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IMPACT

A Performance Report of Kenya's Water Services Sector – 2020/21

WASREB
Water Services Regulatory Board

KENYA VISION 2030

THE BIG 4
EMPOWERING THE NATION

CERTIFIED ISO 9001:2015 COMPANY

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WASREB
Water Services Regulatory Board

ABOUT US

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

FOREWORD

"...good governance and sustainable development are key national values."

Joseph K. Keter 'ndc' K,

Ag. Chief Executive Officer

"The earth, the air, the land, and the water are not an inheritance from our forefathers but on loan from our children. So, we have to handover to them at least as it was handed over to us." – Mahatma Gandhi

United Nations Secretary-General's remarks at 2021 Petersburg Climate Dialogue echoed the quote. António Guterres urged the international community to show greater climate ambition to ensure the earth remains in the best state: "We stand at the edge of the abyss. But if we work together, we can avert the worst impacts of climate disruption, and use the recovery from the COVID-19 pandemic to steer us on a cleaner, greener path," he said.

Regulation plays a central role in advancing the rights to water and sanitation services especially in terms of verified outcomes. It must provide a multifaceted and contextual interpretation of the normative content of the right to water in line with the human rights framework. National standards must ensure that water and sanitation services, whether privately or publicly provided, are affordable for all, including the poorest, that water and sanitation tariffs do not compromise or threaten the realization of other rights.

To ensure compliance with the human rights framework, the Regulator continues to champion just causes/initiative, develop and roll out a number of regulatory tools that are geared towards streamlining service provision and ensure protection of the interests and rights of the consumer. Some of these include; the Water Governance Training Handbook, the National Guidelines on Sanitation and Trade Effluent, Guidelines for Inclusive

Urban Sanitation Service Provision, Business Planning, Guideline on Provision of Water and Sanitation Services in Rural and Underserved Areas, Water Safety Planning, Water Vending, Corporate Governance and Pro-Poor Water and Sanitation Services Guidelines.

In a bid to promote human rights standards, regulatory decision-making processes must ensure genuine public participation in key decisions. Both individuals and groups have the right to participate actively, freely and in a meaningful way in the process of setting service standards that may affect their enjoyment of the rights to water and sanitation. The year saw WASREB holding close to 40 public consultation meetings for licensing and about 10 Tariff consultations of various Water Service Providers. Stakeholders comprised County Governments, Water Works Development Agencies, Consumers, Business Communities and Religious Groups, while ensuring inclusion of minority groups.

Further, the Regulator held regional workshops with utilities and counties, aimed at building capacities of utility managers and Boards of directors, as well as, County executives on tenets of good governance.

Turning to this edition of IMPACT 14, water coverage in regulated areas improved from 57% to 60% while sewerage coverage increased by one percentage point from 15% to 16% compared to the previous reporting period. In absolute numbers an additional 1,001,805 and 170,767 gained access to water and sewerage services respectively. Production during the period increased by 1.3% and similarly the turnover increased by 1.6%.

For the period under review, 87 public and three private utilities submitted data for analysis. There was growth in four WSPs which graduated to higher size categories while none reduced in size. The top 10 positions were taken by the Very Large (5 No.) and Large (5 No.) utilities. This is particularly encouraging considering that these two size categories serve 88% of the total population and control 92% of the sector turnover.

On the brighter side, Non-Revenue Water (NRW) improved from 47% to 45% when compared to 2019/20. All the utility categories except the Large, recorded an improvement with the biggest improvement being recorded in the Small Category. However, in financial terms and at the current average NRW of 45% and the sector turnover of KShs. 23.2 Billion, against an acceptable sector benchmark of 20%, then conservatively, the sector is losing approximately KShs. 10.5 Billion.

Finally, I wish to congratulate utilities that continue to do well and hope that the momentum that has been realized will be sustained within an environment of compliance. I also call on all stakeholders to realise that good governance and sustainable development are key national values. It is therefore incumbent on all of us in the water sector to be guided by these principles in any actions we take to guarantee human dignity, equity, social justice, inclusiveness and non-discrimination.

CHAPTER 1

BACKGROUND ISSUES

WATER SCARCITY, CLIMATE CHANGE, COVID-19 PANDEMIC....THERE IS STILL HOPE

Based on existing studies, four major water problems facing the world today are provision of safe drinking water; water for agricultural, hydroelectric and industrial developments; sustainability of water development projects; and development of shared water resources.

Research by Aarhus University in Denmark dubbed '*Worldwide Water Shortage by 2040*' showed that by the year 2040, there will not be enough water in the world to quench the thirst of the world population and keep the current energy and power solutions going. It is a clash of competing necessities, between drinking water, agricultural and energy demand.

1.1 The Globe at a Glance on Water Issues

Forecasts or Predictions on water have been recorded in the recent past by Water Experts. Some of these 'Prophecies' are alarming.

Organisation for Economic Co-Operation and Development (OECD, 2012) describes the future globe as 'hot, crowded, and running out of fuel: Earth of 2050 a scary place'. The report paints a grim picture of the world in 2050 based on current global trends. It predicts a world population of 9.2 billion people, generating a global GDP four times the size of today's, requiring 80 percent more energy. With a worldwide energy mix still 85 percent reliant on fossil fuels by that time, it will be coal, oil, and gas that make up most of the difference, the OECD predicts. The report warns the result will be the 'locking in' of global warming, with a rise of as much as 6° C (about 10.8° F) predicted by the end of the century.

Almost half the world's people will be living under severe water stress, predicts the OECD. Already, water stress – where the reliable water supply is being used up more quickly than it can be replenished – is widespread and is expected to increase significantly in the years ahead, particularly in North Africa, the Middle East, and Asia.

The one billion more people expected on the planet by 2025, the increased water withdrawals for agriculture are factors expected to exacerbate this growing thirst for water. Much of the growth in demand will emerge from the swelling sprawl of bustling, slum-pocked metropolises across the developing world. For the first time in history, the share of the global population living in cities recently surpassed 50 percent – on its way to 75 percent expected by 2050.

By 2050, according to the UN's Food and Agriculture Organization report dubbed '*How to Feed the World in 2050*' of September 2009, 1 in 5 people in developing

countries will face water shortages. 2030 Water Resources Group (an innovative public-private platform for collaboration) forecasts that by 2030, the global water requirements may outstrip sustainable use by 40 percent.

Too many straws in the glass. In 2009, twin NASA satellites – orbiting 300 miles above Earth, measuring changes in the mass of underground water in northern India yielded disturbing data: Excessive irrigation practices were sucking the region dry. NASA scientists concluded, "the consequences for the 114 million residents of the region may include a collapse of agricultural output and severe shortages of potable water."

As if to inject a message of hope in a seemingly deteriorating water situation in the world, the United Nations through its report '*United Nations World Water Development Report 2021- Valuing Water*', says expanding water supply and availability where and if appropriate is vital. This includes investments in water storage, water reuse and recycling and, where viable, desalinization. These interventions must be accompanied by policies to promote water efficiency and improve water allocation.

1.1.1 Sustainable Development Goal (SDG) 6 Tracker

The UN-Water Integrated Monitoring Initiative for SDG 6 (IMI-SDG6) states that the world is off-track on its journey to ensure water and sanitation for all by 2030. According to a new progress report launched in August 2021, there is need to accelerate progress, in some areas up to four times faster, to meet SDG 6 within the next eight years.

However, large data gaps remain for some indicators, hampering efforts to direct interventions where they are needed most. Prominent water experts from across the UN family are calling on governments to encourage more national and sub-national data collection, and help policy and decision makers to take data informed action.

The Dakar Declaration

Across Africa, the 9th World Water Forum held in March, 2022 in Dakar (Diamniadio)– Senegal dubbed the 'The Forum of Responses' thanks to its continued pursuit of strong outcomes with solutions for communities around the globe, focused on four priorities in a bid to narrow the gaps towards realization of the SDG 6. They were: Water security and sanitation, co-operation, water for rural development and means and tools. The latter referring to: Financing, governance, knowledge management and innovation.

The Summit which brought together Heads of State and governments, as well as, major international institutions was planned to advance the international political agenda at the mid-point of the 2030 Agenda, with regard to the implementation of water and sanitation targets and sustainable development objectives. The

recommended approach aimed at making 'Dakar 2022' a Forum for responses, for demonstrating results, a political forum with the involvement of Heads of State and Government.

Thus, according to the 'Dakar Declaration' only those projects labelled 'Initiative Dakar 2022' will benefit from international exposure, partnerships and possibly funding from partner institutions to the Forum. It is up to member nations to make use of the opportunities available to accelerate realization of the SDG 6.

1.1.2 Climate Resilience

Climate resilience is defined as the 'capacity of social, economic and ecosystems to cope with a hazardous event or trend or disturbance'. The key focus of increasing climate resilience is to reduce the climate vulnerability that communities, states, and countries currently have with regards to the many effects of climate change. Climate change adaptation is of major concern across the globe.

According to Geoff Dabelko, an environmental expert at Ohio University, the term 'global water crisis' can be misleading. It tends to imply that there is just one kind of crisis – a water shortage. But there are so many dimensions. Too much water – whether from flooding, sea level rise, or more extreme storms – can be just as deadly as too little.

Therefore, support actions required to build climate change resilience include; combining watershed management, putting up sustainable infrastructure and empowerment and learning through adaptive institutions. With the realities of a warming planet becoming clearer, communities are learning they cannot duck every punch. How to absorb some blows and bounce back is part of the renewed emphasis on adaptation.

Back home, Water Sector institutions carried out various activities related to climate resilience. The Inaugural Climate Action 2022 organized by Eldoret Water and Sanitation Company (ELDOWAS), took place in April 2022. A first of its kind, the Conference brought to the fore the adverse effects of changing climatic conditions and effects on water sources and supply.

Meanwhile, the Regulator carried out interventions in support of building resilience which included a definition and actions towards a climate resilient utility. Additionally, there is need to build resilience interventions to improve availability of water services, such as, management of water losses and water safety planning among others.

1.2 Impact of COVID-19 on Service Provision

The outbreak of COVID-19 pandemic across the globe late 2019 and reported in Kenya in March 2020, slowed down investments in the water sector worldwide. It has

also increased the importance of operational efficiency due to the cost of disruption. These operational needs derive shifts: in demand patterns, supply disruptions and the various emergency measures employed by governments to cope with the pandemic.

A decline in demand from large industrial and commercial users due to lockdowns and travel restrictions impacted on revenues of water utilities. A survey by Global Water Leaders Group estimated that industrial water demand would fall by an average of 27 percent due to COVID-19. Deeper revenue loss is projected across the whole water supply chain, including operators, technology companies, contractors, chemical suppliers, and consultants.

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. These measures have led to revenue losses hence a reduction in O+M coverage by one percentage point. Capital expenditures from internally generated resources declined in the short to medium term as utilities prioritized operational expenditures and emergency response.

Operations were affected by the increased risk of contagion among utility staff, including both routine operations and maintenance works. Operational continuity and flexibility are key to keep essential water and sanitation services running, while also pushing forward ongoing maintenance of water and sanitation infrastructure. The Government identified people working in the water and sewerage industry as essential workers, enabling utilities to maintain continuity of service. However, social distancing protocols meant that utilities can only retain operationally critical staff on site.

1.2.1 WASREB's Interventions in Combating COVID-19 Effects

The provision of clean and safe water sanitation is in the frontline in the fight against COVID-19. To this end, both the National and County Governments were encouraged to spare no efforts in ensuring that water services continue to be rendered to the public indiscriminately and in adequate quantities. To enable WSPs effectively deliver on this noble obligation and in keeping with the principles of co-operation envisaged under Article 189 (2) of the Constitution, WASREB issued a number of advisories as highlighted below:

1. Provision of Personal Protective Equipment (PPEs) to employees to safeguard them against any threats that may be encountered in the course of their duties;
2. Timely availability of inputs for service provision through ensuring that supply chains are not disrupted;
3. Continued provision of subsidies to deserving WSPs;

4. Payment of longstanding water bills owed to WSPs by both levels of government (National and County) to support the WSPs in service delivery;
5. Consideration of water services as part of the support under the emergency fund;
6. WSPs identifying and mapping the vulnerable consumers within their areas of jurisdiction and ensure supply to these areas is not disrupted;
7. Kenya Power was requested not to disconnect power to utilities but instead agree on payment plans for any amounts that fall due.

On the other hand, utilities received support under the Conditional Liquidity Support Grant (CLSG) Programme which was operationalized in April 2021. Through the Ministry, the World Bank allocated KShs. 6.9 billion to provide short-term liquidity support to WSPs to maintain operations and service levels during the COVID-19 crisis.

The second phase of the support is focused on financial recovery. To support this process, capacity building workshops were undertaken. Participants included Senior Management teams from utilities drawn from over 21 Counties.

An analysis conducted between May 2021 and December 2021 showed there was an overall improvement in operational cost coverage ratio by 2% in 77 sampled water utilities attributed to CLSG support.

1.3 Addressing Water Governance and County Collaboration

The commercialization of water services requires water services to be provided in an efficient and sustainable manner. Progress has been made in the water sector in Kenya over the last 15 years by applying principles of financial viability and sustainability.

WASREB however, recognizes that poor performance by WSPs is not really a 'water crisis' but a 'governance crisis'. Several initiatives have been undertaken to deal with this challenge. The latest in these interventions is the development and launch of the 'Water Governance Training Handbook'. The Training Handbook seeks to promote good governance practices in the sector.

It is expected that stakeholders will use this tool to effectively deal with governance challenges mainly experienced during changes in county leadership after every election cycle. In furtherance of this undertaking, WASREB will partner with the relevant institutions in the delivery of trainings. This handbook is disseminated hand in hand with the Corporate Governance Guideline.

As the country prepares for the General Elections of August 2022 and in readiness for this transition, the following is desirable:

i. A smooth transition to ensure stability of Water Service Providers that operate

under them as they serve in their Boards

ii. Proper handover of projects to build on the gains already made and ensure sustainability

iii. Continued strengthening of Governance at the WSP level.

1.4 Enhancing Sustainability of Water Service Providers

In line with section 86 of the Water Act, WASREB continued to license utilities. Over 70 WSPs now operate with valid licences. The licensing process accords the Regulator an opportunity to entrench compliance and licensed WSPs are expected to comply with set conditions.

On sustainability of the utilities, the Regulator revised the Non-Revenue Water Management Standards to include standard tools for Planning, Analysis, Monitoring and Data Collection among others. The revised standards are expected to translate to uniform approaches in management of NRW.

WASREB continues to ensure WSPS operate with a cost reflective tariff. However, it is noted that some WSPs continue to operate on non-cost recovery tariffs which is counter to the push for a financially sustainable sector. In an effort to ensure compliance the Regulator will continue to impose sanctions for non-compliance including publishing the list of non-compliant WSPs.

1.5 Framework for Alternative Financing

The available financing to the sector is less than 50% of the sector requirements. Further, a greater proportion of this financing is from development partners. Appreciating this situation, WASREB has put place an alternative financing framework to guide utilities and potential financiers on closing this gap. The framework recognises the place of commercial and blended financing, as well as, Public Private Partnerships to close the gap. In furtherance of this, WASREB has been undertaking annual creditworthiness assessment as a basis for identifying potential beneficiaries of this alternative financing.

An increased interest by commercial banks and savings and credit societies has been observed in the recent past. With the aid of partners, the WSPs are being assisted to develop bankable project proposals with the aim of assessing commercial and/or blended financing. The recently launched JICA project to strengthen the capacities of WSPs in developing bankable projects is a step in the right direction.

1.6 Strengthening Social Accountability

The right to information is a key tenet of the constitution. Additionally, the input of consumers in decision making process with respect to the type of services received is critical. In this regard, WASREB continues to engage consumers on processes such as, licensing and tariff reviews..

WASREB continues to carry out campaigns in mainstream media, as well as, in digital platforms with key messages on consumer rights and responsibilities; licensing, water pricing, management of Non-Revenue Water and the importance of intergovernmental collaboration among others.

1.7 Inclusivity and Streamlining Rural Water Services

The Water Act 2016 Section 72 (1) (p) confers on WASREB the mandate to make recommendations on how to provide basic water services to marginalised areas. However, as shown in this report, the population in the entire service area of the regulated utilities is 26.3 million out of the total national population of 48.4 million. This translates to 54.3% of the population. One of the ways to crowd out informal service providers is by stimulating the formalization of services. A streamlined sector is productive, easily measured or tracked. This is the Regulator's vision for water and sanitation services in the country.

To streamline water services in rural and unserved areas, WASREB continues to disseminate Guideline for Provision of Water Services in Rural and Underserved Areas to enable the County Governments streamline rural water and sanitation services. Over time, WSPs appreciate the importance of improving and extending services to

underserved areas, also referred to as the Low-Income Areas (LIAs). Consequently, more utilities have taken up the challenge and responsibility to connect rural areas and other underserved consumers under the pro-poor framework.

WASREB has also embarked on mapping of Small-Scale Water Service Providers (SSSPs) to assist counties to have an inventory of these category of providers in their areas in an effort to bring this category of providers under regulation.

1.8 Intensifying Focus on Sanitation Services

Sanitation is critical to health, economic growth and the environment. Investing in sanitation is about preventing needless deaths, investing in people and transforming lives. Inadequate Water Sanitation and Hygiene (WASH) continues to affect thousands of people across the globe particularly children under 5 years who are vulnerable to water related diseases.

WASREB recognizes that provision of safely managed sanitation services across the service chain may practically go beyond the financial capacity of WSPs through 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 will be eligible for a special sanitation surcharge, reflecting real costs that may be added to the tariff.

Equally, the Ministry of Water, Sanitation and Irrigation formulated the National Sanitation Management Policy which aims to guide the sector on sanitation matters. This will ensure that there is increased focus on sanitation through enhanced coordination of sanitation actor. In addition, the policy will guide on financing, institutional framework and appropriate technologies among others.

Water Sector Trust Fund has continued to support the upscaling of basic sanitation for the urban-poor through financing sanitation improvement projects through water utilities. Such concerted efforts are needed to bridge the huge capital investment required for sewerage system development, universal access to sewered sanitation services, otherwise, the Vision 2030 Goal may be untenable.

CHAPTER 2

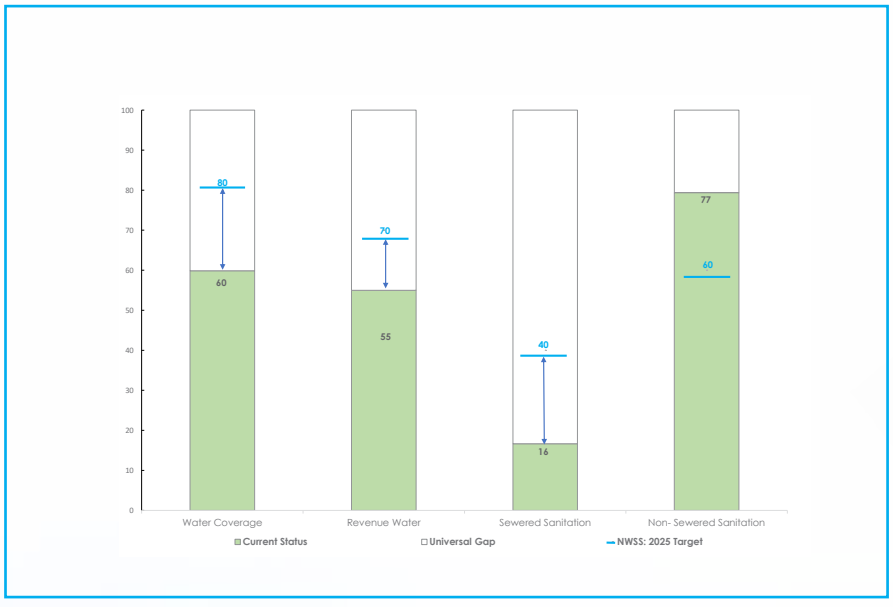
SECTOR DEVELOPMENT

SECTOR RECORDS MARGINAL IMPROVEMENT IN PERFORMANCE

The sector recorded a marginal growth in coverage in the current period. This was attributed to the population served growing at a higher rate compared to population growth within the area of service of the utilities. Growth in population served, is as a result of an increase in amount of water available arising from reduced water losses. Hence, despite the population in the service area growing by 6.8%, the per capita consumption declined marginally from 31 to 30 litres per capita per day.

Figure 2.1 presents the status of national goals with respect to three key areas of focus namely increasing access, reduction of loses and improving cost recovery as per The National Water Services Strategy (2020-2025). In order to compare the four indicators, all the indicators have been converted to have a target of 100%.

Figure 2.1: Status of National Goals, %



The four indicators were selected to track national progress on sector development. Six years after 2015, which was the target for attainment of these goals, only one indicator has achieved the projected levels.

2.1 Access to Water and Sanitation Services

Water coverage in regulated areas improved from 57% to 60% mainly as a result of population served increasing at a higher rate compared to population within the area of service.

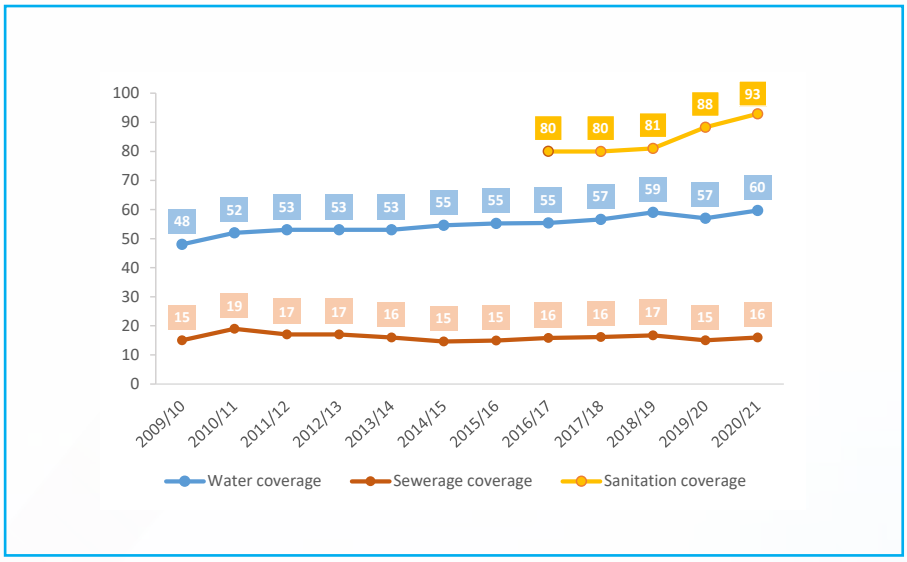
Table 2.1: General Data Summary

Parameter	2019/20	2020/21	Variance, %
Total Population in Service Area	25,660,154	26,271,419	2.4
Total Population Served with Water	14,677,969	15,679,774	6.8
Population Served with Sewer	3,922,437	4,093,204	4.4
Population Served with Sanitation Services	22,650,723	24,376,379	7.6
Total Water Produced, m^3	449,572,682	455,313,593	1.3
Total Water Billed, m^3	237,825,974	249,998,802	5.1
Total Water Billed (domestic), m^3	166,452,523	172,704,926	3.8
Total Revenue, Kshs	22,796,171,562	23,171,877,070	1.6
Per capita production, l/c/d	84	80	-5.2
Per capita consumption, l/c/d	31.07	30.18	-2.9

During the period there was an additional 1,001,805 people served compared to an increase in number of people within the service area of the WSPs of 611,265. The production during the period increased by 1.3% and similarly the turnover increased by 1.6%. The increase in population served however wiped out the marginal increase in production leading to a decline in per capita consumption.

Sewered sanitation marginally increased by one percentage point from 15% to 16%. Nonetheless, the trend in overall sanitation has been positive, 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

Efficient utilities offer better quality services to their consumers at cost-reflective tariffs. Efficiency further drives the realization of national targets for both water and sanitation. A utility with an acceptable level of personnel expenditure can have resources available to drive other operational requirements. On the other hand, good performance in revenue collections implies that the utility can have ready cash to finance its operations. These two indicators in the long run contribute to an improvement in the Operating Cost Coverage Ratio (OCCR), which has a direct correlation with the ability of the utility to provide services. The drop in O+M cost coverage to below 100% is worrying, considering that a cost coverage of less than 110% cannot guarantee the current level of service and therefore leads to deterioration of services in the long run. During the period, the expenditure on personnel hit the 50% mark, a highly unsustainable model in business operations. This scenario is as a result of utilities operating on unjustified tariffs, as well as, the relatively high levels of NRW. This situation if left unchecked, may starve other activities of the resources needed to drive operations.

2.3 Sector Sustainability

The sustainability of the utilities is key in realization of the rights to water and sanitation services. Water losses measured as NRW, is the main operational sustainability indicator and has a direct correlation with the quality of service seen in terms of access, quality, reliability and affordability. Although a marginal decline in NRW was noted in the current period, a level of 45% is still quite high and concerted effort is required to reduce this to an acceptable level. The ability of a utility to bill consumers based on actual consumption is critical in building the confidence of the consumer in water services provision, hence driving the willingness to pay for services.

2.4 Performance of Utilities

The performance of utilities is key in ensuring efficiency in the services provided, as well as, guaranteeing the sustainability of these services in the long run. Well performing utilities are therefore better placed in responding to any challenge. County governments as duty bearers in water services provision should endeavour to delegate authority for service provision to utilities accompanied by duty to give account for results. This includes rural areas where compliance to standards is still a challenge. Therefore, utilities with clear vision and plans, have better opportunities and this together with data from the Regulator forms the basis for any interventions by any financiers; government or non-government.

As in the previous periods, utilities were ranked on the basis of nine Key Performance Indicators (KPIs) as shown in Table 2.2.

Table 2.2: Progress on Key Performance Indicators

Key Performance Indicators	2019/20	2020/21	Trend
Water Coverage, %	57	60	↑
Drinking Water Quality, %	91	92	↑
Hours of Supply, hrs/day	15	16	↑
Non- Revenue Water, %	47	45	↑
Metering Ratio, %	96	96	→
Staff Productivity, Staff per 1000 Connections	7	7	→
Personnel expenditure as % of O+M Costs, %	49	50	↓
Revenue Collection Efficiency, %	89	94	↑
O+M Cost Coverage, %	103	99	↓
Sewered Sanitation Coverage, % *	15	16	↑
Sanitation Coverage, % *	88	93	↑
Good	Acceptable	Not Acceptable	Benchmark Varies

*** Not used in ranking**

Sanitation, despite being a key performance indicator, was not used in ranking of utilities performance. Development of the National Sanitation Management Policy, is expected to translate to increased focus in this area. Going forward, the Regulator is considering introducing sanitation as a KPI in the assessment of performance of the utilities.

In the current period, seven KPIs recorded an improvement, two stagnated and two declined. This is an improvement compared to the last reporting period where four indicators improved, one stagnated and six declined.

2.5 Utility Ranking

On the basis of the performance assessment outlined, Nyeri retained the top position with a total of 179 points out of a maximum of 200. This was a 10-point improvement compared to the score of 169 in 2019/20. Nakuru and Murang'a were 2nd and 3rd ranked WSPs with scores of 158 and 145 respectively. At the tail end was Kapenguria at position 87, followed by Olkejuado and Gusii at positions 86 and 85 respectively. Of great concern is Kapenguria that did not manage a score in any of the nine indicators assessed. Table 2.3 presents the overall top and bottom 10 utilities.

Table 2.3: Overall Top and Bottom 10 Utilities

TOP 10 UTILITIES 2020/21		
Rank	**Utility**	**Score (Max 200)**
1	Nyeri	179
2	Nakuru	158
3	Murang'a	145
4	Ruiru-Juja	143
5	Ngandori Nginda	142
6	Isiolo	141
7	Meru	139
8	Nanyuki	137
8	Ngagaka	137
8	Eldoret	137

BOTTOM 10 UTILITIES 2020/21		
Rank	**Utility**	**Score (Max 200)**
78	Amatsi	31
79	Busia	29
79	Samburu	29
81	Nol Turesh Loitokitok	28
82	Migori	27
82	Elwak	27
84	Mbooni	23
85	Gusii	21
86	Olkejuado	9
87	Kapenguria	0

It is appreciated that utilities operate under different conditions, therefore certain aspects of their performance may be affected differently as a result of the prevailing environment. Consequently, 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. In addition to this, the utility must have attained a score of at least 50% in the two reporting periods.

Table 2.4: Top Improvers and Bottom Losers

TOP IMPROVERS			
WSP	**Score 2019/20**	**Score 2020/21**	**Variance**
Naivasha	103	124	**21**
Ngagaka	119	137	**18**
Ngandori Nginda	128	142	**14**
Nakuru	152	158	**6**
Murang'a	141	145	**4**
Kisumu	125	128	**3**
Nanyuki	134	137	**3**
Murugi Mugumango	98	101	**3**
Ruiru-Juja	141	143	**2**

BOTTOM LOSERS			
WSP	**Score 2019/20**	**Score 2020/21**	**Variance**
Kakamega	85	80	**-5**
Garissa	49	44	**-5**
Samburu	35	29	**-6**
Migori	34	27	**-7**
Naromoru	70	59	**-11**
Nairobi	74	62	**-12**
Githunguri	56	43	**-13**
Lamu	79	57	**-22**
Nyandarua	61	36	**-25**
Olkejuado	44	9	**-35**

Using the criteria outlined above, nine WSPs recorded consistent improvement in performance in the current period. From Table 2.4, the most improved utility is Naivasha followed by Ngagaka and Ngandori Nginda respectively. The worst losers are Olkejuado, Nyandarua and Lamu respectively.

CHAPTER 3

DETAILED PERFORMANCE REVIEW

PERFORMANCE MANAGEMENT – WHAT GETS MEASURED GETS DONE!

3.1 Introduction

Performance monitoring and reporting of utilities is crucial in making appropriate decisions that inform interventions to ensure utilities remain on the right trajectory to progressive realisation of the right to water.

In the current year, the Regulator has commenced the process of mapping Small-Scale Service Providers (SSSPs) and it is expected that the next edition of IMPACT will comprise reporting on access levels nationally.

The mapping of small-scale providers will accord the counties an opportunity to streamline water services in the rural and other underserved areas. Under this framework, the regulated WSPs will be expected to report on performance of the SSSPs except in cases where they qualify for direct licensing from the Regulator. Initially, the data to be collected will focus on tracking four indicators which are important for the right and sustainability of water services. The indicators are Water Coverage, Drinking Water Quality, NRW and Revenue Collection Efficiency.

WASREB continues to push utilities to ensure there is consistency and accuracy of data submitted. Utilities with accurate and consistent data will continue to be incentivised through such initiatives as indexation of the tariff, granting the utility an enhanced tariff that incorporates minor investments, recognition in IMPACT Reports, among others. As in the previous periods, the Regulator continues 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.

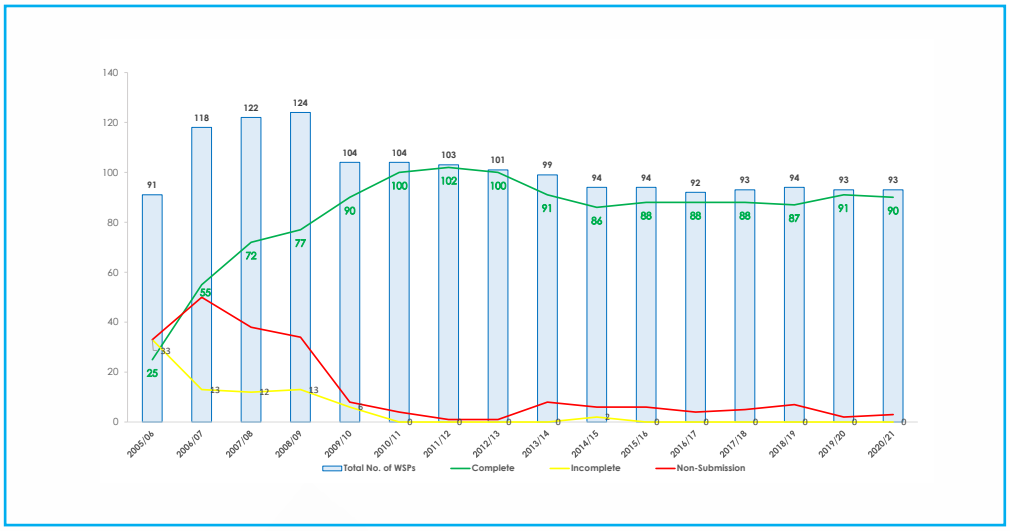
The Regulator collects and analyses performance of the utilities using a number of Key Performance Indicators (KPIs). However, for ranking, nine KPIs have been selected. The nine KPIs are Water Coverage, Drinking Water Quality, Hours of Supply, O+M Cost Coverage, Personnel Expenditure as a % of O+M Costs,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

3.2 Data Collection

The Water Regulation Information System (WARIS) remains the Regulator's tool for data collection. To ensure accuracy, the data is corroborated with other data sets, examples, from inspections, tariff applications and quarterly monitoring and evaluation reports from the utilities. The aim of this corroboration is to ensure continuity in improvement of quality and consistency of reported data.

For the period under review, 87 public and three private utilities submitted data for analysis. Compliance was rated at 98%. Marsabit, Namanga and Ndaragwa despite reporting previously, have not reported in the current period. Among the new entrants is Tana Water and Sanitation Company in Tana River County which completes reporting by all the 47 counties.

Figure 3.1: Trend in Data Submission by Utilities



General data for the various utilities assessed is presented in Table 3.1.

Table 3.1: General Data on Utilities - 2020/21

INDICATORS	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)	No. Of Total Staff	Validity of Tariff as at June 2021	Licensing Status as at June 2021
Very Large (≥35,000 conns.)															
Nairobi	4,820,830	3,968,025	439,321	400,693	1	9,191	179	60,802	89,727	50	124	42	3,239	Expired	Interim - until 20/12/2022
Eldoret	500,203	397,336	94,105	85,736	1	939	15	7,436	8,870	42	105	51	331	Valid	Full - until 19/05/2024
Mombasa	1,242,046	667,312	87,462	41,648	1	779	12	4,567	5,823	53	51	19	374	Expired	Expired
Nakuru	552,420	512,100	68,524	64,795	1	955	12	5,596	7,906	31	62	30	188	Valid	Expired
Nzoia	891,964	343,289	59,789	40,902	5	371	8	1,788	4,255	49	66	14	272	Expired	Expired
Kisumu	466,333	407,020	59,603	58,290	1	869	10	3,877	6,697	32	67	26	329	Expired	Expired
Nyeri	165,612	158,976	59,210	45,675	1	526	7	4,812	6,117	17	128	83	228	Valid	Full - until 18/5/2024
Thika	266,053	259,038	56,975	52,518	1	675	13	5,894	9,214	30	139	62	243	Expired	Expired
Murang'a South	790,905	423,876	47,790	35,685	1	192	6	2,153	2,978	48	37	14	158	Expired	Expired
Ruiru-Juja	385,165	377,120	44,507	41,706	2	665	11	4,388	6,916	36	78	32	263	Expired	Full - until 6/10/2025
Kakamega	415,807	254,107	43,760	41,425	2	252	5	2,057	3,073	43	59	22	172	Expired	Expired
Gatundu	265,793	180,021	41,524	25,476	1	130	7	4,610	4,742	34	109	70	148	Expired	Expired
Kirinyaga	484,870	272,922	40,283	29,303	9	174	7	2,213	2,701	60	67	22	157	Expired	Full - until 19/5/2024
Embu	227,545	172,085	39,836	37,817	1	437	8	3,614	4,739	38	122	58	137	Expired	Expired
Kilifi Mariakani	1,044,343	638,659	38,690	27,430	3	536	11	4,262	5,348	52	48	18	224	Expired	Expired
Kericho	380,907	139,869	37,297	25,912	2	194	4	1,287	1,946	53	80	25	209	Expired	Expired
Malindi	540,790	430,330	35,487	25,384	1	456	7	4,211	5,164	25	44	27	204	Expired	Expired
conns.)															
Othaya Mukurweni	181,948	74,744	33,488	20,127	2	155	5	2,473	2,986	45	200	91	101	Expired	Expired
Nakuru Rural	533,280	398,120	28,038	19,698	6	292	8	1,459	3,830	54	57	10	143	Expired	Expired
Tavevo	361,498	89,162	25,810	17,523	3	299	5	2,635	3,351	37	165	81	226	Expired	Full - until 19/5/2024
Mathira	158,549	65,514	25,131	15,013	1	120	2	791	1,214	47	95	33	77	Expired	Interim - until 6/10/2022
Kahuti	152,063	89,768	24,028	13,070	1	68	3	834	1,214	64	102	25	76	Expired	Interim - until 1/12/2022
Murang'a	79,209	75,792	24,021	20,931	1	219	3	1,313	2,068	25	99	47	120	Expired	Full - Until 6/10/2025
Nanyuki	123,160	114,950	23,515	22,181	1	345	5	1,743	2,789	40	111	42	135	Valid	Expired
Nyahururu	104,054	101,779	22,183	18,678	2	272	3	1,081	1,931	39	86	29	156	Valid	Expired
Garissa	140,587	106,380	21,356	19,188	1	308	6	1,406	3,577	40	154	36	141	Expired	Expired
Bomet	149,903	89,150	20,837	19,514	1	105	4	1,387	2,005	55	136	43	214	Expired	Expired
Gusii	834,583	324,833	20,476	16,530	7	174	3	840	1,348	58	27	7	132	Expired	Expired
Kikuyu	383,487	362,567	14,222	9,128	1	117	3	635	1,454	42	19	5	93	Expired	Expired
Meru	161,067	115,352	19,767	15,611	1	198	3	2,110	2,422	19	71	50	107	Expired	Expired
Kwale	534,734	163,352	19,658	14,449	1	156	5	1,660	1,836	59	76	28	142	Expired	Expired
Ngandori Nginda	95,678	89,454	17,916	15,345	1	64	3	1,025	1,740	37	84	31	62	Expired	Expired
Sibo	673,240	217,975	17,686	11,693	5	123	3	814	975	70	41	10	118	Expired	Expired
Nithi	148,409	65,264	16,591	11,598	1	78	4	662	1,299	65	155	28	82	Expired	Expired
Kitui	426,443	272,585	16,534	10,167	1	181	4	1,299	1,653	54	36	13	124	Expired	No Licence
Tetu Aberdare	77,988	42,165	16,451	12,737	1	66	3	2,034	2,150	29	197	132	67	Expired	Expired
Mavoko	412,687	162,260	15,703	14,458	1	172	1	352	605	37	16	6	82	Expired	Interim - Until 13/10/2022
Gatanga	122,394	43,620	14,483	11,391	1	53	2	880	1,371	40	143	55	62	Expired	Expired
Busia	314,855	147,156	14,143	11,163	3	59	1	385	620	49	22	7	75	Expired	Expired
Isiolo	93,983	83,536	13,038	12,222	1	99	2	1,417	1,638	31	77	46	64	Expired	Expired
Gatamathi	133,877	77,412	13,022	9,022	1	57	3	701	1,021	63	99	25	58	Expired	Expired
Ngagaka	81,179	76,839	12,690	8,511	1	39	1	620	722	38	41	22	37	Expired	Expired
Kiambu	153,381	122,310	12,455	9,965	1	200	3	1,310	2,072	35	71	29	69	Expired	Expired
Oloolaiser	371,313	205,371	12,324	6,558	3	140	2	1,246	1,429	42	33	17	130	Valid	Interim - Until 6/10/2022
Limuru	247,653	191,974	11,875	11,229	1	122	2	835	1,520	29	31	12	71	Expired	Expired
Imetha	174,997	116,040	11,007	6,932	1	46	1	523	717	40	28	12	87	Expired	Expired
Kyeni	70,901	23,816	10,612	6,043	1	13	1	429	574	45	120	49	29	Expired	Expired
Karuri	339,009	177,457	10,351	7,319	1	78	1	821	1,006	29	22	13	57	Expired	Expired
conns.)															
Githunguri	206,320	45,021	9,958	4,979	1	60	1	512	691	42	72	31	42	Expired	No Licence
Machakos	231,686	152,450	9,588	6,573	1	128	1	291	710	44	23	5	69	Expired	Expired
Lodwar	93,980	41,200	9,579	8,165	1	71	2	367	1,273	45	153	24	74	Expired	No Licence
Amatsi	275,021	34,080	9,533	3,769	1	43	2	203	1,101	30	126	16	66	Expired	Expired
Naivasha	216,142	203,591	9,393	8,124	1	176	2	922	1,359	28	26	12	87	Expired	Expired
Tuuru	273,990	124,578	9,290	2,979	1	20	2	375	435	77	41	8	60	Expired	No Licence
Kibwezi Makindu	275,190	99,737	8,972	6,423	1	66	1	725	936	28	36	20	71	Expired	No Licence
Noi Turesh Loitokitok	180,528	41,112	8,857	6,383	1	77	2	916	1,082	51	146	61	56	Expired	Expired
Homabay	213,869	109,590	8,435	6,791	1	59	1	353	569	44	25	9	89	Expired	Expired
Nyandarua	75,061	23,816	7,899	5,381	1	41	1	352	395	47	85	41	58	Expired	Interim - 3/11/2022
Embe	44,715	30,635	7,082	3,408	1	29	1	321	462	55	92	29	32	Expired	Expired
Narok	112,135	38,314	6,652	3,655	1	83	1	512	786	11	63	37	89	Expired	Expired
Tana	168,396	53,440	5,985	5,414	3	33	2	-	567	70	98	-	60	Expired	Expired
Kapsabet Nandi	79,747	27,666	5,768	4,348	2	45	1	252	682	37	107	25	40	Expired	Interim - 3/10/2022
Migori	217,761	49,090	5,641	4,112	7	29	0	155	250	48	27	9	58	Expired	Expired
Murugi Mugumango	41,652	18,124	5,130	4,297	1	17	2	1,419	1,771	20	335	214	23	Expired	No Licence
Small (<5,000 conns.)															
Chemususu	82,645	61,814	4,949	2,898	1	13	1	225	272	68	38	10	27	Expired	Expired
Lamu	34,733	29,524	4,790	2,320	2	42	1	352	352	41	56	33	136	Expired	Expired
Kirandich	35,245	13,388	4,763	3,416	1	23	1	376	440	57	212	77	24	Expired	Expired
Kiambere Mwingi	179,504	118,462	4,593	2,844	2	104	1	366	603	38	23	8	47	Expired	Expired
Mandera	130,797	37,808	3,987	2,024	1	33	1	255	344	41	42	18	72	Expired	Expired
Iten Tambach	75,222	28,611	3,825	2,331	1	31	1	406	795	32	112	39	49	Expired	Expired
Olkejuado	283,758	12,999	3,487	731	1	19	0	154	220	42	80	32	49	Expired	No Licence
Ol Kalou	113,642	48,260	3,449	3,022	1	37	1	240	322	48	35	14	22	Expired	Expired
Muthambi 4K	14,692	7,528	3,090	1,845	1	10	1	489	487	25	236	178	15	Expired	No Licence
Samburu	316,510	77,580	2,943	2,798	6	11	1	232	361	44	23	8	82	Expired	Expired
Wote	93,628	21,826	2,691	1,869	1	37	0	116	298	35	58	15	42	Expired	No Licence
Kapenguria	192,325	14,988	2,506	602	1	7	0	49	76	69	44	9	33	Expired	No Licence
Naromoru	13,201	5,412	2,199	2,019	1	12	0	155	168	38	137	78	27	Expired	Expired
Rukanga	7,997	6,433	2,064	1,711	1	9	0	135	156	59	164	57	14	Expired	No Licence
Yatta	79,972	49,016	1,885	1,701	1	26	0	193	275	29	22	11	29	Expired	Expired
Wajir	79,726	19,500	1,816	1,783	1	8	-	530	572	n.d.	n.d.	74	135	Expired	Expired
Matungulu Kangundo	59,917	8,118	1,759	885	1	14	0	80	91	41	52	27	14	Expired	No Licence
Elwak	100,000	8,820	1,543	1,513	3	11	0	136	141	60	109	42	97	Expired	Expired
Kiamumbi	18,233	8,313	1,420	1,319	1	24	0	248	354	24	153	82	10	Expired	Expired
Mbooni	136,080	13,080	1,314	743	1	4	0	43	43	34	14	9	29	Expired	No Licence
Nyasare	116,118	42,570	1,262	860	1	6	0	64	89	37	9	4	7	Expired	Expired
Kathiani	22,249	11,496	1,188	552	-	10	0	34	70	30	24	8	9	Expired	No Licence
Runda	10,769	10,471	1,140	1,119	-	59	1	615	618	26	218	161	20	Valid	Expired
Tachasis	28,288	25,249	1,107	1,107	-	2	0	219	263	25	38	24	10	Valid	Expired
Mwala	61,881	16,883	1,095	694	3	8	0	27	43	27	9	4	24	Expired	No Licence
Tatu City	399	399	291	291	-	44	0	8	125	8	939	57	17	Expired	Expired
Totals/Averages	**26,271,419**	**15,679,774**	**2,046,492**	**1,626,187**	**128**	**23,172**	**455**	**172,705**	**-**	**45**	**80**	**30**	**12,027**	**-**	**-**

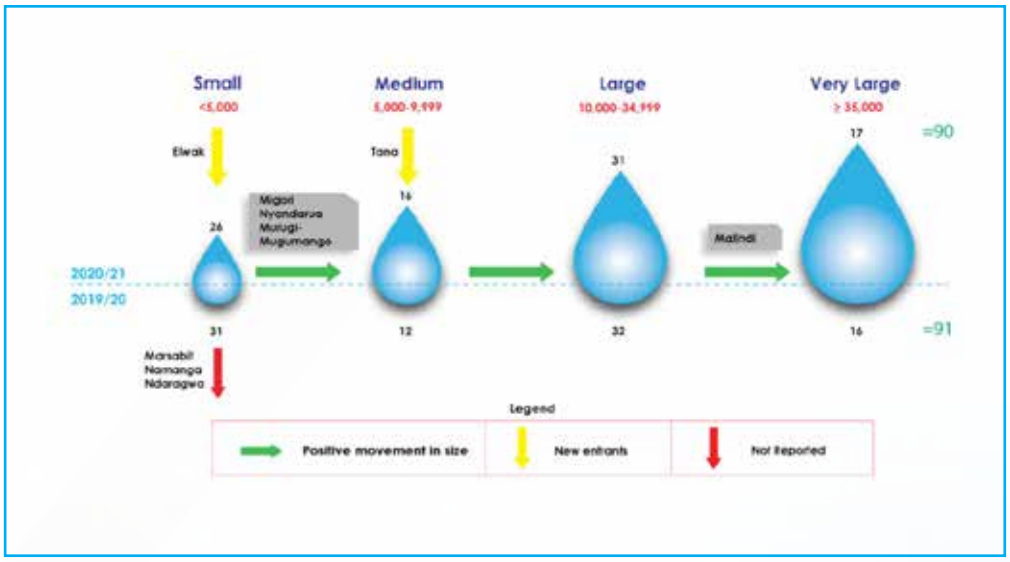
3.3 Categorisation of Utilities

Utilities are categorized both in terms of size and ownership structure. The size of a utility is determined by total number of water and sewer connections. On the other hand, ownership structure is informed by nature of the asset holding organization which in this case could be either public or private. This categorization seeks to ensure that there is a fair comparison of performance.

The number of connections is significant as it indicates 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 Olkejuado (79%), Kapenguria (76%), Tuuru (68%), Amatsi (60%), Kathiani (54%), Mombasa (52%); Embe (52%), Lamu (52%), Githunguri (50%), Matungulu Kangundo (50%). Overall, the proportion of dormant connections is 24% of the total number of connections, at the current rate can serve a population equivalent to that served by the WSP in Nairobi County.

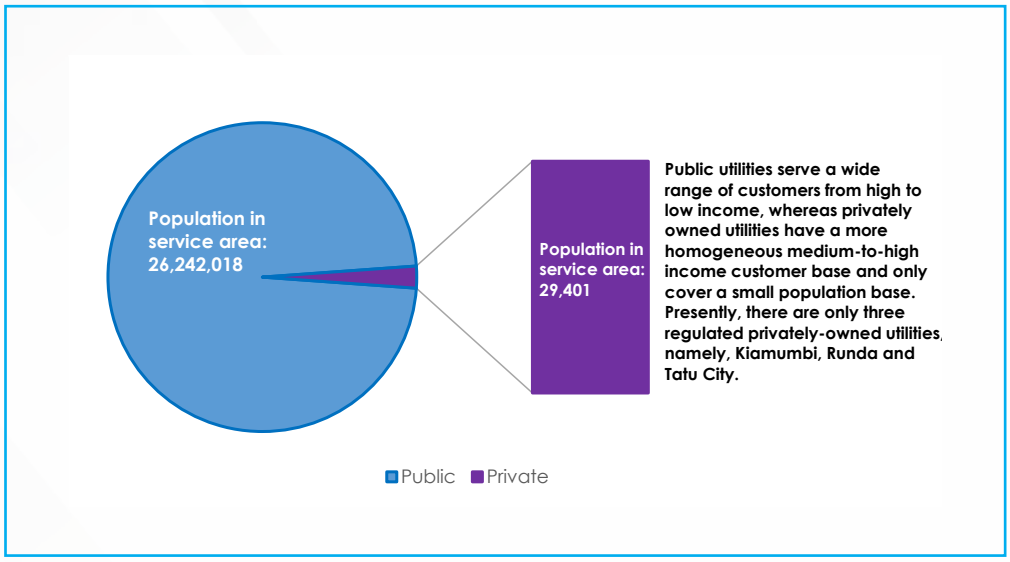
Using the total number of registered connections for both water and sewer, utilities have been categorised as Very Large, Large, Medium and Small as per the thresholds indicated in Figure 3.2. In total four WSPs graduated to higher size categories while no WSP shrunk in size.

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. This difference in operating environments implies 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.

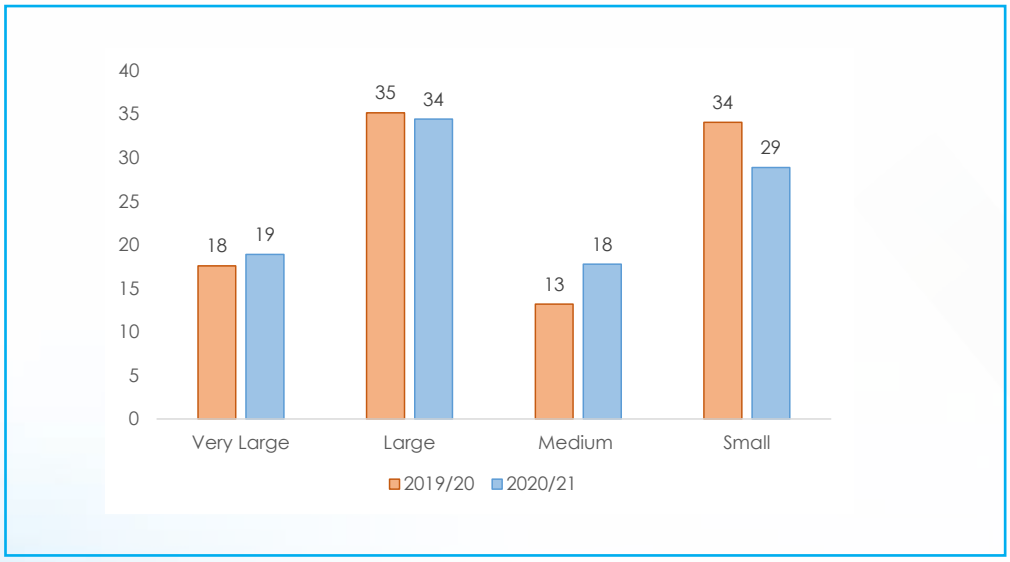
Figure 3.3: Categorization by Ownership



3.4 Market Share and Movement in Utility Category

Compared to the previous year, the Very Large and Medium categories registered increases from 18% to 19% and from 13% to 18% respectively. The Large and Small categories registered a decline of one and five percentage points respectively.

Figure 3.4: Proportion of Utilities in Size Categories



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

Figure 3.5: Market Share by Utility Size

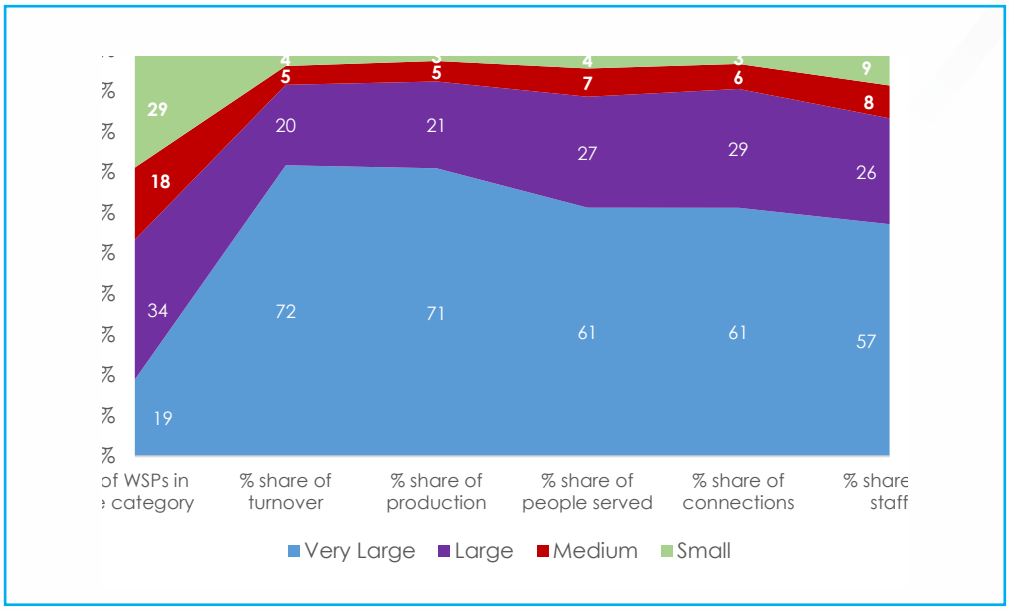


Figure 3.5 indicates that the number of utilities in the category of Very Large and Large remained at 53% of all regulated utilities- in the sector. The WSPs account for the largest share of business in terms of turnover, amount of water produced and number of people served. These 48 utilities contribute to 92% of the total turnover, 92% of the total water produced and 88% of the people served.

3.5 Performance Analysis and Ranking

Performance analysis and ranking are 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.

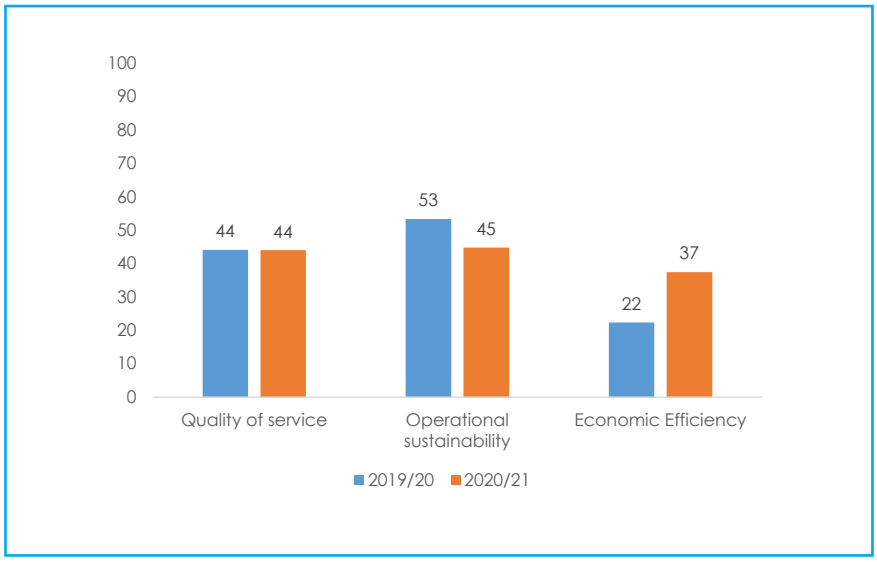
Table 3.2: Performance Indicators, Sector Benchmarks and Scoring Regime

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 three indicator clusters is shown in Figure 3.6.

Figure 3.6: KPI Performance by Cluster



Economic Efficiency recorded a notable improvement despite being the lowest performed indicator among the three clusters. A significant decline was recorded for Operational Sustainability while Quality of Service remained constant.

Table 3.3 presents individual ranking of the 87 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	17	96	24	5	99	48	136	100	179	1	1
Nakuru	99	31	93	19	3	102	33	115	100	158	2	2
Ruiru-Juja	93	36	98	19	6	107	35	143	100	143	3	4
Eldoret	93	42	79	21	4	95	47	135	100	137	4	10
Kisumu	93	32	87	24	6	91	33	102	100	128	5	11
Embu	93	38	76	24	4	80	41	147	100	121	6	13
Thika	86	30	97	18	5	101	42	109	100	121	7	14
Malindi	100	25	80	24	8	87	37	94	100	112	8	18
Kirinyaga	100	60	56	20	5	86	56	105	99	96	9	28
Murang'a South	93	48	54	16	4	100	40	90	98	90	10	31
Gatundu	88	34	68	20	6	90	73	97	100	83	11	37
Nzoia	93	49	38	20	7	98	35	98	91	83	12	38
Kakamega	93	43	61	8	4	95	48	79	100	80	13	39
Kericho	93	53	37	21	8	98	60	81	100	76	14	43
Mombasa	93	53	54	14	9	96	40	95	100	68	15	48
Nairobi	91	50	82	8	8	93	64	99	100	62	16	53
Kilifi Mariakani	92	52	61	16	8	85	27	86	100	61	17	54
Large Utilities												
Murang'a	93	25	96	22	6	95	51	104	100	145	1	3
Ngandori Nginda	93	37	93	24	4	99	50	118	100	142	2	5
Isiolo	93	31	89	20	5	100	53	105	100	141	3	6
Meru	100	19	72	24	7	96	44	103	100	139	4	7
Ngagaka	93	38	95	24	4	95	60	113	100	137	6	9
Nanyuki	100	40	93	23	6	96	48	111	100	137	5	8
Tetu Aberdare	93	29	54	22	5	98	53	105	100	117	7	16
Nyahururu	93	39	98	22	8	91	52	119	100	110	8	19
Kahuti	100	64	59	22	6	95	54	106	91	107	9	21
Kiambu	93	35	80	18	7	85	31	101	100	99	11	26
Mathira	93	47	41	23	5	97	48	104	97	98	12	27
Othaya Mukurweni	93	45	41	23	5	102	47	102	93	96	13	29
Nakuru Rural	93	54	75	18	6	103	53	113	84	100	10	25
Nithi	93	65	44	21	7	95	42	109	100	90	14	32
Karuri	93	29	52	13	8	92	22	75	100	89	15	35
Limuru	82	29	78	15	6	93	37	91	100	87	16	36
Tavevo	93	37	25	14	13	91	27	80	100	79	17	40
Kitui	61	54	64	14	12	95	24	67	100	69	18	46
Kikuyu	51	42	95	11	10	103	33	88	100	69	19	47
Imetha	93	40	66	17	13	100	43	95	93	66	20	49
Bomet	93	55	59	14	11	108	40	44	57	63	21	51
Gatamathi	86	63	58	22	6	100	51	100	55	61	22	55
Kyeni	21	45	34	18	5	111	64	85	73	60	23	56
Mavoko	59	37	39	4	6	104	41	86	86	54	24	62
Kwale	93	59	31	3	10	95	29	87	87	54	25	63
Garissa	0	40	76	22	7	64	38	n.c.d.	74	44	26	65
Oloolaiser	91	42	55	n.c.d.	20	94	43	77	100	42	27	67
Sibo	80	70	32	7	10	95	41	98	100	38	28	72
Gatanga	91	40	34	16	5	80	56	118	70	34	29	77
Busia	93	49	47	10	7	84	43	79	61	29	30	79
Gusii	93	58	39	9	8	75	47	88	41	21	31	85
Medium												
Naivasha	93	28	94	23	11	92	45	111	100	124	1	12
Murugi Mugumango	-	20	44	24	5	102	65	92	100	101	2	24
Embe	93	55	69	13	9	96	56	93	100	93	3	30
Kibwezi Makindu	93	28	36	15	11	126	49	79	100	90	4	33
Tuuru	93	77	45	22	20	107	64	102	93	76	5	44
Homabay	93	44	51	7	13	112	36	65	100	63	6	52
Kapsabet Nandi	-	37	35	10	9	96	47	62	100	56	7	61
Githunguri	54	42	22	3	8	78	31	93	100	43	8	66
Tana	-	70	32	12	11	63	24	97	42	41	9	68
Lodwar	-	45	44	8	9	94	54	n.c.d.	90	40	10	70
Narok	92	n.c.d.	34	4	24	89	38	81	100	37	11	73
Nyandarua	58	47	32	8	11	88	32	85	96	36	12	74
Machakos	90	44	66	7	10	84	46	106	100	36	13	75
Amatsi	88	30	12	9	18	64	32	58	58	31	14	78
Nol Turesh Loitokitok	80	51	23	7	9	93	55	n.c.d.	75	28	15	81
Migori	91	48	23	10	14	61	24	63	70	27	16	82
Small Utilities												
Tachasis	77	25	89	24	9	129	46	102	100	118	1	15
Rukanga	86	59	80	20	8	98	40	108	100	115	2	17
Nyasare	93	37	37	8	8	104	31	126	100	109	3	20
Muthambi 4K	0	25	51	21	8	100	41	n.c.d.	100	102	4	22
Kiambere Mwingi	93	38	66	3	17	97	23	128	100	101	5	23
Ol Kalou	39	48	42	20	7	99	40	96	100	90	6	34
Iten Tambach	93	32	38	10	21	91	37	94	96	78	7	41
Mwala	63	27	27	11	35	100	40	46	100	77	8	42
Wote	93	35	23	12	22	98	51	87	100	74	9	45
Yatta	67	29	61	10	17	95	54	62	100	64	10	50
Kathiani	0	30	52	8	16	87	23	108	100	60	11	57
Naromoru	0	38	41	22	13	97	48	94	100	59	12	58
Kirandich	53	57	38	7	7	100	34	40	65	57	13	59
Lamu	72	41	85	10	59	89	45	50	100	57	14	60
Chemususu	84	68	75	4	9	94	67	58	38	45	15	64
Mandera	93	41	29	17	36	38	n.c.d.	19	n.c.d.	41	16	69
Matungulu Kangundo	23	41	14	18	16	87	46	87	100	39	17	71
Wajir	0	n.d.	24	0	76	133	n.d.	n.d.	100	35	18	76
Samburu	88	44	25	8	29	64	42	21	100	29	19	80
Elwak	0	60	9	12	64	58	28	34	16	27	20	83
Mbooni	31	34	10	9	39	85	n.c.d.	n.c.d.	94	23	21	84
Olkejuado	0	42	5	n.d.	67	80	46	63	92	9	22	86
Kapenguria	63	69	8	4	55	71	46	51	59	0	23	87

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

Top and Bottom Utilities

The top utility was Nyeri with a score of 179 points out of the possible 200 points, which is a 10-point improvement from the previous reporting period. Nakuru and Murang'a took up the second and third positions with scores of 158 and 145 respectively.

The utilities in the bottom three positions for the current period were Kapenguria at position 87, Olkejuado 86 and Gusii at position 85. These three worst performers scored 0, 9 and 21 points respectively, out of a possible score of 200 points. The case of Kapenguria is of greater concern considering that the WSP scored zero in all the nine indicators. The worst performers in the Very Large, Large, Medium and Small categories are Kilifi-Mariakani, Gusii, Migori and Kapenguria respectively. Kilifi-Mariakani and Kapenguria have been ranked lowest in their respective categories for the second year running. On the other hand, Mombasa for the third year, has continued to improve its score with a 10-point increase in the current year from 58 to 68. The average national performance improved from 38% in the previous year to 40% in the current period. Further, the number of utilities recording a performance above the national average improved from 39 (43%) to 42 (47%). This indicates that poor performing utilities have started to record improved performance. This is also supported by the increased number of utilities registering a performance above the mid-point (50%) from 23(25%) to 27 (30%). This increase although marginal, points to improved efficiency of the utilities which is expected to contribute to enhanced quality of service.

Licensing of utilities provides an entry point for streamlining of services and the Regulator will continue to push for regulated services for the citizens. This is the only way to ensure that utilities provide services within set standards. Consumers are called upon to demand for better services from their service providers.

Privately Owned

In the privately-owned category, Tatu City out-performed Runda Water Company to reclaim its former place as the best utility in the private category.

Table 3.4: Overall Ranking for Privately-Owned Utilities

Indicator / Utilities	DWQ (%)	Non-Revenue Water (%)	Water Coverage (%)	Hrs of supply- for weighting	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
Tatu City	100	8	100	24	58	98	28	86	100	**155**	**1**	1
Runda	93	26	97	16	18	92	25	116	100	**143**	**2**	2
Kiamumbi	93	24	46	24	8	95	22	124	100	**142**	**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 limits of performance defined in Table 3.2 to determine the cut-off score. Table 3.5 shows performance of utilities in relation to 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 Coverage	Drinking Water Quality	Hrs. of Supply	O+M Cost Coverage	Collection Efficiency	Personnel Expenditures	Staff Productivity	Non Revenue Water	Metering Ratio
Good	13	9	26	0	51	11	48	3	58
Acceptable	8	45	20	34	23	15	20	6	5
Not Acceptable	69	36	42	50	16	61	22	79	26
n.d.	0	0	1	1	0	1	0	1	0
n.c.d.	0	0	1	5	0	2	0	1	1
TOTAL	90	90	90	90	90	90	90	90	90
% of utilities within sector benchmark	23%	60%	51%	38%	82%	29%	76%	10%	70%

In terms of overall performance, Collection Efficiency is the KPI where most utilities (74 out of 90) have reached the 'acceptable range' of sector benchmark, followed by Staff Productivity at 68 WSPs. On the contrary, NRW remains the least performed KPI with only nine utilities within the 'acceptable range' of performance. This performance has been constant compared to the previous reporting period. Five KPIs have at least 50% score of the 'acceptable range' of sector benchmark similar to the previous reporting period. These include Collection Efficiency (82%), Staff Productivity (76%), Metering 70%), Drinking Water Quality (60%) and Hours of Service (51%). Water Coverage and Collection Efficiency KPIs recorded an improvement in the number of WSPs attaining the sector benchmark, a decline from three in the previous reporting period. On the other hand, three KPIs, recorded a decline, compared to five in the previous reporting period.

3.5.3 Performance Over Time

The operating environment in terms of the condition of their infrastructure, as well as, stability seen in terms of governance, has a bearing on the performance of the utility. The condition of infrastructure both in terms of quality and extent has an impact on performance in short and medium term. Being cognizant of these realities, the Regulator employs performance improvement over time to recognize utilities whose performance has improved despite not attaining the top positions in either short or medium term due to factors beyond their control. The Tables 3.6 and 3.7 show performance over time of publicly and privately-owned utilities respectively.

Table 3.6: Performance Over Time of Publicly-Owned Utilities

Rank	WSP	Score 2019/20	Score 2020/21
1	Nyeri	169	179
2	Nakuru	152	158
3	Murang'a	141	145
4	Ruiru-Juja	141	143
5	Ngandori Nginda	128	142
6	Isiolo	141	141
7	Meru	146	139
8	Nanyuki	134	137
8	Ngagaka	119	137
8	Eldoret	131	137
11	Kisumu	125	128
12	Naivasha	103	124
13	Embu	116	121
13	Thika	134	121
15	Tachasis	117	118
16	Tetu Aberdare	98	117
17	Rukanga	127	115
18	Malindi	113	112
19	Nyahururu	110	110
20	Nyasare	108	109
21	Kahuti	80	107
22	Muthambi 4K	117	102
23	Kiambere Mwingi	85	101
23	Murugi Mugumar	98	101
25	Kiambu	83	99
26	Mathira	60	98
27	Kirinyaga	80	96
27	Othaya Mukurwe	92	96
29	Nakuru Rural	91	95
30	Embe	81	93
31	Murang'a South	80	90
31	Nithi	46	90
31	Kibwezi Makindu	98	90
31	Ol Kalou	75	90
35	Karuri	62	89
36	Limuru	77	87
37	Gatundu	71	83
37	Nzoia	83	83
39	Kakamega	85	80
40	Tavevo	91	79
41	Iten Tambach	72	78
42	Mwala	89	77
43	Kericho	73	76
43	Tuuru	62	76
45	Wote	60	74
46	Kitui	49	69
46	Kikuyu	29	69
48	Mombasa	58	68
49	Imetha	54	66
50	Yatta	61	64
51	Bomet	46	63
51	Homabay	20	63
53	Nairobi	74	62
54	Kilifi Mariakani	45	61
54	Gatamathi	41	61
56	Kyeni	39	60
56	Kathiani	37	60
58	Naromoru	70	59
59	Kirandich	34	57
59	Lamu	79	57
61	Kapsabet Nandi	36	56
62	Mavoko	54	54
62	Kwale	21	54
64	Chemususu	25	45
65	Garissa	49	44
66	Githunguri	56	43
67	Oloolaiser	64	42
68	Tana	n.d.	41
68	Mandera	35	41
70	Lodwar	33	40
71	Matungulu Kangur	25	39
72	Sibo	50	38
73	Narok	41	37
74	Nyandarua	61	36
74	Machakos	70	36
76	Wajir	37	35
77	Gatanga	27	34
78	Amatsi	22	31
79	Busia	52	29
79	Samburu	35	29
81	Nol Turesh Loitokit	25	28
82	Migori	34	27
82	Elwak	n/a	27
84	Mbooni	55	23
85	Gusii	21	21
86	Olkejuado	44	9
87	Kapenguria	23	0

To be recognized as improved, a utility must have shown improvement over two consecutive reporting periods and the score must be at least 50 points. On this basis, Naivasha, Ngagaka and Ngandori Nginda are the top three improvers while Olkejuado, Nyandarua and Lamu are the greatest losers.

Table 3.7: Performance Over Time of Privately-Owned Utilities

Rank	WSP	Score 2019/20	Score 2020/21
1	Tatu City	155	155
2	Runda	158	143
3	Kiamumbi	123	142

In the Private category, only Kiamumbi recorded an improvement with Tatu City and Runda stagnating and declining respectively.

Table 3.8 indicates that the overall performance for utilities increased to 40% due to the number of improvers increasing from 46 (51%) to 53 (59%) during the period.

Table 3.8: Number and Percentage of Utilities Recording Improvement

Year	No. of Utilities	No. of	% of	Average Score,
2019/20	91	47	52	38
2020/21	90	53	59	40

3.5.4 Performance of Utilities by Indicators

a) Water Coverage

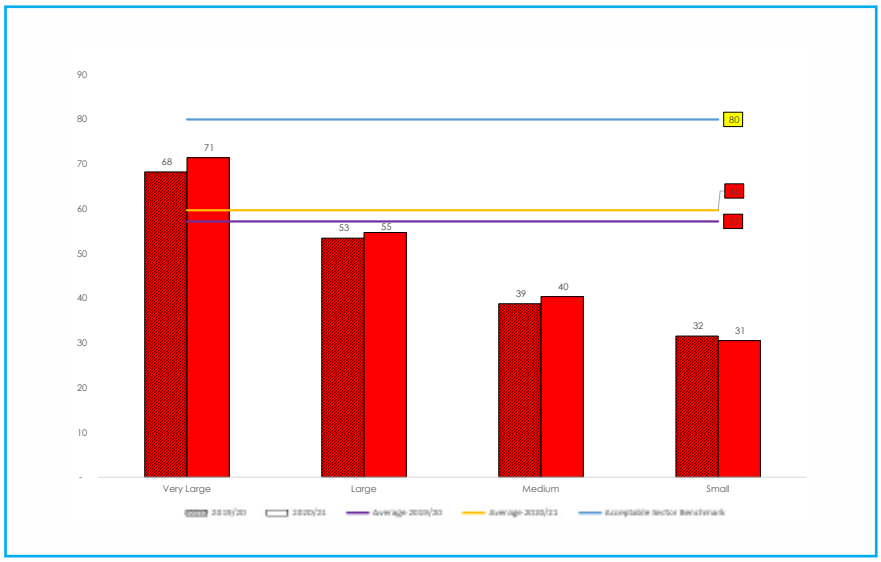
Water coverage refers to the number of people served with drinking water expressed as a percentage of the total population within the service area of a utility. It is critical in tracking the progressive realization of the right to water with regard to the accessibility component in the normative content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

In the current period, the population in the service area of the 90 utilities was 26.27 million. Given the national average household size is 3.9, this represents 6.74 million households. Out of these, the utilities were able to serve 15.68 million, representing 4.02 million households.

The average Water Coverage was 60%, which is an increase from 57% in the previous reporting period (Figure 3.7). This growth in coverage is mainly attributed to a bigger increase in population served of 6.8% compared to a growth of 1.5% for the population within the area served. All size categories, except the Small, improved in performance when compared to the previous period. The average for the Very Large utilities was 71%, nine (9) percentage points difference to the sector benchmark of 80%. On the contrary, the small utilities declined from an average of 32% to 31%.

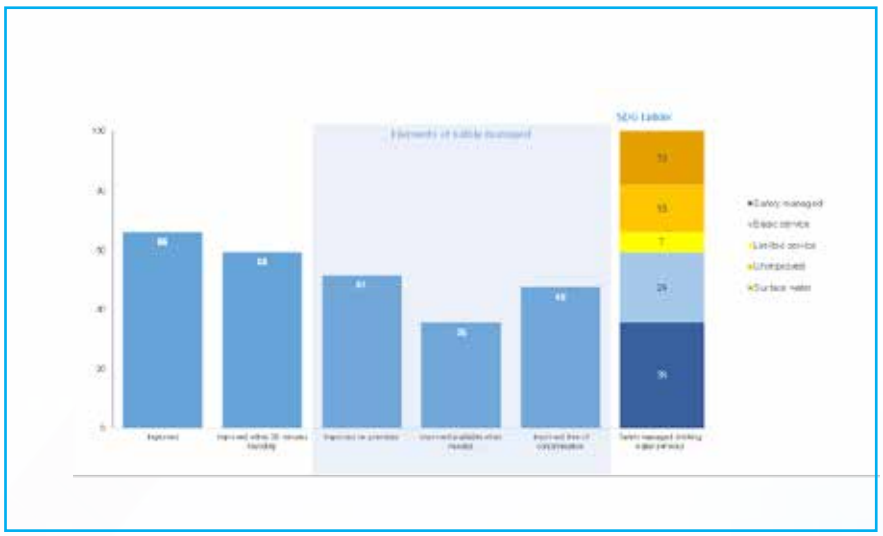
The increase in coverage was however not supported by an increase in number of new water connections since they declined by 15,112 which is equivalents to 1.13% against an annual target of 200,000 new connections to achieve universal access target by 2030. This growth in coverage despite the decline in number of connections implies that there was increase in average of the number of people served per connection. Compared to the previous year, the average number of people served per connection increased from 11.2 to 12.1. This development indicates a continuing decline in quality of service. Also recording a decline is the per capita consumption which dropped from 31 to 30 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. The proportion of population served with safely managed water services increased from 32% to 34%. This is mainly attributed to an increase in number of service hours as well as proportion of people served by services which are piped to premise from 47% in 2019/20 to 51% in 2010/21.

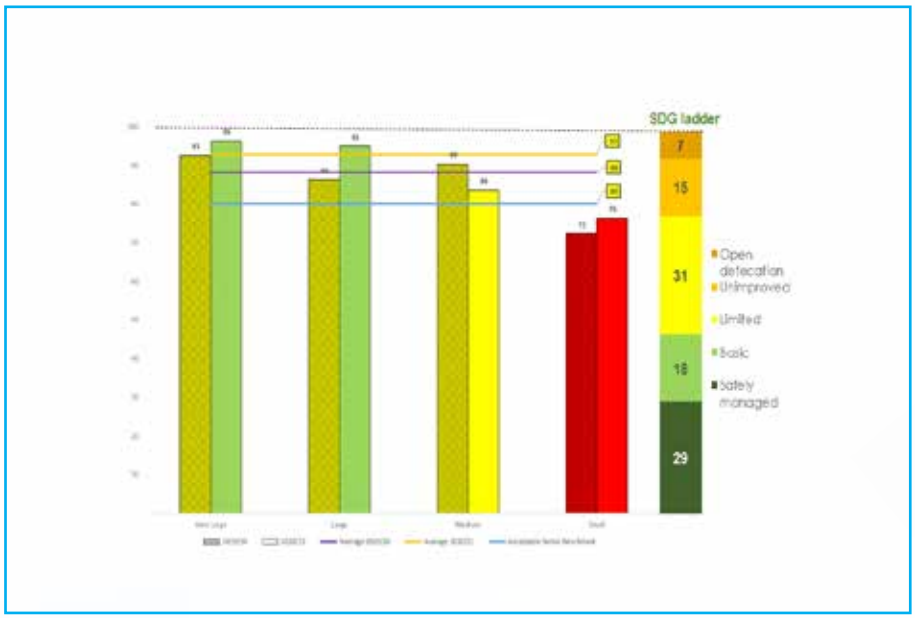
b) Sanitation Coverage

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 sewered and non- sewered sanitation. Improved sanitation 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 93%, an increase of five percentage point from the previous reporting period at 88% (Figure 3.10). The increase is mainly as a result of alignment of collected data with the sanitation data reported in census data of 2019.

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.

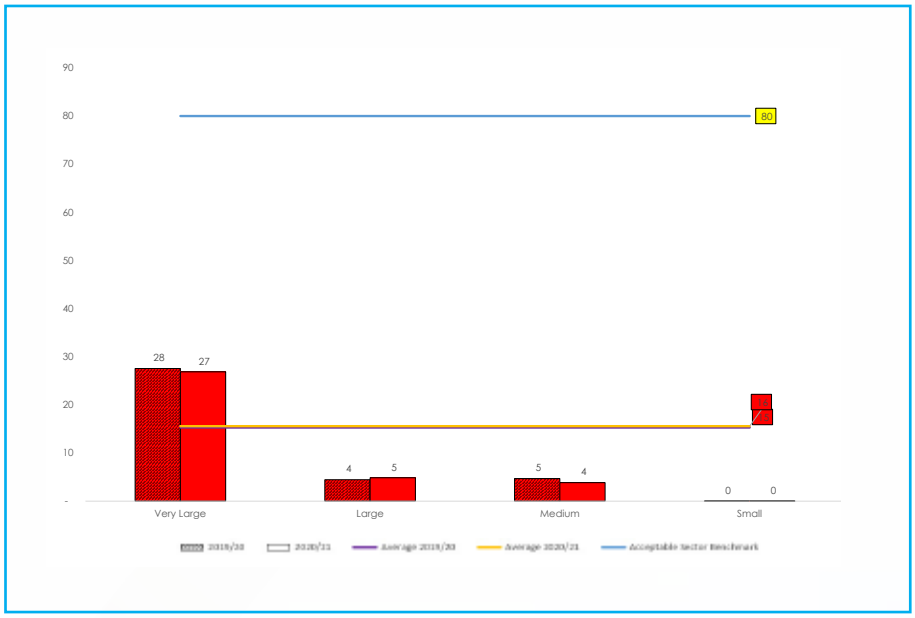
The sewered sanitation coverage in the current period improved from 15% to 16%. (Figure 3.10). The average number of people served per connection increased from 9.4 in 2019/20 to 12.8 in the current period. This, similar to water coverage, implies a continued decline in quality of service. The sewer coverage for the Very Large and Medium categories declined from 28% to 27% and 5% to 4% respectively. The decline in the Very Large category can be attributed to the shift of Malindi WSP

which has no sewer network. Further, an improvement in the Large category from 4% to 5% was recorded, while none of utilities in the Small category have sewerage services.

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

WASREB, recognizes that 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 Levy and Trade Effluent Surcharge and WSPs that offer or facilitate the development of on-site sanitation services 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

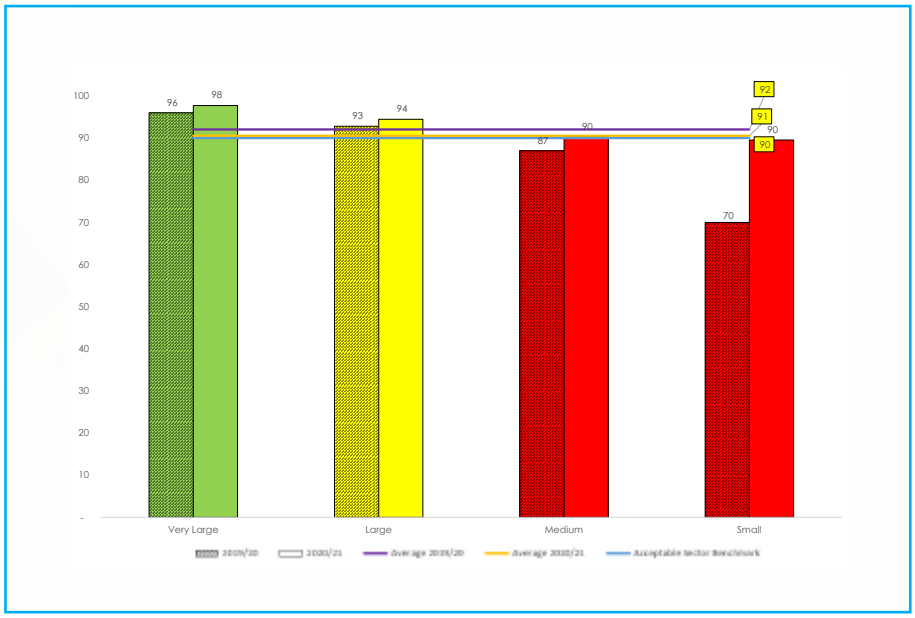
Drinking Water Quality (DWQ) measures the potability of the water supplied by a utility. It is a critical performance indicator since it has a direct impact on the health of consumers. This is a weighted composite indicator measuring compliance with residual chlorine standards (40%) and bacteriological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

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

The performance on this indicator improved by one percentage point to 92% which is within the acceptable range. An improvement was noted in all the size categories.

Figure 3.11: Drinking Water Quality, %



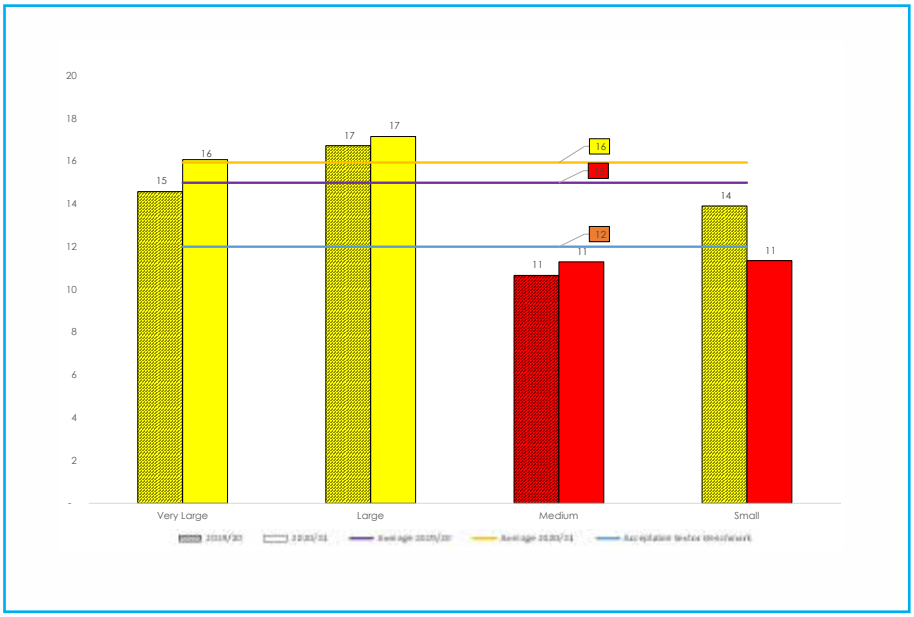
WASREB continues to monitor monthly reporting on water quality by the utilities and all utilities are required to put in place a water safety plan within the first year of issuance of a license.

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.

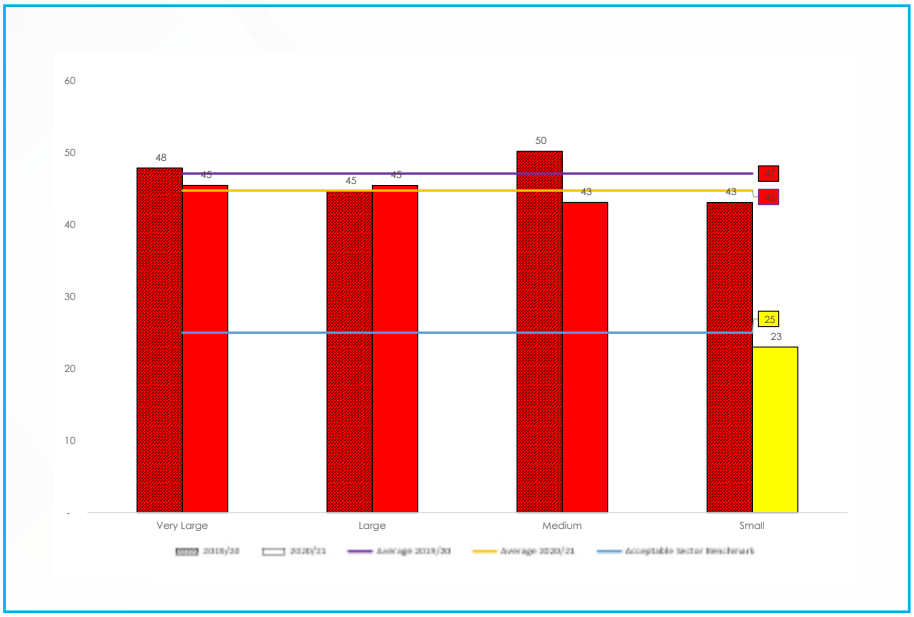


In 2020/21, average daily service hours improved from 15 to 16. All size categories except Small recorded an improvement. The Medium category continues to register a performance that is below the sector benchmark of at least 12 hours per day. The marginal improvement in reliability however, did not translate to increased consumption since the per capita consumption decreased from 31 litres per capita per day to 30 litres per capita per day. At an average household size of 3.9, this consumption translates to 3.2 cubic metres per month which implies a majority of the households still consume below the lifeline block of 6M^3 per month.

e) Non-Revenue Water

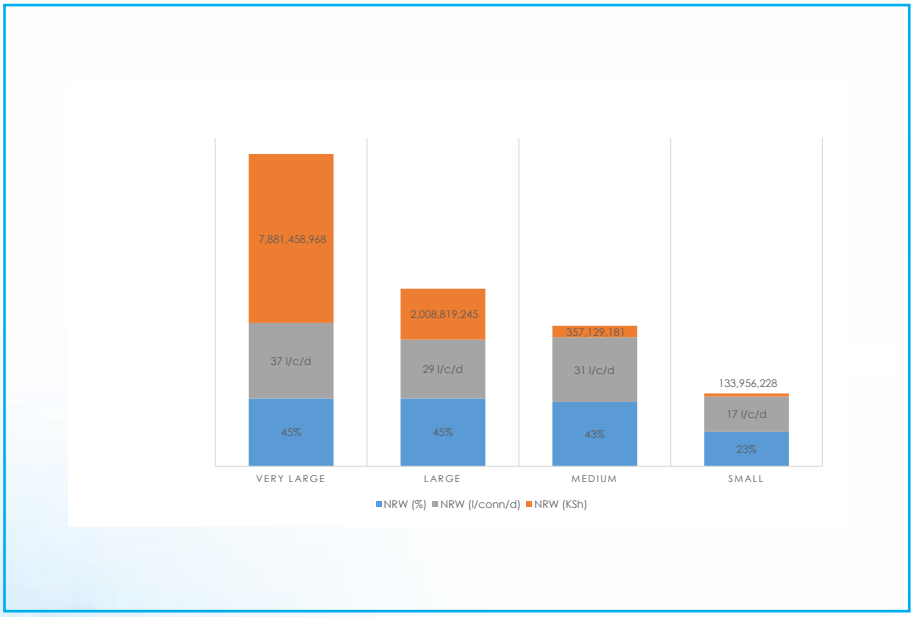
Non-Revenue Water is the difference between the amount of water put into the distribution system and the amount of water billed/unbilled as authorized consumption. It comprises of both commercial (apparent) losses and physical (real) losses. It is an operational indicator contributing to the sustainability 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 improved from 47% to 45% when compared to 2019/20. All the size categories except the large recorded an improvement with the biggest improvement being recorded in the small category.

Figure 3.14: Breakdown of NRW



In financial terms at the current average of NRW at 45% and the sector turnover of KSh 23.2 billion, against an acceptable sector benchmark of 20%, then conservatively, the sector is losing slightly more than KSh 10.5 billion. On the other hand, in terms of volume, the amount lost annually after allowing for the 20% acceptable level of losses is 113 million cubic meters. At the current per capita consumption of 30l/d, this is adequate to serve the six counties within the Coast region, that is Mombasa, Kilifi, Kwale, Taita Taveta, Tana River and Lamu, with a combined population of 4.4 million for approximately two years. It is therefore apparent that if these losses are prudently managed it can relieve the sector of the huge demand for additional investments.

To deal with this challenge, the Regulator has reviewed the NRW management standards to incorporate experiences from the last eight years of implementation. The review included introduction of new tools that will enhance management of NRW in the following areas;

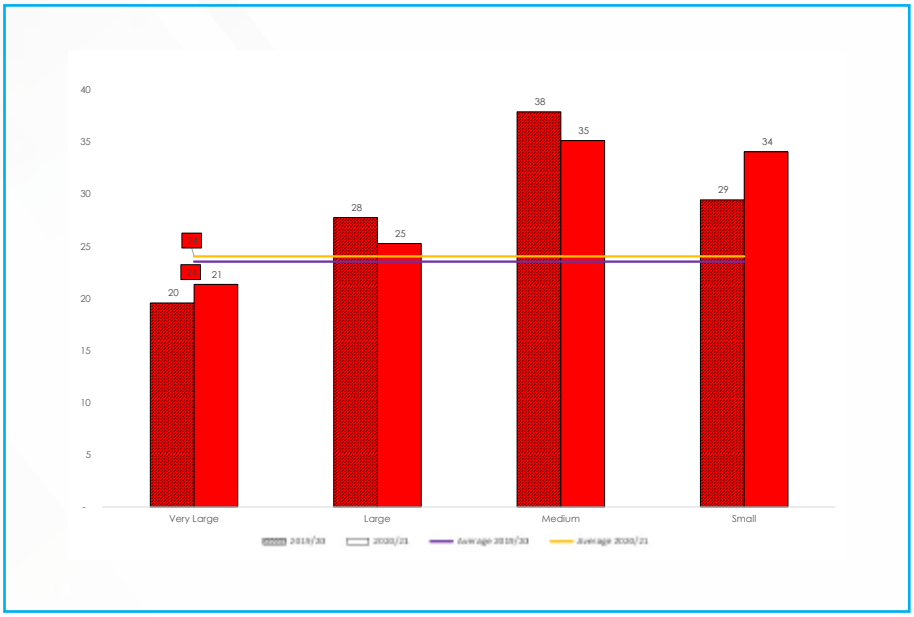
- ***Planning*:** Guided by the plan-do-check-adjust cycle, tools in this category shall enable annual review, capacity self-assessment, planning, and review of NRW reduction strategies
- ***Analysis*:** Here, the proposed tool shall assist utilities focus on result-based strategies mainly to reduce their commercial losses
- ***Monitoring*:** The tools here will enable utilities understand their NRW trends over time by combining several parameters that affect NRW
- ***Data Collection*:** Leveraging on technology, the tool here shall enhance smart data collection and management irrespective of the existing IT infrastructure.

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 ward off unregulated accounts.

Figure 3.15: Dormant Connections, %



In the reporting period, the proportion of dormant connections remained constant at 24%. The highest proportion of dormant connections remains to be at the Medium and Small categories with the level being 35% and 34% respectively. This implies utilities in these categories operate at less than 70% of their potential market. The Medium category utilities continue to record a very high number of dormant connections an indication of governance and demand-supply issues. The increase in proportion of dormant connections for the Very Large category is worrying, considering that this size category constitutes 61% of the total number of connections.

WSP	Dormant Connections, %
Olkejuado	79
Kapenguria	76
Tuuru	68
Amatsi	60
Kathiani	54
Mombasa	52
Embe	52
Lamu	52
Githunguri	50
Matungulu Kangundo	50

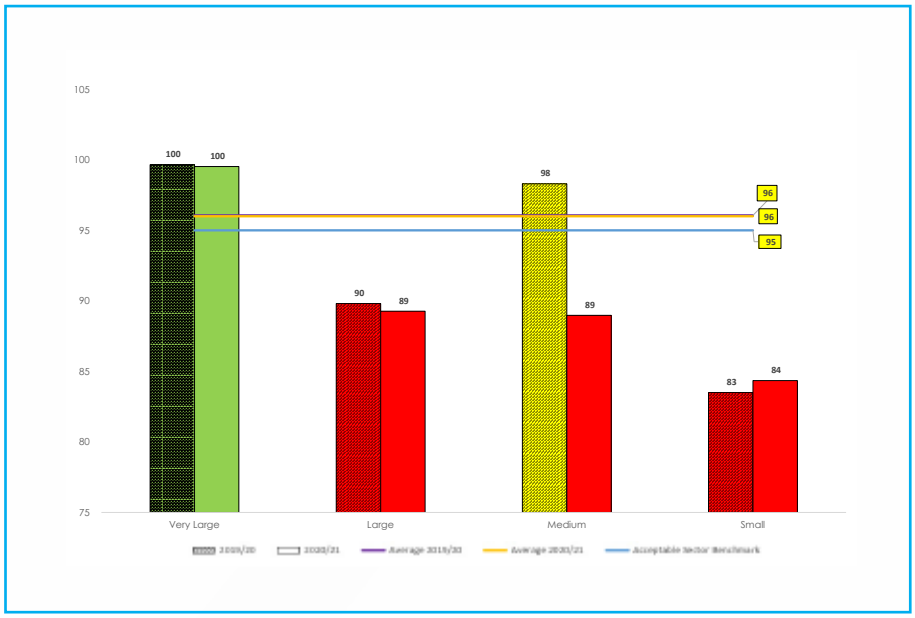
Some of the utilities where more than half of the connections are dormant include Olkejuado (79%), Kapenguria (76%), Tuuru (68%), Amatsi (60%), Kathiani (54%), Mombasa (52%), Embe (52%), Lamu (52%), Githunguri (50%) and Matungulu Kangundo (50%). Compared to the previous period, Olkejuado, Amatsi, Tuuru, and Mombasa have continued to register dormant connections of over 50% for four years in a row.

g) Metering Ratio

This quantifies the number of connections with functional meters as a proportion of the total number of active water connections. Metering of connections is designed to ensure that billing is based on actual consumption and hence customers only pay for what they use. As part of routine maintenance, the utility is expected to test the functionality of these meters on a regular basis, either by sampling them for calibration or by replacing the old ones through the implementation of a metering policy.

In 2020/21, the average metering level stagnated at 96%. Notably, WASREB requires utilities to keep a record of all operating meters, as well as, a record of meters that have been inspected and serviced.

Figure 3.16: Metering ratio, %



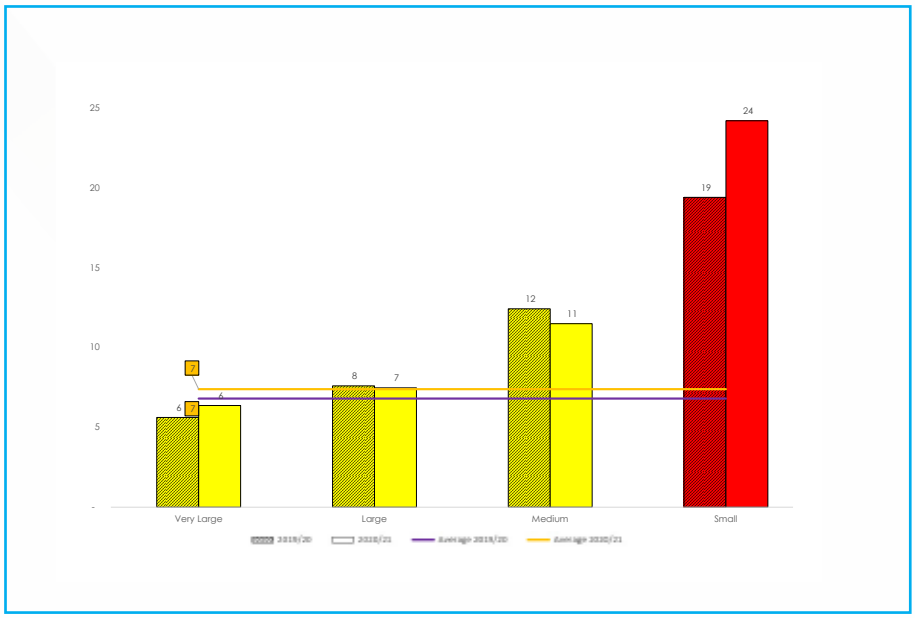
h) Staff Productivity (staff per 1,000 connections)

This refers to the number of personnel employed per 1,000 connections (total active water and, where applicable, sewer connections). It assesses the effectiveness of employee utilization. The size of a utility, the nature of human settlement (distance between connections and number of towns served), the skills mix and extent of outsourcing for services and whether a utility provides water alone or water and sewerage services together, among other things, all which have an impact on employee productivity.

When it comes to evaluating employee productivity, Large utilities are expected to gain from economies of scale. As a result, category-specific benchmarks exist depending on the utility's size.

For the fifth year in a row, performance in this indicator remained at seven staff per 1,000 connections. 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 outside the acceptable levels of sector performance with the same number of utilities (23) committing more than half their O+M expenditures to meet staff costs. Within the reporting period, only 13 up from 11 WSPs have a staff cost to O+M ratio of less than 30%.

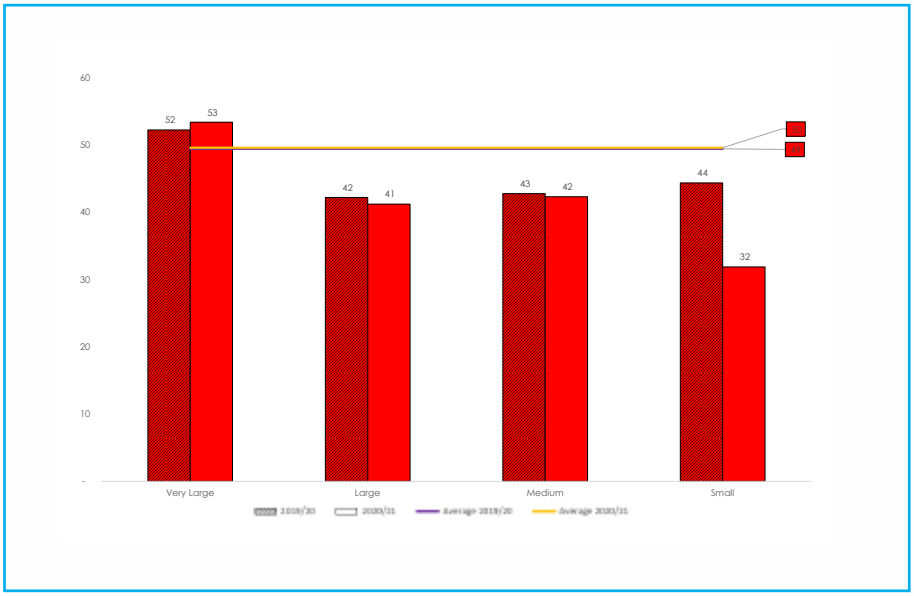
Figure 3.17: Staff Productivity, Staff No. per 1,000 Connections



i) Personnel Expenditure as a Percentage of O+M Costs

Personnel costs as a percentage of overall O+M costs determines if personnel costs are proportionate to overall O+M costs as defined by sector benchmarks.

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



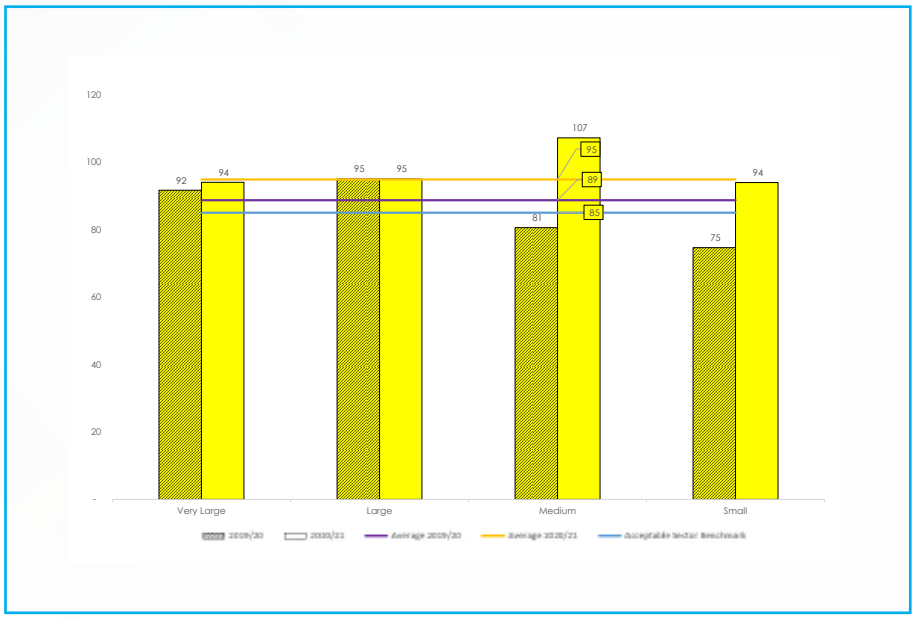
This indicator's performance declined marginally from 49% in 2019/20 to 50% in 2020/21. However, an improvement in performance is observed in all utility categories except in the Very Large category. When compared to the previous reporting period, the Small WSP category still performed significantly better. The performance of the Very Large category, at 53%, implies that more than half of the utility resources are used to cover personnel expenses, the majority of which are salaries and wages. If left uncontrolled, this trend could deplete resources for other operations, lowering the quality of services provided. Utilities with justified tariffs are anticipated to align their expenses with the projections determined in the tariff. WASREB will closely monitor to ensure that other elements of the utility operations are safeguarded.

The Regulator has published remuneration guidelines at the utility level, which are based on the level of business. Furthermore, the model HR guidelines are expected to provide direction to WSPs on proper human capital management, as well as, guidance during Collective Bargaining Agreement talks (CBAs). This indicator, together with NRW and O+M cost coverage, is at the heart of the WSPs' commercial viability assessment. Throughout the licensing procedure, these will be regularly monitored.

j) Revenue Collection Efficiency

Revenue Collection Efficiency measures coherence between collected revenues relative to billed amount. The indicator is a reflection of the effectiveness of the revenue management system in a utility. Importantly, only the collected amount can reliably fund the operations on the WSP.

Figure 3.19: Revenue Collection Efficiency, %



Overall performance in this indicator improved significantly from 89% in 2019/20 to 94% in 2020/21 with all categories surpassing the sector benchmark of 85%. This points to an improvement in billing and revenue management systems in most of the utilities.

k) Operation and Maintenance Cost Coverage

Operation and Maintenance (O+M) Cost Coverage is a measure of utility's ability to break-even in its operational costs, while relying on internally generated revenue. This indicator is a proxy measure for financial stability and resilience from external shocks. For instance, in the wake of COVID-19, the level of O+M Cost Coverage directly translated to utilities' ability to sufficiently provide services amidst the crisis linked to the pandemic. Essentially, an O+M coverage above 150% positions a utility at full cost coverage implying the financial muscle to meet its O+M costs, service debt and renew its assets.

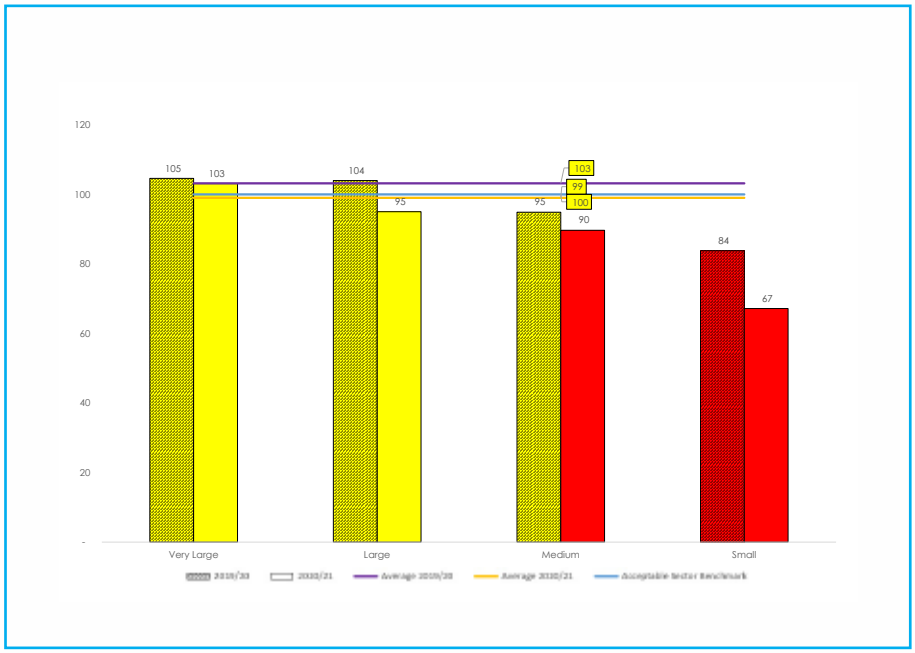
For a utility to be self-sustainable, the following levels of cost-coverage defined in Table 3.9 have to be met.

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 that is, able to meet O+M costs, service debt and renew its assets.

Figure 3.20: O+M Cost Coverage



The performance in this indicator registered a decline in all the size categories. Overall, this KPI registered a decline of four percentage points from 103% to 99%. 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.

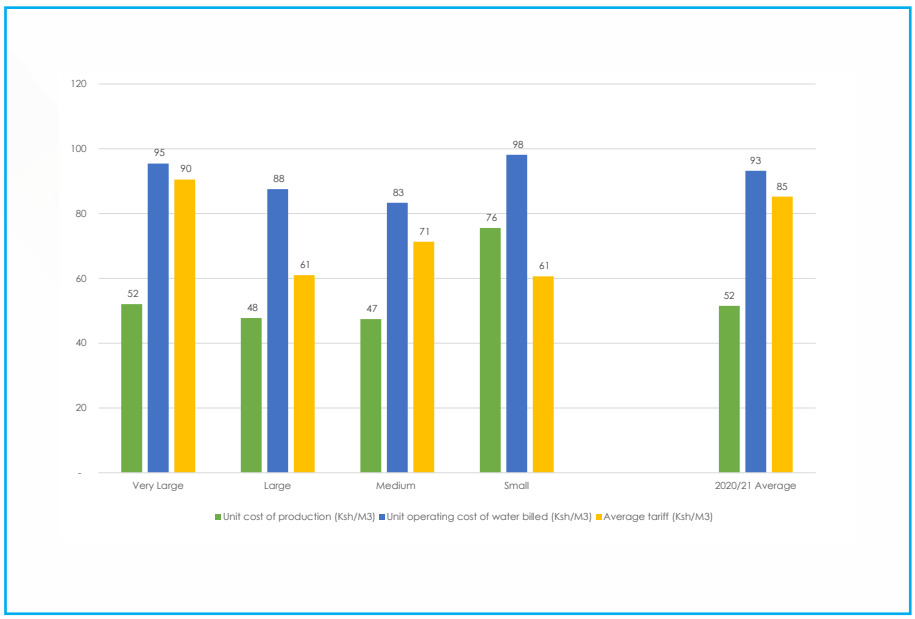
m) Comparison of Unit Cost of Production, Unit Cost of Water Billed and Average Tariff

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 a utility. Assuming that utilities were operating within the sector benchmark of NRW of 20% as opposed to the current 45%, the unit cost of water billed would be expected to be KShs. 70 per cubic meter as opposed to the current KShs. 93 per cubic meter, as shown in Fig 3.21. This means that the difference of KShs. 23 per cubic meter goes towards paying for inefficiencies of the utilities, instead of development of infrastructure. At the current average tariff of KShs. 85 per cubic meter, consumers are paying KShs. 15 per cubic meter for inefficiencies and the balance of KShs. 8 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, there was a slight increase in

unit cost of production. However, as a result of the reduction in NRW, the unit cost of water billed remained constant while the average tariff decreased from KShs. 88 to KShs. 85 per cubic metre. Considering that the revenue collection efficiency was 94%, the amount of actual revenue per cubic metre is KShs. 80. This is KShs. 13 lower than the unit cost of water billed. This deficit must be provided either as subsidy or a decline in quality of service.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.

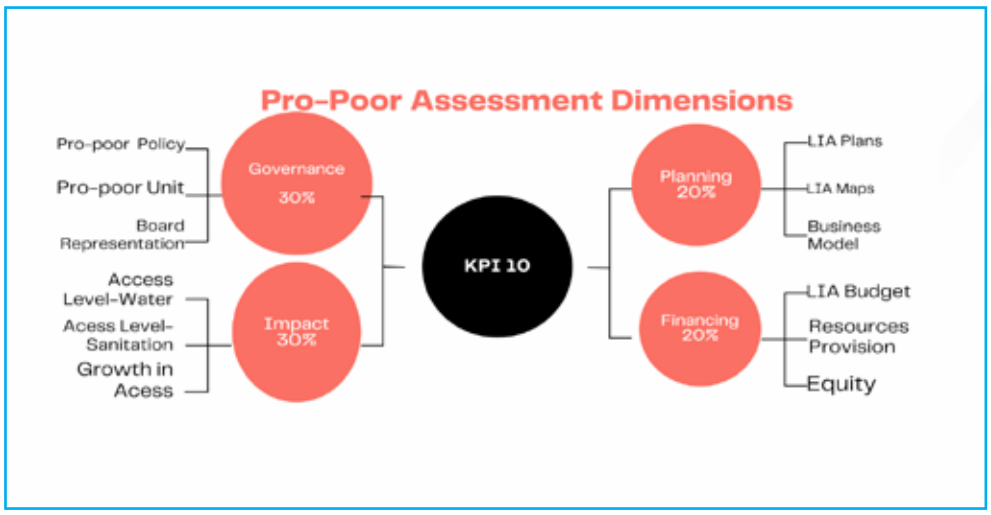
Figure 3.21: Tariff-Cost Comparison



n) Water Services in Low Income Areas

Rapid population growth in Kenya's urban areas has brought a strain on the existing water and wastewater infrastructure and has increased resources demand by Water Service Providers to cope-up with the rising demand for services. The strain is usually felt mostly by the low-income population. It is estimated that out of the 26 million people living in service areas of the 90 regulated utilities, close to 28% of the population is living in the Low-Income Areas (LIAs) with a majority of the population relying on limited services.

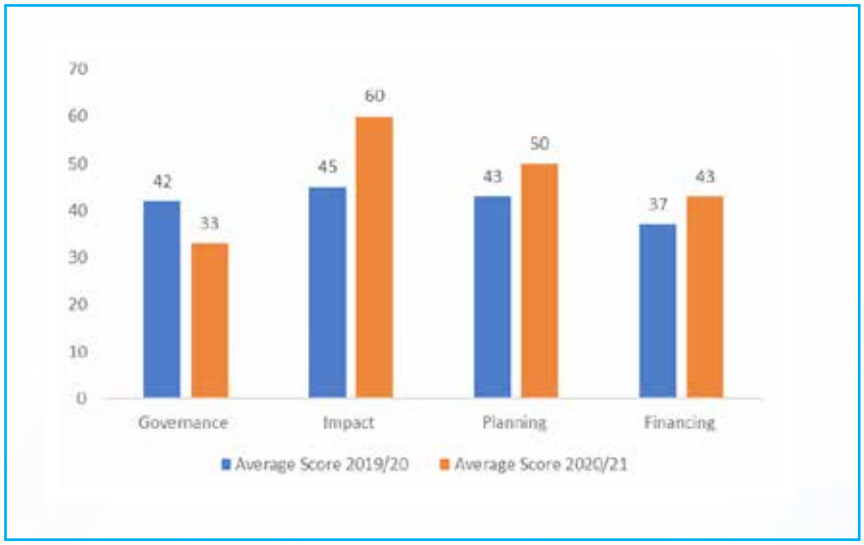
The Regulator and other stakeholders continue to push for improvement of services in the low-income areas through coordinated efforts in policy formulation, resource allocation and management and collaboration with key stakeholders, to systematically address the challenges experienced in provision of water and sanitation services to the underserved. In line with this, WASREB developed an indicator to monitor performance in the Low-Income Areas, that focuses on Governance, Planning, Financing and Impact.



In the reporting period 2020/21, 58 utilities were assessed on their efforts towards improving services in the low-income areas based on four main dimensions. This was an improvement from the 54 utilities assessed in the previous reporting period.

In the current reporting period, three dimensions recorded growth with only Governance recording a drop. In general, 50% of the utilities scored above the average score signifying a deliberate effort to attain inclusivity and equity in water services delivery. There was considerable growth in the Impact dimension by 15 percentage points which translates to the betterment of service delivery in the low-income areas.

Figure 3.22: Performance in Pro-poor Parameters



On individual utility performance, two utilities Nakuru and Nyeri scored the highest with a total score of 95%. This is an improvement from 92% and 76% respectively that the utilities scored in the last reporting period respectively. Nairobi came in second with a score of 91%, this is a positive indicator given that close to 50% (2.3M people) in the service area of Nairobi live in the low-income areas. Karuri and Olkejuado had the least scores with each utility scoring 4%.

3.5.5 Governance Assessment

The Water sector continues to face numerous challenges both at the national level and county level as the sector gears towards realization of Vision 2030 targets, as well as, the SDGs. The Regulator discernment is that such challenges will be adequately addressed through the entrenchment of good governance in management of the water and sanitation services.

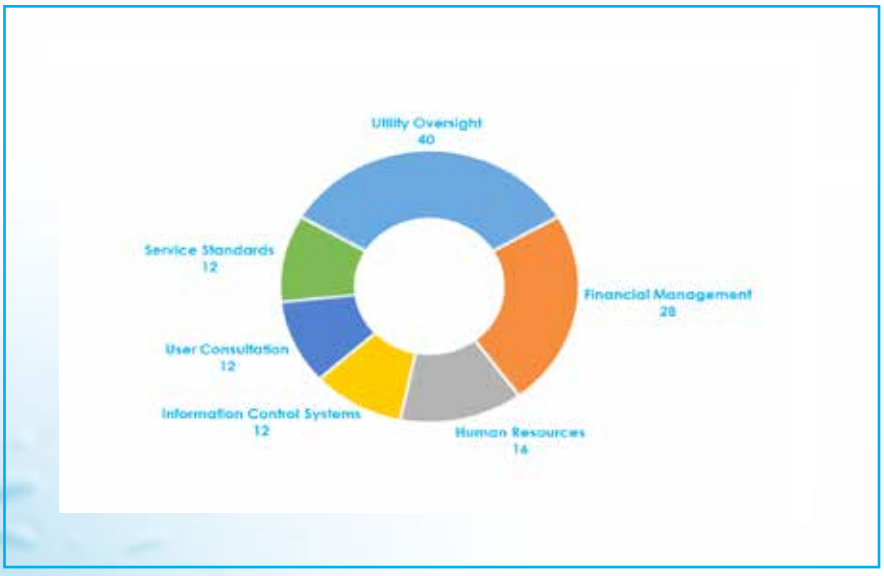
Good governance in the water sector must inculcate sound political, social, economic and administrative systems that promote prudent use of resources and adherence to good practices and policies that ensure sustainability, equity, and quality water and sanitation services.

Good governance of water resources is a salient pillar in the realization of a sustainable water utility. Improper resource management, inappropriate institutional frameworks, lack of operational efficiency frameworks, insufficient and inadequate human capital coupled with lack of adherence to set regulatory frameworks, are some of the challenges that continue to undermine good governance in Kenya's water sector.

To alleviate these challenges, WASREB in 2021 published the Water Governance Training Handbook for guidance and reference in training sector players on good governance in the water sector. The expectation is a more coordinated, performance-based training that will strengthen good governance.

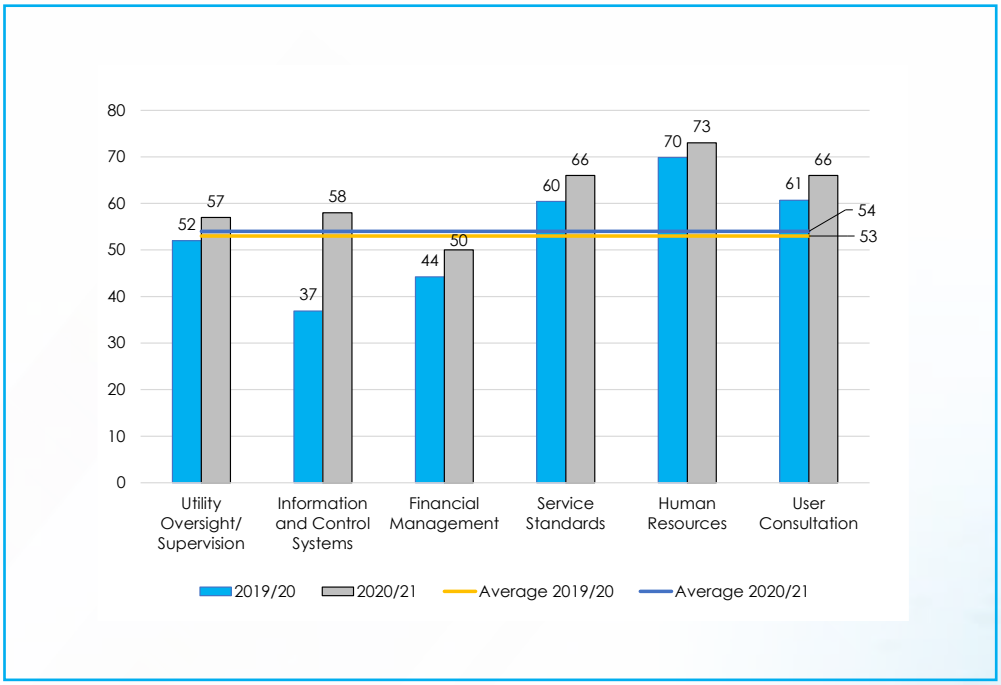
In 2020/21assessments, 88 utilities constituting 98% of all the reporting utilities were assessed based on six sub-indicators. Figure 3.23 shows these sub-indicators and their associated weights.

Figure 3.23: Good Governance Sub-Indicators



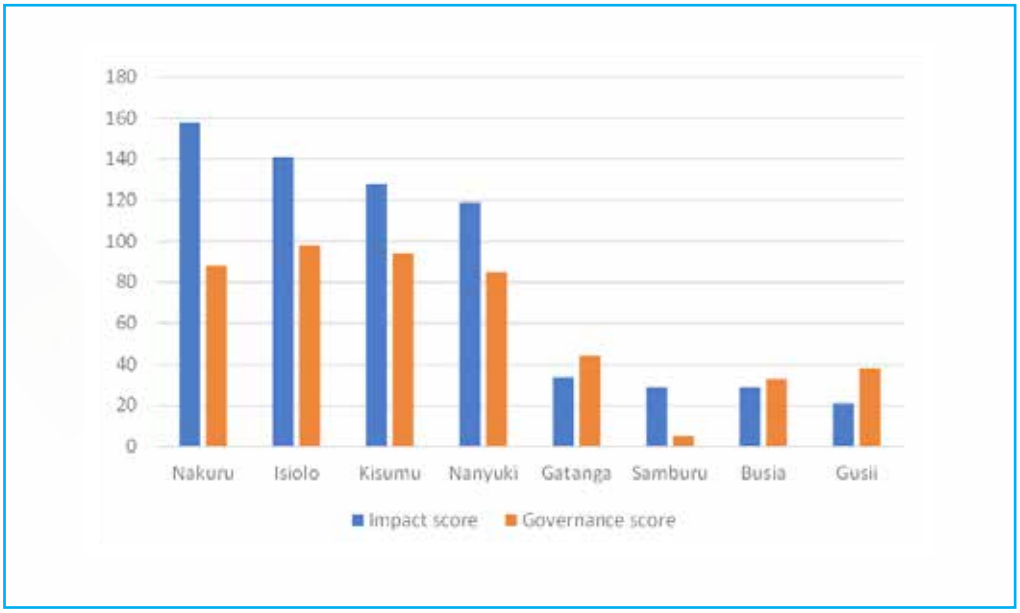
In the reporting period 2020/21, 51 utilities representing 57% of all reporting utilities scored at least 50% in the six sub-indicators. All the sub-indicators recorded at least 50% of the indictor score with Human Resources having the highest average score of 73%. Financial Management recorded the lowest average score at 50%. Overall, all the sub-indicators recorded an improvement compared to the last reporting period as shown in Figure 3.24.

Figure 3.24: Performance in Governance Indicators



A positive correlation is observed between the strength of good governance and the technical performance of a water utility. For instance, Isiolo with a governance score of 98% has a technical score of 71% while Gusii with a governance score of 38% has a technical score of 21%. Figure 3.25 shows a sample of utilities with their respective scores on technical performance and governance assessment.

Figure 3.25: Governance Score Vs KPIs Score, %



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 2021/21. 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 2020/2021 financial year as reported in WARIS and the unaudited financial statements for 2020/21.

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 48 utilities falls in these two categories. They represent 100% of the provided data for assessment. The performance summary of these 48 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	1	1	4	10	14	15	3
Rating	AAA	AA	A	BBB	BB	B	No Rating

A comparison of performance with the previous period shows that one utility Ruiru-Juja scored a "AAA" while the utilities that scored at least a "B" dropped from 33 in the last reporting period to 30 in the current reporting period. The performance of each of the 48 utilities assessed including performance in the previous period is presented in Table 3.12.

Table 3.12: Creditworthiness Index

WSPs	2020-21		2019-20		Change in Score
Ruiru-Juja	92	AAA	54	BBB	37
Embu	72	AA	57	BBB	15
Nakuru	68	A	61	BBB	8
Nyeri	68	A	71	A	-3
Ngagaka	65	A	60	BBB	6
Thika	62	A	49	BB	12
Ngandori Nginda	59	BBB	66	A	-8
Kahuti	57	BBB	51	BB	6
Nanyuki	56	BBB	46	BB	9
Isiolo	53	BBB	52	BBB	1
Mombasa	53	BBB	36	B	17
Mavoko	53	BBB	48	BB	5
Gatanga	52	BBB	n/a		n/a
Nithi	51	BBB	57	BBB	-5
Meru	51	BBB	55	BBB	-5
Imetha	51	BBB	48	BB	3
Murang'a	50	BB	72	AA	-22
Tetu Aberdare	49	BB	51	BBB	-2
Nzoia	49	BB	46	BB	3
Eldoret	48	BB	41	BB	7
Limuru	46	BB	41	B	6
Sibo	45	BB	38	B	7
Mathira	45	BB	46	BB	-1
Othaya Mukurweni	44	BB	47	BB	-3
Kisumu	44	BB	45	BB	-1
Kyeni	44	BB	40	B	3
Malindi	43	BB	32	B	11
Nyahururu	42	BB	59	BBB	-17
Garissa	41	BB	38	B	3
Kiambu	41	BB	38	B	3
Gatamathi	40	B	42	BB	-2
Nakuru Rural	40	B	38	B	3
Kitui	39	B	32	B	8
Busia	39	B	n/a		n/a
Murang'a South	38	B	31	B	7
Gatundu	37	B	41	B	-4
Kirinyaga	37	B	46	BB	-9
Karuri	36	B	44	BB	-8
Kikuyu	35	B	46	BB	-11
Tavevo	33	B	46	BB	-14
Kwale	32	B	30	NO RATING	2
Nairobi	32	B	58	BBB	-26
Kericho	32	B	32	B	0
Kakamega	31	B	42	BB	-11
Gusii	31	B	47	BB	-16
Oloolaiser	28	NO RATING	32	B	-4
Kilifi Mariakani	26	NO RATING	41	B	-15
Bomet	25	NO RATING	22	NO RATING	4

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

Table 3.13: Improvers

WSPs	2020-21		2019-20		Change in Score
Ruiru-Juja	92	AAA	54	BBB	37
Mombasa	53	BBB	36	B	17
Embu	72	AA	57	BBB	15
Thika	62	A	49	BB	12
Malindi	43	BB	32	B	11

Table 3.14: Bottom Losers

WSPs	2020-21		2019-20		Change in Score
Kilifi Mariakani	26	NO RATING	41	B	-15
Gusii	31	B	47	BB	-16
Nyahururu	42	BB	59	BBB	-17
Murang'a	50	BB	72	AA	-22
Nairobi	32	B	58	BBB	-26

3.6 Regulatory Interventions

Compliance to the legal and regulatory framework is crucial in driving utility performance. The establishment of utilities as vehicles for service delivery should be supported by an enabling environment if efficiency in service provision is to be realised. As the Regulator continues to support the County Governments and utilities in meeting their obligations, the following fundamental attitudes towards compliance with regulatory requirements have been discerned in the water services sector.

i. WSPs and other water operators are willing to comply with the law and regulatory requirements and are actively complying;

ii. WSPs and other water operators need more knowledge and understanding on their obligations in service delivery;

iii. WSPs are hampered by financial and human resource constraints in their capacity to comply. For Small category WSPs in particular, the burden of assimilating and complying with many complex and technical rules can be overwhelming and undermine confidence in the Regulator;

iv. WSPs and other water operators want to comply but the operating environment makes it difficult for them to comply especially catchment degradation and incomplete implementation of Transfer Plan;

v. Some WSPs and other water operators know the regulatory requirements and choose not to comply nor show any desire to comply; and

vi. To some WSPs and other operators, the benefits of non-compliance outweigh any benefits of compliance to the key management staff.

Appreciating this context, WASREB uses different approaches to achieve compliance based on the underlying attitudes. The following utilities have been sanctioned for various non-compliances as outlined in Table 3.15.

Table 3.15: Non-compliances by Utilities

S/NO	WSP	Non-compliance	Form of Sanction
1	Nyahururu Water and Sanitation Company	Non-compliance with the approved tariff	Rebate to customers and WSP penalized.
2	Nyeri Water and Sanitation Company	Non-compliance with the approved tariff	Rebate to customers and WSP penalized
3	Embu Water and Sanitation Company	Non-compliance with the approved tariff	Rebate to customers and WSP penalized
4	Nanyuki Water and Sanitation Company	Non-compliance with the approved tariff	Rebate to customers and WSP penalized
5	Eldoret Water and Sanitation Company	Non-compliance with the approved tariff	Rebate to customers and WSP penalized
6	Gusii Water and Sanitation Company	Non-compliance with governance standards	Termination of CLSG support
7	Kiambu Water and Sanitation Company	Non-compliance with governance standards	Withholding of CLSG support
8	Limuru Water and Sewerage Company	Non-compliance with governance standards	Withholding of CLSG support
9	Ruiru-Juja Water and Sewerage Company	Non-compliance with governance standards	Withholding of CLSG support
10	Kikuyu Water Company	Non-compliance with governance standards	Withholding of CLSG support
11	Karuri Water and Sanitation Company	Non-compliance with governance standards	Withholding of CLSG support
12	Githunguri Water and Sanitation Company	Non-compliance with governance standards	Withholding of CLSG support
13	Gatundu Water and Sanitation Company	Non-compliance with governance standards	Withholding of CLSG support

It should be noted that the County Government of Kiambu has appointed Board of Directors for the utilities which was one of the key non-compliance issues for the seven utilities.

CHAPTER 4

WATER SERVICES IN COUNTIES

ACCELERATING SECTOR PERFORMANCE THROUGH COLLABORATION WITH COUNTIES

County Governments have the responsibility to implement national water services standards and conditions set by WASREB in an effort to ensuring protection of consumer interests and rights. The County Governments are also required to adopt and implement cost reflective tariffs as per the legal and regulatory framework. For effective delivery of this mandate, counties need to establish autonomous Water Service Providers with authority to provide services but, still being held responsible to account for results.

County Governments are also required by the law to put in place measures to provide water services to rural areas that are considered to be commercially unviable. To actualise this, County Governments therefore need to devise and submit annually to WASREB and to the Cabinet Secretary in-charge of water affairs, a 5-year development plan incorporating investments and financing plans for provision of water services within their jurisdiction (Water Act 2016 (94).

4.1 Situation of Water Services in Counties

The population in the entire service area of regulated utilities is 26.3 million out of the total national population of 48.4 million. This translates to 54.3% of the population. This is an increase of 1.3 percentage points from the figure of 53% which was reported in the previous period. This is attributed to rampant migration to the urban areas by rural populations, owing to stimulus generated by devolution. In order to advance the rights to water and sanitation and ensure equity in service provision, the Regulator is mapping small scale operators both within and outside the service areas of regulated utilities. 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 County Governments are expected to build on these gains 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 both public and private regulated utilities.

The regulated utilities are not evenly distributed across the 47 counties though each has at least a regulated utility. These utilities They exhibit diverse characteristics in terms of size, number, capacity, and revenue, among others.

Table 4.1: Distribution of Number of Water Utilities by Counties

No of Utilities	1	2	3	5	6	10
No of Counties	27	10	5	3	1	1
Counties	Mombasa Kwale Tana River Lamu Taita-Taveta Garissa Wajir Marsabit Isiolo Turkana West Pokot Samburu Trans-Nzoia Uasin Gishu Elgeiyo Marakwet Narok Kericho Bomet Kakamega Vihiga Bungoma Busia Siaya Kisumu Homabay Kisii Nyamira	Kilifi Mandera Kitui Nyandarua Kirinyaga Nandi Baringo Laikipia Migori Nairobi	Meru Tharaka-Nithi Makueni Nakuru Kajiado	Embu Nyeri Murang'a	Machakos	Kiambu

27 counties have one regulated utility each while in two instances two utilities cut across two counties. These are Nzoia Water Services Company Limited, which serves Bungoma and Trans Nzoia counties; and Gusii Water and Sanitation Company Limited, which serves Kisii and Nyamira counties. Kiambu county has the highest number of regulated utilities at 10 (eight public and two private), followed by Machakos county with six regulated utilities.

Table 4.2: General County Data with selected indicators

County ID	County Name	Population in the County*	Percentage of County population within service areas of Utilities (%)	INDICATORS			
				Population served in the county, %	O+M Cost Coverage (%)	NRW (%)	Sewerage Coverage (%)
001	Mombasa	1,235,229	100	54	95	53	9
002	Kwale	888,509	60	18	87	59	0
003	Kilifi	1,488,192	100	72	90	39	0
004	Tana River	323,530	52	17	97	70	0
005	Lamu	148,158	23	20	50	41	0
006	Taita-Taveta	346,272	100	26	80	37	0
007	Garissa	863,182	16	12	n.c.d.	40	7
008	Wajir	793,195	10	2	n.d.	n.d.	0
009	Mandera	867,457	27	5	26	49	0
010	Marsabit	476,647	9	n.d.	n.d.	n.d.	n.d.
011	Isiolo	280,473	34	30	105	31	9
012	Meru	1,564,655	39	23	101	32	7
013	Tharaka-Nithi	395,962	52	23	142	50	0
014	Embu	617,838	84	64	129	39	5
015	Kitui	1,148,535	53	34	81	51	0
016	Machakos	1,454,267	60	28	89	38	15
017	Makueni	997,966	51	13	81	30	0
018	Nyandarua	642,491	29	11	89	47	0
019	Nyeri	765,725	78	45	119	30	21
020	Kirinyaga	618,647	80	45	106	60	0
021	Murang'a	1,068,046	100	67	100	45	12
022	Kiambu	2,497,180	91	69	111	33	28
023	Turkana	934,134	10	4	n.c.d.	45	0
024	West Pokot	632,096	30	2	51	69	0
025	Samburu	318,965	99	24	21	44	0
026	Trans-Nzoia	1,007,499	50	23	98	49	20
027	Uasin Gishu	1,190,087	42	33	135	42	28
028	Elgeiyo Marakwet	462,928	16	6	94	32	0
029	Nandi	898,986	12	6	70	35	0
030	Baringo	677,883	17	11	48	62	0
031	Laikipia	530,493	43	41	115	40	48
032	Nakuru	2,218,090	59	50	114	36	26
033	Narok	1,188,568	9	3	81	11	0
034	Kajiado	1,160,893	72	22	75	46	5
035	Kericho	916,715	42	15	81	53	10
036	Bomet	890,245	17	10	44	55	0
037	Kakamega	1,888,272	22	13	79	43	18
038	Vihiga	593,552	46	6	58	30	0
039	Bungoma	1,700,121	23	6	98	49	20
040	Busia	908,655	35	16	79	49	1
041	Siaya	1,008,271	67	22	98	70	0
042	Kisumu	1,174,241	40	35	102	32	23
043	Homabay	1,148,766	19	10	65	44	2
044	Migori	1,136,363	29	8	74	46	0
045	Kisii	1,278,318	48	15	88	58	9
046	Nyamira	606,308	34	22	88	58	9
047	Nairobi	4,522,943	100	88	99	50	50
		48,475,546	**54**		**99**	**45**	**16**

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

*Source: 2019 National Census, KNBS

4.2.1 Access to Water Services

During the period under review, more than half, specifically 54.3% of the national population live in areas served by regulated utilities.

The county water coverage was led by Nairobi at 88%, followed by Kilifi at 72% and Kiambu at 69%. The counties with the least coverage were Wajir and West Pokot at 2% followed by Narok at 3%. (Table 4.3).

Table 4.3: Water Coverage in the Counties: Top and Bottom 10

Table 4.3(a): Top 10

County	Population served	
	Population served in the county, no.	Population served in the county, %
Nairobi	3,978,496	88
Kilifi	1,068,989	72
Kiambu	1,724,220	69
Murang'a	710,468	67
Embu	392,829	64
Mombasa	667,312	54
Nyamira	324,833	54
Nakuru	1,113,811	50
Nyeri	346,811	45
Kirinyaga	279,355	45

Table 4.3(b): Bottom 10

County	Population served	
	Population served in the county, no.	Population served in the county, %
Homabay	109,590	10
Migori	91,660	8
Elgeiyo Marakwet	28,611	6
Nandi	52,915	6
Vihiga	34,080	6
Mandera	46,628	5
Turkana	41,200	4
Narok	38,314	3
Wajir	19,500	2
West Pokot	14,988	2

4.2.2 Sanitation Coverage

As applied in this report, sanitation incorporates both onsite (facilities like latrines, septic tanks) and offsite (sewered) systems.

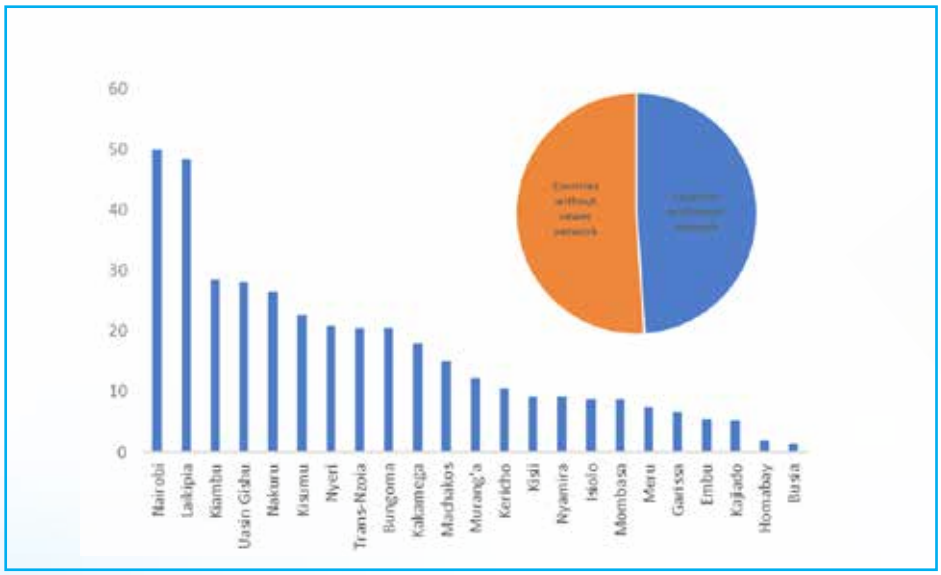
According to the Kenyan Constitution of 2010, every Kenyan has a right of access to basic sanitation. However, during the period under review, access to sewered sanitation services remained low at 16% coverage. Only 23 out of the 47 counties had

sewerage systems up from 22 in the previous reporting period with Kajiado being the additional county. Even with the existence of the sewerage system in these counties, some customers were yet to be connected for the service. However, considering the huge capital investment required for sewerage system development, universal access to sewered sanitation services appears untenable by 2030 (Vision 2030 Goal). This target has now been revised under the National Water and Sanitation Investment Plan (NAWASIP)frame work to 40% sewered and 60% non-sewered in urban areas.

Onsite sanitation is fairly covered at 77% nationally, with most of the counties being declared open defecation free. In fact, there have been some milestones achieved in most of the counties through Up-scaling Basic Sanitation for the Urban Poor (UBSUP) programme, in which utilities have been supported through Water Sector Trust Fund (WSTF) to improve in sanitation services. The UBSUP programme continued to offer a reasonable and an affordable solution for accelerating the achievement of target 6.2 of Sustainable Development Goal (SDG) 6. To achieve the goal of access to sanitation for all by 2030, an integrated approach to solving sanitation challenges is needed.

It is therefore, the duty of both levels of government to devise new ways that are cost effective, easy to implement and are flexible to the needs of customers.

Figure 4.1: Counties with Sewerage Services



Nairobi with access levels of 50% is the only county with at least half the population having access to sewered sanitation services. Busia and Homabay have almost negligible access levels at 1% and 2% respectively.

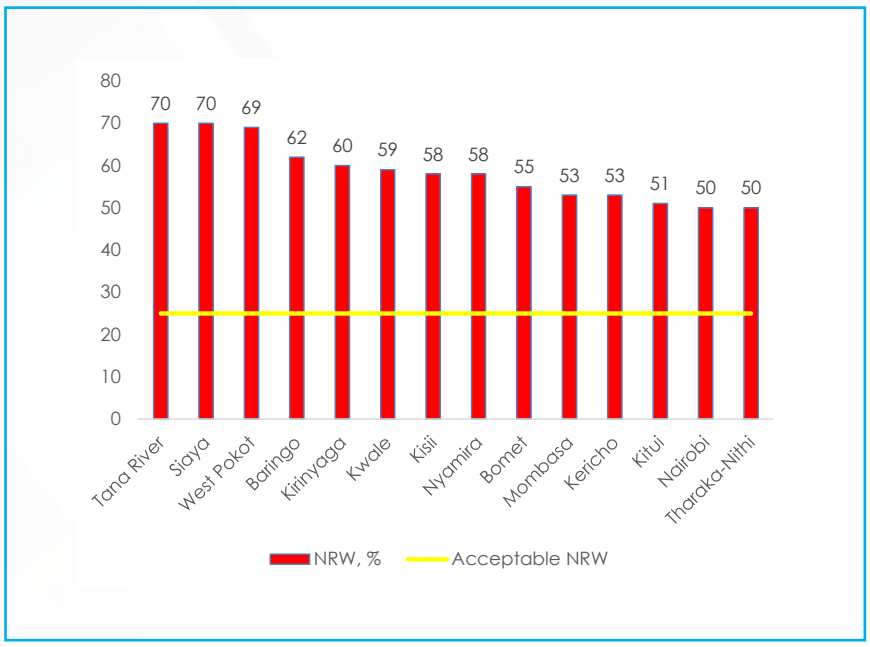
4.2.3 Reduction of Non-Revenue Water

Water loses continues to be the biggest challenge to a majority of counties. It is worrying that 14 counties, lose more than 50% of the water they produce. Tana River and Siaya counties have the highest losses at 70%. Looking at the current period and comparing with the previous period, the unit cost of water produced increased from Kshs. 49 per cubic meter to Kshs. 59 per cubic meter. On the other hand, there has been a marginal change in unit cost of water billed from KShs. 93 per cubic metre to KShs. 94 per cubic meter. If this state of affairs is not mitigated, a great risk at that, it will undermine the progressive realization of the right to water as is enshrined in the constitution. In addition, 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 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 significantly be reduced to acceptable levels. This, therefore, calls 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 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, 14 Counties recorded water losses in excess of 50% as shown in Figure 4.2.

Figure 4.2: Counties with NRW Exceeding 50%

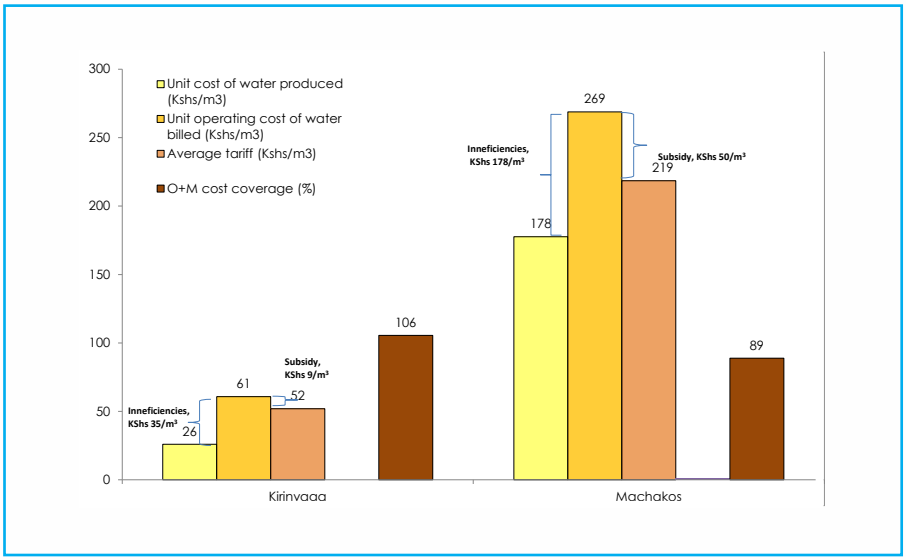


4.2.4 Recovery of O+M Costs

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 110% is desirable. The main driver for this indicator is the tariff coupled with adherence to sector benchmark on costs. Counties should support their utilities in ensuring that justified tariffs are in place while ensuring that there are good governance practices at the utilities. 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.

It should be noted that the cost of service can differ in different areas because of the operating environment and efficiency of the utilities in that county. To illustrate this, the case of Kirinyaga and Machakos is shown below.

Figure 4.3: Disparities in Operating Environments



Kirinyaga has unit cost of water production at KShs. 26 per cubic metre compared to KShs. 178 per cubic metre for Machakos. Factoring inefficiencies, the unit cost of water billed increases to KShs. 61 for Kirinyaga and KShs. 269 for Machakos. This means that the per unit inefficiency costs are KShs. 35 and KShs. 91 respectively. The average tariff recorded was KShs. 52 and KShs. 219 respectively which means a subsidy of Kshs. 9 and Kshs. 50 is required for Kirinyaga and Machakos counties respectively. 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 services provided are guaranteed.

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 up from 61% to 64% against the sector benchmark of 20%. It is followed by Kericho at 60% and Kirinyaga at 55%. The counties which have this ratio exceeding 50% are given in Table 4.4.

Table 4.4: Counties with PE Ratio Exceeding 50%

County	PE Ratio, %
Nairobi	64
Kericho	60
Kirinyaga	55
Turkana	54
Isiolo	53
Laikipia	50

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. 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 12 counties down from 19 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 including supporting technology adoption such as solarization of water system to improve efficiency. 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 County Emerging 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. To realise these, the counties should put in place a robust monitoring and evaluation framework so as to ensure the performance of the WSPs in on the right trajectory towards achieving universal access by 2030. 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;

1. Aligning the county legal frameworks with the national policies and laws governing water services provision;
2. Aligning county strategic plans with the national investment plans, as well as, ensuring coordinated planning between the county and its entities example, the WSPs;
3. 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 Underserved Areas, including the clustering and management of the Rural Water Services;
4. Jointly with the Water Works Development Agencies (WWDAS) ensure proper handover of assets;
5. Management and reporting on bulk supply issues within the county service area; and

Provision of agreed subsidies to enable utilities to meet their obligations.

CHAPTER 5

CONCLUSION

FAR FROM MEETING SECTOR TARGETS!

The countdown to 2030 is fast ticking and deliberate actions by all key actors is required for the targets to be realised. Utilities continue to be central in this endeavour, however, availability of an enabling environment is critical and in pursuit to this, Governments at both levels must lead the change. It is therefore incumbent upon the County Governments as duty bearers to ensure that formalization of water services is extended to the non-regulated areas including rural areas so as to realize the gains of commercialization of water services.

It is noted that the Ministry recently launched key policy documents, namely the National Water Policy, the National Water and Sanitation Strategy (2020-2025) and the Water Services Regulations 2021. These instruments provide a framework for the devolved units to build on, in formulation of county policy documents. Similarly, utilities must strive to comply to the existing legal and regulatory framework. Any interventions at the utility level including support by partners must be mirrored against compliance so as to act as an incentive to compliant utilities.

By way of conclusion, it is recommended that focus is put on various areas as indicated below:

5.1 Enhance Collaboration

Provision of water services is a shared function between the two levels of government. The National Government recently launched key guiding policy documents which include the National Water Policy, National Water Services Strategy, as well as, the Water Services Regulations. These critical policy documents are expected to guide in implementation of the functions shared between National and County Governments. Critical in these shared functions is investment planning, which for a long time has suffered from inadequate coordination, thereby impacting negatively on targeting, as well as, efficient use of the scarce resources for investment.

5.2 Enhance Sustainability

Performance of utilities is key in the progressive realization of the right to water services. However, many poor performing utilities continue to operate on non-cost reflective tariffs. The decline in the level of cost coverage is counter to this aspiration. A cost recovery of less than 110% which is 11 percentage points higher than the current level cannot guarantee the present level of service. This trend if left unchecked, will deny the utilities of the much-needed resources to expand access to services. Utility managers in collaboration with County Government authorities need to ensure that their utilities are operating on cost reflective tariffs in order to support in closing of the existing investment gap. In the rural areas, counties are encouraged to work with the Regulator in streamlining of services in these areas including, embracing economies of scale to improve efficiency.

5.3 Reduce Water Losses

A marginal reduction of two percentage points in NRW was recorded during the period. At the current NRW level of 45% and sector turnover of KShs. 23.172 Billion, the sector is losing approximately KShs. 10.53 Billion after factoring in the acceptable level of losses of 20%. Utilities are expected to work towards meeting their commitments in the licence document. Further, the recently revised NRW management standards are expected to assist the utilities in dealing with water losses. The guidelines are focused on Planning, Analysis, Monitoring and Data Collection for NRW and is expected to translate to improved performance in this indicator. Addressing NRW however requires concerted efforts by all actors and efforts to deal with this should be sustained.

5.4 Enhance Inclusivity

The proportion of national population served by regulated utilities increased marginally from 53% in 2019/20 to 54% in the current period. The balance of 46% plus the unserved population of 40% within regulated areas currently gets services from unregulated or informal service providers. Further aggravating the situation, is the fact that majority of this unserved population are either in low-income areas or reside in the rural areas. The Regulator has commenced a process of mapping of all the small-scale providers both within and outside service areas of regulated utilities with the intention of commencing the licensing of this category of providers in line with the guideline on Provision of Water Services in the Rural and other Underserved Areas. Building on this initiative counties are expected to put in place enabling policies and regulations to support the formalization of services. The next edition of the sector report is expected to give an indication of types of water services access available to Kenyans as part of its mandate under section 75(1) of the Water Act 2016.

5.5 Improve Governance

There continues to be a positive correlation between technical performance evidence of utilities with poor performance and governance. The case of Gusii WSP best exemplifies this correlation. The WSP has a score of 38% in Governance with a technical score of 11% and a creditworthiness index of 31%. This is contrary to the case of Nyeri with 90% in Governance with a technical score of 90% and a creditworthiness index of 68%. The assessment of utility performance on this indicator along with the Regulator's interventions in this area are expected to lead to an improvement in this area. Realising results out of these interventions requires time and calls on all key actors in this area mainly the County Governments to sustain their efforts in this endeavour. The recently launched Water Governance Training Handbook provides a standardized platform for training of key stakeholders on key

governance requirements. The Regulator will continue to assess and report on utility performance in this area, as well as, link support to the utilities on their compliance to legal and regulatory requirements.

5.6 Management of Water Resources

Rapid population increase mainly in the urban areas will continue to put a strain on demand for services. Consequently, as the need for water services increases, so will the demand for water resources increase. The later however continues to be threatened by pollution, as well as, climatic conditions which impact on water resources quality and availability respectively. The foregoing calls for increased efforts in management and development of water resources. To realise this, better coordination in planning and financing both at the national and regional levels is required. Effective water resources management requires a basin management approach that respects natural boundaries, so as to ensure a need-based allocation of the resources. The degree of integrated water resources management is used to assess performance in this area (SDG target 6.5).

5.7 Digitalisation as an Emerging Front for Utilities

Kenya has witnessed an increasing focus on digital services across sectors, coupled with transformational developments in digital technologies. Together, these developments are engendering dramatic new opportunities for water and sanitation service innovation.

WASREB and Kenyan water utilities are operating in a rapidly changing technological environment. The rate of emerging technologies in information systems, mobile technologies and smart water and sanitation management systems, will require

WASREB to not only adopt the affordable technology, but also guide the sector in keeping up with the technologies that will easily be scaled up and yield value for money.

Recognising the potential of these technologies and approaches, WASREB is committed to supporting utilities to leverage on digitalisation to strengthen all aspects of utility operations. In the coming months, WASREB will undertake a review of existing utility Consumer Engagement Guidelines, to ensure the guidelines provide enhanced support to utilities in the area of digitalisation.

Alongside these efforts, important new research conducted by GSMA Digital Utilities Programme and Water and Sanitation for the Urban Poor (WSUP) examined the level of digital adoption by four utilities. These utilities; Kisumu, Malindi, Nairobi and Nakuru, were all found to have made great strides in adopting digital technologies. Four opportunities identified by the research and which WASREB perceives to have strong potential to support improvements in this area, are outlined below:

- Addressing the pros and cons of digitalisation initiatives in regulatory guidance for the sector. Currently, there is limited hard data on the benefits of different aspects of utility digitalisation for water and sanitation. Documenting and sharing these benefits between utilities will help to inform investment decisions

- Strengthening peer learning between utilities to support effective implementation. In WASREB's experience, knowledge transfer between utilities can be a powerful driver of change. There is scope for WASREB and other stakeholders to support in convening utilities to share experience in this area, including sharing information on market offerings, price, customer data protection issues and quality benchmarks

- Sharing lessons on advanced metering known as Pay as You Go (PAYG) and network monitoring and control. As outlined by the researchers, these technologies have strong potential to address the technical losses of NRW. Since these are hardware-heavy investments, sharing lessons on price and quality will be important

- Sharing information on digitally enabled financing solutions. As outlined by the researchers, innovative and flexible financing is already underway, with the entrance of new players and the development of new funds by existing players. With progress in this area moving quickly, there will be opportunities for information to be shared on which investments and partnership models improve services most effectively. Digital adoption is increasingly within reach for Kenyan water utilities. WASREB recognises there is a critical role to play in ensuring utilities receive the necessary support, including but not limited to regulatory guidance; this will be an important area of activity in the months and year ahead.

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 The average household size is derived from the census data and is unique for each area The allowed per capita consumption is 20l/c/day and 10l/c/day for domestic and communal water points respectively
		Population served through yard taps-B	Total No. of active yard taps * Average No. of households served by a yard tap * Average household size Allowed range of average number of households per yard tap is 4-10
		Population served through small MDUs-C	Total No. of active small MDUs * Average No. of households per small MDU * Average household size Allowed range of average number of households per small MDU is 4-10
		Population served through medium MDUs-D	Total No. of active medium MDUs * Average No. of households per medium MDU * Average household size Allowed range of average number of households per medium MDU is 11-20
		Population served through large MDUs-E	Total No. of active large MDUs * Average No. of households per large MDU * Average household size Allowed average number of households per large MDU is >21
		Population served through Kiosks-F	Total No. taps (depends on kiosk type) * Average No. of people served per tap Allowed range for kiosks is 100-400 people Sublocation population is derived from Census data and growth rates applied appropriately
		Number of people served	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 bacteriological 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 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 A	Sum of billing for water, sewerage and other services Billing for other services include charges on connection and reconnection, illegal connections, meter rent, meter testing , replacement of stolen meters and exhauster services.
		Total operating expenditures B	Sum of expenses on personnel, BoD, General admin, direct operations, maintenance and levies and fees. 1. Direct operational expenditures include electricity, chemicals and fuel for vehicles. 2. Levies and fees include water abstraction fees,WSB fees,effluent discharge fees and regulatory levy.
		Operation and Maintenance Cost Coverage	(A/B)*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)	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	The total number of staff divided by the total number of connections within the WSP service area	Total number of staff in the utility/(total number of active water connections + total number of sewer connections)

ANNEX 4: ASSESSMENT OF DRINKING WATER QUALITY

Utility	DWQ - Residual Chlorine (%)	DWQ - Bacteriological Quality (%)	DWQ (%)
Nairobi	96	87	91
Eldoret	95	100	93
Mombasa	99	97	93
Nakuru	99	100	99
Nzoia	100	100	93
Kisumu	100	100	93
Nyeri	100	100	100
Thika	82	89	86
Murang'a South	100	100	93
Ruiru-Juja	86	100	93
Kakamega	100	88	93
Gatundu	93	85	88
Kirinyaga	100	100	100
Embu	100	100	93
Kilifi Mariakani	97	89	92
Kericho	100	100	93
Malindi	100	100	100
Othaya Mukurweni	100	100	93
Nakuru Rural	100	100	93
Tavevo	99	97	93
Mathira	100	100	93
Kahuti	100	100	100
Murang'a	100	99	93
Nanyuki	100	100	100
Nyahururu	100	100	93
Garissa	-	-	-
Bomet	97	100	93
Gusii	94	100	93
Kikuyu	64	41	51
Meru	100	100	100
Kwale	99	97	93
Ngandori Nginda	100	100	93
Sibo	99	68	80
Nithi	100	95	93
Kitui	100	34	61
Tetu Aberdare	99	100	93
Mavoko	96	34	59
Gatanga	77	100	91
Busia	97	100	93
Isiolo	99	100	93
Gatamathi	98	79	86
Ngagaka	100	89	93
Kiambu	86	100	93
Oloolaiser	90	91	91
Limuru	99	70	82

Utility	DWQ - Residual Chlorine (%)	DWQ - Bacteriological Quality (%)	DWQ (%)
Imetha	97	100	93
Kyeni	-	35	21
Karuri	100	90	93
Githunguri	44	62	54
Machakos	91	88	90
Lodwar	-	-	-
Amatsi	92	85	88
Naivasha	100	100	93
Tuuru	90	100	93
Kibwezi Makindu	100	98	93
Nol Turesh Loitokitok	90	73	80
Homabay	95	95	93
Nyandarua	93	35	58
Embe	100	100	93
Narok	92	92	92
Tana	-	-	-
Kapsabet Nandi	-	-	-
Migori	100	85	91
Murugi Mugumango	-	-	-
Chemususu	86	83	84
Lamu	96	56	72
Kirandich	82	33	53
Kiambere Mwingi	89	100	93
Mandera	92	100	93
Iten Tambach	99	98	93
Olkejuado	-	-	-
Ol Kalou	44	36	39
Muthambi 4K	-	-	-
Samburu	96	82	88
Wote	100	100	93
Kapenguria	100	39	63
Naromoru	-	-	-
Rukanga	99	78	86
Yatta	100	44	67
Wajir	-	-	-
Matungulu Kangundo	-	39	23
Elwak	-	-	-
Kiamumbi	99	97	93
Mbooni	36	28	31
Nyasare	100	90	93
Kathiani	-	-	-
Runda	100	100	93
Tachasis	77	78	77
Mwala	100	39	63
Tatu City	100	100	100

ANNEX 5: GOVERNANCE ASSESSMENT

#	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%	
		19/20	20/21	19/20	20/21	19/20	20/21	19/20	20/21	19/20	20/21	19/20	20/21	19/20	20/21	19/20	20/21
1	Isiolo	35	39	12	12	26	27	12	12	16	16	12	12	113	118	**94**	**98**
2	Kisumu	36	40	12	12	19	25	12	12	12	12	12	12	103	113	**86**	**94**
3	Runda	24	36	8	12	20	28	9	12	12	12	12	12	85	112	**71**	**93**
4	Nyeri	32	40	4	12	14	26	12	8	16	12	12	10	90	108	**75**	**90**
5	Kericho	32	40	8	12	11	16	12	12	12	16	10	12	85	108	**71**	**90**
6	Tatu City	21	40	0	8	16	20	6	11	16	16	4	12	63	107	**53**	**89**
7	Nakuru	40	32	12	12	22	25	12	12	14	12	11	12	111	105	**93**	**88**
8	Homabay	24	40	8	12	20	16	9	11	12	15	12	10	85	104	**71**	**87**
9	Murang'a South	33	40	4	8	17	15	8	12	16	16	12	12	90	103	**75**	**86**
10	Nanyuki	37	37	2	12	12	13	12	12	16	16	2	12	81	102	**68**	**85**
11	Mathira	29	40	0	12	12	15	12	12	12	12	8	10	73	101	**61**	**84**
12	Nairobi	30	36	4	8	12	17	12	12	16	16	12	12	86	101	**72**	**84**
13	Kahuti	24	29	8	12	15	23	7	12	12	12	10	12	76	100	**63**	**83**
14	Bomet	28	37	8	8	17	15	7	12	12	16	6	12	78	100	**65**	**83**
15	Eldoret	38	34	0	4	20	25	12	12	12	12	12	12	94	99	**78**	**83**
16	Embu	34	32	4	8	20	19	8	12	16	16	12	10	94	97	**78**	**81**
17	Naivasha	32	36	4	8	13	12	12	12	7	16	10	12	78	96	**65**	**80**
18	Murang'a	23	32	8	8	12	19	7	12	16	12	12	12	78	95	**65**	**79**
19	Mombasa	34	30	4	8	19	21	11	8	16	16	12	12	96	95	**80**	**79**
20	Nzoia	n/a	36	n/a	4	n/a	14	n/a	12	n/a	16	n/a	12	n/a	94	**n/a**	**78**
21	Tetu Aberdare	36	36	8	8	17	16	11	12	12	11	10	10	94	93	**78**	**78**
22	Gatamathi	14	30	0	12	8	12	5	11	11	16	2	12	40	93	**33**	**78**
23	Nakuru Rural	28	30	8	12	16	15	8	8	16	16	12	12	88	93	**73**	**78**
24	Othaya Mukurweini	33	33	0	8	12	15	8	8	16	16	10	10	79	90	**66**	**75**
25	Tavevo	25	29	8	12	17	16	9	12	10	8	10	12	79	89	**66**	**74**
26	Kiamumbi	28	28	4	8	13	17	12	11	16	16	4	8	77	88	**64**	**73**
27	Oloolaiser	n/a	32	n/a	8	n/a	17	n/a	3	n/a	16	n/a	12	n/a	88	**n/a**	**73**
28	Malindi	26	29	12	8	15	19	12	12	12	12	12	8	89	88	**74**	**73**
29	Nithi	n/a	25	n/a	8	n/a	19	n/a	12	n/a	12	n/a	12	n/a	88	**n/a**	**73**
30	Naromoru	28	36	0	12	16	18	5	5	16	16	8	0	73	87	**61**	**73**
31	Kakamega	23	40	0	4	14	13	11	4	16	16	4	10	68	87	**57**	**73**
32	Sibo	16	31	8	4	8	21	4	5	8	16	4	10	48	87	**40**	**73**
33	Nyahururu	36	34	8	8	15	17	8	8	16	14	12	4	95	85	**79**	**71**
34	Kibwezi Makindu	30	29	12	8	19	19	9	9	7	14	2	6	79	85	**66**	**71**
35	Ngandori-Nginda	24	29	4	4	10	15	7	9	8	16	12	12	65	85	**54**	**71**
36	Meru	18	28	8	8	17	18	12	12	12	11	8	6	75	83	**63**	**69**
37	Machakos	22	30	8	4	18	13	11	8	16	16	10	10	85	81	**71**	**68**
38	Kiambere Mwingi	8	20	4	8	16	15	3	11	8	14	n/a	10	39	78	**33**	**65**
39	Kwale	29	25	8	8	7	18	8	6	12	11	5	10	69	78	**58**	**65**
40	Tachasis	16	15	12	12	20	19	8	8	16	16	8	8	80	78	**67**	**65**
41	Mavoko	20	26	4	0	17	15	7	16	16	8	2	12	66	77	**55**	**64**
42	Kirinyaga	27	20	8	8	11	15	5	5	16	15	12	10	79	73	**66**	**61**
43	Kitui	9	29	4	4	12	10	3	7	8	12	4	10	40	72	**33**	**60**
44	Nol Tturesh	n/a	24	n/a	8	n/a	13	n/a	5	n/a	12	n/a	10	n/a	72	**n/a**	**60**
45	Lamu	3	22	0	12	16	8	9	5	8	15	12	10	48	72	**40**	**60**
46	Thika	24	1	4	12	15	15	12	12	16	16	12	12	83	68	**69**	**57**
47	Amatsi	24	22	0	4	7	7	5	9	16	16	10	10	62	68	**52**	**57**
48	Yatta	n/a	30	n/a	4	n/a	7	n/a	6	n/a	12	n/a	8	n/a	67	**n/a**	**56**
49	Garissa	28	20	6	12	11	7	9	5	9	11	12	10	75	65	**63**	**54**
50	Kiambu	0	0	4	12	14	13	12	12	16	16	6	12	52	65	**43**	**54**
51	Mandera	32	27	9	12	12	10	9	8	10	6	8	2	80	65	**67**	**54**
52	Migori	21	35	4	4	10	8	6	5	0	6	8	6	49	64	**41**	**53**
53	Kilifi-Mariakani	34	29	4	8	18	6	8	8	8	6	12	6	84	63	**70**	**53**
54	Kapsabet-Nandi	27	25	8	4	17	14	5	1	8	15	6	4	71	63	**59**	**53**
55	Ruiru-Juja	5	1	0	8	10	16	8	8	11	16	6	12	40	61	**33**	**51**
56	Kikuyu	8	0	0	8	4	13	3	12	14	16	0	12	29	61	**24**	**51**
57	Wote	28	24	9	4	12	11	12	10	8	10	10	0	79	59	**66**	**49**
58	Limuru	0	0	4	8	6	13	5	9	5	16	8	12	28	58	**23**	**48**
59	Nyasare	8	13	4	8	15	17	5	5	10	7	8	8	50	58	**42**	**48**
60	Gatundu	20	0	0	4	5	15	7	9	16	16	8	12	56	56	**47**	**47**
61	Embe	9	16	0	8	3	12	5	5	6	12	0	2	23	55	**19**	**46**
62	Gatanga	28	7	4	8	11	14	12	8	12	12	12	4	79	53	**66**	**44**
63	Imetha	9	18	0	4	15	15	7	7	14	6	2	2	47	52	**39**	**43**
64	Iten-Tambach	5	24	0	0	6	11	5	5	4	8	4	4	24	52	**20**	**43**
65	Iten-Tambach	5	24	0	0	6	11	5	5	4	8	4	4	24	52	**20**	**43**
66	Matungulu Kangundo	25	20	0	4	13	5	1	4	10	10	0	8	49	51	**41**	**43**
67	Ngagaka	14	13	4	4	12	11	7	8	14	9	4	2	55	47	**46**	**39**
68	Gusii	21	18	4	4	10	13	0	5	4	2	4	4	43	46	**36**	**38**
69	Karuri	11	16	0	5	8	4	7	5	16	12	4	2	46	44	**38**	**37**
70	Mwala	n/a	17	n/a	4	n/a	9	n/a	1	n/a	12	n/a	0	n/a	43	**n/a**	**36**
71	Githunguri	0	0	4	4	12	15	8	8	12	8	0	8	36	43	**30**	**36**
72	Kirandich	26	12	4	4	7	11	1	1	16	12	8	0	62	40	**52**	**33**
73	Busia	23	13	0	0	5	18	5	6	12	0	8	2	53	39	**44**	**33**
74	Kyeni	n/a	12	n/a	4	n/a	9	n/a	1	n/a	12	n/a	0	n/a	38	**n/a**	**32**
75	Narok	10	10	2	0	5	7	0	5	5	3	5	12	27	37	**23**	**31**
76	Kathiani	n/a	8	n/a	8	n/a	1	n/a	5	n/a	8	n/a	4	n/a	34	**n/a**	**28**
77	Chemususu	n/a	1	n/a	4	n/a	7	n/a	5	n/a	7	n/a	10	n/a	34	**n/a**	**28**
78	Rukanga	0	6	4	8	6	5	5	5	5	9	8	0	28	33	**23**	**28**
79	Murugi Mugumango	5	10	0	4	8	7	1	1	3	2	8	4	25	28	**21**	**23**
80	Kapenguria	12	0	8	4	17	5	7	5	8	9	0	0	52	23	**43**	**19**
81	Muthambi 4K	10	9	0	0	8	7	1	5	4	0	4	0	27	21	**23**	**18**
82	Tuuru	n/a	1	n/a	0	n/a	15	n/a	1	n/a	0	n/a	0	n/a	17	**n/a**	**14**
83	Samburu	n/a	10	n/a	4	n/a	2	n/a	0	n/a	0	n/a	0	n/a	16	**n/a**	**13**
84	Lodwar	n/a	0	n/a	0	n/a	2	n/a	0	n/a	4	n/a	0	n/a	6	**n/a**	**5**

ANNEX 6: PRO-POOR ASSESSMENT

RANK	PRO-POOR PARAMETERS / UTILITY	GOVERNANCE	IMPACT	PLANNING	FINANCING	TOTALS	WEIGHTED SCORE	WEIGHTED SCORE 2020-21 (%)
1	Nyeri	18	28	16	12	74	1940	95%
1	Nakuru	18	28	16	12	74	1940	95%
3	Nairobi	18	25	16	12	71	1850	91%
4	Kericho	18	27	14	8	67	1790	88%
5	Thika	18	21	16	14	69	1770	87%
6	Murang'a	14	26	14	14	68	1760	86%
7	Nyahururu	17	22	12	14	65	1690	83%
7	Kisumu	16	27	10	10	63	1690	83%
9	Naivasha	18	17	16	14	65	1650	81%
10	Bomet	12	26	12	12	62	1620	79%
11	Eldoret	18	21	11	10	60	1590	78%
12	Kakamega	16	22	10	12	60	1580	77%
13	Mathira	18	15	12	14	59	1510	74%
14	Machakos	10	25	13	8	56	1470	72%
15	Nanyuki	10	24	11	10	55	1440	71%
16	Meru	14	17	12	12	55	1410	69%
16	Busia	12	16	14	14	14	1400	69%
18	Mombasa	14	15	12	14	55	1390	68%
19	Embu	10	17	16	12	55	1370	67%
19	Kirinyaga	16	19	4	12	51	1370	67%
21	Oloolaiser	14	27	4	0	45	1310	64%
21	Sibo	12	18	10	10	50	1300	64%
23	Homabay	11	23	3	10	47	1280	63%
23	Lamu	0	17	24	14	55	1270	62%
23	Othaya	1	28	6	14	49	1270	62%
23	Nakuru Rural	18	18	9	0	45	1260	62%
27	Isiolo	13	21	9	2	45	1240	61%
28	Gatamathi	12	18	5	10	45	1200	59%
28	Imetha	18	18	6	0	42	1200	59%
30	Nithi	10	15	10	12	47	1190	58%
30	Murang'a South	11	19	4	10	44	1180	58%
32	Nzoia	17	22	0	0	39	1170	57%
33	Tavevo	8	16	4	12	40	1040	51%
33	Malindi	6	18	16	0	40	1040	51%
35	Kahuti	4	27	4	0	35	1010	50%
35	Kikuyu	4	18	9	6	37	960	47%
36	Kiambu	12	13	6	4	35	950	47%
37	Yatta	10	13	11	0	34	910	45%
38	Tetu Aberdare	12	8	5	8	33	860	42%
39	Ruiru Juja	8	16	6	0	30	840	41%
40	Amatsi	10	13	7	0	30	830	41%
41	Limuru	7	18	4	0	29	830	41%
42	Kitui	4	20	4	0	28	800	39%
43	Gusii	6	18	2	0	26	760	37%
44	Garissa	4	17	5	0	26	730	36%
45	Mavoko	4	16	4	2	26	720	35%
46	Migori	8	15	0	0	23	690	34%
47	Iten Tambach	0	15	8	0	23	610	30%
48	Kwale	0	15	5	2	22	590	29%
49	Tachasis	8	7	6	0	21	570	28%
50	Narok	0	14	4	0	18	500	25%
51	Ngandori	0	16	0	0	16	480	24%
52	Kathiani	8	0	0	6	14	360	18%
53	Ol Kalou	0	10	0	0	10	300	15%

ANNEX 7: CREDITWORTHINESS ASSESSMENT GUIDE

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**	**-**

ANNEX 8: GENERAL DATA ON COUNTIES

ID.	County	Population in the County	Utilities in the county	Percentage of County population within service areas of Utilities (%)	Population served		Average tariff (Kshs/m^3)
					Population served in the county, no.	Population served in the county, %	
001	Mombasa	1,235,229	Mombasa	100	667,312	54	127
002	Kwale	888,509	Kwale	60	163,352	18	77
003	Kilifi	1,488,192	Kilifi Mariakani Malindi	100	1,068,989	72	91
004	Tana River	323,530	Tana	52	53,440	17	55
005	Lamu	148,158	Lamu	23	29,524	20	101
006	Taita-Taveta	346,272	Tavevo	100	89,162	26	84
007	Garissa	863,182	Garissa	16	106,380	12	85
008	Wajir	793,195	Wajir	10	19,500	2	14
009	Mandera	867,457	Mandera Elwak	27	46,628	5	82
010	Marsabit	476,647	Marsabit	9	n.d.	n.d.	n.d.
011	Isiolo	280,473	Isiolo	34	83,536	30	57
012	Meru	1,564,655	Meru Imetha Tuuru	39	355,970	23	62
013	Tharaka-Nithi	395,962	Nithi Murugi Mugumango Muthambi 4K	52	90,916	23	36
014	Embu	617,838	Embu Ngandori Nginda Ngagaka Kyeni Embe	84	392,829	64	60
015	Kitui	1,148,535	Kitui Kiambere Mwingi	53	391,047	34	110
016	Machakos	1,454,267	Mavoko Machakos Yatta Matungulu Kangundo Kathiani Mwala	60	400,223	28	219
017	Makueni	997,966	Kibwezi Makindu Wote Mbooni	51	134,643	13	80
018	Nyandarua	642,491	Nyandarua Ol Kalou	29	72,076	11	99
019	Nyeri	765,725	Nyeri Othaya Mukurweni Mathira Tetu Aberdare Naromoru	78	346,811	45	65
020	Kirinyaga	618,647	Kirinyaga Rukanga	80	279,355	45	52
021	Murang'a	1,068,046	Murang'a South Kahuti Murang'a Gatanga Gatamathi	100	710,468	67	64
022	Kiambu	2,497,180	Thika Ruiru-Juja Gatundu Kikuyu Kiambu Limuru Karuri Githunguri Kiamumbi Tatu City	91	1,724,220	69	73
023	Turkana	934,134	Lodwar	10	41,200	4	56
024	West Pokot	632,096	Kapenguria	30	14,988	2	71
025	Samburu	318,965	Samburu	99	77,580	24	27
026	Trans-Nzoia	1,007,499	Nzoia	50	236,636	23	80
027	Uasin Gishu	1,190,087	Eldoret	42	397,336	33	83
028	Elgeiyo Marakwet	462,928	Iten Tambach	16	28,611	6	37
029	Nandi	898,986	Kapsabet Nandi Tachasis	12	52,915	6	51
030	Baringo	677,883	Chemususu Kirandich	17	75,202	11	50
031	Laikipia	530,493	Nanyuki Nyahururu	43	216,729	41	117
032	Nakuru	2,218,090	Nakuru Nakuru Rural Naivasha	59	1,113,811	50	108
033	Narok	1,188,568	Narok	9	38,314	3	106
034	Kajiado	1,160,893	Oloolaiser Nol Turesh Loitokitok Olkejuado	72	259,482	22	83
035	Kericho	916,715	Kericho	42	139,869	15	92
036	Bomet	890,245	Bomet	17	89,150	10	47
037	Kakamega	1,888,272	Kakamega	22	254,107	13	81
038	Vihiga	593,552	Amatsi	46	34,080	6	39
039	Bungoma	1,700,121	Nzoia	23	106,653	6	80
040	Busia	908,655	Busia	35	147,156	16	86
041	Siaya	1,008,271	Sibo	67	217,975	22	111
042	Kisumu	1,174,241	Kisumu	40	407,020	35	119
043	Homabay	1,148,766	Homabay	19	109,590	10	98
044	Migori	1,136,363	Migori Nyasare	29	91,660	8	92
045	Kisii	1,278,318	Gusii	48	190,744	15	108
046	Nyamira	606,308	Gusii	34	134,089	22	108
047	Nairobi	4,522,943	Nairobi Runda	100	3,978,496	88	94

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

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