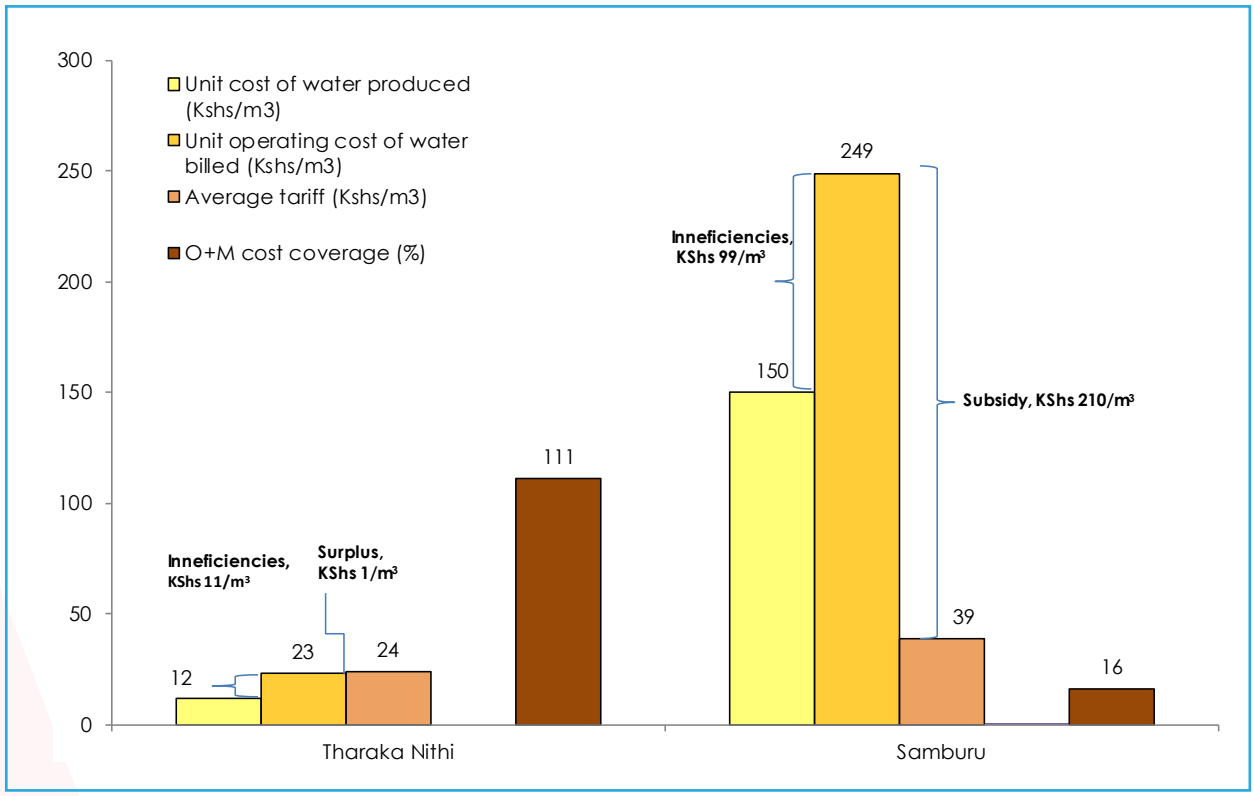
| S/No | County | NRW, % | S/No | County | NRW, % |
|---|---|---|---|---|---|
| 1 | Migori | 77 | 12 | Siaya | 54 |
| 2 | Marsabit | 67 | 13 | Nyandarua | 54 |
| 3 | Baringo | 64 | 14 | West Pokot | 53 |
| 4 | Kwale | 63 | 15 | Bomet | 53 |
| 5 | Kirinyaga | 59 | 16 | Homabay | 52 |
| 6 | Kajiado | 58 | 17 | Kitui | 52 |
| 7 | Trans-Nzoia | 56 | 18 | Murang'a | 52 |
| 8 | Bungoma | 56 | 19 | Mombasa | 52 |
| 9 | Kisii | 55 | 20 | Turkana | 52 |
| 10 | Nyamira | 55 | 21 | Busia | 50 |
| 11 | Kericho | 54 | | | |

### 4.2.4 Recovery of O+M Costs

The recovery of O+M costs by utilities is key for sustainability of service provision. This indicator is a measure of a utility's ability to recover costs with the minimum threshold being at least 100% coverage of O+M costs. For a utility to guarantee the same level of service, an O+M cost coverage of 120% is desirable. The main driver for this indicator is the tariff. Counties should support their utilities in ensuring that justified tariffs are in place. It is through the tariff process and assessment of affordability that a determination of the level of subsidy is undertaken. This process is important for the counties to ensure that the provision of subsidies is transparent and support to the utilities is strictly linked to their performance only.

Tharaka Nithi County had the lowest unit cost of water production at Kshs. 12 while the highest cost was by Samburu at Kshs. 150. The unit operating cost of water billed was Kshs. 23 for Tharaka Nithi and Kshs. 249 for Samburu. The average tariff was Kshs. 24 and Kshs. 39 respectively. This means that the per unit inefficiency costs are Kshs. 99 and Kshs. 11 respectively. Considering the average tariff of Kshs. 39 per cubic meter, Samburu will require per unit subsidy of Kshs. 210 while Tharaka Nithi has a surplus of Kshs. 1 per unit (See Figure 4.1). It is worrying that despite Samburu being heavily reliant on subsidies as the only regulated WSP in the county, it has no justified tariff. This is a clear case of lack of transparency in the subsidies to the utility. The case of Samburu clearly illustrates the link between inefficiencies and demand for operational subsidies. Counties are called upon to put in place effective oversight and supervision of their utilities as appropriate using the governance framework and other available tools. This is the only way to ensure that operational inefficiencies are addressed and quality of service provision are guaranteed.

**Figure 4.1: Disparities in Operating Environments**



### 4.2.5 Personnel Expenditure as Percentage of O+M costs

Staff productivity measured in terms of staff per 1,000 connections, has been used as an indicator to measure utility efficiency in the utilization of the human capital. This seeks to address under-utilization of staff. In addition, it seeks to prevent the likelihood of abuse in employment arising from non-adherence to sector standards both in terms of capacity and numbers. The ratio of expenditure on personnel expenditure relative to total O+M costs, is a measure used to avert negligence of other aspects of operations at the expense of paying staff. The benchmarks for this indicator are dependent on the size of a utility. Large utilities are expected to benefit from economies of scale having a lower benchmark.

Nairobi County despite a marginal decline, remains the worst performing in this indicator at 61% against the sector benchmark of 20%. It was followed by Kakamega at 57% and Kirinyaga at 56%. The counties which have this ratio exceeding 50% are given in Table 4.4.

**Table 4.4: Counties with PE ratio exceeding 50%**

| S/No | County | PE ratio, % | S/No | County | NRW, % |
|---|---|---|---|---|---|
| 1 | Nairobi | 61 | 6 | Laikipia | 52 |
| 2 | Kakamega | 57 | 7 | Samburu | 50 |
| 3 | Kirinyaga | 56 | 8 | Kisii | 50 |
| 4 | Isiolo | 54 | 9 | Nyamira | 50 |
| 5 | Murang'a | 52 | | | |

### 4.2.6 Provision of Subsidies

Subsidies are provided in cases where the cost of service is higher than the revenues generated. The ability and willingness to pay for the service by customers is factored in. The goal of the sector was that by 2015, all utilities should have been able to meet at the minimum, their O+M costs from internal revenues. The target by 2030 is to improve this ratio to 150%. This is required to realise full cost recovery. This situation would worsen if the contribution of the small operators is considered. In the light of this, there is need to put in place accountability mechanism to ensure that any support extended to the utilities is transparent and linked to performance.

During the reporting period, only 19 down from 21 were able to meet their O+M costs on the basis of data from utilities within these counties. A major contributing factor to this, is the lack of justified tariffs for a majority of the utilities. The counties should therefore push their utilities to ensure they have justified tariffs. They should also reduce inefficiencies. Although good progress has been made in terms of counties reporting, six counties either had no data in this indicator or the data was not credible.

The decline in the overall level of cost coverage is mainly attributed to increasing costs at a higher proportion (2.64%) compared to revenues where the increase was less than 1%. The reason for the almost constant revenues, is because of the drop in billed volumes of water by about 4% and the increased proportion of WSPs without justified tariff. The tariff adjustment process is a tool for the utility to improve on internal revenues collection, while allowing for a comprehensive assessment of the cost drivers.

The reliance on subsidies by utilities to meet their primary costs is not a sustainable model for service provision. It is therefore expected that at the minimum, utilities are able to cover their O+M costs and progressively move to full cost recovery.

Above and beyond providing the targeted subsidies where applicable to their utilities, County Governments are also expected to work with their respective utilities in resource allocation. This is expected of the County Governments since they are responsible for planning water services within their areas. The resources used for planning could either be those generated internally or allocated from the county revenues.

## 4.3 Progressively Dynamic Issues

County Governments besides being the owners of the utilities, have another very critical role of providing oversight to the utility. This oversight complements the other forms of oversights provided by external parties. The oversight by the owner should primarily focus on the following issues:

- Utility oversight and supervision - measuring transparency, accountability in the manner the leadership exercises its mandate and public participation in decision making;
- Information and control systems - measuring transparency and checks and balances in operational functions and compliance to set organisational systems;
- Financial management - measuring compliance to the financial management infrastructure in the water services sector and effectiveness in using the tools to improve performance;

- Service standards - measuring effectiveness in serving consumers, and deploying ICT and innovation to communicate with consumers to address their complaints or suggestions;
- Human resources - measuring adherence to the values in article 10 of the constitution especially inclusivity and adherence to the technical criteria of competence issued by WASREB by LN 137 of 2012 and
- User consultation - measuring whether the community served is involved in the decision-making process.

To realise these aspirations, the counties should put in place robust performance management frameworks. The regulator will continue supporting the counties to effectively discharge this mandate through a structured engagement with the county teams. This is an initiative whose objective is to build synergies between the two levels of governments with a focus of fast tracking the service provision agenda.

The following issues however remain of concern to the regulator and for which County Governments are strongly advised and encouraged to give special attention to;

- Alignment of the county legal frameworks with the national law governing water services provision;
- Reduction of water loses, a big proportion of which is attributed to governance malpractices including lack of leadership and goodwill by various players;
- Coordinated investment planning by ensuring utility needs are integrated in the countywide Investment plan;
- Formalization of all forms of water service provision within counties so as to guarantee the health and safety of consumers. This shall be guided by the Guideline on Provision of Water Services in the Rural and other Underserved Areas; and
- Provision of agreed subsidies to enable utilities to meet their obligations.

# CHAPTER FIVE

## *CONCLUSION*

# FAR FROM MEETING SECTOR TARGETS

The COVID-19 pandemic has exposed the fragility of the sector. As we do the countdown to 2030, it is critical that there is improved utility performance. Enhanced coordination and expansion of access is required, if business continuity and minimal interruption of services is to be guaranteed, in an emergency such as experienced by the advent of COVID-19 pandemic. Looking at the target of universal access to water and sanitation in the next 10 years, the challenge is huge. Deliberate efforts must be taken by both levels of government, if these targets are to be realized. The time to take the first step in the remaining part of this journey is now.

## 5.1 Build Resilience

It is estimated that approximately 40% of the global population face water scarcity, while floods and other water-related disasters account for 70% of all deaths related to natural disasters. It is therefore evident that climate change will continue to have far reaching effects on drinking water supplies; ranging from quantity to quality aspects. As interventions are being put in place to mitigate the impacts of climate change, the sector should build resilience of the water supply systems. This will act as means of adaptation and hence minimize these impacts. The sector needs to review policies on water storage and flood control; manage water demand, among competing needs. There is need to improve operation and maintenance, to reduce wastage as an intervention to deal with the challenge.

## 5.2 Investment .... Investments

It is appreciated that the gap between the available financial resources for the sector against the investment requirements remains huge. It is however noted that a majority of the investments lack the last mile infrastructure. This presents a challenge since investments on first mile without a supporting last mile, implies that consumers cannot receive the much-needed service. It is also noted that a number of players have a role in asset development and synergies need to be built to avoid duplication. Duplication makes the investments ineffective. To optimise on investments, the sector requires a coordinated approach. The Ministry of Water, Sanitation and Irrigation, is in the process of developing a national investment plan which will guide all investments in the sector.

## 5.3 Sanitation is Wanting....

It is estimated that 68% of the population is served through non-sewered sanitation system. This percentage is expected to increase as we move towards 2030. The establishment of a sanitation department at the policy level will go a long way in providing the much-needed policy guidance on NSS. The regulator has developed some standards both technical and operational on NSS. These however, may not realise much impact without a proper policy framework. Going forward, a number of incentive mechanisms have been proposed to achieve this including:

a) Monitoring and annual reporting on sewer and on-site sanitation

b) Cost accounting for water and sewerage/sanitation services

c) Tariff increases with improved sewer and on-site sanitation

d) Ranking influenced by engagement in sewer and on-site sanitation

e) Introduction of a sanitation development levy to support improvement in access to sanitation services

f) Implementation of CWIS Services Assessment and Planning Tool.

The regulator is considering incorporating sanitation as a ranking KPI in the assessment of utilities in future.

## 5.4 Reduce Water Losses

The increasing level of losses currently at 47%, coupled with the decreased production and an increasing population, negatively impacts on the progressive realization of the right to water. At the current NRW level of 47% and sector turnover of Kshs. 22.796 Billion, the sector is losing approximately Kshs. 11.61 Billion after factoring in the acceptable level of losses of 20%. The regulator will continue to enforce a number of interventions to deal with this challenge. These include:

a) Incorporating in the license condition a requirement for a strategy to deal with NRW including having the requisite structure and staff

b) Revision of the NRW management standards to incorporate the lessons learnt in the last six years of implementation

c) Having NRW as a key component in assessing the potential of a utility to turn around.

## 5.5 Management of Water Resources

As the demand for water services continues to increase, so will the demand for water resources increase. This implies that greater efforts will be required in water resources management and development. This calls for increased coordination in planning and financing, both at the regional and national levels through a basin management approach, that respects natural boundaries. This is to ensure that a need-based allocation of the resources is in place. SDG target 6.5 assesses the degree of integrated water resources management implementation, with the country reporting a figure below 50% in the last SDG report (2016/17). Increased efforts are therefore required from all actors if sustainable progress is to be realized.

## 5.6 Enhance Inclusivity

The present population served by the regulated WSPs is just about 53%, implying that the rest of the population is still reliant on services that are not regulated. The Guideline on Provision of Water Services in the Rural and other Underserved Areas aims at driving the objective of uniform standards under the rights to water and sanitation. The current report has provided a baseline of the type of water services that this segment of the population receives. Counties are expected to use the data collected to improve planning and management of water services in these areas. It is therefore incumbent upon the counties and WSPs to develop realistic roadmaps for the implementation of this Guideline. This is important to guarantee the health and safety of consumers by ensuring that operators adhere to standards in terms of quality, cost and customer service.

In furtherance of this obligation, the regulator in partnership with the counties will require all water system operators to register and obtain licenses for their operations. The initiative follows the successful registration of the same in Nairobi County.

## 5.7 Improve Governance

Inadequate governance continues to be an impediment to effective delivery of services by utilities. Preservation and enforcement of proper governance standards, is crucial to the stability of the sector. Realizing this however, takes time and utilities have to be continually engaged to drive this agenda. The regulator has continued to engage with key actors in this area including the top county management, the Boards of the utilities and the top management. A governance handbook is being prepared to assist counties in enforcing governance standards. Further, the regulator will continue to monitor utilities to ensure they adhere to prescribed service standards by means of a collaborative framework that facilitates transparency through proper reporting and makes the activities of each player predictable for a more robust sector.


WASH WATER TANK LEVEL
WASH WATER TANK
ELEVATED TANK
WATER RESERVOIR (R-6)

# ANNEXES

# ANNEX 1: METHODOLOGY FOR QUALITY OF SERVICE KPIs

| KPI CLUSTER | Indicator | Indicator elements | Computation |
|---|---|---|---|
| QUALITY OF SERVICE | Water Coverage | Population served through individual connections-A | Total No. of active connections * Average household size<br>The average household size is derived from the census data and is unique for each area<br>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 * Average No. of households served by a yard tap * Average household size<br>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 * Average No. of households per small MDU * Average household size<br>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 * Average No. of households per medium MDU * Average household size<br>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 * Average No. of households per large MDU * Average household size<br>Allowed average number of households per large MDU is >21 |
| | | Population served through Kiosks-F | Total No. taps (depends on kiosk type) * Average No. of people served per tap<br>Allowed range for kiosks is 100-400 people<br>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 |
| | Drinking Water Quality | Compliance with planned no. of residual chlorine tests | Σ total no. of residual chlorine tests conducted of all the schemes within the WSP service area / Σ total no. of residual chlorine tests planned of all the schemes within the WSP service area * 100 |
| | | Compliance with residual Chlorine standards | Σ total no. of residual Chlorine tests within norm for all the schemes within the WSP service area / Σ total no. of residual Chlorine tests conducted for all the schemes within the WSP * 100 |
| | | Drinking Water quality, Residual Chlorine | 0.6 * Compliance with planned no. of residual chlorine tests + 0.4 * Compliance with residual Chlorine standards |
| | | Compliance with planned no. of bacteriological tests | Σ total no. of bacteriological tests conducted of all the schemes within the WSP service area / Σ total no. of bateriological tests planned of all the schemes within the WSP * 100 |
| | | Compliance with bac-teriological standards | Σ total no. of bacteriological tests within norm for all the schemes within the WSP service area / Σ total no. of bacteriological tests conducted for all the schemes within the WSP * 100 |
| | | Bacteriological quality | 0.6 * Compliance with planned no. of bacteriological tests + 0.4 * Compliance with bacteriological standards |
| | | Drinking Water Quality | 0.4 * Drinking Water quality, Residual Chlorine + 0.6 * Bacteriological quality |
| | Hours of Supply | 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*Number of active connections, zone 1) + (hrs*Number of active connection, zone 2) + (hrs*Number of active connection, zone n) |

# ANNEX 2: METHODOLOGY FOR ECONOMIC EFFICIENCY KPIs

| KPI CLUSTER | Indicator | Indicator elements | Computation |
|---|---|---|---|
| ECONOMIC EFFICIENCY | **Personnel Expenditure as a Percentage of O&M Costs** | Total personnel expenditures | "Sum of personnel expenditures incurred during the reporting period<br><br>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 | (Total personnel expenditures / Total O+M)*100 |
| | **Operation and Maintenance Cost Coverage** | "Total operating revenues<br>A" | "Sum of billing for water, sewerage and other services<br><br>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<br>B" | "Sum of expenses on personnel, BoD, General admin, direct operations, maintenance and levies and fees.<br><br>1. Direct operational expenditures include electricity, chemicals and fuel for vehicles.<br><br>2. Levies and fees include water abstraction fees,WSB fees,effluent discharge fees and regulatory levy." |
| | | Operation and Maintenance Cost Coverage | (A/B)*100 |
| | **Revenue Collection Efficiency** | Total water and sewerage billing amount -A | 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 | 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 | (Total Collection/Total Billing)*100 |

# ANNEX 3: METHODOLOGY FOR OPERATIONAL SUSTAINABILITY KPIs

| KPI CLUSTER | Indicator | Indicator elements | Computation |
|---|---|---|---|
| OPERATIONAL SUSTAINABILITY | **Non-Revenue Water** | "Commercial Losses (Apparent Losses) A" | Unauthorized consumption (e.g. illegal connections) + Customer meter reading inaccuracies, Estimates and Data Handling errors |
| | | "Physical Losses B" | Leakages on transmission and /or distribution pipes + Leakages and overflows at utility storage tanks + Leakage on service connections upto the point of cutomer use |
| | | Non-Revenue Water | (A+B/ Volume of water water produced)*100 |
| | **Metering Ratio** | 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 | (Total number of active metered connections/Total number active of connections )*100 |
| | **Staff Productivity** | Staff Productivity | The total number of staff divided by the total number of connections within the WSP service area |

# ANNEX 4: COMPONENTS OF DRINKING WATER

| Utility | DWQ - Residual Chlorine (%) | DWQ - Bacteriological Quality (%) | DWQ (%) |
|---|---|---|---|
| Nairobi | 96 | 88 | 91 |
| Eldoret | 92 | 100 | 97 |
| Mombasa | 97 | 98 | 98 |
| Nakuru | 100 | 100 | 93 |
| Nzoia | 100 | 100 | 93 |
| Thika | 100 | 87 | 92 |
| Kisumu | 100 | 100 | 93 |
| Nyeri | 100 | 100 | 100 |
| Murang'a South | 100 | 100 | 93 |
| Ruiru-Juja | 100 | 100 | 93 |
| Gatundu | 48 | 51 | 50 |
| Kakamega | 100 | 100 | 93 |
| Kirinyaga | 100 | 100 | 93 |
| Embu | 100 | 100 | 93 |
| Kericho | 100 | 100 | 93 |
| Kilifi Mariakani | 98 | 87 | 91 |
| Malindi | 100 | 100 | 93 |
| Othaya Mukurweni | 100 | 100 | 93 |
| Mathira | 100 | 83 | 90 |
| Nakuru Rural | 98 | 100 | 99 |
| Tavevo | 98 | 91 | 93 |
| Kahuti | 97 | 99 | 98 |
| Nanyuki | 99 | 97 | 98 |
| Murang'a | 98 | 100 | 93 |
| Meru | 99 | 97 | 98 |
| Sibo | 46 | 97 | 77 |
| Kwale | 80 | 69 | 73 |
| Gusii | 98 | 100 | 93 |
| Ngandori Nginda | 100 | 100 | 93 |
| Nyahururu | 99 | 94 | 96 |
| Garissa | 100 | - | 40 |
| Bomet | 99 | 88 | 93 |
| Nithi | 100 | 68 | 81 |
| Mavoko | 95 | 37 | 60 |
| Kitui | 100 | 73 | 84 |
| Kikuyu | 51 | 73 | 64 |
| Gatanga | 100 | 100 | 93 |
| Tetu Aberdare | 99 | 99 | 93 |
| Isiolo | 99 | 100 | 93 |
| Gatamathi | 76 | 96 | 88 |
| Kiambu | 100 | 100 | 93 |
| Ngagaka | 20 | 53 | 40 |
| Busia | 98 | 100 | 93 |
| Oloolaiser | 100 | 89 | 93 |
| Limuru | 99 | 89 | 93 |
| Imetha | 85 | 98 | 93 |

| Utility | DWQ - Residual Chlorine (%) | DWQ - Bacteriological Quality (%) | DWQ (%) |
|---|---|---|---|
| Kyeni | - | - | - |
| Karuri | 95 | 74 | 82 |
| Machakos | 95 | 100 | 93 |
| Githunguri | 85 | 96 | 91 |
| Amatsi | 94 | 89 | 91 |
| Lodwar | - | - | - |
| Tuuru | 86 | 69 | 76 |
| Kibwezi Makindu | 100 | 100 | 93 |
| Homabay | 100 | 64 | 79 |
| Naivasha | 85 | 100 | 94 |
| Nol Turesh Loitokitok | - | - | - |
| Embe | 100 | 100 | 93 |
| Narok | 95 | 45 | 65 |
| Kapsabet Nandi | 100 | 100 | 93 |
| Murugi Mugumango | - | - | - |
| Chemususu | - | - | - |
| Kirandich | 45 | - | 18 |
| Nyandarua | 70 | 55 | 61 |
| Kiambere Mwingi | 98 | 100 | 93 |
| Iten Tambach | 98 | 53 | 71 |
| Lamu | 96 | 87 | 90 |
| Migori | 3 | - | 1 |
| Mandera | 100 | 100 | 93 |
| Olkejuado | 89 | - | 35 |
| Ol Kalou | 44 | 27 | 34 |
| Muthambi 4K | - | - | - |
| Samburu | 86 | 57 | 69 |
| Wote | 100 | 100 | 93 |
| Kapenguria | 56 | - | 22 |
| Rukanga | 96 | 97 | 97 |
| Namanga | 100 | - | 40 |
| Naromoru | - | - | - |
| Marsabit | 92 | 89 | 90 |
| Ndaragwa | - | 56 | 33 |
| Yatta | 69 | 83 | 78 |
| Matungulu Kangundo | 67 | 33 | 46 |
| Wajir | 100 | 100 | n.c.d. |
| Kiamumbi | 100 | 90 | 93 |
| Mbooni | 36 | 39 | 38 |
| Nyasare | 100 | 100 | 93 |
| Runda | 100 | 100 | 93 |
| Mwala | 100 | 100 | 93 |
| Tachasis | 100 | 100 | 93 |
| Kathiani | 100 | 56 | 73 |
| Tatu City | 96 | 100 | 98 |

# ANNEX 5: GOVERNANCE ASSESSMENT

| Rank | UTILITY | Utility Oversight/ Supervision | | Information and Control Systems | | Financial Management | | Service Standards | | Human Resources | | User Consultation | | Totals | | % Level of Governance | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 40 | | 12 | | 28 | | 12 | | 16 | | 12 | | 120 | | 100% | |
| | | 18/19 | 19/20 | 18/19 | 19/20 | 18/19 | 19/20 | 18/19 | 19/20 | 18/19 | 19/20 | 18/19 | 19/20 | 18/19 | 19/20 | 18/19 | 19/20 |
| 1 | Nakuru | 39 | 40 | 8 | 8 | 24 | 22 | 11 | 12 | 16 | 14 | 1 | 11 | 99 | 107 | **83** | **89** |
| 2 | Kisumu | 36 | 36 | 8 | 12 | 18 | 19 | 7 | 12 | 8 | 12 | 12 | 12 | 89 | 103 | **74** | **86** |
| 3 | Eldoret | 40 | 38 | 4 | 4 | 20 | 20 | 11 | 12 | 7 | 12 | 12 | 12 | 94 | 98 | **78** | **82** |
| 4 | Mombasa | 28 | 34 | 8 | 4 | 13 | 19 | 7 | 11 | 7 | 16 | 10 | 12 | 73 | 96 | **61** | **80** |
| 5 | Embu | 30 | 34 | 4 | 4 | 12 | 20 | 11 | 8 | 12 | 16 | 10 | 12 | 79 | 94 | **66** | **78** |
| 6 | Nyeri | 38 | 32 | 4 | 4 | 20 | 14 | 12 | 12 | 12 | 16 | 12 | 12 | 98 | 90 | **82** | **75** |
| 7 | Murang'a South | 27 | 33 | 4 | 4 | 9 | 17 | 7 | 8 | 13 | 16 | 10 | 12 | 70 | 90 | **58** | **75** |
| 8 | Malindi | 26 | 26 | 8 | 12 | 16 | 15 | 7 | 12 | 13 | 12 | 10 | 12 | 80 | 89 | **67** | **74** |
| 9 | Nakuru Rural | 26 | 28 | 8 | 8 | 11 | 16 | 7 | 8 | 12 | 16 | 8 | 12 | 72 | 88 | **60** | **73** |
| 10 | Isiolo | 15 | 27 | 4 | 12 | 12 | 19 | 11 | 5 | 12 | 16 | 8 | 8 | 62 | 87 | **52** | **73** |
| 11 | Nairobi | 24 | 30 | 4 | 4 | 18 | 12 | 8 | 12 | 16 | 16 | 4 | 12 | 74 | 86 | **62** | **72** |
| 12 | Kericho | 36 | 32 | 8 | 8 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 10 | 91 | 85 | **76** | **71** |
| 13 | Runda | 15 | 24 | 8 | 8 | 14 | 20 | 5 | 9 | 12 | 12 | 2 | 12 | 56 | 85 | **47** | **71** |
| 14 | Kilifi-Mariakani | 28 | 34 | 8 | 4 | 8 | 18 | 12 | 8 | 8 | 8 | 12 | 12 | 76 | 84 | **63** | **70** |
| 15 | Thika | 17 | 24 | 8 | 4 | 19 | 15 | 7 | 12 | 12 | 16 | 10 | 12 | 73 | 83 | **61** | **69** |
| 16 | Olkalou | n/a | 26 | n/a | 8 | n/a | 24 | n/a | 5 | n/a | 16 | n/a | 4 | n/a | 83 | n/a | **69** |
| 17 | Nanyuki | 33 | 37 | 0 | 2 | 8 | 12 | 7 | 12 | 14 | 16 | 8 | 2 | 70 | 81 | **58** | **68** |
| 18 | Mandera | n/a | 32 | n/a | 9 | n/a | 12 | n/a | 9 | n/a | 10 | n/a | 8 | 0 | 80 | **0** | **67** |
| 19 | Tachasis | n/a | 16 | n/a | 12 | n/a | 20 | n/a | 8 | n/a | 16 | n/a | 8 | 0 | 80 | **0** | **67** |
| 20 | Tavevo | 21 | 25 | 8 | 8 | 15 | 17 | 9 | 9 | 8 | 10 | 8 | 10 | 69 | 79 | **58** | **66** |
| 21 | Othaya Mukurweini | 16 | 33 | 0 | 0 | 12 | 12 | 7 | 8 | 7 | 16 | 12 | 10 | 54 | 79 | **45** | **66** |
| 22 | Gatanga | 8 | 28 | 4 | 4 | 9 | 11 | 6 | 12 | 8 | 12 | 8 | 12 | 43 | 79 | **36** | **66** |
| 23 | Wote | 12 | 28 | 0 | 9 | 5 | 12 | 5 | 12 | 11 | 8 | 0 | 10 | 33 | 79 | **28** | **66** |
| 24 | Kirinyaga | 33 | 27 | 0 | 8 | 8 | 11 | 6 | 5 | 16 | 16 | 10 | 12 | 73 | 79 | **61** | **66** |
| 25 | Kibwezi Makindu | 14 | 30 | 8 | 12 | 14 | 19 | 1 | 9 | 3 | 7 | 2 | 2 | 42 | 79 | **35** | **66** |
| 26 | Bomet | 20 | 28 | 4 | 8 | 18 | 17 | 6 | 7 | 4 | 12 | 4 | 6 | 56 | 78 | **47** | **65** |
| 27 | Murang'a | 23 | 23 | 4 | 8 | 8 | 12 | 7 | 7 | 12 | 16 | 10 | 12 | 64 | 78 | **53** | **65** |
| 28 | Nyahururu | 32 | 32 | 4 | 4 | 9 | 15 | 7 | 8 | 7 | 7 | 8 | 12 | 67 | 78 | **56** | **65** |
| 29 | Naivasha | 30 | 32 | 4 | 4 | 13 | 13 | 11 | 12 | 7 | 7 | 10 | 10 | 75 | 78 | **63** | **65** |
| 30 | Kiamumbi | 18 | 28 | 4 | 4 | 13 | 13 | 3 | 12 | 0 | 16 | 0 | 4 | 38 | 77 | **32** | **64** |
| 31 | Kahuti | n/a | 24 | n/a | 8 | n/a | 15 | n/a | 7 | n/a | 12 | n/a | 10 | n/a | 76 | n/a | **63** |
| 32 | Meru | 12 | 18 | 8 | 8 | 7 | 17 | 11 | 12 | 12 | 12 | 6 | 8 | 56 | 75 | **47** | **63** |
| 33 | Garissa | 5 | 28 | 4 | 6 | 8 | 11 | 11 | 9 | 4 | 9 | 10 | 12 | 42 | 75 | **35** | **63** |
| 34 | Mathira | 23 | 29 | 4 | 0 | 7 | 12 | 11 | 12 | 8 | 12 | 6 | 8 | 59 | 73 | **49** | **61** |
| 35 | Naromoru | 29 | 28 | 4 | 0 | 5 | 16 | 5 | 5 | 8 | 16 | 6 | 8 | 57 | 73 | **48** | **61** |
| 36 | Kapsabet-Nandi | n/a | 27 | n/a | 8 | n/a | 17 | n/a | 5 | n/a | 8 | n/a | 6 | n/a | 71 | n/a | **59** |
| 37 | Kwale | 25 | 29 | 8 | 8 | 7 | 7 | 3 | 8 | 12 | 12 | 12 | 5 | 67 | 69 | **56** | **58** |
| 38 | Kakamega | n/a | 23 | n/a | 0 | n/a | 14 | n/a | 11 | n/a | 16 | n/a | 4 | n/a | 68 | n/a | **57** |
| 39 | Homabay | 24 | 24 | 0 | 8 | 7 | 7 | 5 | 9 | 8 | 12 | 2 | 6 | 46 | 66 | **38** | **55** |
| 40 | Machakos | 15 | 22 | 0 | 8 | 5 | 7 | 3 | 7 | 12 | 16 | 2 | 6 | 37 | 66 | **31** | **55** |
| 41 | Mavoko | 20 | 20 | 4 | 4 | 17 | 17 | 7 | 7 | 16 | 16 | 2 | 2 | 66 | 66 | **55** | **55** |
| 42 | Ngandori-Nginda | 16 | 24 | 4 | 4 | 8 | 10 | 9 | 7 | 8 | 8 | 2 | 12 | 47 | 65 | **39** | **54** |
| 43 | Tetu Aberdare | 16 | 20 | 0 | 8 | 4 | 7 | 5 | 11 | 8 | 8 | 8 | 10 | 41 | 64 | **34** | **53** |
| 44 | Tatu City | n/a | 21 | n/a | 0 | n/a | 16 | n/a | 6 | n/a | 16 | n/a | 4 | n/a | 63 | n/a | **53** |
| 45 | Amatsi | 8 | 24 | 4 | 0 | 4 | 7 | 7 | 5 | 8 | 16 | 0 | 10 | 31 | 62 | **26** | **52** |
| 46 | Kirandich | n/a | 26 | n/a | 4 | n/a | 7 | n/a | 1 | n/a | 16 | n/a | 8 | n/a | 62 | n/a | **52** |
| 47 | Gatundu | 9 | 20 | 0 | 0 | 12 | 5 | 9 | 7 | 13 | 16 | 8 | 8 | 51 | 56 | **43** | **47** |
| 48 | Ngagaka | 16 | 14 | 0 | 4 | 11 | 12 | 7 | 7 | 12 | 14 | 2 | 4 | 48 | 55 | **40** | **46** |
| 49 | Busia | 32 | 23 | 4 | 0 | 7 | 5 | 5 | 5 | 13 | 12 | 8 | 8 | 69 | 53 | **58** | **44** |
| 50 | Kiambu | 5 | 0 | 8 | 4 | 7 | 14 | 5 | 12 | 8 | 16 | 4 | 6 | 37 | 52 | **31** | **43** |
| 51 | Kapenguria | n/a | 12 | n/a | 8 | n/a | 17 | n/a | 7 | n/a | 8 | n/a | 0 | 0 | 52 | **0** | **43** |
| 52 | Nyasare | n/a | 8 | n/a | 4 | n/a | 15 | n/a | 5 | n/a | 10 | n/a | 8 | n/a | 50 | n/a | **42** |
| 53 | Migori | 2 | 21 | 4 | 4 | 7 | 10 | 1 | 6 | 7 | 0 | 2 | 8 | 23 | 49 | **19** | **41** |
| 54 | Matungulu Kangundo | n/a | 25 | n/a | 0 | n/a | 13 | n/a | 1 | n/a | 10 | n/a | 0 | 0 | 49 | **0** | **41** |
| 55 | Sibo | 10 | 16 | 0 | 8 | 8 | 8 | 6 | 4 | 6 | 8 | 2 | 4 | 32 | 48 | **27** | **40** |
| 56 | Lamu | n/a | 3 | n/a | 0 | n/a | 16 | n/a | 9 | n/a | 8 | n/a | 12 | 0 | 48 | **0** | **40** |
| 57 | Imetha | 5 | 9 | 4 | 0 | 11 | 15 | 5 | 7 | 11 | 14 | 0 | 2 | 36 | 47 | **30** | **39** |
| 58 | Karuri | 0 | 11 | 8 | 0 | 14 | 8 | 6 | 7 | 12 | 16 | 4 | 4 | 44 | 46 | **37** | **38** |
| 59 | Gusii | 17 | 21 | 4 | 4 | 8 | 10 | 1 | 0 | 6 | 4 | 6 | 4 | 42 | 43 | **35** | **36** |
| 60 | Ruiru-Juja | 3 | 5 | 9 | 0 | 4 | 10 | 5 | 8 | 7 | 11 | 0 | 6 | 28 | 40 | **23** | **33** |
| 61 | Kitui | 0 | 9 | 4 | 4 | 4 | 12 | 5 | 3 | 7 | 8 | 0 | 4 | 20 | 40 | **17** | **33** |
| 62 | Gatamathi | n/a | 14 | n/a | 0 | n/a | 8 | n/a | 5 | n/a | 11 | n/a | 2 | n/a | 40 | n/a | **33** |
| 63 | Kiambere Mwingi | n.d | 8 | n.d | 4 | n.d | 16 | n.d | 3 | n.d | 8 | n.d | n.d | 0 | 39 | **0** | **33** |
| 64 | Githunguri | 0 | 0 | 4 | 4 | 12 | 12 | 7 | 8 | 12 | 12 | 0 | 0 | 35 | 36 | **29** | **30** |
| 65 | Kikuyu | 0 | 8 | 0 | 0 | 8 | 4 | 4 | 3 | 14 | 14 | 0 | 0 | 26 | 29 | **22** | **24** |
| 66 | Rukanga | 24 | 0 | 8 | 4 | 12 | 6 | 6 | 5 | 6 | 5 | 0 | 8 | 56 | 28 | **47** | **23** |
| 67 | Limuru | 2 | 0 | 4 | 4 | 18 | 6 | 6 | 5 | 16 | 5 | 2 | 8 | 48 | 28 | **40** | **23** |
| 68 | Muthambi 4K | 13 | 10 | 0 | 0 | 9 | 8 | 1 | 1 | 6 | 4 | 8 | 4 | 37 | 27 | **31** | **23** |
| 69 | Narok | n/a | 10 | n/a | 2 | n/a | 5 | n/a | 0 | n/a | 5 | n/a | 5 | n/a | 27 | n/a | **23** |
| 70 | Murugi Mugumango | 20 | 5 | 4 | 0 | 9 | 8 | 1 | 1 | 0 | 3 | 4 | 8 | 38 | 25 | **32** | **21** |
| 71 | Nyandarua | 9 | 0 | 8 | 0 | 4 | 8 | 7 | 5 | 3 | 4 | 0 | 8 | 31 | 25 | **26** | **21** |
| 72 | Iten-Tambach | n/a | 5 | n/a | 0 | n/a | 6 | n/a | 5 | n/a | 4 | n/a | 4 | n/a | 24 | n/a | **20** |
| 73 | Embe | 16 | 9 | 4 | 0 | 7 | 3 | 5 | 5 | 8 | 6 | 2 | 0 | 42 | 23 | **35** | **19** |
| 74 | Marsabit | n/a | 10 | n/a | 0 | n/a | 0 | n/a | 0 | n/a | 0 | n/a | 0 | 0 | 10 | **0** | **8** |
| 75 | Eldama Ravine | n/a | 0 | n/a | 0 | n/a | 5 | n/a | 0 | n/a | 3 | n/a | 0 | n/a | 8 | n/a | **7** |
| | | 18.61404 | 20.8 | 4.438596 | 4.426667 | 10.66667 | 12.38667 | 6.649123 | 7.253333 | 9.473684 | 11.18667 | 5.631579 | 7.283784 | 49.40625 | 63.24 | 41.17188 | 52.7 |

# ANNEX 6: PRO-POOR ASSESSMENT

| RANK | PRO-POOR PARAMETERS / UTILITY | GOVERNANCE | IMPACT | PLANNING | FINANCING | TOTALS | WEIGHTED SCORE | WEIGHTED SCORE 2019-20 (%) |
|---|---|---|---|---|---|---|---|---|
| 1 | Nakuru | 16 | 28 | 15 | 13 | 72 | 1880 | 92% |
| 2 | Nyeri | 14 | 18 | 16 | 14 | 62 | 1560 | 76% |
| 3 | Murang'a | 12 | 22 | 16 | 10 | 60 | 1540 | 75% |
| 4 | Bomet | 18 | 18 | 12 | 10 | 58 | 1520 | 75% |
| 5 | Mombasa | 14 | 15 | 16 | 14 | 59 | 1470 | 72% |
| 6 | Eldoret | 14 | 24 | 4 | 12 | 54 | 1460 | 72% |
| 7 | Kisumu | 12 | 16 | 16 | 14 | 58 | 1440 | 71% |
| 8 | Nairobi | 14 | 18 | 13 | 10 | 55 | 1420 | 70% |
| 9 | Machakos | 11 | 25 | 8 | 4 | 48 | 1320 | 65% |
| 10 | Kericho | 10 | 14 | 16 | 14 | 54 | 1320 | 65% |
| 11 | Kirinyaga | 11 | 15 | 13 | 14 | 53 | 1320 | 65% |
| 12 | Nakuru Rural | 14 | 15 | 12 | 10 | 51 | 1310 | 64% |
| 13 | Thika | 10 | 25 | 9 | 4 | 48 | 1310 | 64% |
| 14 | Mavoko | 8 | 18 | 10 | 8 | 44 | 1140 | 56% |
| 15 | Lamu | 4 | 16 | 13 | 14 | 47 | 1140 | 56% |
| 16 | Nanyuki | 6 | 25 | 5 | 2 | 38 | 1070 | 52% |
| 17 | Isiolo | 10 | 23 | 4 | 0 | 37 | 1070 | 52% |
| 18 | Kathiani | 14 | 12 | 6 | 8 | 40 | 1060 | 52% |
| 19 | Tavevo | 10 | 14 | 9 | 8 | 41 | 1060 | 52% |
| 20 | Kiambu | 12 | 14 | 12 | 2 | 40 | 1060 | 52% |
| 21 | Nyahururu | 8 | 11 | 12 | 10 | 41 | 1010 | 50% |
| 22 | Malindi | 12 | 15 | 6 | 2 | 35 | 970 | 48% |
| 23 | Garissa | 8 | 14 | 6 | 8 | 36 | 940 | 46% |
| 24 | Wote | 10 | 16 | 0 | 8 | 34 | 940 | 46% |
| 25 | Nzoia | 8 | 12 | 4 | 10 | 34 | 880 | 43% |
| 26 | Embu | 8 | 18 | 4 | 0 | 30 | 860 | 42% |
| 27 | Limuru | 5 | 15 | 5 | 8 | 33 | 860 | 42% |
| 28 | Kibwezi | 0 | 28 | 0 | 0 | 28 | 840 | 41% |
| 29 | Meru | 8 | 8 | 6 | 12 | 34 | 840 | 41% |
| 30 | Kilifi | 4 | 15 | 8 | 4 | 31 | 810 | 40% |
| 31 | Homabay | 12 | 8 | 10 | 0 | 30 | 800 | 39% |
| 32 | Naivasha | 0 | 24 | 0 | 2 | 26 | 760 | 37% |
| 33 | Kwale | 4 | 6 | 10 | 13 | 33 | 760 | 37% |
| 34 | Kitui | 4 | 15 | 4 | 4 | 27 | 730 | 36% |
| 35 | Ruiru-Juja | 4 | 15 | 4 | 0 | 23 | 650 | 32% |
| 36 | Narok | 0 | 15 | 8 | 0 | 23 | 610 | 30% |
| 37 | Karuri | 4 | 11 | 3 | 4 | 22 | 590 | 29% |
| 38 | Nyandarua | 5 | 8 | 6 | 4 | 23 | 590 | 29% |
| 39 | Migori | 4 | 15 | 0 | 0 | 19 | 570 | 28% |
| 40 | Amatsi | 10 | 6 | 2 | 0 | 18 | 520 | 25% |
| 41 | Tachasis | 6 | 6 | 8 | 0 | 20 | 520 | 25% |
| 42 | Kahuti | 4 | 13 | 0 | 0 | 17 | 510 | 25% |
| 43 | Sibo | 14 | 0 | 4 | 0 | 18 | 500 | 25% |
| 44 | Kakamega | 4 | 5 | 9 | 2 | 20 | 490 | 24% |
| 45 | Ol Kalou | 0 | 16 | 0 | 0 | 16 | 480 | 24% |
| 46 | Mathira | 4 | 8 | 4 | 0 | 16 | 440 | 22% |
| 47 | Murang'a South | 0 | 7 | 10 | 0 | 17 | 410 | 20% |
| 48 | Imetha | 4 | 7 | 4 | 0 | 15 | 410 | 20% |
| 49 | Gatamathi | 5 | 3 | 4 | 2 | 14 | 360 | 18% |
| 50 | Ngandori Nginda | 0 | 8 | 2 | 0 | 10 | 280 | 14% |
| 51 | Gusii | 4 | 4 | 2 | 0 | 10 | 280 | 14% |
| 52 | Othaya | 4 | 4 | 0 | 0 | 8 | 240 | 12% |
| 53 | Busia | 4 | 2 | 0 | 0 | 6 | 180 | 9% |
| 54 | Embe | 4 | 0 | 0 | 0 | 4 | 120 | 6% |

# ANNEX 7: CREDITWORTHINESS ASSESSMENT GUIDE

| Indicators | Definition | Source | Weight | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|---|
| **Economic Indicators** | | | | | | | | |
| Poverty Rate | County poverty rates are derived simply by dividing the total number of poor people in each county in by the total population in each county | KNBS | 3 | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 |
| **Operational Indicators** | | | | | | | | |
| Sewerage Coverage | Number of people served with Sewerage Services/ Population of area | WARIS | 1 | 100 | 90-100 | 80-90 | 70-80 | <70 |
| Water coverage | Number of people served with Water Supply Services/ Population of area | WARIS | 1 | 100 | 90-100 | 80-90 | 70-80 | <70 |
| NRW | Total Volume of Water Lost from Commercial and Physical Losses as a proportion of Water Produced | WARIS | 5 | <20% | 20-30% | 30-40% | 40-50% | >50% |
| No of staff per 1000 connections | Number of Staff Members/( Total number of Connections/1000) | WARIS | 3 | <5 | 6 | 7 | 8 | >8 |
| **Financial Indicators** | | | | | | | | |
| **Revenue Indicators** | | | | | | | | |
| Total revenue ( Excl Grants) | Total revenue from water & sewerage sales & other income | WARIS | 0 | N/A | N/A | N/A | N/A | N/A |
| Revenue Diversification | The difference between the % residential revenue and %institutional | WARIS | 6 | <10% | 10-30% | 30-50% | 50-70% | >70% |
| Average tariif Differential | The difference between Average tariff per cubic metre and Production cost per cubic metre. | WARIS | 8 | >50% | 35-50% | 20-35% | 5-20% | <5% |
| **Cost Indicators** | | | | | | | | |
| Total Opex | Total Operational & Maintenance Expenditure | WARIS | 0 | N/A | N/A | N/A | N/A | N/A |
| Maintenance costs as % of opex | Total Maintenance Costs divided by total operations and maintenance expenditure | WARIS | 3 | >8% | 6-8% | 6-4% | 0-4% | >0% |
| Electricity as % of opex | Total Electricity Costs divided by total operations and maintenance expenditure | WARIS | 2 | <10% | 10-15% | 15-20% | 20-25% | >25% |
| Employee Costs costs /Total Opex | The Salary Costs as a % of Total OPEX | WARIS | 2 | <25% | 25-30% | 30-35% | 35-40% | >40% |
| Percentage O&M coverage | Total revenue from water and sewerage sales divided by total operations and maintenance expenditure | WARIS | 4 | >130% | 120-130% | 110-120% | 100-110% | <100% |
| Grant dependency for opex | The proportion of OPEX financed by income from Grants | WARIS | 3 | 0% | 0-10% | 10-15% | 15-20% | 20-25% |
| **Profitability Indicators** | | | | | | | | |
| EBITDA/Revenue | Earnings Before Interest Tax, Depreciation & Amortization | WARIS | 5 | >25% | 20-25% | 15-20% | 10-15% | <10% |
| Annual Operational surplus / deficit | Total Revenue Less Total O&M Costs incurred | WARIS | 0 | N/A | N/A | N/A | N/A | N/A |
| Profit / loss for year | | WARIS | 0 | N/A | N/A | N/A | N/A | N/A |
| **Liquidity & Solvency Indicators** | | | | | | | | |
| Liquidity reserves as % of annual operating expenses | Cash & Near Cash Reserves/ Annual Operating Expenses *12 | WARIS | 5 | >25% | 20-25% | 15-20% | 10-15% | <10% |
| Liquidity ratio | Cash & Near Cash Reserves/ Current Liabilities | WARIS | 4 | >1.6 | 1.5-1.6 | 1.4-1.3 | 1.2-1.3 | <1 |
| Debt Service Coverage Ratio | CFADS/ Total Debt Service (Interest + Principal Repayments) | WARIS | 5 | >1.8 | 1.5-1.8 | 1.3-1.5 | 1.2-1.3 | <1.2 |
| Cash Flow Available for Debt Service | Net Operating Cashflow + Interest Repayments | WARIS | 10 | >0 | <0 | <0 | <0 | <0 |
| Debt:Equity Ratio | Total Debt/Total Equity | WARIS | 5 | <20% | 20-30% | 25-30% | 30-35% | >35% |
| Debtor Days: average number of days it takes WSP to collect monies billed | Net billed amount outstanding/ Total annual operating revenues excluding grants and transfers *365 | WARIS | 5 | <45 Days | 45-60 Days | 60-90 Days | 90-120 Days | >120 Day |
| % Change in debtor days over the last financial year | (Debtor Days in Current Financial Year Less Debtor Days in previous Financial Year)/Debtor Days in Current Financial Year | WARIS | 5 | >25% | 20-25% | 15-20% | 10-15% | <10% |
| Consumer bad debt provison% Cash provision for bad and doubtful debts | Cash provision for bad and doubtful debt /Consumer bad debt provison% | WARIS | 5 | Provision for all debt older than 60 | Provision for all debt older than 90 days | Provision for all debt older than 365 days | Ad hoc limited provision | No provision |
| Billing Ratio | Volume of water Bought/ Volume of Water Produced | WARIS | 5 | 95% and above | 93% to 94% | 90% to 92% | 85% to 89% | Less than 85% |
| Collection effiecency :Utilities ability to collect billed accounts | Total amount collected as % of the total amount billed | WARIS | 5 | 95% and above | 93% to 94% | 90% to 92% | 85% to 89% | Less than 85% |
| **Total** | | | **100** | **4.0** | **3.0** | **2.0** | **1.0** | **-** |

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