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IMPACT

A Performance Report of Kenya's Water Services Sector - 2021/22

KENYA VISION 2030

WASREB
Water Services Regulatory Board

ISSUE 15
2023

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WASREB
Water Services Regulatory Board

KENYA VISION 2030

CERTIFIED ISO 9001:2015 COMPANY

WASREB
Water Services Regulatory Board

Vision

A proactive and dynamic water services regulator

Mission

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

Motto

Water Services for All

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ABBREVIATIONS AND ACRONYMS

CBAs	Collective Bargaining Agreement
CLSG	Conditional Liquidity Grant
CWI	Credit Worthiness Index
DWQ	Drinking Water Quality
KPIs	Key Performance Indicators
NAWASIP	National Water and Sanitation Investment Plan
NRW	Non-Revenue Water
O+M	Operation and Maintenance
PE	Personnel Expenditure
SDGs	Sustainable Development Goals
SSSPs	Small-Scale Service Providers
UN	United Nations
WASH	Water Hygiene and Sanitation
WASREB	Water Services Regulatory Board
WHO	World Health Organization
WSP	Water Service Provider
WWDA	Water Works Development Agency

FOREWORD

> ***Ensuring universal access means providing services for all in all settings***

"Inclusive and sustainable economic growth can drive progress and generate the means to implement the Sustainable Development Goals." **- Oscar Auliq-Ice (Author- The Secret of Greatness)**

'Leave No One Behind' is the central, transformative promise of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs). It aptly echoes the above quote. The key word is 'inclusivity'. Ensuring **universal access** means providing services **for all in all settings** including schools, health-care facilities, workplaces, and public places while addressing the needs of all population groups.

Projecting current development rates into the future indicates that Africa is not on track to meet SDG targets 6.1 and 6.2 of ensuring safely managed sanitation and drinking water services for all. Therefore, efforts to achieve universal coverage for such services by 2030 need to be accelerated seeing that only eight years separate us from the 2030 target.

The Regulator finds itself at crossroads. Balancing between the need to ensure compliance by Water Service Providers to the human rights framework, while protecting the interests of the consumers they serve; per chance to remain 'the proactive and dynamic regulator'.....is no mean feat. Nevertheless, WASREB is guided by the bigger assignment; consumers must continue to enjoy clean water while discharging wastewater in a dignified manner, despite emerging challenges.

The period under review saw several policy instruments developed to guide the sector, among them the Water Services Regulations 2021, which repealed the Legal Notice 137 of 2012 promulgated under the Water Act 2002.

The Regulations provide for an efficient system in ensuring that water services are provided efficiently, Water Service Providers roles and responsibilities are catered for and proper systems have been put in place to regulate various aspects of the water sector.

On investment planning, the Kenya National Water and Sanitation Investment and Financing Plan (NAWASIP) was developed. NAWASIP is the tool that both levels of government will use towards universal Water Services Sector coverage. It has five components with funding requirements of Kshs. 995 Billion over a period of eight years.

To improve on compliance, the Regulator continued to build the capacity of Water Service Providers (WSPs), Board of Directors, Management Teams, as well as, the County leadership on sector requirements. The engagements mainly focused on Licensing, Tariffs setting, Corporate Governance and Non-Revenue Water Management. The expected outcome of these engagements is improved performance, as well as, enhanced compliance of the sector with the legal and regulatory requirements.

IMPACT 15 Report 2023 gives various highlights that are a reflection of the water sector in Kenya. Water coverage in regulated areas improved from 60% to 62% while sewerage coverage remained at 16% despite the number of people served increasing by 5.7%. Similarly, the total sanitation coverage remained constant at 93%.

During the period there was an additional 794,011 people served compared to an increase in number of people within the service area of the utilities of 459,781. The production during the period increased marginally by 0.9% while the turnover increased by 6.3%.

Non-Revenue Water (NRW) remained at 45% similar to the previous reporting period. This in financial terms, translates to approximately KShs. 11.2 Billion annually having factored in the allowed level of loss of 20%. In terms of volume, the amount lost annually is 205 million cubic meters which is equivalent to the amount required to serve the city of Nairobi with a daily requirement of 750,000 cubic metres per day for nine months. Sector players are called upon to join the on-going campaign against water theft launched by the parent Ministry in conjunction with WASREB, dubbed *'Operation Linda Maji, Lipa Maji'.*

During the review period, 88 public and four private utilities were assessed based on the data submitted. This translates to a reporting compliance of 98% with only two WSPs not having reported during the period.

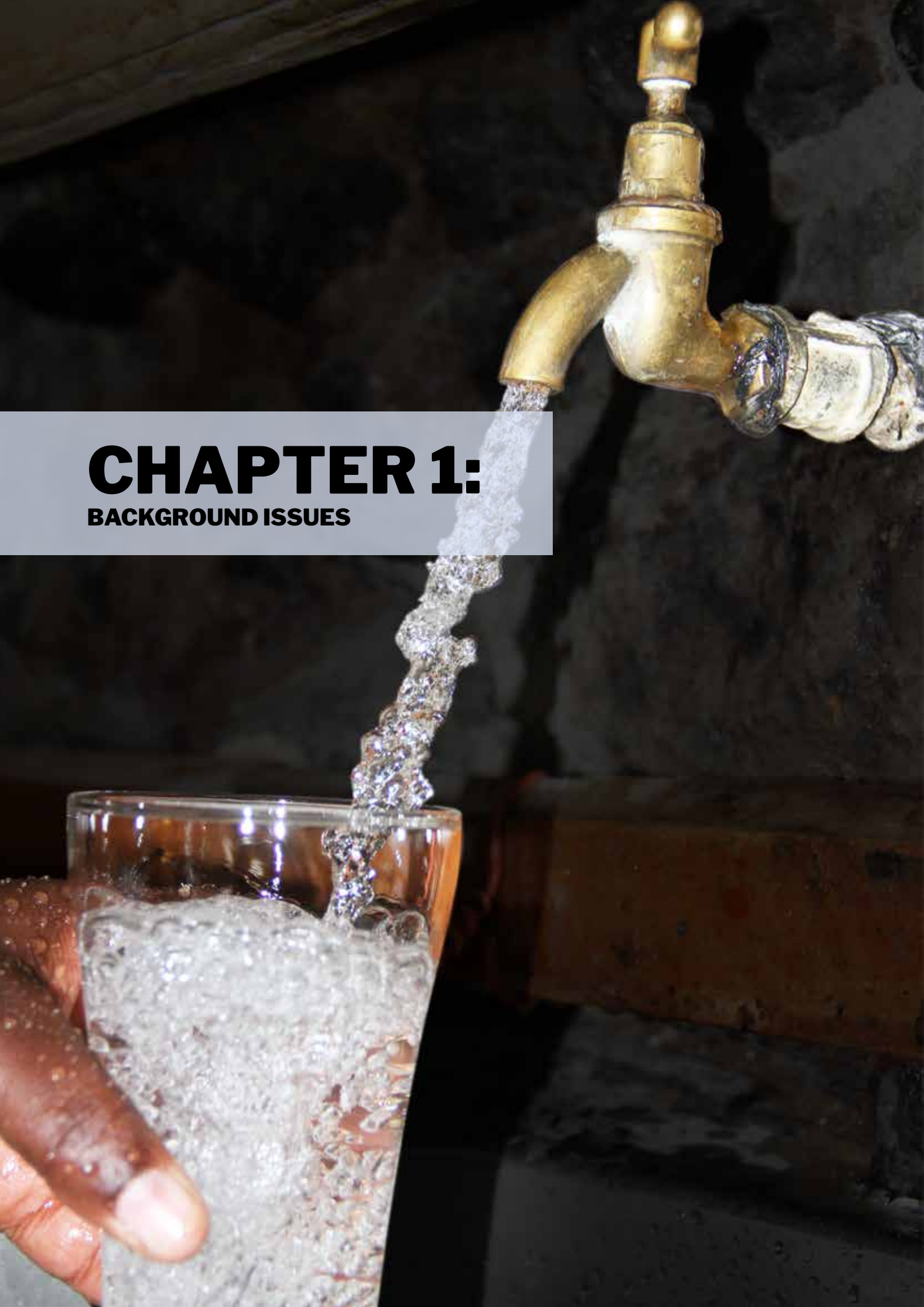
The top utility was Nyeri with a score of 173 points out of the possible 200 points, which is a 6-point decline from the previous reporting period. Nakuru and Thika took up the second and third positions with scores of 161 and 157 respectively. The utilities in the bottom three positions for the reporting period were Nol Turesh at position 88, Gusii 87and Migori at position 86. The worst performers in the Very Large, Large, Medium and Small categories were Mombasa, Nol Turesh, Narok and Olkejuado respectively.

In the Privately-owned category, Tatu City with a score of 159, maintained its position as the top performer in this category. At the same time, Kiamumbi clinched the second position with a score of 153 points, which was formerly taken by Runda.

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. On the other hand, utilities that have not done well are encouraged to learn from these leaders and improve on their performance. This appreciates that the sector can only be as strong as the weakest link.

Dr. Julius K. Itunga.

Ag. Chief Executive Officer



CHAPTER 1:
BACKGROUND ISSUES

Sustainability of Water and Sanitation is Getting Constrained Further as Clock Ticks Towards 2030

Water is a fundamental part of all aspects of life. Water is inextricably linked to the three pillars of sustainable development and it integrates social, cultural, economic and political values. It is crosscutting and supports the achievement of many Sustainable Development Goals (SDGs) through close linkages with climate, energy, cities, the environment, food security, poverty, gender equality and health, amongst others. However, with climate change profoundly affecting our economies, societies and environment, water is indeed the biggest deal breaker to achieve the internationally agreed water-related goals and targets, including those contained in the 2030 Agenda for Sustainable Development.

1. 1 Global Outlook on Water and Sanitation

United Nations Secretary General Antonio Guterres address to the UN 2023 Water Conference said "As humanity's most precious global common good, water unites us all. And it flows across a number of global challenges. Water is about health, sanitation, hygiene and disease-prevention. Water is about peace. Water is about sustainable development, fighting poverty, supporting food systems and creating jobs and prosperity. Water is about human rights and gender equality. That's why water needs to be at the centre of the global political agenda."

This led to adoption of the Water Action Agenda, a 'milestone' action plan containing almost 700 commitments to protect 'humanity's most precious global common good'. These commitments include the following;

- Reducing the pressures on hydrological systems and ensuring good decision-making and smart policies
- Developing new, alternative food systems to reduce the unsustainable use of water in food production and agriculture
- Designing and implementing a new global water information system to guide plans and priorities by 2030
- Integrating approach on water, ecosystems and climate to reduce greenhouse gas emissions and strengthen communities
- Having resilient infrastructure, water pipelines and wastewater treatment plans, and ensuring every person in the world is protected with early warning systems against natural disasters by 2027
- Continuing to press for climate justice and global action to limit global warming to a 1.5-degree rise
- Dramatically accelerating resources and investment into the ability of all countries to reach Sustainable Development Goal 6.

A report by World Health Organization 2022 dubbed *'Drinking-Water, Sanitation and Hygiene in the WHO European Region: Highlights and Progress towards achieving Sustainable Development Goal 6'*, shows lack of access to safe WASH services is still a major challenge to livelihoods and economic development. It states that WASH is a key element in achieving the aspirations of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs). Projecting current development rates into the future indicates that the Region is not on track to meet SDG targets 6.1 and 6.2 to ensure safely managed sanitation and drinking-water services for all.

AREAS OF FOCUS

- Boosting access to safely managed drinking-water and sanitation services
- Scaling up implementation of water and sanitation safety planning approaches
- Providing services for those who have none
- Closing inequality gaps and making universal access to WASH services a reality for all
- Moving towards provision of higher WASH service levels in schools
- Assessing the situation of WASH in health-care facilities and striving for provision of higher service levels
- Improving wastewater collection and treatment capacity
- Supporting WASH policies through effective planning and resource allocation.

This report highlights eight areas for action to accelerate efforts towards achieving universal coverage for such services.

However, water does not only present the world with challenges. It also presents a great opportunity. If all understand the complex relations and interlinkages, value water holistically and manage water inclusively at all levels and across all interests, then water can be the dealmaker, the leverage point for a green economy, climate resilience and a more sustainable and inclusive world. Water, because of its many interlinkages, can bring together all stakeholders (individual, institutional, informal) to forge coalitions, strengthen capacities and provide solutions to be replicated and scaled.

For this to happen, there is a need to move away from single, targeted and reactive short-term actions towards more holistic, integrated and future oriented approaches and projects. We must meet environmental, cultural, social and economic challenges with sustainable, equitable and resilient solutions, identify hotspots and innovative opportunities that can be scaled up, including blue and green investment opportunities, and build capacities across all layers of society. These could be informal, individual and institutional, across borders, boundaries and sectors. We need to rapidly find a new balance to ensure sustainable development of water resources; water for people, economy and nature and respect the planetary boundaries, whilst investing in adaptation for resilient communities, economies and ecosystems.

We know what we have to do. We must work up to four times faster to get on track to meet Sustainable Development Goal 6 to ensure availability and sustainable management of water and sanitation for all by 2030. Let us act now with the speed and priority commensurate with the urgency of this crisis.

In this context, the United Nations General Assembly proclaimed in its resolution 71/222 the period from 2018 to 2028 as the International Decade for Action, 'Water for Sustainable Development' aiming to further improve co-operation, partnership, capacity development and catalyze actions in response to the ambitious United Nations 2030 Agenda for Sustainable Development.

1.2 National Policies on Water and Sanitation

The period under review saw various policy instruments developed to guide the sector, which are highlighted under this section.

1.2.1 Water Services Regulations

The regulations were formulated by the Cabinet Secretary Water, Sanitation and Irrigation, under section 142 of the Water Act, 2016 and in line with the constitutional mandate of the national government to make policies and laws to ensure respect, protection and realization of the human right to water and sanitation. The regulations repeal the Legal Notice 137 of 2012 promulgated under the Water Act 2002.

The Regulations provide for an efficient system in ensuring that water services are provided efficiently and that the Water Service Providers roles and responsibilities are catered for and proper systems have been put in place to regulate various aspects of the water sector.

The Regulations provide for the criteria for licensing WSPs and the requirements necessary so as to ensure that WSPs are in line with laid down law and procedure, as well as, providing water and sanitation services in an efficient manner.

HIGHLIGHTS

- Regulation of water services including licensing, tariff setting, bulk water supply, water vending and clustering
- Regulation and administration of asset development
- Water quality and service standards for rural and unlicensed areas
- Framework for complaints handling
- Rules on compliance and enforcement actions

The Regulations also tie in with the Water Act with regards to the general offences and this ensures that there is no duplicity in operation of the law, thereby harmonizing the provisions of the Water Act 2016 and the Water Services Regulations 2021.

Moreover, the Regulations make provisions for management and setting up of boreholes and water vending services, in addition to setting up procedures for utilizing water services and sanitation infrastructure. Laying down such procedures ensures that there is no lacuna in the law with regards to the provision of water and sanitation services.

Furthermore, the Regulations provide for mechanisms for setting of tariffs, fees and levies, as well as, operation of such tariffs, fees and levies with regard to water services. Additionally, the Regulations provide for systems and mechanisms of handling complaints and presents a hierarchy of reporting complaints regarding any dispute in water and sanitation service provision.

1.2.2 National Water and Sanitation Investment Plan (NAWASIP)

USAID's Water, Sanitation, and Hygiene Finance (WASH-FIN) study carried out in 2022, shows the Government of Kenya has set an ambitious target of universal access to water, sanitation and hygiene services (WASH) by 2030. To achieve this, USD 12.9 Billion (Ksh 1.8 Trillion) in WASH investments are needed to expand and improve WASH services. However, the current government budget for water and sanitation is USD 5.6 Billion (Kshs 795 Billion), leaving a gap of USD 7 Billion (Kshs 995 Billion). In addition to this resource gap, progress in access is also hampered by inadequate planning both at the national and county level. To effect this, the country has developed its first National Water and Sanitation Investment Programme (NAWASIP). To bridge this gap, the Water, Sanitation and Hygiene Finance (WASH-FIN) program helps explore new sources of market finance to complement funding from traditional sources such as transfers, taxes, and tariffs.

1.2.3 National Sanitation Management Policy

The Executive order No. 1 of 2016 vested the mandate of sanitation management, as well as, the requirements of achieving SDG 6.2 in the Ministry of Water, Sanitation and Irrigation. Following from this shift in mandate, the Ministry made an important decision to undertake the development of a national policy specific to sanitation management. This was critical to ensure that sanitation received the required attention, considering that historically, the water policy which eventually resulted in inclusion

of sanitation, received little attention in terms of priority, investment and development within the sector. SDG 6.2 advocates for universal access to safely managed sanitation and demands safe management of both sewered and non-sewered sanitation systems across the sanitation service chain, based on context specific technology solutions. Thus, despite the existence of other relevant provisions in water, environment and health sector policies, the Ministry has recognized:

a) The compelling need for a standalone sanitation management policy that responds to the prevailing sector sanitation governance, management and regulatory challenges across the sanitation service chain;
b) The need to articulate considerations for achieving universal and sustainable access to safely managed sanitation for all as a constitutional obligation, policy commitment and priority; and
c) The need for assured and sustainable sanitation investment and financing to implement an inclusive sanitation strategy.

The process of developing the policy adopted a highly participatory and inclusive approach involving various stakeholders at both the national and county level.

1.3 Regulatory Interventions

On advancing regulation, the Regulator undertook interventions at the County and Utility level to improve efficiency and sustainability of the sector. Highlighted below are some of these interventions.

1.3.1 Capacity building of Counties and Utilities on Regulatory Requirements

It has been noted that compliance with regulations is inhibited to a large extent by the attitudes and understanding of the regulated WSPs on sector requirements. It is on this basis that the Regulator continued to build capacity of the WSPs, Board of Directors, Management Teams, as well as, the County leadership on these requirements. The engagements mainly focused on the Licensing requirements, Tariffs setting, Corporate Governance and Non- Revenue Water Management. The outcome of these engagements is an improved performance, coupled with enhanced compliance of the sector with the legal and regulatory requirements.

1.3.2 Licensing

On licensing, a total of 35 WSPs had their applications evaluated and subjected to public consultations bringing the total number of WSPs licensed to 81. Eleven (11) applications are under review while the Regulator is supporting the remaining ones who are still non-compliant to onboard them. Further, a review

of the validity period of the licenses was undertaken. Informed by the commercial viability assessment, three categories of license durations have been adopted as follows;

Licence Period	Commercial Viability Score
8 Years	≥ 70%
5 Years	50% - 69%
3 Years	< 50%

WSPs are encouraged to improve on their commercial viability in order to benefit from longer licence periods which allows them adequate time to realise planned activities.

1.3.3 Tariff Setting

Five WSPs had their tariffs evaluated and approved during the period, bringing the total of WSPs who operate with justified tariffs to 40, laying a foundation for improved sustainability and underscoring their commitment and responsibility for consumer/customer satisfaction. The low proportion of WSPs with justified tariffs is mainly as a result of insufficient capacity of WSPs to develop tariff applications, as well as, political interference which results in delay in the tariff determination process

.

To improve on this process, County Governments are encouraged to support WSPs in the formulation of cost reflective tariffs.

1.3.4 Regulation of Small-Scale Service Providers (SSSPs)

To ensure that the interests of consumers are protected and water service standards are adhered to in terms of quality, cost and customer service, the Regulator issued a public notice on registration of SSSPs. The purpose of the notice was to be bring all operators under regulation. Section 85(1) of the Water Act 2016 provides that a person shall not provide water services unless under the authority of a license issued by WASREB. Further, the Regulations to the Water Act 2016; Water Services Regulations 2021, stipulates that all licensed Water Service Providers should regulate water vending systems within their areas of supply. This requirement was applicable to water bowsers/tankers, gated community water providers/ housing development company water projects, private/ individual boreholes, Non-Governmental Organization (NGO) water projects and exhausters.

The Regulator will continue to enforce the requirements in order to safeguard the health and safety of consumers. The requirements are as per the Guideline for Provision of Water and Sanitation Services in Rural and Underserved Areas.

1.3.5 Management of Non-Revenue Water

Non-Revenue Water (NRW)continues to pose a challenge to the sustainability of utilities. The level of NRW has remained above 45% in the last three years. This is a very unfavourable situation that starves utilities of the much-needed resources required to expand access. The Regulator therefore has continued to champion and support activities aimed at dealing with water losses. Some of these activities include:

- Establishment of a police unit by Interior Ministry in collaboration with Ministry of Water, Sanitation and Irrigation to tackle illegal water connections
- Establishment of a toll-free hotline for the public to report water theft, bursts or any other NRW reduction intervention
- Requirement for all WSPs to establish an NRW unit as a license condition
- Provision of investments for NRW reduction in the tariff preview process
- Organising NRW reflection workshops to sensitize utilities on their performance post IMPACT Report release and highlight best practice in NRW management
- Implementation of Performance Based Contracts (PBC) in NRW management through the support of The World Bank.

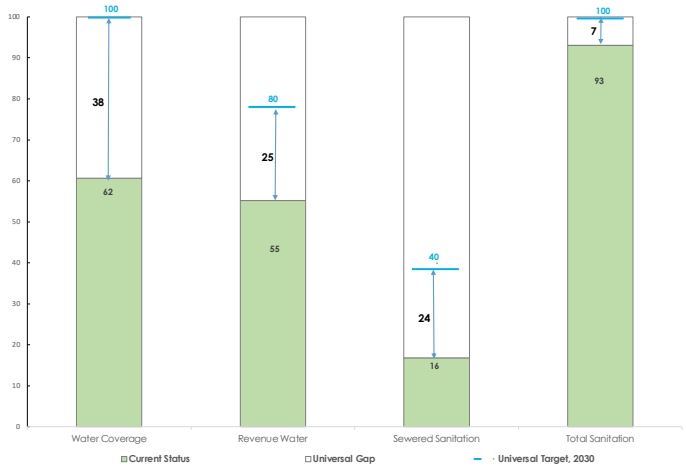
CHAPTER 2:
SECTOR DEVELOPMENT

Marginal Improvement in Access BUT still a long way from attaining Universal Access Target

The growth in coverage in the current period is two percentage points against a required average of at least four percentage points. This development can be attributed to the population served growing at a higher rate (5.1%) compared to population growth within the area of service of the utilities (2.9%). The increase in population served has not been in tandem with the amount of water available for distribution, which decreased by 4.9%. The implication being a decline in the quality of service expressed in terms of per capita water availability which decreased from 30l/c/d to 28l/c/d.

Figure 2.1 presents the status of national goals with respect to three key areas of focus namely; increasing access and reduction of loses 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 provide a status of three critical areas used in tracking sector development. From the above, the gap to 2030 is still huge with only one indicator having achieved the set target.

2.1 Access to Water and Sanitation Services

Water coverage in regulated areas improved by two percentage points from 60% to 62%, mainly because of population served increasing at a rate of 5.1% compared to a 1.8% increase of population within the area of service.

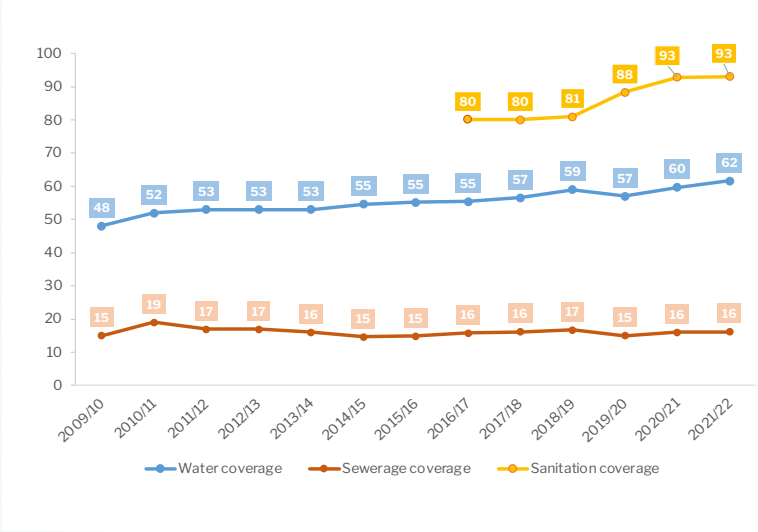
Table 2.1: General Data Summary

Parameter	2019/20 (a)	2020/21 (b)	2021/22 (c)	Variance, % (c-b)
Total Population in Service Area	25,660,154	26,271,419	26,731,200	1.8
Total Population Served with Water	14,677,969	15,679,774	16,473,785	5.1
Population Served with Sewer	3,922,437	4,093,204	4,324,983	5.7
Population Served with Sanitation Services	22,650,723	24,376,379	24,878,702	2.1
Total Water Produced, m^3	449,572,682	455,313,593	459,361,140	0.9
Total Water Billed, m^3	237,825,974	249,998,802	254,261,544	1.7
Total Water Billed (domestic), m^3	166,452,523	172,704,926	164,284,639	-4.9
Total Revenue, Kshs	22,796,171,562	23,171,877,070	24,624,564,304	6.3
Per capita production, l/c/d	83.9	79.6	83.4	4.8
Per capita consumption, l/c/d	31.1	30.2	28.3	-6.1
Total number of connections, water	1,306,743	1,268,209	1,359,577	7.2
Total number of connections, sewer	419,258	340,131	370,220	8.8

During the period there was an additional 794,011 people served compared to an increase in number of people within the service area of the WSPs of 459,781. The production during the period increased by 0.9% and similarly the turnover increased by 6.3%. Despite the increase in production, the domestic water consumption declined by 4.9% leading to a decline in per capita consumption.

The population served with sewerage services remained at 16% despite the number of people served increasing by 5.7%. This increase was equivalent to 231,779 people which is low compared to 459,781 increase in service area population. The total sanitation coverage remained constant at 93%.

Figure 2.2: Trend in Water and Sanitation Coverage



2.2 Economic Efficiency

Utility efficiency is critical in ensuring that services are affordable and the utilities offer better quality services to their consumers at cost-reflective tariffs. For the utilities, the main considerations under economic efficiency are O+M Cost coverage, Personnel Expenditure and Revenue Collection Efficiency. 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 recorded an improvement from 50% to 47% which is a good step to improving efficiency.

2.3 Operational Sustainability

Operational sustainability of a utility is assessed in terms of water losses or NRW, Metering and Staff productivity. The first two are key in determining the level of revenues that a utility can raise while staff productivity ensures that there is efficient utilization of resources considering that staff numbers impact on cost of providing service. The performance in NRW remained at 45% when compared to the previous year, while Metering declined marginally from 96% to 95%. Staff productivity on the other hand, stagnated at 7 No. staff per 1,000 connections. Looking at this scenario, the overall performance on sustainability cluster recorded a decline.

2.4 Performance of Utilities

The right to water is best achieved in a sector operating under uniform norms and standards, where performance is measured against agreed benchmarks and is reported. National reporting and monitoring is therefore key in mapping the country's progress in meeting the right to water and sanitation, with well performing utilities playing a role in strengthening the realization of these rights.

In appreciation of the above, County Governments should delegate authority accordingly for service provision to utilities, accompanied by the duty to give account for results. This includes those in the rural areas.
As in the previous periods, utilities were ranked based on nine Key Performance Indicators (KPIs) as shown in Table 2.2.

Table 2.2: Progress on Key Performance Indicators

Key Performance Indicators	2020/21	2021/22	Trend
Water Coverage, %	60	62	↑
Drinking Water Quality, %	92	95	↑
Hours of Supply, hrs/day	16	17	↑
Non- Revenue Water, %	45	45	→
Metering Ratio, %	96	95	↓
Staff Productivity, Staff per 1000 Connections	7	7	→
Personnel expenditure as % of O+M Costs, %	50	47	↑
Revenue Collection Efficiency, %	94	94	→
O+M Cost Coverage, %	99	96	↓
Sewered Sanitation Coverage, % *	16	16	→
Sanitation Coverage, % *	93	93	→
Good	Acceptable	Not Acceptable	Benchmark Varies		

* Not used in ranking

In the current period, only four KPIs recorded an improvement, which is an unacceptable trend as we are approaching the global timelines.

2.5 Utility Ranking

The performance regime outlined in section 3.5 puts the maximum score a utility can obtain at 200 points. According to this assessment, Nyeri with 173 points was ranked the top utility followed by Nakuru and Thika with 161 and 157 points respectively. The performance by Nyeri was 6 points lower than the performance of the previous period. At the bottom were Nol-Turesh and Gusii with a score of 16 followed by Migori with a score of 23. The average performance in the current period improved by 8 points from 80 to 88 when compared to the previous period. Table 2.3 presents the overall top and bottom 10 utilities.

Table 2.3: Overall Top and Bottom 10 Utilities

TOP TEN UTILITIES 2021/22				BOTTOM TEN UTILITIES 2021/22		
Rank	Utility	Score (Max 200)		Rank	Utility	Score (Max 200)
1	Nyeri	173		79	Chemususu	37
2	Nakuru	161		80	Yatta	35
3	Thika	157		81	Elwak	35
4	Nanyuki	157		82	Narok	33
5	Murang'a	154		83	Oloolaiser	31
6	Ruiru-Juja	152		84	Mbooni	25
7	Isiolo	146		85	Olkejuado	24
8	Meru	143		86	Migori	23
9	Kisumu	141		87	Gusii	16
10	Embu	139		88	Nol Turesh	16

The assessment of performance over time appreciates that utilities operate under different conditions which impacts on performance. As a result, this may hinder some utilities from rising to the top in the short term. On the contrary, some utilities despite enjoying favourable environments may not fully exploit this to improve their performance. A comparison of the current performance of the utility with that of the preceding period seeks to recognize effort to better performance. To guarantee a sustained upward trend and ensure consistent performance improvement, the positive change must be recorded in two consecutive years. In the current case the periods considered are 2019/20 and 2020/21. This is in addition to the utility attaining a score of at least 50% in the two reporting periods.

Table 2.4: Top Improvers and Bottom Losers

TOP IMPROVERS				BOTTOM LOSERS			
WSP	Score 2020/21	Score 2021/22	Variance	WSP	Score 2020/21	Score 2021/22	Variance
Nanyuki	137	157	**20**	Mwala	77	63	**-14**
Embu	121	139	**18**	Oloolaiser	42	31	**-11**
Tachasis	118	135	**14**	Gusii	21	16	**-5**
Kisumu	128	141	**12**	Nzoia	83	78	**-5**
Kiamumbi	142	153	**10**	Migori	27	23	**-4**
Ruiru-Juja	143	152	**3**	Narok	37	33	**-4**
Murang'a	145	154	**9**	Garissa	44	41	**-3**
Isiolo	141	146	**3**	Muthambi 4K	102	101	**-1**
Nakuru	158	161	**3**				

Using the above criteria, nine WSPs recorded consistent improvement while eight recorded a decline. The most improved utility is Nanyuki followed by Embu and Tachasis respectively. The worst losers are Mwala, Oloolaiser and Gusii.

2.6 Regional Benchmarking

WASREB is a member of the Eastern and Southern Africa Water and Sanitation (ESAWAS) Regulators Association whose main focus is the development of an effective Water and Sanitation regulatory framework in the member countries. The ESAWAS Regulators Association is currently composed of 10 members as follows:

- Eight autonomous regulators: The Agency for Regulation of Electricity, Potable Water and Mines (AREEM) of Burundi, The Autoridade Reguladora de Águas, Instituto Público (AURA,IP formerly CRA) of Mozambique, The Energy and Water Utilities Regulatory Authority (EWURA) of Tanzania, The Lesotho Electricity and Water Authority (LEWA) of Lesotho, the National Water Supply and Sanitation Council (NWASCO) of Zambia, The Rwanda Utilities Regulatory Authority (RURA) of

Rwanda, The Water Services Regulatory Board (WASREB) of Kenya, and The Zanzibar Utilities Regulatory Authority (ZURA) of Zanzibar

- One ministry department: the Water Utility Regulation Department (WURD) of Uganda; and
- One association of water and sanitation Utilities with regulatory oversight: the Water Services Association of Malawi (WASAMA).

In advancing the goal of improving utility efficiency, regulators utilize performance benchmarking where performance of utilities is compared against that of others or industry's best practices or standards. However, in all the member countries the largest utility tends to have no peers while some countries have a single national water service provider, thus making reasonable comparison of performance difficult or impossible. In view of this situation therefore, regional benchmarking becomes essential for large or single utilities that have no comparable peer within a country. Although the operating environments may differ from one country to the other, by benchmarking against similar sized utilities, lessons can be drawn by both the regulator and the utility, on how to improve performance.

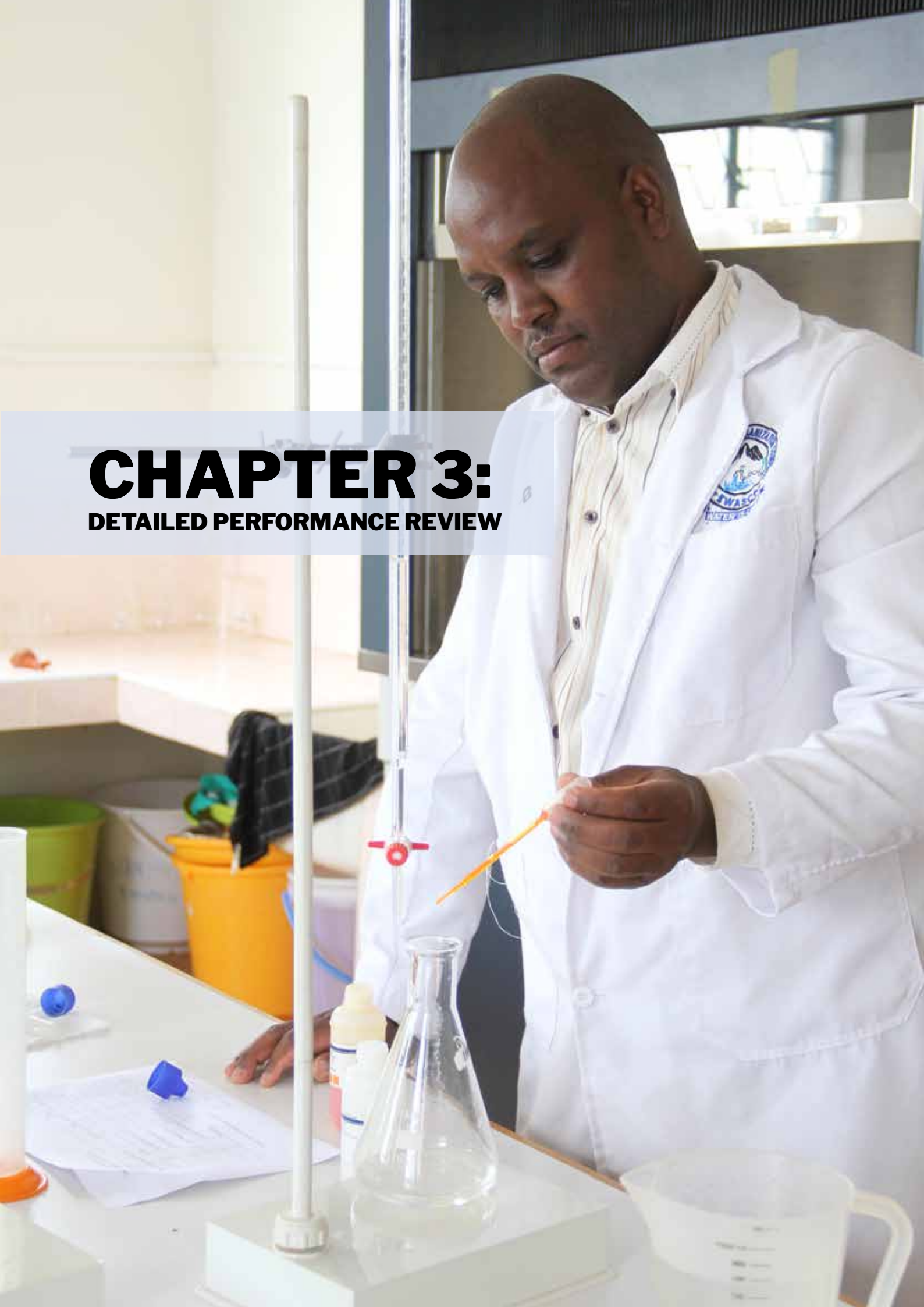
The regional benchmarking exercise therefore selected the largest utility in each member country and the single utility where this is the case. The nine utilities considered in this report are: Águas da Região de Maputo (AdeM) of Mozambique; Dar Es Salaam Water and Sanitation Authority (DAWASA) of Tanzania; Lusaka Water and Sewerage Company (LWSC) of Zambia; Lilongwe Water Board (LWB) of Malawi; Nairobi City Water and Sewerage Company (NCW&SC) of Kenya; National Water and Sewerage Corporation (NWSC) of Uganda; Water and Sanitation Corporation Ltd (WASAC) of Rwanda; Water and Sewerage Company (WASCO) of Lesotho and Zanzibar Water Authority (ZAWA) of Zanzibar. The results of the assessment are presented in Table 2.5.

Table 2.5: Regional Utility Performance for the Year 2020/21

Indicator / Utilities	Water Coverage (%)	Sewerage %	Water Quality (%)	Hours of Supply (hrs./d)	O+M Cost Coverage (%)	Revenue Collection Efficiency (%)	Personnel expenditures as % of total O+M costs	Staff Productivity (no. staff/1000 conns.)	Non-Revenue Water (%)	Metering Ratio (%)
Acceptable Benchmark	**90-75**	**70-40**	**99-95**	**23-18**	**150-100**	**99-90**	**30-35**	**5.0-8.0**	**30-35**	**99-90**
LWSC	93.7	18.1	98.2	16.0	102.9	100.0	42.7	4.45	46.9	71.7
DAWASA	84.8	12.4	99.0	21.0	108.2	106.4	37.1	4.31	38.8	100.0
AdeM	50.8	-	100.0	15.0	82.2	84.8	28.0	3.34	51.5	82.0
WASCO	59.7	4.4	95.4	18.0	94.1	76.0	41.8	4.48	54.8	100.0
WASAC	80.3	-	99.4	21.0	254.3	104.2	63.2	5.68	47.8	100.0
ZAWA	92.4	9.8	92.3	14.0	73.2	84.5	31.8	4.49	42.1	34.6
NWSC	78.0	22.9	99.0	18.0	121.2	101.1	42.3	5.30	37.7	100.0
LWB	84.1	-	86.8	19.0	126.3	127.4	25.7	5.35	41.9	100.0
NCW&SC	82.3	50.0	93.2	8.0	98.9	92.9	64.4	6.95	50.0	100.0

The results of this benchmarking exercise are intended to serve as a support tool to:

- Foster improvement in the water services by creating competition among the benchmarked utilities;
- Identify strengths and weakness within the utilities and areas for improvements;
- Generate information for decision making; and
- Contribute to the attainment of targets with respect to country visions and Sustainable Development Goals (SDGs).



CHAPTER 3:
DETAILED PERFORMANCE REVIEW

Unlocking Success: The Centrality of Performance Measurement in Driving Results

3.1 Introduction

Setting measurable sector goals and tracking progress, ensures that we remain focused on what is important as a sector and that we are making progress towards our desired outcomes. Consequently, we are able to monitor progress, identify areas for improvement and make data-driven decisions to drive better results. Ultimately, effective performance management requires a strong focus on measurement and continuous improvement.

3.2 Driving Access and Sustainability through Monitoring and Reporting

To ensure that water utilities are on track towards achieving the progressive realization of the right to water, monitoring and reporting their performance is essential. Equally, it has become critical to onboard all players involved in water services provision which include the small-scale service providers. The Regulator envisages that such providers are fully integrated in reporting by the regulated Water Service Providers (WSPs) except in cases where they qualify for direct licensing from the Regulator. For this reason, WASREB is at an advanced stage regarding mapping of small-scale service providers in the country. The additional data is a more detailed assessment of all indicators that are vital for the right and sustainability of water services. These shall include Water Coverage, Drinking Water Quality, Non-Revenue Water (NRW), and Revenue Collection Efficiency.

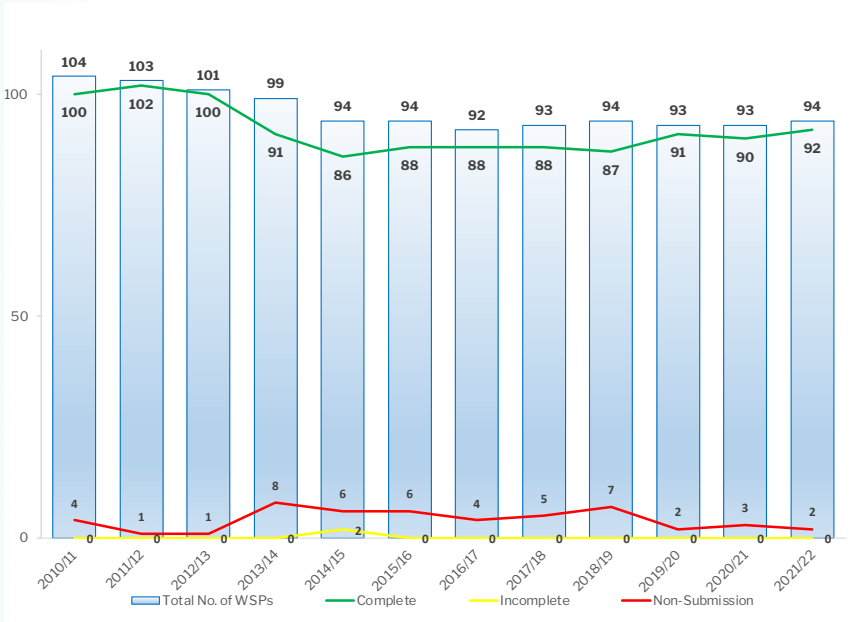
To encourage utilities to provide consistent and accurate data, the Regulator incentivizes them through initiatives such as indexation of the tariff, enhanced tariff that includes minor investments and recognition in the IMPACT reports. WASREB uses comparative performance assessment and ranking to promote competition between utilities. The IMPACT report ranks and scores utility performance over a given period using nine key performance indicators (KPIs), including Water Coverage, Drinking Water Quality, Hours of Supply, Operations and Maintenance (O+M) Cost Coverage, Personnel Expenditure as a Percentage of O+M Costs, Revenue Collection Efficiency, Non-Revenue Water, Staff Productivity, and Metering Ratio.

3.3 Data Accuracy and Compliance in Reporting

During the reviewed period, 88 public and four (4) private utilities submitted data for analysis using the Water Regulation Information System (WARIS), a tool used by the Regulator to collect data. To ensure data accuracy, WASREB cross-checks WARIS data with other sources, including inspections, tariff applications, quarterly monitoring and evaluation reports from utilities. This process aims to maintain consistency and improve the quality of reported data.

Compliance with data reporting was rated at 98% during the reviewed period. Mutitu and Two Rivers were the new entrants.

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 2021/22

INDICATORS	Total Population in Service Area	Total PopulationServe	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 2022	Licensing Status as at June 2022
Very Large (≥35,000 connections)															
Nairobi	5,016,585	3,992,595	428,883	428,742	1	9,143	178.53	55,690	89,355	50	123	38	3,143	Under Processing	Valid
Eldoret	515,476	415,380	90,787	81,699	1	848	15.45	6,652	9,391	39	102	44	371	Valid	Valid
Mombasa	1,276,699	667,729	88,264	41,187	1	809	11.90	4,522	5,858	51	49	19	352	Expired	Valid
Nakuru	571,810	539,392	70,832	65,884	1	962	11.51	5,400	8,021	30	58	27	175	Valid	Valid
Kisumu	475,564	430,667	65,814	64,470	1	961	10.50	3,868	7,197	31	67	25	321	Valid	Under Processing
Nzoia	911,052	334,078	61,253	40,122	5	393	8.31	3,165	4,030	52	68	26	265	Expired	Valid
Thika	260,460	252,646	58,594	54,111	1	877	14.02	6,215	10,035	28	152	67	281	Valid	Under Processing
Nyeri	169,203	165,330	58,089	51,187	1	633	7.88	4,629	6,519	17	131	77	238	Valid	Valid
Murang'a South	800,475	475,938	53,673	40,068	1	200	6.12	2,439	3,251	47	35	14	164	Expired	Under Processing
Ruiru-Juja	445,499	392,780	48,999	46,314	2	874	11.55	5,819	7,176	38	81	41	289	Expired	Valid
Gatundu	278,847	188,500	43,465	34,027	1	149	7.41	4,678	4,790	35	108	68	141	Expired	Valid
Kilifi Mariakani	1,076,091	671,242	42,746	30,137	3	618	10.88	4,534	5,735	47	44	19	247	Expired	Valid
Embu	229,500	185,268	42,578	42,472	1	396	7.71	3,458	4,803	38	114	51	208	Expired	Valid
Nakuru Rural	480,816	397,510	42,248	28,585	6	308	8.23	1,114	4,175	49	57	8	138	Expired	Valid
Kirinyaga	492,554	284,967	40,999	31,048	9	171	6.34	2,155	2,619	59	61	21	157	Under Processing	Under Processing
Kakamega	421,227	367,858	37,647	34,699	2	298	4.50	2,342	2,861	36	34	17	132	Valid	Valid
Kericho	388,642	142,906	37,638	26,385	2	180	3.65	1,452	1,730	53	70	28	219	Under Processing	Valid
Malindi	557,231	436,561	36,936	26,203	1	467	7.17	3,952	5,063	29	45	25	217	Expired	Valid
Othaya Mukurweni	183,696	80,120	35,930	23,837	2	171	6.46	1,871	3,505	46	221	64	133	Expired	Valid
Large (10,000-34,999 connections)															
Tavevo	368,628	165,521	27,858	18,340	3	289	5.42	2,623	3,452	36	90	43	251	Expired	Valid
Mathira	160,071	97,564	27,332	17,046	1	131	2.05	729	1,168	43	58	20	74	Expired	Valid
Nanyuki	126,328	117,988	26,251	25,787	1	345	4.12	1,607	2,822	32	96	37	135	Valid	Valid
Murang'a	80,168	77,856	25,883	22,775	1	289	3.04	1,254	2,310	24	107	44	124	Expired	Valid
Murang'a West	153,898	94,412	25,488	13,842	1	70	2.76	736	1,132	59	80	21	77	Expired	Valid
Nyahururu	121,583	106,428	23,460	19,825	2	243	3.31	1,100	1,981	40	85	28	155	Valid	Valid
Gusii	841,433	336,625	21,811	16,790	7	204	4.67	769	1,082	77	38	6	168	Expired	Expired
Garissa	145,591	114,000	20,641	18,046	1	367	6.52	1,722	3,914	40	157	41	218	Expired	Expired
Meru	163,302	121,921	20,581	16,824	1	207	3.22	2,149	2,633	18	72	48	103	Expired	Valid
Kwale	552,111	167,168	20,385	14,644	1	198	5.09	2,002	2,256	56	83	33	143	Expired	Valid
Bomet	152,946	93,760	20,158	13,551	1	116	3.50	1,074	1,552	56	102	31	178	Expired	Under Processing
Ngandori Nginda	85,361	75,220	18,835	17,845	1	66	2.86	1,323	1,847	35	104	48	73	Under Processing	Valid
Kitui	432,494	295,183	18,178	11,013	1	175	3.45	1,241	1,641	52	32	12	128	Expired	Under Processing
Nithi	148,409	72,680	17,292	11,489	1	82	4.29	746	1,462	66	162	28	76	Expired	Under Processing
Tetu Aberdare	78,738	55,555	16,914	13,200	1	65	2.86	1,652	1,716	40	141	81	73	Expired	Valid
Sibo	685,762	263,326	16,744	13,774	5	139	2.60	973	1,123	57	27	10	108	Expired	Valid
Limuru	258,773	201,843	16,663	16,077	1	134	2.11	838	1,385	34	29	11	89	Under Processing	Valid
Mavoko	420,450	165,656	16,634	15,183	1	259	1.55	537	1,036	33	26	9	89	Expired	Valid
Kikuyu	402,316	382,200	15,814	9,222	1	139	2.49	668	1,534	38	18	5	96	Expired	Valid
Gatamathi	135,499	78,212	13,982	9,307	1	62	2.85	937	1,177	59	100	33	60	Expired	Valid
Isiolo	95,393	82,880	13,196	12,220	1	99	2.39	1,129	1,684	30	79	37	69	Expired	Under Processing
Busia	343,570	149,411	13,000	11,676	7	63	0.87	451	451	48	16	8	79	Expired	Under Processing
Kiambu	160,911	128,866	12,849	10,271	1	221	3.31	1,330	2,185	34	70	28	81	Under Processing	Valid
Oloolaiser	394,522	207,344	12,442	6,621	3	154	2.34	1,245	1,410	40	31	16	144	Expired	Expired
Gatanga	123,877	41,407	11,278	9,435	1	60	1.76	706	1,101	37	116	47	74	Expired	Valid
Ngagaka	84,110	74,555	11,261	8,385	1	39	1.16	598	714	38	43	22	41	Under Processing	Valid
Naivasha	245,448	218,844	11,148	9,720	1	196	2.05	971	1,509	26	26	12	89	Valid	Expired
Imetha	177,401	118,231	11,256	6,497	1	54	1.15	556	695	40	27	13	89	Expired	Pending Issuance
Kyeni	72,170	21,715	10,878	5,510	1	12	1.04	499	544	48	131	63	28	Expired	Expired
Karuri	355,657	187,128	10,765	7,492	1	79	1.60	823	1,012	37	23	12	60	Expired	Valid
Githunguri	216,454	49,061	10,337	6,682	1	58	2.07	474	632	69	116	26	52	Expired	No Licence
Lodwar	94,760	54,006	10,110	9,233	1	71	2.21	466	1,096	50	112	24	75	Expired	No Licence
Nol Turesh	187,379	43,727	10,008	6,789	1	75	2.19	788	986	55	137	49	61	Expired	Pending Issuance
Medium (5,000-9,999 connections)															
Machakos	238,498	158,708	9,914	6,899	1	128	1.20	222	748	38	21	4	67	Expired	Valid
Amatsi	276,915	48,088	9,707	4,762	1	60	1.65	388	1,159	30	94	22	72	Expired	Valid
Homabay	217,738	129,994	9,670	7,815	1	52	0.75	303	408	46	16	6	93	Expired	Pending Issuance
Tuuru	281,659	127,332	9,471	3,064	1	19	1.49	320	370	75	32	7	59	Expired	No Licence
Kibwezi Makindu	278,351	110,143	9,146	6,573	1	93	1.48	763	1,046	29	37	19	77	Expired	No Licence
Nyandarua	75,601	26,246	8,705	5,930	1	47	0.77	353	414	46	80	37	58	Expired	Valid
Embe	45,516	35,494	7,288	3,752	1	40	1.16	374	515	56	89	29	36	Expired	Under Processing
Narok	116,217	49,029	7,638	6,699	1	93	1.25	481	829	34	70	27	89	Under Processing	Pending Issuance
Tana	270,740	58,480	6,890	3,666	3	24	2.03	564	592	71	95	26	63	Expired	Under Processing
Migori	n.c.d.	n.c.d.	5,955	3,200	7	60	0.33	141	141	58	n.c.d.	n.c.d.	54	Expired	Under Processing
Kapsabet Nandi	79,176	26,341	5,890	4,359	2	51	1.21	497	731	40	126	52	38	Expired	Valid
Murugi Mugumango	41,968	29,194	5,450	4,786	1	18	2.23	1,433	1,785	n.c.d.	210	134	23	Expired	No Licence
Chemususu	84,323	56,717	5,160	2,659	1	19	0.88	174	356	60	43	8	48	Expired	Valid
Small (<5,000 connections)															
Lamu	36,174	28,506	4,960	2,240	2	26	0.55	214	309	44	53	21	149	Expired	Valid
Kirandich	35,958	13,494	4,893	3,460	1	24	1.15	390	460	60	234	79	26	Expired	No Licence
Kiambere Mwingi	181,658	128,792	4,752	3,092	2	105	0.99	427	633	36	21	9	46	Expired	Valid
Mutitu	37,761	18,041	4,659	4,279	1	41	0.99	680	680	31	150	103	32	Expired	No Licence
Iten Tambach	76,965	53,279	4,297	2,359	1	36	1.10	461	748	32	57	24	47	Expired	Valid
Mandera	130,762	37,546	3,988	2,010	1	29	0.54	223	302	44	40	16	85	Expired	Valid
Samburu	328,727	100,898	3,971	3,639	6	6	0.65	146	446	n.c.d.	18	4	98	Expired	Pending Issuance
Ol Kalou	114,444	48,819	3,592	3,057	1	41	0.58	248	341	41	33	14	34	Expired	Valid
Olkejuado	301,490	22,545	3,544	854	1	19	0.33	124	213	35	40	15	47	Expired	No Licence
Muthambi 4K	14,803	11,957	3,238	3,224	1	11	0.65	510	519	n.c.d	149	117	14	Expired	No Licence
Kapenguria	196,460	14,988	1,065	602	1	6	0.14	35	93	31	25	6	43	Expired	No Licence
Wote	94,705	21,826	2,691	1,869	1	43	0.46	131	312	32	57	16	43	Expired	No Licence
Naromoru	21,396	15,473	2,464	2,251	1	14	0.32	221	228	28	56	39	27	Expired	Under Processing
Elwak	102,593	8,820	2,450	2,300	3	11	0.35	136	142	59	109	42	115	Expired	Pending Issuance
Rukanga	8,310	6,354	2,301	1,948	1	9	0.19	128	149	n.c.d	83	55	15	Expired	No Licence
Yatta	82,326	56,435	2,038	1,748	1	22	0.26	115	150	42	13	6	29	Expired	Under Processing
Ndaragwa	15,050	6,485	1,884	1,884	1	3	0.02	19	19	n.d.	8	8	13	Expired	Valid
Matungulu Kangundo	61,679	9,474	1,803	1,031	1	14	0.15	82	96	37	44	24	14	Under Processing	No Licence
Kiamumbi	19,129	18,132	1,509	1,356	1	25	0.54	409	455	16	82	62	10	Expired	No Licence
Mbooni	n.c.d.	n.c.d.	1,356	816	1	6	0.06	37	37	33	n.c.d.	n.c.d.	23	Expired	No Licence
Nyasare	118,706	45,166	1,281	849	1	6	0.15	78	96	35	9	5	8	Under Processing	Valid
Runda	11,199	11,199	1,243	1,218	-	72	0.87	653	660	24	213	160	20	Valid	Valid
Tachasis	28,800	27,232	1,229	1,229	-	3	0.37	231	275	25	37	23	11	Valid	Valid
Kathiani	22,903	11,996	1,178	576	1	11	0.12	27	83	30	27	6	13	Expired	No Licence
Mwala	63,701	16,943	1,136	705	3	8	0.06	27	43	28	10	4	20	Expired	No Licence
Tatu City	1,335	1,335	533	533	-	76	0.24	16	228	6	497	34	25	Expired	Valid
Two Rivers	524	524	318	216	-	33	0.10	n.d.	92	4	499	n.d.	n.d.	Expired	Under Processing
Totals/Averages	**26,731,200**	**16,473,785**	**2,114,064**	**1,729,797**	**152**	**24,625**	**459.36**	**170,452**	**254,262**	**45**	**76**	**28**	**12,335**	**-**	**-**

3.4 Utility Categorisation vs Service Delivery

Categorizing of utilities based on size and ownership structure allows for fair comparisons of performance. The size of the utility, reflects the potential size of business. This is largely based on the number of connections. However, one challenge is the issue of dormant connections, which undermines the potential of utilities to serve their customers. This is an important issue to address, as it can impact the financial viability of utilities and the quality of service that they provide. To address this issue, interventions will include undertaking investments to revive such connections as well as carrying out data cleanup exercise.

Ownership structure defines utilities as public or privately-owned. These operate differently due to different constraints therefore requiring different regulatory incentives. Comparatively, public utilities serve a diverse range of customers from high to low-income, while privately-owned utilities have a more homogeneous customer base of medium- to high-income customers and serve a smaller population.

Overall, the relationship between ownership and service delivery performance is a complex issue that requires deeper insight as there are several factors that can impact service delivery performance, including management practices and financing mechanisms.

Figure 3.2: Movement in Size Categories

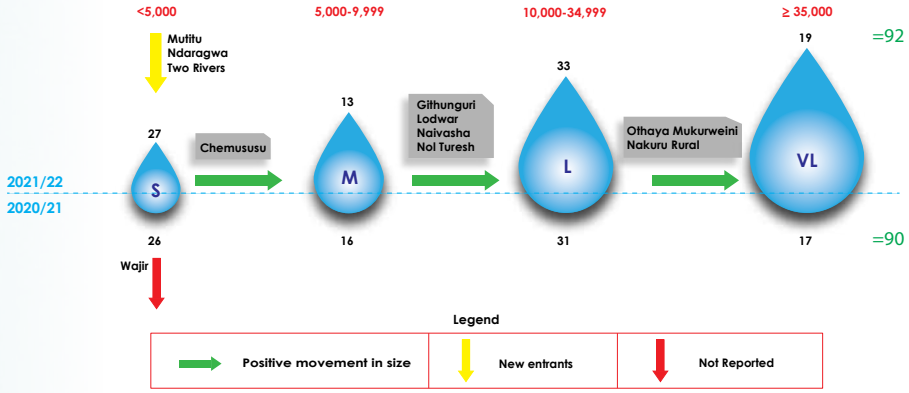
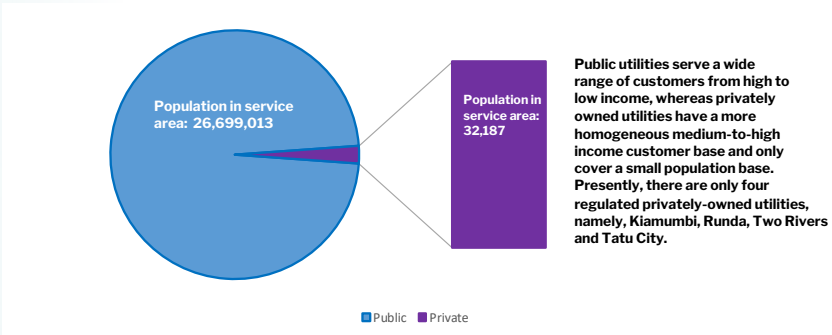


Figure 3.3: Categorization by Ownership

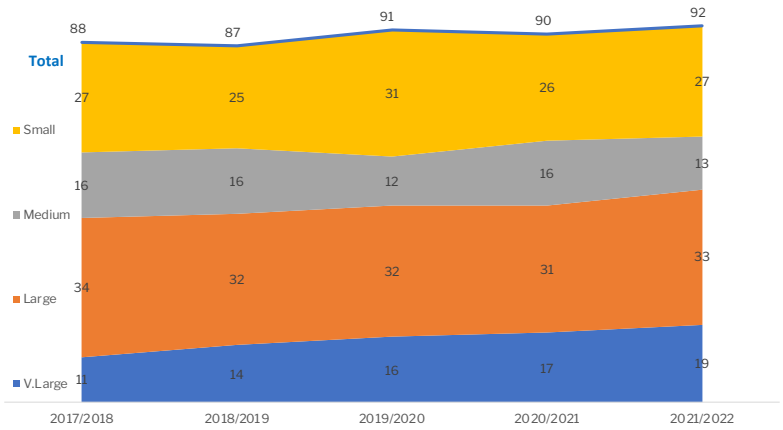


Public utilities serve a wide range of customers from high to low income, whereas privately owned utilities have a more homogeneous medium-to-high income customer base and only cover a small population base. Presently, there are only four regulated privately-owned utilities, namely, Kiamumbi, Runda, Two Rivers and Tatu City.

3.5 Analysis of Utilities' Size and Market Share

The growth in utility size not only depicts the potential size of business but also gives them an advantage to utilize the benefits of economies of scale.

Figure 3.4: Proportion of Utilities in Size Categories



In the 2021/22, there was a growth in both the Large and Very Large sizes of utilities with two entrants in each category.

Figure 3.5: Market Share by Utility Size

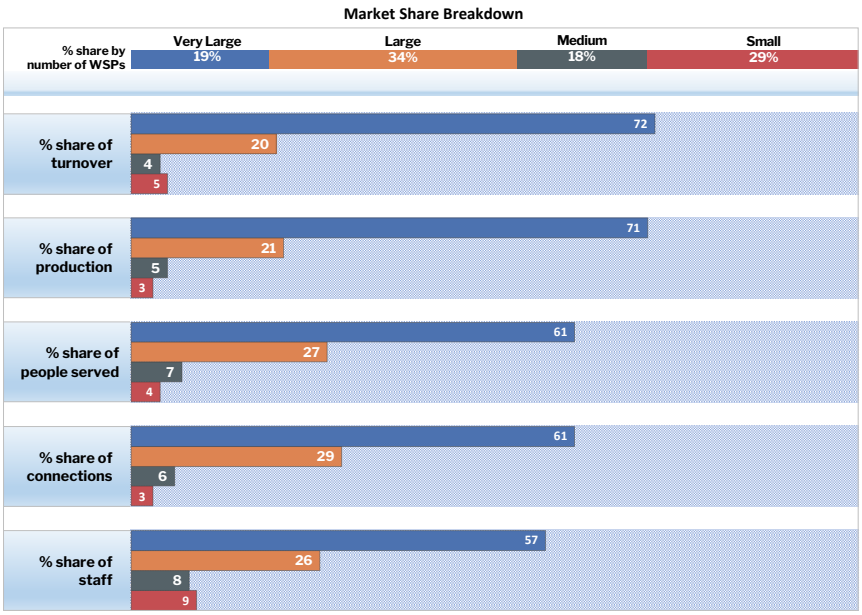


Figure 3.5 reveals that the number of utilities in the Very Large and Large categories remained at 53% of all regulated utilities in the sector. These WSPs have the largest share of business in terms of turnover, water produced including people served. The 52 utilities in the Very Large and Large categories (Figure 3.4) contribute significantly to the sector, representing 92% of total turnover, 92% of total water produced and 88% of people served. Overall, this information provides useful insights into the market share and growth of WSPs in the water sector.

3.6 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.

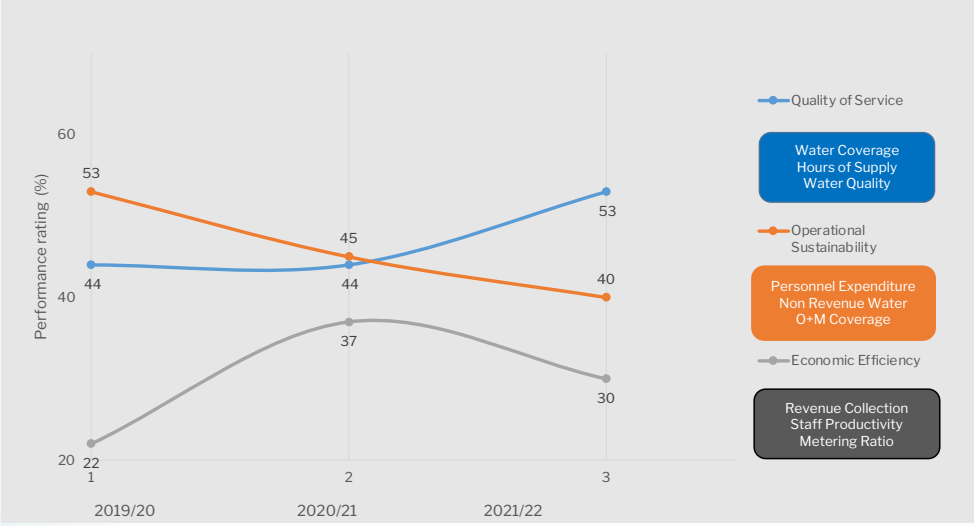
Table 3.2: Performance Indicators, Sector Benchmarks and Scoring Regime

KPI CLUSTER		INDICATORS		Sector Benchmarks			Scoring Regime	
				Good	Satisfactory	Poor	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

3.6.1 Overall Ranking

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

Figure 3.6: KPI Performance by Cluster



Apart from the Quality of Service which recorded an improvement, Operational Sustainability and Economic Efficiency, registered a decline during the review period. Operational Sustainability has continuously declined over three years. The above trends depict that resources that were a function of the improved quality of service are yet to translate to efficiency gains commensurate to the investments. The trend is also contrary to the expectation considering that we are in a post pandemic period. However, following the roll out of Conditional Liquidity Grant (CLSG) Programme which is managed by Water Sector Trust Fund (WSTF) and WASREB, a facility aimed at improving water supply and sanitation services, the sector looks forward to a financial turnaround through the performance-based financing envisioned under the second phase of the Conditional Liquidity Grant which was rolled out in the 2021/22 FY. Table 3.3 presents individual ranking of the 88 publicly owned utilities based on the scoring regime outlined in Table 3.2.

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

Indicator / Utilities	DWQ (%)	Non-Revenue Water (%)	Water Coverage (%)	Hours of Supply (hrs./d)	Staff Productivity (no. staff/K conns.)	Revenue Collection Efficiency (%)	Personnel expenditures as % of total O+M costs	O+M Cost Coverage (%)	Metering Ratio (%)	Total Score	Ranking by category	Overall Ranking
Very Large Utilities												
Nyeri	100	17	98	24	5	97	44	121	100	173	1	1
Nakuru	100	30	94	20	3	105	32	112	100	161	2	2
Thika	100	28	97	18	5	95	39	121	100	157	3	3
Ruiru-Juja	93	38	88	20	6	96	27	143	100	152	4	6
Kisumu	93	31	91	24	5	92	32	103	100	141	5	9
Embu	97	38	81	23	5	103	42	110	100	139	6	10
Eldoret	97	39	81	21	5	104	44	107	100	136	7	11
Kakamega	93	36	87	20	4	93	52	76	100	124	8	15
Malindi	100	29	78	22	8	96	36	84	100	119	9	16
Nakuru Rural	93	49	83	18	5	97	50	102	91	115	10	18
Murang'a South	100	47	59	20	4	102	44	92	99	112	11	23
Gatundu	93	35	68	20	4	89	65	104	100	108	12	25
Kirinyaga	99	59	58	20	5	91	48	84	99	103	13	29
Othaya Mukurweni	100	46	44	23	6	100	45	101	93	100	14	33
Nairobi	95	50	80	7	7	97	59	95	99	93	15	35
Kilifi Mariakani	100	47	62	17	8	81	26	87	100	82	16	44
Kericho	100	53	37	17	8	97	65	72	99	79	17	45
Nzoia	93	52	37	19	7	95	45	101	86	78	18	48
Mombasa	98	51	52	14	9	89	45	96	69	51	19	68
Large Utilities												
Nanyuki	100	32	93	23	5	97	53	121	100	157	1	4
Murang'a	100	24	97	24	5	92	42	107	100	154	2	5
Isiolo	100	30	87	20	6	103	55	102	100	146	3	7
Meru	100	18	78	20	6	99	36	95	100	143	4	8
Ngandori Nginda	93	35	88	24	4	94	52	103	100	134	5	13
Mathira	100	43	61	23	4	98	45	103	99	117	6	17
Tetu Aberdare	93	40	71	22	6	101	55	106	100	115	7	19
Naivasha	93	26	89	24	9	88	46	103	100	114	8	20
Ngagaka	39	38	89	22	5	96	62	106	100	113	9	21
Kiambu	100	34	80	18	8	92	34	100	100	111	10	24
Murang'a West	100	59	61	22	6	95	53	100	92	108	11	26
Limuru	93	34	78	14	6	100	36	83	100	108	12	27
Nyahururu	93	40	88	23	8	94	55	97	100	106	13	28
Kitui	100	52	68	15	12	100	27	65	100	102	14	30
Nithi	93	66	49	16	7	96	36	89	100	85	15	40
Tavevo	93	36	45	15	14	109	27	65	100	83	16	41
Kwale	95	56	30	15	10	93	28	88	100	83	17	42
Gatamathi	99	59	58	23	6	93	51	87	60	83	18	43
Githunguri	93	69	23	16	8	88	27	73	100	75	19	49
Lodwar	15	50	57	8	8	97	73	147	100	69	20	55
Kikuyu	77	38	95	12	10	89	34	88	100	61	21	61
Karuri	82	37	53	13	8	99	26	76	100	60	22	63
Kyeni	23	48	30	18	5	116	65	78	73	59	23	64
Gatanga	93	37	33	16	8	89	45	99	63	57	24	66
Sibo	90	57	38	18	8	94	36	89	100	50	25	69
Mavoko	60	33	39	6	6	83	33	113	100	50	26	70
Imetha	93	40	67	15	14	74	36	102	81	49	27	71
Busia	93	48	43	18	7	65	51	0	78	45	28	76
Bomet	93	56	61	14	13	85	37	66	56	45	29	77
Garissa	40	40	78	22	12	37	54	n.c.d.	75	41	30	78
Oloolaiser	84	40	53	17	22	83	51	78	100	31	31	83
Gusii	74	77	40	18	10	84	37	78	68	16	32	87
Nol Turesh	80	55	23	7	9	89	54	102	76	16	33	88
Medium Utilities												
Kibwezi Makindu	100	29	40	17	12	97	42	86	100	92	1	36
Embe	93	56	78	14	10	68	53	117	100	91	2	37
Murugi Mugumango	-	n.c.d.	70	24	5	97	51	92	100	91	3	38
Kapsabet Nandi	93	40	33	13	9	90	46	70	100	71	4	53
Amatsi	93	30	17	14	15	72	19	39	73	65	5	56
Tuuru	92	75	45	18	19	91	53	107	100	65	6	57
Nyandarua	77	46	35	15	10	96	35	108	83	61	7	60
Homabay	93	46	60	8	12	94	49	71	100	61	8	62
Machakos	93	38	67	8	10	82	45	93	100	59	9	65
Tana	47	71	22	12	17	102	20	54	41	47	10	73
Chemususu	52	60	67	20	18	87	50	86	37	37	11	79
Narok	72	34	42	6	13	88	37	74	100	33	12	82
Migori	80	58	n.c.d.	10	17	14	43	n.c.d.	100	23	13	86
Small Utilities												
Tachasis	93	25	95	24	9	101	43	83	91	135	1	12
Rukanga	93	n.c.d	76	22	8	97	40	97	100	130	2	14
Iten Tambach	93	32	69	17	20	93	36	101	96	112	3	22
Naromoru	0	28	72	22	12	100	40	80	100	101	4	31
Muthambi 4K	0	n.c.d	81	21	4	82	35	145	61	101	5	32
Kiambere Mwingi	93	36	71	14	15	97	26	83	100	99	6	34
Nyasare	93	35	38	10	9	90	39	98	100	86	7	39
Mutitu	0	31	48	24	7	0	3	n.c.d.	100	79	8	46
Lamu	81	44	79	10	67	109	40	30	100	78	9	47
Matungulu Kangundo	17	37	15	20	14	97	39	79	100	73	11	51
Wote	93	32	23	12	23	101	51	92	100	75	10	50
Kathiani	n.c.d.	30	52	10	23	102	22	89	100	72	12	52
Ol Kalou	47	41	43	21	11	104	37	91	100	70	13	54
Ndaragwa	7	n.d.	43	8	7	88	36	139	0	65	14	58
Mwala	93	28	27	8	28	85	42	41	100	63	15	59
Kirandich	38	60	38	7	8	96	29	38	62	54	16	67
Mandera	93	44	29	12	42	39	21	21	n.c.d.	48	17	72
Kapenguria	73	31	8	6	71	140	30	37	80	46	18	74
Samburu	93	n.c.d.	31	8	27	84	42	11	100	46	19	75
Yatta	40	42	69	9	17	80	55	72	100	35	20	80
Elwak	0	59	9	20	50	47	24	15	16	35	21	81
Mbooni	55	33	n.c.d.	9	28	48	91	n.c.d.	94	25	22	84
Olkejuado	0	35	7	10	55	80	45	56	92	24	23	85

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

Top and Bottom Utilities

The top utility was Nyeri with a score of 173 points out of the possible 200 points, which is a 6-point decline from the previous reporting period. Nakuru and Thika took up the second and third positions with scores of 161 and 157 respectively.

The utilities in the bottom three positions for the reporting period were Nol Turesh at position 88, Gusii 87and Migori at position 86. The worst performers in the Very Large, Large, Medium and Small categories were Mombasa, Nol Turesh, Migori and Olkejuado respectively. The Regulator also notes that other than Mombasa and Migori, the other two utilities are from Tanathi region. This then raises a concern and there is a need for candid efforts to improve performance in the region.

Privately Owned

In the Privately-owned category, Tatu City maintained its position as the top performer under the privately owned utilities. At the same time, Kiamumbi clinched the second position which was formerly taken by Runda.

Table 3.4: Overall Ranking for Privately-Owned Utilities

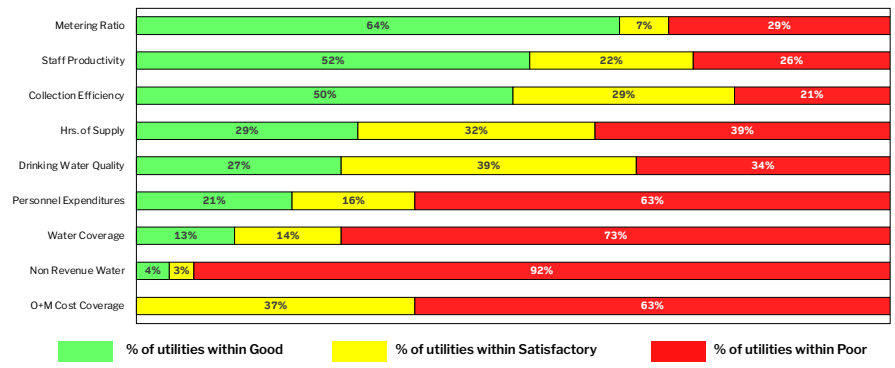
Indicator / Utilities	DWQ (%)	Non-Revenue Water (%)	Water Coverage (%)	Hours of Supply (hrs./d)	Staff Productivity (no. staff/K conns.)	Revenue Collection Efficiency (%)	Personnel expenditures as % of total O+M costs	O+M Cost Coverage (%)	Metering Ratio (%)	Total Score	Ranking by category	Overall Ranking
Tatu City	100	6	100	24	47	95	15	102	100	**159**	1	1
Kiamumbi	52	16	95	24	7	100	20	113	100	**153**	2	2
Runda	93	24	100	16	16	97	28	118	100	**152**	3	3
Two Rivers	93	4	100	24	n.d.	168	14	88	100	**146**	4	4

However, amidst these dynamics, all the utilities in this category registered an improvement in the overall performance. On the other hand, with the entry of Two Rivers WSP, the total number of privately-owned regulated utilities now stands at four.

3.6.2 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. Figure 3.7 shows performance of utilities in relation to sector benchmarks and the number of utilities within each performance range.

Figure 3.7: Assessment of KPIs against Sector Benchmarks



In the review period, collection efficiency was the best performing KPI for the second year in a row. However, this performance (79%) was a three-percentage points drop from the previous 82%. On the flipside, Non-Revenue Water remained as the least performing KPI.

On the other hand, within each clustered KPI, the least performing KPIs were Non-Revenue Water (7%). Water Coverage (27%) and O+M Cost Coverage (37%). In essence, these three KPIs have a critical role in shaping the water services provision and subsequently achievement of the sector goals. Therefore, there is a need for all stakeholders to co-operate towards result-based efforts aimed at turning around performance in these areas and accelerate achievement of the set targets.

3.6.3 Performance Over Time

WASREB recognizes utilities that have improved their performance over time, even if they have not achieved top positions in the short or medium term due to circumstances beyond their control. The Tables 3.5 and 3.6 show performance over time of publicly and privately-owned utilities respectively.

Table 3.5: Performance Over Time of Publicly Owned Utilities

Rank	WSP	Score 2020/21	Score 2021/22
1	Nyeri	179	173
2	Nakuru	158	161
3	Thika	121	157
4	Nanyuki	137	157
5	Murang'a	145	154
6	Ruiru-Juja	143	152
7	Isiolo	141	146
8	Meru	139	143
9	Kisumu	128	141
10	Embu	121	139
11	Eldoret	137	136
12	Tachasis	118	135
13	Ngandori Nginda	142	134
14	Rukanga	115	130
15	Kakamega	80	124
16	Malindi	112	119
17	Mathira	98	117
18	Nakuru Rural	100	115
19	Tetu Aberdare	117	115
20	Naivasha	124	114
21	Ngagaka	137	113
22	Iten Tambach	78	112
23	Murang'a South	90	112
24	Kiambu	99	111
25	Gatundu	83	108
26	Kahuti	107	108
27	Limuru	87	108
28	Nyahururu	110	106
29	Kirinyaga	96	103
30	Kitui	69	102
31	Naromoru	59	101
32	Muthambi 4K	102	101
33	Othaya Mukurweni	96	100
34	Kiambere Mwingi	101	99
35	Nairobi	62	93
36	Kibwezi Makindu	90	92
37	Embe	93	91
38	Murugi Mugumango	101	91
39	Nyasare	109	86
40	Nithi	90	85
41	Tavevo	79	83
42	Kwale	54	83
43	Gatamathi	61	83
44	Kilifi Mariakani	61	82
45	Kericho	76	79
46	Mutitu	n/a	79
47	Lamu	57	78
48	Nzoia	83	78
49	Matungulu Kangundo	39	75
50	Githunguri	43	75
51	Wote	74	75
52	Kathiani	60	72
53	Kapsabet Nandi	56	71
54	Ol Kalou	90	70
55	Lodwar	40	69
56	Amatsi	31	65
57	Tuuru	76	65
58	Ndaragwa	n.d.	65
59	Mwala	77	63
60	Nyandarua	36	61
61	Kikuyu	69	61
62	Homabay	63	61
63	Karuri	89	60
64	Kyeni	60	59
65	Machakos	36	59
66	Gatanga	34	57
67	Kirandich	57	54
68	Mombasa	68	51
69	Sibo	38	50
70	Mavoko	54	50
71	Imetha	66	49
72	Mandera	41	48
73	Tana	41	47
74	Kapenguria	0	46
75	Samburu	29	46
76	Busia	29	45
77	Bomet	63	45
78	Garissa	44	41
79	Chemususu	45	37
80	Yatta	64	35
81	Elwak	27	35
82	Narok	37	33
83	Oloolaiser	42	31
84	Mbooni	23	25
85	Olkejuado	9	24
86	Migori	27	23
87	Gusii	21	16
88	Nol Turesh Loitokitok	28	16

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.

Table 3.6: Performance Over Time of Privately-Owned Utilities

Rank	WSP	Score 2020/21	Score 2021/22
1	Tatu City	155	159
2	Kiamumbi	142	153
3	Runda	143	152
4	Two Rivers	n/a	146

In the Private category, all the utilities recorded an improvement in performance.

Table 3.7 indicates the overall performance for utilities. The average score was 42% which was a marginal improvement of two percentage points. The trend in improvement has been consistent over for a third year in a row. However, the average score of 42% implies that more than half of the utilities scored less than 100 points out of the possible 200 points.

Table 3.7: Number and Percentage of Utilities Recording Improvement

Year	No. of Utilities	No. of Improvers	% of Improvers	Average Score, %
2019/20	91	47	52	38
2020/21	90	53	59	40
2021/22	92	52	57	42

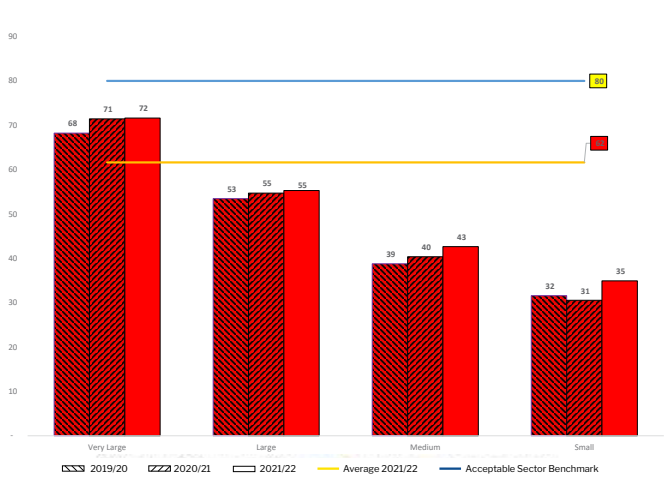
3.6.4 Performance of Utilities by Indicators

a) Water Coverage

During the current reporting period, the population within the service area of 92 utilities was 26.73 million people, which translates to approximately 6.85 million households based on the national average household size of 3.9. Among these households, the utilities were able to provide drinking water services to 16.5 million people, representing roughly 4.2 million households. The average Water Coverage for this period was 62%, marking an increase from the previous period's 60% (as shown in Figure 3.8). At utility size level, the utilities registered a positive growth in coverage across all categories with the Small category being the most improved by four percentage points. The utilities have shown a consistent growth in water coverage in a span of three years.

There was also a growth of active water connections from the previous 1.27 million to 1.36 million representing a 7.1% growth. At the same time, the population served increase from 15.7 million to 16.5 million representing a 5.1% growth. However, the growth in connections did not translate to improve the per capita consumption from the fact that the total domestic billed volume dropped from 172.7mm^3 to 170.4 mm^3 despite the growth in overall billed volume. This correlation was therefore indicative of a reduced quality service during this period, especially for the domestic category of consumers.

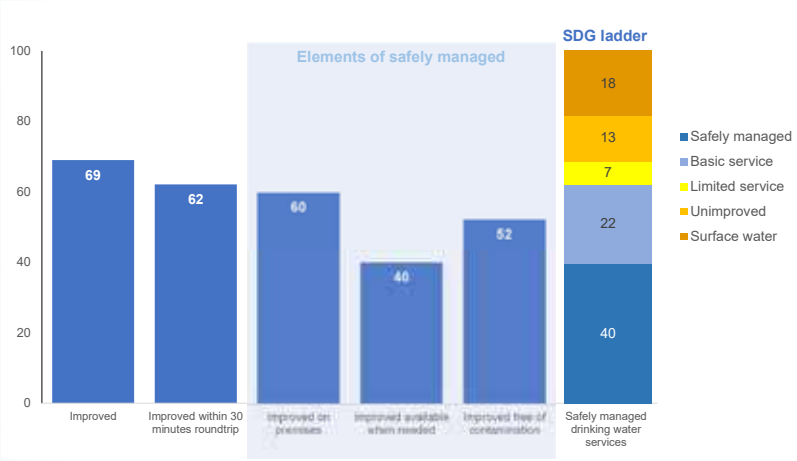
Figure 3.8: Water Coverage by WSP category, %



SDG 6.1 has defined different service levels to enable tracking of progress towards goal number six. Figure 3.9 presents the proportion of the total population that is within the five different service levels namely; Surface water, Unimproved, Limited, Basic, and Safely managed.

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 34% to 40%. This substantial increase is as a result of incorporation of service through yard taps as a component of piped to premises.

Figure 3.9: Proportion of Population using Safely Managed Drinking Water Services



b) Sanitation Coverage

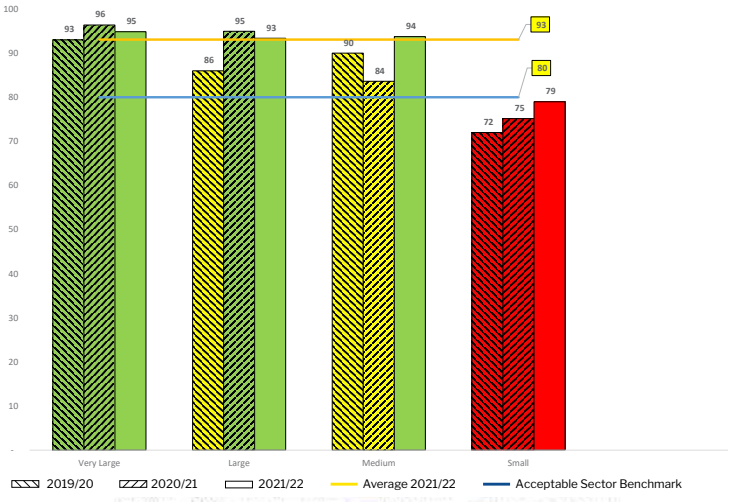
Sanitation coverage is an essential aspect of public health. It refers to the percentage of the population that has access to improved sanitation facilities such as toilets, latrines and wastewater treatment systems. Sanitation has three key components: sanitation facilities, safe and hygienic management of human excreta, together with wastewater management. Sanitation facilities are designed to separate human waste from contact with people and the environment. Safe and hygienic management of human excreta involves the proper disposal and treatment of waste.

For sanitation to be adequate sanitation, the services need to be accessible, affordable and sustainable for all members of the community. This can be achieved through a combination of infrastructure development, effective policies coupled with regulations.

The overall sanitation for the period remained at 93%, (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.

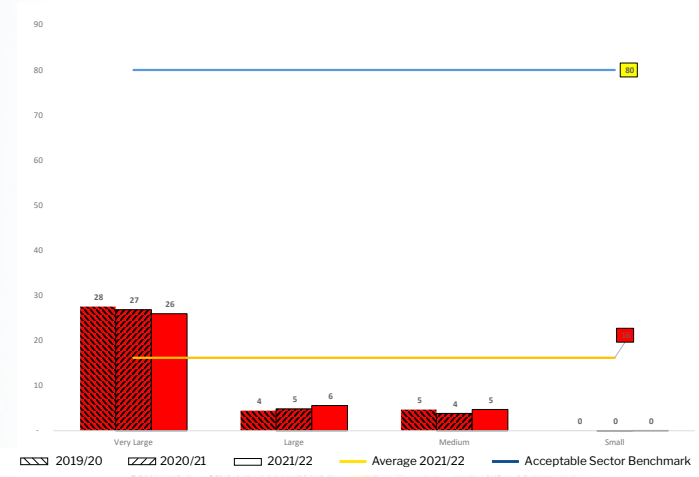
Figure 3.10: Sanitation Coverage by WSP Category, %



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 remained relatively constant (Figure 3.11). 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 27% to 26% while the Large and Medium categories recorded a marginal increase of one percentage point. The decline in the Very Large category can be attributed to the shift of Nakuru Rural and Othaya Mukurweini to this category, considering that the sewerage coverage for these WSPs is very low.

Figure 3.11: Sewered Sanitation Coverage by WSP Category, %

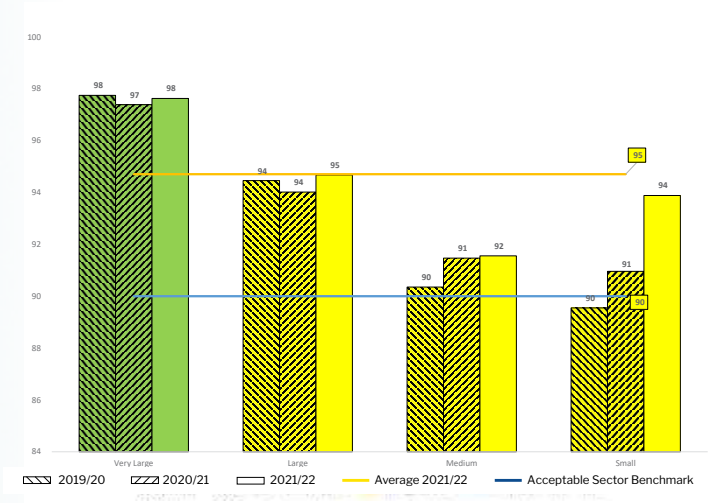


c) Drinking Water Quality

Access to clean and safe drinking water is vital for public health. The Regulator has continued to monitor the set water quality standards and compliance by utilities to the same. Whereas the key performance indicator is a weighted factor of compliance to residual chlorine and bacteriological standards, utilities are required to comply with reporting requirements stipulated in the drinking water guidelines. Equally, utilities are obliged to comprehensively plan on water quality monitoring and management, both through developing annual sampling programs and formulation of water safety plans within the first year of licensing.

In 2021/22, the national average was 95%. An improvement was noted in all the size categories.

Figure 3.12: Drinking Water Quality, %

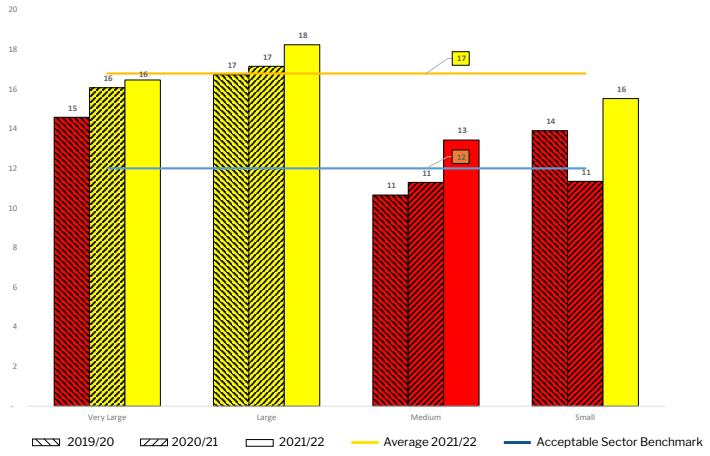


A breakdown of utility performance in the two components of DWQ sub-indicators is provided in Annex 4.

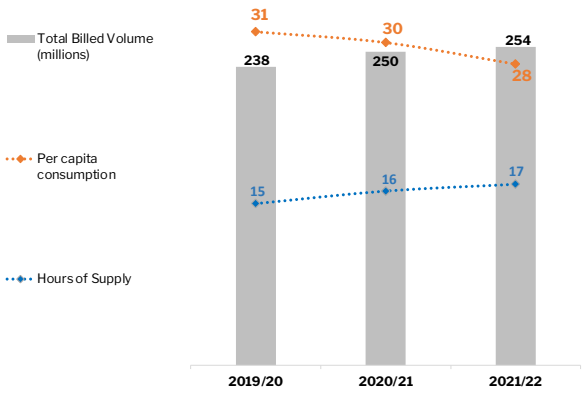
d) Hours of Supply

This metric is an important indicator of the continuity and availability of water services to customers and reflects the quality of service provided by the utility. Whereas the indicator refers to the average number of hours per day that a utility provides water to its customers, the accuracy of the indicator relies heavily on the ability of rationing programs to link connections in each supply area.

Figure 3.13: Hours of Supply, No.



In 2021/22, the average daily service hours improved marginally from 16 to 17, with all size categories recording an improvement.

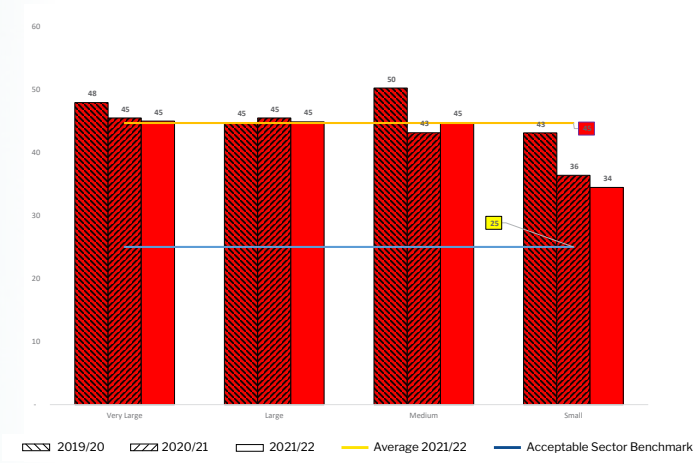


Despite the marginal improvement in reliability, there was decrease in water supplied for domestic consumption. As a result, the per capita consumption decreased from 30 litres per capita per day to 28 litres per capita per day. Whereas it would be expected that both reliability and per capita consumption follow a similar trend, the disparity indicates a higher consumption in non-domestic consumers. The chart below shows a three-year trend in hours of supply, per capita consumption and total billed volumes. It is observed that despite the growth in billed volumes and hours of supply, the per capita consumption has been on a declining trajectory. This depicts that utilities have given more attention supplying for commercial consumption in lieu of domestic consumption. The concern with this trend is that it undermines the spirit and efforts behind the progressive realization of the right to water as a basic right.

e) Non-Revenue Water

Non-Revenue Water (NRW) refers to the difference between the amount of water put into the distribution system and the amount of water billed or authorized as consumption. It includes both commercial (apparent) losses, such as billing inaccuracies and physical (real) losses, which include leaks in the distribution system. NRW is an operational indicator that measures efficiency of operations by utilities, contributing to sustainability of the water supply system.

Figure 3.14: Non-Revenue Water, %

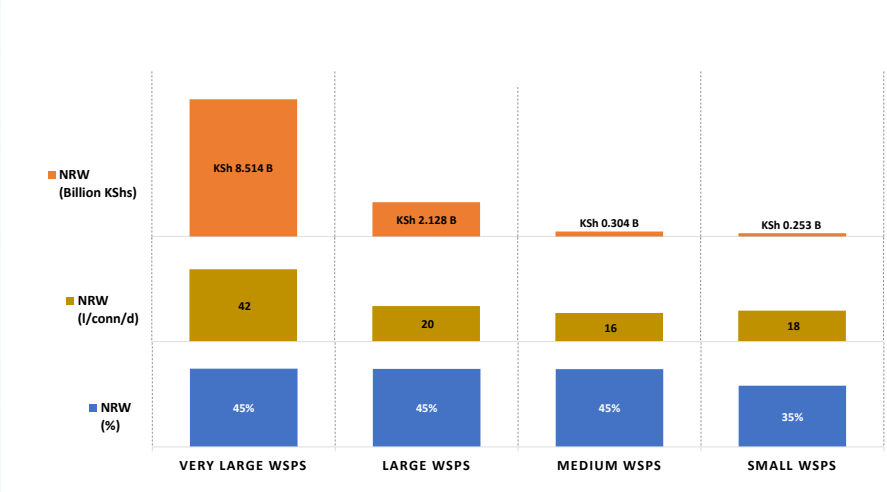


NRW in the current period stagnated at 45%. Statistically, there was a decimal improvement from 45.1% to 44.7%, except for the Medium size category where NRW levels increased from 43% to 44%. In both scenarios, NRW levels remained above the 20% sector benchmark which implies the need for double efforts to reduce the water losses.

In financial terms, the sector lost slightly more than KShs. 11.2 Billion annually. In terms of volume, the amount lost annually is 205 million cubic meters. Figuratively, allowing for a per capita consumption of 50 litres per day per person, the volume of water lost could serve additional 11.28 million people in the year. This would significantly improve the country's overall water coverage, bringing it closer to universal coverage targets.

The table below shows a breakdown of NRW expressed in three aspects.

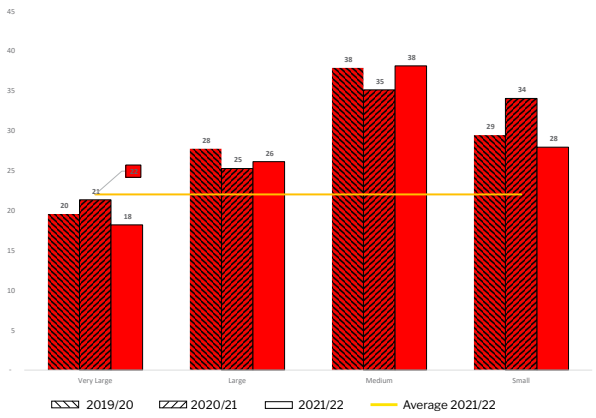
Figure 3.15: Breakdown of NRW



f) Dormant Connections

Whereas the business size of a utility can be linked to billed volumes, the trend in dormant connections depicts underlying challenges facing the utility. An increase in dormant connections is a concern indicating a shrinking business base of the utility, leading to poor quality of service or unsustainability of services. One of the key factors is inadequate customer management policies that at times leads to duplication of accounts in the billing system or disconnected customers being registered as new accounts. The Regulator mandates all licensed utilities to conduct a customer identification exercise every two years to avoid phased out customer accounts.

Figure 3.16: Dormant Connections, %



In the reporting period, the average proportion of dormant connections was 22% which was an improvement by 2 percentage points compared to the previous reporting period. Technically, this translated to 384,267 inactive water connections.

The table below shows 10utilities with high proportion of dormant connections.

Red Flag- a Shrinking Business Base

WSP	% of dormant connections
Olkejuado	76
Tuuru	68
Mombasa	63
Lamu	59
Kathiani	51
Amatsi	51
Mandera	50
Kyeni	49
Embe	49
Chemususu	48

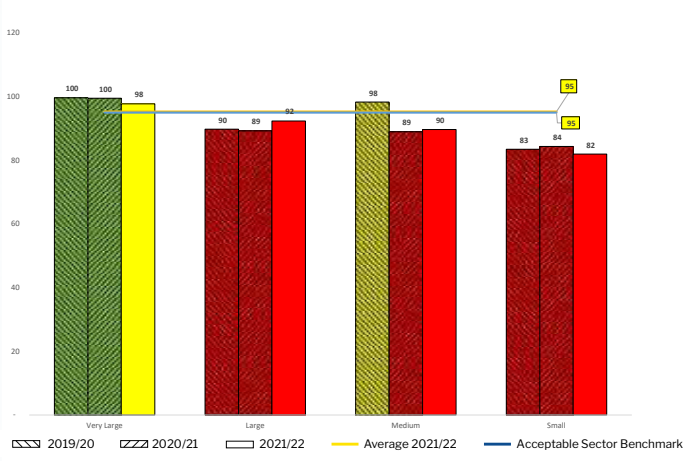
Utilities such as Olkejuado, Amatsi, Tuuru, and Mombasa have consistently recorded inactive connections of more than 50% for five consecutive years.

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 functionality of these meters on a regular basis, either by sampling them for calibration or by replacing the old ones through implementation of a metering policy.

In 2021/22, the average metering level was at 95% which was a decline from 96% in the previous period.

Figure 3.17: Metering Ratio, %



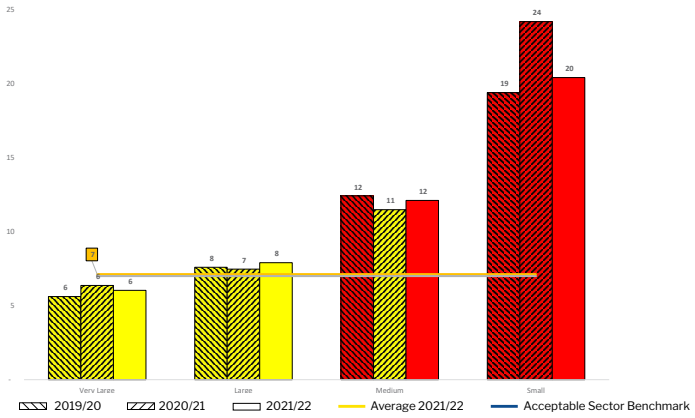
h) Staff Productivity (staff per 1,000 connections)

Staff productivity refers to efficiency of employee utilization in delivering services to customers. In the water sector, it is measured as the number of personnel employed per 1,000 connections, which include both water and sewer connections where applicable. Staff productivity is a crucial aspect of evaluating the overall efficiency of a WSP, as it impacts the cost of delivering services to customers.

The size of a utility, the nature of human settlement, the skills mix and the extent of outsourcing for services, all impact staff productivity in a WSP. Large WSPs are expected to gain from economies of scale, which means that they should operate more efficiently and cost-effectively than smaller WSPs. On the other hand, small WSPs with fewer than 5,000 connections may require more personnel to deliver services effectively.

In the review period, the average staff productivity remained at seven (7). However, the Small category registered a slight improvement from 24 to 20 staff per 1,000 connections. Some WSPs spend more than half of their operation and maintenance (O+M) expenditures on staff costs, which is significantly outside the acceptable levels of sector performance. This situation is unsustainable and can lead to financial difficulties for the WSP.

Figure 3.18: Staff Productivity, Staff No. per 1,000

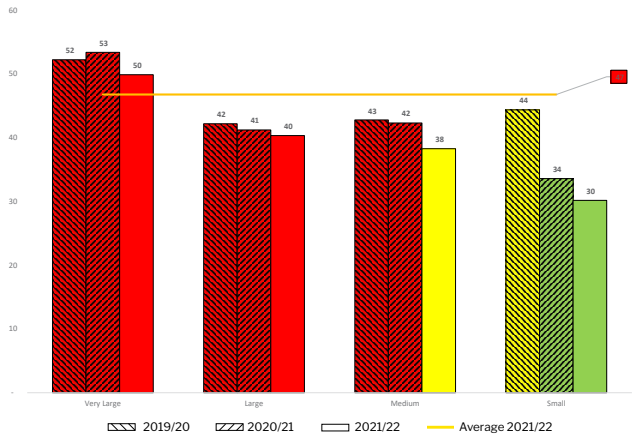


To improve staff productivity, WSPs need to invest in training and development programs for their employees. These programs will help improve the skills and knowledge of employees and increase their efficiency in delivering services. WSPs can also invest in technology and equipment that can improve efficiency, such as, automated meter reading systems, which reduce the need for manual meter reading. Utilities can also consider outsourcing some services to reduce staffing costs while maintaining the quality of services provided. This approach can be particularly effective for small WSPs with limited resources to invest in staffing and equipment.

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

The proportion of personnel expenses in relation to total O+M (Operations and Maintenance) expenses is used to assess whether personnel expenses are aligned with sector benchmarks.

Figure 3.19: Personnel Expenditure as a Percentage of O+M, %



There was a slight improvement in performance of this indicator from 50% in 2020/21 to 47% in 2021/22. This improvement was observed in all categories of WSPs. However, considering the sector benchmarks,

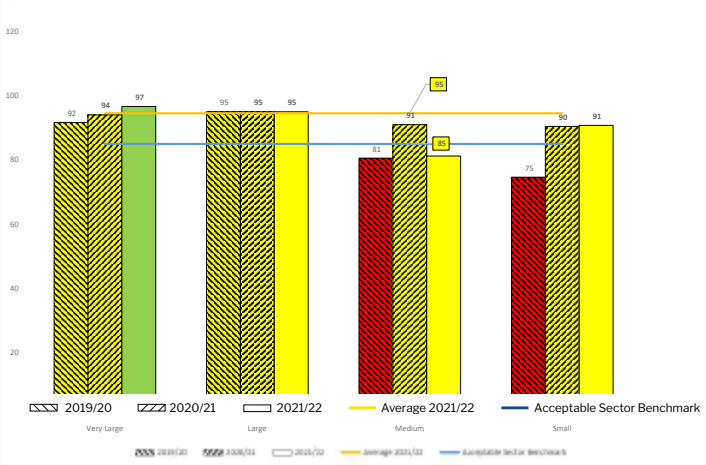
personnel expenditure is still high, a trend that implies constrained resources meant for other operations and a decline in service quality. It is expected that utilities with justified tariffs will align their expenses with the projections established in the tariff. WASREB will closely monitor to ensure proper management of other aspects of utility operations.

Additionally, the Regulator has issued remuneration guidelines at the utility level based on business levels. Also, the model HR guidelines is designed to offer guidance to WSPs on proper human capital management during Collective Bargaining Agreement negotiations (CBAs). It is worth noting that, personnel expenditure together with NRW and O+M cost coverage, form the foundation of WSPs' commercial viability evaluation.

j) Revenue Collection Efficiency

Revenue Collection Efficiency refers to consistency between amount of revenue collected and the amount billed. This indicator assesses efficiency of revenue management system in a utility. It is crucial because only the collected revenue provides reliable funding for a WSP's operations.

Figure 3.20: Revenue Collection Efficiency, %



Overall, performance in this indicator improved from 94% in 2020/21 to 95% in 2021/22.

k) Operation and Maintenance Cost Coverage

Operation and Maintenance (O+M) Cost Coverage is a measure of a 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.

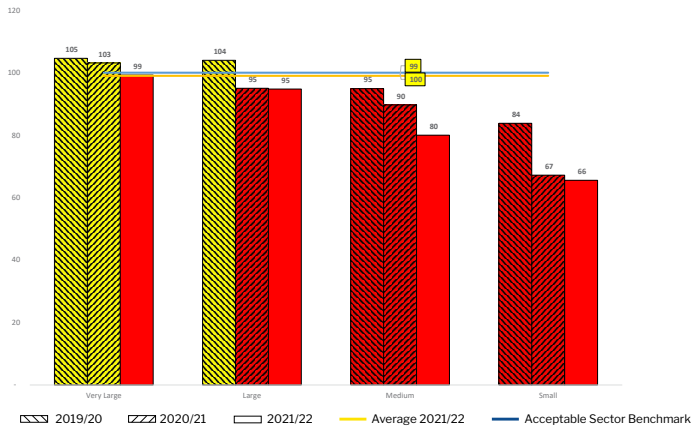
For a utility to be self-sustainable, the following levels of cost-coverage defined in Table 3.8 have to be met.

Table 3.8: 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, it is able to meet O+M costs, service debts and renew its assets.

Figure 3.21: O+M Cost Coverage



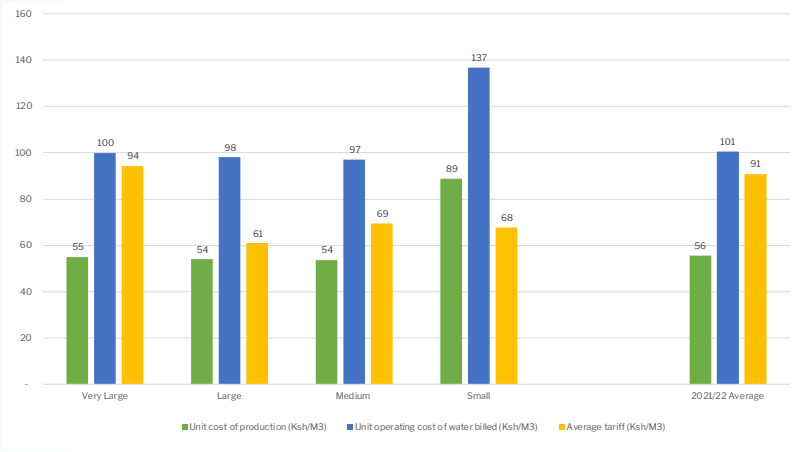
Overall, this KPI registered a decline of three percentage points from 99% to 96%. A decline was also observed across all categories of utilities. This trend implies that utilities' financial resilience has decreased owing to the inability to cover their operational costs. Utilities should ensure that they operate using cost reflective tariffs as approved by the Regulator. In cases of expired tariffs, utilities have an obligation to engage WASREB early for a tariff review.

I) Comparative Cost of Production and Average Tariff

Evaluation of a utility's operational efficiency is measured by comparing the unit cost of production to the unit cost of water billed. Analysing the unit cost of water billed against the average tariff is crucial in determining financial sustainability of the utility.

In the 2021/22, there was a rise in the unit cost of operation, equally on the average tariff. The average tariff decreased to KShs.91 from the previous KShs. 95. The dynamics then shift to O+M cost coverage which registered a decline from 99% to 96%. Quantitively, the O+M expenditure increased by KShs. 2.1 Billion against a revenue change of KShs. 1.4 Billion. This implies that the resultant was an increased operational cost which is normally passed to the consumer or is footed through external subsidies. In absence of these, the quality of service is usually compromised.

Figure 3.22: Tariff-Cost Comparison



m) Water Services in Low Income Areas

Kenya, like many other developing countries, is experiencing rapid urbanization that has put a strain on its water resources. The influx of people into urban areas has resulted in a growing demand for water. The impact of this strain is equally felt in provision of water and sanitation services particularly in low-income areas, where access to clean water is already limited.

In the low-income areas, inadequate water supply infrastructure exacerbates the problem, as water scarcity is further compounded by unreliable water supply systems. As a result, many households in these areas rely on informal water sources, such as rivers, wells and boreholes, which suffer the risk of contamination leading to the water being unsafe for consumption. This lack of access to clean water poses a significant health risk to residents, particularly children, who are vulnerable to waterborne diseases such as diarrhoea, cholera and typhoid fever.

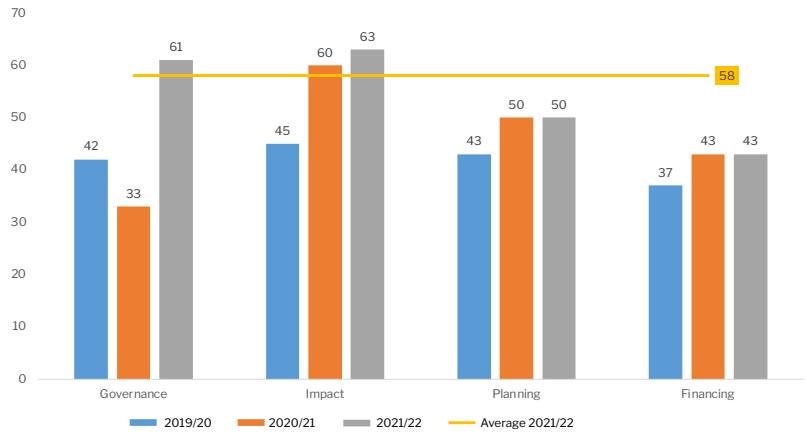
Furthermore, the strain on water resources in low-income areas is not only a health issue but an economic crisis as many spend a significant portion of their income on buying water from vendors, who at times charge exorbitant prices for the precious resource. This leaves families with little disposable income for other essential needs such as food, education and healthcare.

To ensure that no one is left behind, it is imperative for the sector players and other stakeholders to prioritize investments in water supply infrastructure and improve access to safe and clean water. The Regulator continues to assess the level of pro- poor initiatives for all water utilities. The key assessment areas are as described in the illustration.

In the reporting period 2021/22, 63 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 58 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 deliberate efforts to attain inclusivity and equity in water services delivery have been put in place. There was considerable growth in the Impact dimension by 15 percentage points which translates to the betterment of service delivery in low-income areas.

Figure 3.23: Performance in Pro-poor Parameters



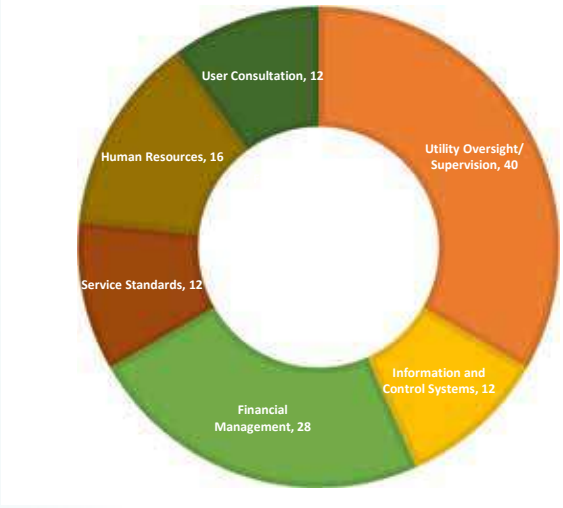
An overall improvement was noted in average performance which moved from 54% to 58%. A similar improvement trend was also observed across the three dimensions with the exception of financing dimension, that recorded a 2-percentage point decrease. The governance aspect recorded the highest improvement, largely because more utilities now have pro-poor policies and units in place as observed by the Regulator during assessment.

On individual utility performance, Kisumu, Nakuru and Nairobi were ranked best three with Nyeri and Naivasha closing the top five.

The assessment also depicted that the financing aspect remains a poorly performed aspect of the indicator. The Regulator denotes that one of the prevalent gaps is where utilities lack a pro-poor specific budget. Such a gap consequently underrates the assessment of other related sub aspects such as, resource mobilisation and equity which requires a pro-poor budgeting.

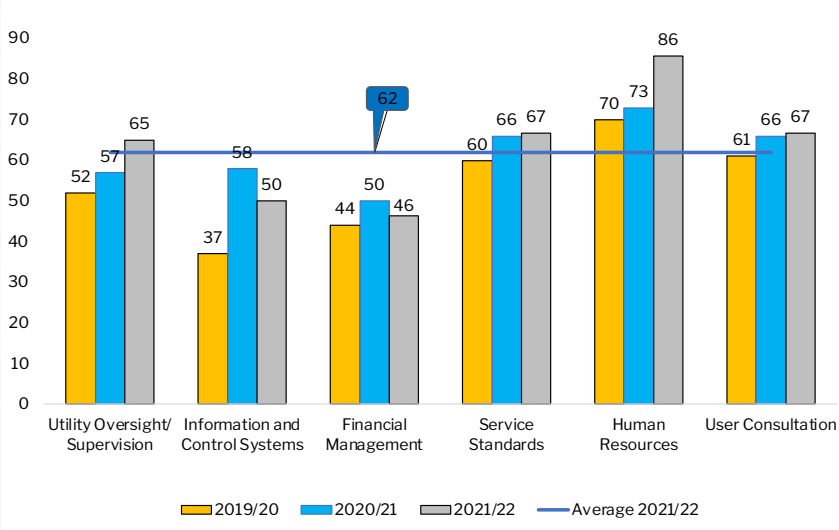
3.6.5 Governance Assessment

Figure 3.24: Governance Sub-Indicators



Based on the indicators outlined in Figure 3.24; the performance of the sector is presented in Figure 3.25. The sector in the current period recorded an average performance of 62%, an improvement from 54% in the previous period.

Figure 3.25: Performance in Governance Indicators



3.6.6 Creditworthiness Analysis

Lenders utilize creditworthiness analysis as a crucial process to assess the risk associated with granting loans to potential borrowers. The evaluation encompasses multiple aspects, including the borrower's

credit history, income, debt-to-income ratio and other financial details. The primary objective is to determine the probability of the borrower repaying the loan along with setting appropriate terms and conditions like interest rate and repayment duration. A borrower with a favourable credit history and steady income is more likely to be considered creditworthy, making them eligible for better loan terms. On the other hand, a borrower with a poor credit record and a high debt-to-income ratio may face stricter loan requirements, or their application may even get declined.

In this report, the creditworthiness index has been depicted using well-known rating symbols (AAA, BB, etc.) and has not considered Social-Economic and Governance indicators. The index comprises 23 weighted indicators specified in Annex 7. The analysis presented is based on financial and operational data for the 2021/2022 fiscal year obtained from WARIS and the financial statements for 2021/22.

Table 3.9: 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.

A total of 80 utilities were assessed and the performance summary is presented in Table 3.10.

Table 3.10: CWI Performance Summary

Score	>85	71 to 85	61 to 70	51 to 60	41 to 50	31 to 40	<=30
Number of Utilities	0	2	3	3	31	25	6
Rating	AAA	AA	A	BBB	BB	B	No Rating

A comparison of performance with the previous period shows that one utility Ruiru-Juja scored “AAA” while the utilities that scored at least “B” increased from 33 in the last reporting period to 64 in the current reporting period. Performance of each of the 48 utilities assessed including performance in the previous period is presented in Table 3.11.

Table 3.11: Creditworthiness Index

WSPs	2020-21		2021-22		Change in Score
Nyeri	68	A	78	AA	10
Ruiru-Juja	92	AAA	75	AA	-17
Thika	62	A	70	A	8
Nakuru	68	A	66	A	-3
Nanyuki	56	BBB	62	A	7
Ngagaka	65	A	55	BBB	-10
Naivasha	NOT ASSESSED		54	BBB	NOT APPLICABLE
Rukanga	NOT ASSESSED		53	BBB	NOT APPLICABLE
Embu	72	AA	50	BB	-22
Ngandori Nginda	59	BBB	49	BB	-10
Mavoko	53	BBB	49	BB	-4
Othaya Mukurweni	44	BB	49	BB	5
Tetu Aberdare	49	BB	48	BB	-1
Imetha	51	BBB	48	BB	-3
Olkalou	NOT ASSESSED		48	BB	NOT APPLICABLE
Eldoret	48	BB	48	BB	-1
Kiamumbi	NOT ASSESSED		48	BB	NOT APPLICABLE
Kiambere Mwingi	NOT ASSESSED		47	BB	NOT APPLICABLE
Isiolo	53	BBB	46	BB	-7
Meru	51	BBB	46	BB	-5
Machakos	NOT ASSESSED		46	BB	NOT APPLICABLE
Iten Tambach	NOT ASSESSED		46	BB	NOT APPLICABLE
Kyeni	44	BB	46	BB	2
Kahuti	57	BBB	46	BB	-11
Mathira	45	BB	45	BB	0
Nithi	51	BBB	45	BB	-7
Gatanga	52	BBB	44	BB	-8
Tavevo	33	B	44	BB	11
Tatu City	NOT ASSESSED		44	BB	NOT APPLICABLE
Murang'a South	38	B	43	BB	5
Lodwar	NOT ASSESSED		42	BB	NOT APPLICABLE
Gatundu	37	B	42	BB	5
Garissa	41	BB	42	BB	0
Narok	NOT ASSESSED		41	BB	NOT APPLICABLE
Wote	NOT ASSESSED		41	BB	NOT APPLICABLE
Kiibwezi Makindu	NOT ASSESSED		41	B	NOT APPLICABLE
Murang'a	50	BB	41	B	-9
Kathiani	NOT ASSESSED		41	B	NOT APPLICABLE
Olkejuado	NOT ASSESSED		40	B	NOT APPLICABLE
Kikuyu	35	B	40	B	4
Kisumu	44	BB	39	B	-4
Nzoia	49	BB	39	B	-9
Sibo	45	BB	39	B	-6
Nyahururu	42	BB	39	B	-3
Mombasa	53	BBB	38	B	-15
Two Rivers	NOT ASSESSED		38	B	NOT APPLICABLE
Embe	NOT ASSESSED		38	B	NOT APPLICABLE
Kiambu	41	BB	37	B	-4
Nyandarua	NOT ASSESSED		37	B	NOT APPLICABLE
Matungulu kagundo	NOT ASSESSED		37	B	NOT APPLICABLE
Nairobi	32	B	36	B	4
Kitui	39	B	36	B	-4
Kapsabet Nandi	NOT ASSESSED		35	B	NOT APPLICABLE
Kakamega	31	B	34	B	3
Nol Turesh	NOT ASSESSED		34	B	NOT APPLICABLE
Kirinyaga	37	B	34	B	-4
Gusii	31	B	33	B	2
Githunguri	NOT ASSESSED		32	B	NOT APPLICABLE
Nakuru Rural	40	B	32	B	-8
Gatamathi	40	B	32	B	-9
Kilifi Mariakani	26	NO RATING	31	B	6
Limuru	46	BB	31	B	-15
Karuri	36	B	31	B	-5
Eldama Ravine	NOT ASSESSED		31	NO RATING	NOT APPLICABLE
Mwala	NOT ASSESSED		30	NO RATING	NOT APPLICABLE
Homabay	NOT ASSESSED		30	NO RATING	NOT APPLICABLE
Nyasare	NOT ASSESSED		29	NO RATING	NOT APPLICABLE
Malindi	43	BB	29	NO RATING	-14
Kwale	32	B	29	NO RATING	-3
Bomet	25	NO RATING	28	NO RATING	3
Tana	NOT ASSESSED		28	NO RATING	NOT APPLICABLE
Oloolaiser	28	NO RATING	25	NO RATING	-3
Kirandich	NOT ASSESSED		24	NO RATING	NOT APPLICABLE
Yatta	NOT ASSESSED		24	NO RATING	NOT APPLICABLE
Lamu	NOT ASSESSED		24	NO RATING	NOT APPLICABLE
Busia	39	B	23	NO RATING	-15
Kericho	32	B	22	NO RATING	-10
Mandera	NOT ASSESSED		17	NO RATING	NOT APPLICABLE
Elwak	NOT ASSESSED		13	NO RATING	NOT APPLICABLE
Samburu	NOT ASSESSED		12	NO RATING	NOT APPLICABLE

The analysis was also carried out considering the most improved/ declined in the reporting period. Tavevo and Nyeri recorded the most improvement while Embu and Ruiru-Juja recorded the worst decline.

Table 3.12: Improvers

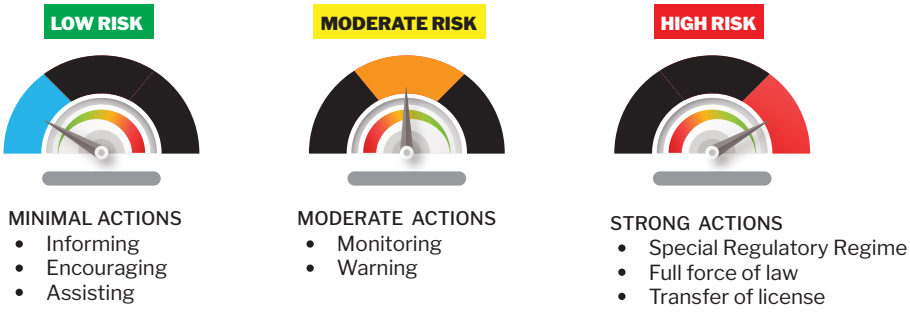
WSPs	2020-21		2021-22		Change in Score
Tavevo	33	B	44	BB	11
Nyeri	68	A	78	AA	10
Thika	62	A	70	A	8
Nanyuki	56	BBB	62	A	7
Kilifi Mariakani	26	NO RATING	31	B	6

Table 3.13: Bottom Losers

WSPs	2020-21		2021-22		Change in Score
Limuru	46	BB	31	B	-15
Mombasa	53	BBB	38	B	-15
Busia	39	B	23	NO RATING	-15
Ruiru-Juja	92	AAA	75	AA	-17
Embu	72	AA	50	BB	-22

3.7 Push for Compliance

When it comes to regulating water services provision, a key objective has been to push for compliance with sector standards and regulations. This involves enforcing rules and guidelines related to water quality, supply reliability and consumer protection. The Regulator has continued to apply a variety of tools to fast track compliance for instance, inspections, penalties and public reporting. Ultimately, the goal is to ensure that water service providers are operating safely, efficiently, while also protecting the interests of consumers and the environment. By pushing for compliance, the Regulator aims to enhance accountability in the water sector while at the same time maintain public confidence in safety and reliability of water services. Whereas effective compliance is influenced to a large degree by situations and attitudes of the regulated, the Regulator's approach to compliance is based on the level of risk associated with non-compliance. The figure below shows a range of actions which WASREB undertakes depending on the risk posed by non-compliance.



Equally, WASREB uses different approaches to achieve compliance based on the underlying attitudes of the licensees.

Some of the actions undertaken during the period to enforce compliance include:

1) Eldoret Water and Sanitation Company: The WSP was penalized and required to rebate to customers for non-compliance with the approved tariff
2) Kisumu Water and Sanitation Company: The WSP was penalized and required to rebate to customers for non-compliance with the approved tariff
3) Githunguri Water and Sanitation Company: The WSP was penalized for non-compliance with regulatory requirements.

CHAPTER 4:
WATER SERVICES IN COUNTIES

Fast-tracking Sector Performance through Co-operation with Counties

Having been created by the Constitution of Kenya, 2010 (CoK 2010) as the units of devolved government, County Governments have the responsibility to implement national water services standards and conditions set by WASREB in a bid 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 law to put in place measures to provide water services to rural areas that are considered not commercially viable. To implement such commitments, County Governments are expected to formulate 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 areas of jurisdiction in line with the Water Act, 2016 section 94. On the other hand, the Cabinet Secretary is required to facilitate the County Governments by providing them with technical, financial and other forms of assistance to execute their responsibilities.

As part of the technical assistance, WASREB has in place Guideline on Provision of Water for Rural and Underserved Areas 2019.

In a bid to accelerate performance improvement of water service providers, WASREB paid visits to various water utilities, Water Works Development Agencies (WWDAs) as well as, the County Governments and engaged on various issues. Key among the issues were; corporate governance, tariff application and indexation, licence application and importance of public participation, high levels of non-revenue water and the need for support of the utilities. The engagements proved effective in forestalling stalemates, which would hamper utilities' performance.

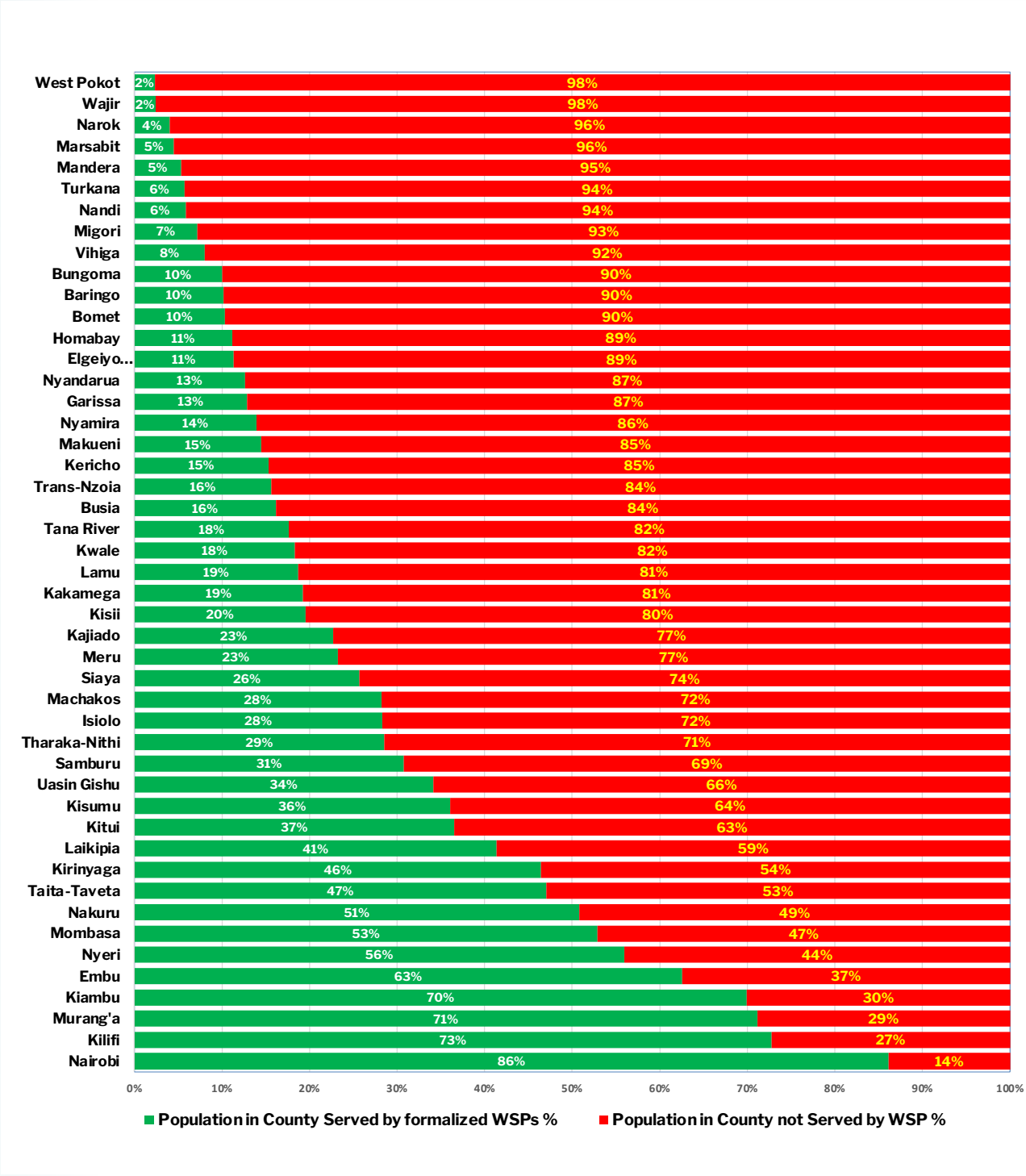
4.1 State of Water Services in Counties

The situation of water services in the counties is presented based on data from both public and private regulated utilities.

The population in the entire service area of regulated utilities is 26.7 million out of the total national population of 49.4 million. This translates to 54.1% of the population and a decrease of 0.2 percentage points from the figure of 54.3%, which was reported in the previous period. This indicates that while there was growth in the population within the service area of the formalized utilities, there is still a significant part of the population not served by the formalized utilities, whose population is also increasing. Considerable investment is still required to enable the WSPs increase coverage to 100% and have capacity increase in the size of the service areas.

While 54.1% of the population lies within the formalized WSPs' service area, it should be noted that the served population when compared to the national population of 49.4 million is only 36% which is equivalent to 16.5 million. The Figure 4.1 shows this coverage per county.

Figure 4.1: Coverage Within All Counties 2021/22



From the figure, the formalized WSPs progress is slow and significant attention needs to be paid by the counties and all stakeholders to rural water services that are considered not commercially viable. Going forward, WASREB is focused on the areas seen in red in Figure 4.1.

The regulated utilities are also not evenly distributed across the 47 counties though each county has established at least one regulated utility. Further, these utilities present diverse characteristics in terms of size, number, capacity and revenue, among others. Table 4.1 gives an overview of the number of utilities as established and distributed in the counties.

Table 4.1: Distribution of Number of Water Utilities by Counties

No of Utilities	1		2	3	5	6	10
No of Counties	27		8	7	2	2	1
Counties	Bomet	Mombasa	Baringo	Kajiado	Embu	Machakos	Kiambu
	Bungoma	Narok	Kilifi	Makueni	Murang'a	Nyeri	
	Busia	Nyamira	Kirinyaga	Meru			
	Elgeiyo Marakwet	Samburu	Kitui	Nairobi			
	Garissa	Siaya	Laikipia	Nakuru			
	Homabay	Taita-Taveta	Mandera	Nyandarua			
	Isiolo	Tana River	Migori	Tharaka-Nithi			
	Kakamega	Trans-Nzoia	Nandi				
	Kericho	Turkana					
	Kisii	Uasin Gishu					
	Kisumu	Vihiga					
	Kwale	Wajir					
	Lamu	West Pokot					
	Marsabit						

27 counties are served by one regulated utility each. Kiambu county is served by the highest number of regulated utilities at 10 (eight public and two private). Machakos and Nyeri counties each have six WSPs. In the reporting period, Nairobi and Nyandarua counties had two utilities each but have also established one more each, thus adding up to seven the counties with three utilities each. The cross county WSPs are Gusii Water and Sanitation Company that serves Kisii and Nyamira counties and Nzoia Water Services Company serving Bungoma and Trans Nzoia counties.

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

County ID.	County	Population in the County	Percentage of County population within service areas of Utilities (%)	Population served in the county, %	O+M cost coverage (%)	NRW (%)	Sewerage Coverage (%)
001	Mombasa	1,262,126	100	53	96	51	8
002	Kwale	910,198	61	18	88	56	0
003	Kilifi	1,522,597	100	72.8	85.8	39	0
004	Tana River	331,117	82	18	54	71	0
005	Lamu	152,396	24	19	30	44	0
006	Taita-Taveta	351,874	100	47	65	36	0
007	Garissa	885,012	16	13	n.c.d	40	20
008	Wajir	805,127	13	n.d.	n.d.	n.d.	n.d.
009	Mandera	867,457	27	5	18	52	0
010	Marsabit	493,509	9	n.d.	n.d.	n.d.	n.d.
011	Isiolo	292,944	33	28	102	30	9
012	Meru	1,583,597	39	23	98	30	8
013	Tharaka-Nithi	398,746	51	29	99	47	0
014	Embu	627,076	82	63	106	39	6
015	Kitui	1,160,883	53	37	69	49	0
016	Machakos	1,486,602	60	28	101	35	16
017	Makueni	1,008,278	51	15	89	30	0
018	Nyandarua	646,693	32	13	108	43	0
019	Nyeri	772,285	84	56	114	31	20
020	Kirinyaga	626,882	80	46	84	58	0
021	Murang'a	1,079,452	100	71	97	43	13
022	Kiambu	2,576,626	93	70	113	35	24
023	Turkana	941,291	10	6	147	50	0
024	West Pokot	642,951	31	2	37	31	0
025	Samburu	327,603	100	31	11	31	0
026	Trans-Nzoia	1,024,658	43	16	101	52	11
027	Uasin Gishu	1,216,987	42	34	107	39	38
028	Elgeiyo Marakwet	471,376	16	11	101	32	0
029	Nandi	912,260	12	6	73	36	0
030	Baringo	689,003	17	10	59	60	0
031	Laikipia	542,427	46	41	111	35	44
032	Nakuru	2,273,977	57	51	109	35	24
033	Narok	1,219,264	10	4	74	34	2
034	Kajiado	1,203,946	73	23	88	47	0
035	Kericho	931,653	42	15	72	53	11
036	Bomet	904,801	17	10	66	56	1
037	Kakamega	1,908,965	22	19	76	36	15
038	Vihiga	597,091	46	8	39	30	0
039	Bungoma	1,729,671	27	10	101	52	10
040	Busia	923,628	37	16	0	48	2
041	Siaya	1,023,359	67	26	89	57	0
042	Kisumu	1,192,907	40	36	103	31	23
043	Homabay	1,165,581	19	11	71	46	8
044	Migori	1,156,289	30	7	n.c.d.	53	0
045	Kisii	1,289,776	49	20	78	77	6
046	Nyamira	607,041	35	14	78	77	0
047	Nairobi	4,648,814	100	86	95	50	50

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

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

ID	County	Total County Population (2021-2022)	SSSPs		Regulated WSPs		Total population served, no	TOTAL Water Coverage, %
			No.	Population served	No.	Population served		
1	Mombasa	1,262,126	16	18,800	1	667,729	686,529	54
2	Kwale	910,198	107	155,550	1	167,168	322,718	35
3	Kilifi	1,522,597	52	76,500	2	1,107,803	1,184,303	78
4	Tana River	331,117	32	68,000	1	58,480	126,480	38
5	Lamu	152,396	17	37,699	1	28,506	66,205	43
6	Taita-Taveta	351,874	68	137,900	1	165,521	303,421	86
7	Garissa	885,012	63	155,040	1	114,000	269,040	30
8	Wajir	805,127	271	315,580	1	19,726	335,306	42
9	Mandera	867,457	179	550,111	2	46,366	596,477	69
10	Marsabit	493,509	73	143,200	1	22,208	165,408	34
11	Isiolo	292,944	84	110,062	1	82,880	192,942	66
12	Meru	1,583,597	179	466,488	3	367,484	833,972	53
13	Tharaka-Nithi	398,746	118	192,690	3	113,831	306,521	77
14	Embu	627,076	104	169,470	5	392,252	561,722	90
15	Kitui	1,160,883	583	498,875	2	423,975	922,850	79
16	Machakos	1,486,602	590	569,320	6	419,212	988,532	66
17	Makueni	1,008,278	377	760,709	3	146,334	907,043	90
18	Nyandarua	646,693	168	281,888	3	81,550	363,438	56
19	Nyeri	772,285	110	366,860	6	432,083	798,943	103
20	Kirinyaga	626,882	97	132,455	2	291,321	423,776	68
21	Murang'a	1,079,452	96	214,150	5	767,825	981,975	91
22	Kiambu	2,576,626	158	422,664	10	1,802,491	2,225,155	86
23	Turkana	941,291	182	306,850	1	54,006	360,856	38
24	West Pokot	642,951	160	166,000	1	14,988	180,988	28
25	Samburu	327,603	215	166,343	1	100,898	267,241	82
26	Trans-Nzoia	1,024,658	29	271,800	1	160,357	432,157	42
27	Uasin Gishu	1,216,987	212	322,850	1	415,380	738,230	61
28	Elgeiyo Marakwet	471,376	107	193,370	1	53,279	246,649	52
29	Nandi	912,260	122	91,915	2	53,573	145,488	16
30	Baringo	689,003	256	244,530	2	70,211	314,741	46
31	Laikipia	542,427	242	260,432	2	224,416	484,848	89
32	Nakuru	2,273,977	239	401,095	3	1,155,746	1,556,841	68
33	Narok	1,219,264	102	104,600	1	49,029	153,629	13
34	Kajiado	1,203,946	350	282,750	3	273,616	556,366	46
35	Kericho	931,653	75	56,350	1	142,906	199,256	21
36	Bomet	904,801	103	155,750	1	93,760	249,510	28
37	Kakamega	1,908,965	423	584,790	1	367,858	952,648	50
38	Vihiga	597,091	69	203,437	1	48,088	251,525	42
39	Bungoma	1,729,671	179	200,040	1	173,721	373,761	22
40	Busia	923,628	353	356,421	1	149,411	505,832	55
41	Siaya	1,023,359	419	524,791	1	263,326	788,117	77
42	Kisumu	1,192,907	276	422,795	1	430,667	853,462	72
43	Homabay	1,165,581	173	222,450	1	129,994	352,444	30
44	Migori	1,156,289	482	474,204	2	83,368	557,572	48
45	Kisii	1,289,776	205	395,700	1	252,132	647,832	50
46	Nyamira	607,041	70	81,750	1	84,493	166,243	27
47	Nairobi	4,648,814	309	288,891	3	4,004,318	4,293,209	92
	Total	**49,386,796**	**8,894**	**12,623,915**	**94**	**16,473,785**	**29,192,201**	**59**

* WASREB has mapped a total of 8,894 Small Scale Water Service Providers serving a population of about 12.6 Million. This is work in progress.

4.1.1 Access to Water Services

During the period under review, 54.1% of the national population lived in areas served by regulated utilities. Nairobi County led in water coverage at 86% which was a 2-percentage point drop from 88% during the previous reporting period. Kilifi at 72.8%, and Murang'a at 71% were ranked second and third respectively. Kiambu was ranked fourth with a water coverage of 70%. The counties with the least water coverage were West Pokot at 2% followed by Narok and Mandera at 4% and 5% respectively. Two counties namely Marsabit and Wajir were not assessed due to non-reporting.

Table 4.3 (a): Water Coverage in the Counties: Top 10

County	Population served	
	Population served in the county, no.	Population served in the county, %
Nairobi	4,004,318	86
Kilifi	1,107,803	73
Murang'a	767,825	71
Kiambu	1,802,491	70
Embu	392,252	63
Nyeri	432,083	56
Mombasa	667,729	53
Nakuru	1,155,746	51
Taita-Taveta	165,521	47
Kirinyaga	291,321	46

Table 4.3 (b): Water Coverage in the Counties: Bottom 10

County	Population served	
	Population served in the county, no.	Population served in the county, %
Bungoma	173,721	10
Vihiga	48,088	8
Migori	83,368	7
Nandi	53,573	6
Turkana	54,006	6
Mandera	46,366	5
Marsabit	22,208	5
Narok	49,029	4
Wajir	19,726	2
West Pokot	14,988	2

4.1.2 Reduction of Non-Revenue Water

Water loses continues to be the biggest challenge to many counties. 16 counties have water loses more than 50% of the water they produce. Kisii and Nyamira counties, both served by Gusii Water and Sanitation Company had the highest water losses at 77%. This converted to monetary terms depicts a significant loss of revenue. The trend obviously means that such utilities may not be in a position to cover all the costs and may become unsustainable in the long run. This undermines the progressive realization of the right to water as is enshrined in the constitution. The issue of concern is that the reasons contributing to the high levels of water losses 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, 16 counties as indicated in Figure 4.2 recorded water losses of 50% and above.

Figure 4.2: Counties with NRW Exceeding 50%

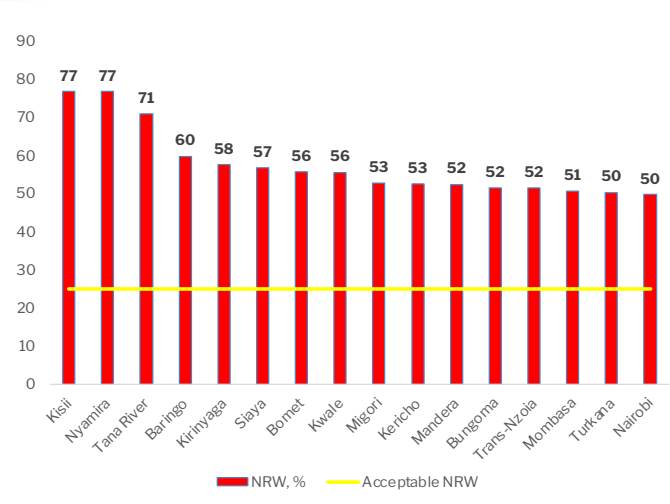
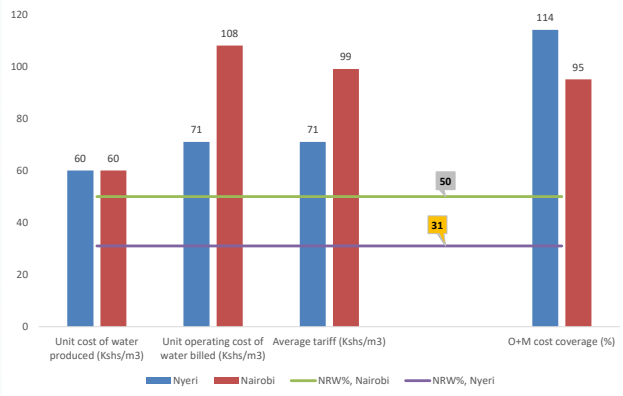


Figure 4.3 shows the case of two WSPs with the same unit cost of production but with different levels of NRW which translates to different unit cost of water billed and hence different tariffs.

Figure 4.3: Impact of NRW on Cost of Service

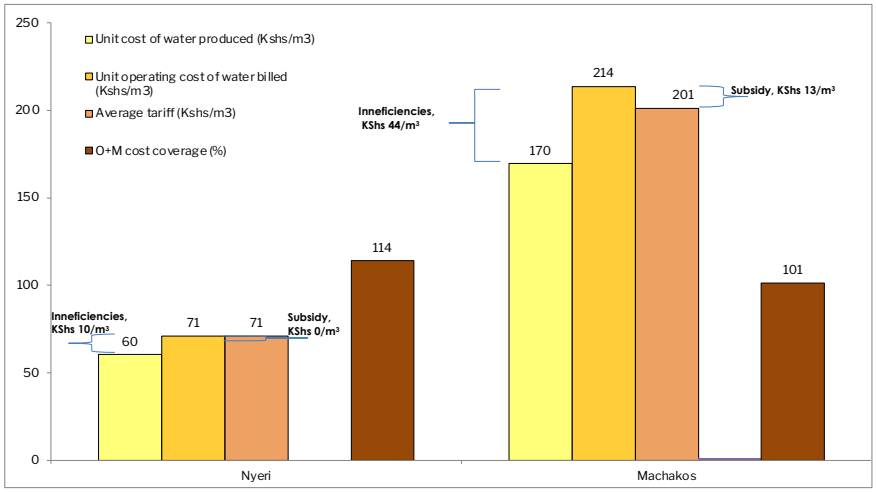


4.1.3 Recovery of O+M Costs

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%. 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 and cost recovery 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 Nyeri and Machakos is shown below.

Figure 4.4: Disparities in Operating Environments



Nyeri has unit cost of water production at KShs. 60 per cubic metre compared to KShs. 170 per cubic metre for Machakos. Factoring inefficiencies, the unit cost of water billed increases to KShs. 71 for Nyeri and KShs. 214 for Machakos. This means that the per unit inefficiency costs are KShs. 0 and KShs. 44 respectively. The average tariff recorded was KShs. 71 and KShs. 201 respectively which means Nyeri required no subsidy while and Machakos required a subsidy of Kshs 13 per m^3. 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.

4.1.4 Personnel Expenditure as Percentage of O+M costs

Turkana County was rated the worst performer in this indicator at 73% followed by Kericho at 65% which was a significant drop from 60% in the previous reporting period. Nairobi County improved slightly from 61% to 59%. The sector benchmark on this parameter is 20%. The counties with proportion of personnel expenditure exceeding 50% are shown in Table 4.4.

Table 4.4: Counties with PE Ratio Exceeding 50%

County	PE Ratio, %
Turkana	73
Kericho	65
Nairobi	59
Isiolo	55
Garissa	54
Laikipia	54

4.1.5 Provision of Subsidies

Sustainability of a utility is critical to guarantee quality services to the customers. The continuing decline in cost recovery goes against this aspiration. Following from this and considering that some WSPs have tariffs that are not fully cost recovering, then these WSPs have to rely on subsidies from the County Governments. It is however expected that subsidies should wean over time and counties 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 14 counties up from 12 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 lack of justified tariffs for many of the utilities. Counties are encouraged to support their utilities to ensure they have justified tariffs. They should also reduce inefficiencies including water losses and unnecessary operational costs. Although good progress has been made in terms of counties reporting, two counties had no data while another two provided data that was not credible.

The decline in the overall level of cost coverage is mainly attributed to increasing costs at a higher proportion (9.0%) compared to an increase in revenues of 6.2%.

The policy goal is to ensure that at the minimum, utilities can cover their O+M costs from the tariff and gradually move to full cost recovery.

4.2 County Emerging Issues

County Governments besides being the owners of the utilities, have the 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 to ensure 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. Alignment of the 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 effective capacity building of the WSPs in readiness for takeover of new projects;
5. Provision of agreed subsidies to enable utilities to meet their obligations.

CHAPTER 5:
CONCLUSION

Attainment of National Goals calls for Collaboration Between National and County Governments

Access to water services requires growth of at least five percentage points annually to reach the target of basic access. This target becomes more challenging when we consider that the population in question is only 53% and access to safely managed services is at only 40%. The journey to streamlining rural water services will support this endeavour to realise targets on water and sanitation. The policy shift to appreciate the place of non-sewered sanitation in improving access to sanitation, as well as, enactment of the Sanitation Management Policy are positive efforts to progressive realization of the rights to water and sanitation. A paradigm shift is therefore required to ensure adequate effort in supporting these initiatives. It should not be 'water for all' any more but 'all for water'. In harnessing this effort, it is good to look back and ensure that past gains are built on. Gains already in place include formalization, professionalization and socially acceptable commercialisation of water services. Formalization means that services are provided by licensed utilities. This is important for accountability and sustainability. Professionalization and commercialisation imply that at the local level there is a clear separation between politics and service provision. This implies that utilities have to operate on business principles. Under devolved systems, County Governments are responsible for ensuring that water services are delivered in an efficient and effective manner.

The Bill of Rights gives all citizens the right to safe water and basic sanitation thereby obliges the State and County Governments, as duty bearers, to take necessary measures for progressive realisation of the right and show these to the public. Close collaboration between the two levels of government guided by national policy and legislation will be key to improving service delivery. This collaboration will be necessary in several areas specified in this section.

5.1 Governance

The presumption that the challenges in the sector are linked to governance continues to be real by the day. The sector should therefore ensure that institutions are managed by professionals with integrity both at Board and management levels. The executives at the counties should ensure that utilities have performance contracts with the Boards of the WSPs while County Assemblies must be able to interrogate these contracts. Performance of utilities shall therefore be assessed on this basis as a means to guarantee proper governance as devolution matures.

5.2 Investments

The Rapid population growth in cities coupled with huge service inequalities continue to increase demand for services. This implies that there is a continued requirement for more investments to match this growth and allow for the progressive growth in services. The inadequacy of government allocation to water and sanitation development has put attainment of universal water and sanitation coverage, envisioned in Vision 2030, at risk. This calls for alternative modes of financing water and sanitation development, to complement government allocation. In order to address this gap between the government allocation and the sector requirements for universal coverage, WASREB has developed a framework for Alternative Financing that is proposed to guide utilities in raising funds for water and sanitation development.

5.3 Ring-Fencing

Efficiency and sustainability of utilities is critical for water services to be delivered in an efficient and effective manner in order to gradually extend access to all, it is imperative that utilities become commercially viable. Efforts geared to improving access should therefore focus on these two aspects. Considering that the tariff is the only sure and reliable source of funding for the WSP, revenues from water sale should be ring-fenced and used exclusively for reinvestment. This is essential for the sector growth.

5.4 Reduce Water Losses

Water losses are a big threat to the financial sustainability of the sector. It wastes funds which could have been used to increase access and improve service delivery. At a total billing of Kshs. 24.62 Billion and the current NRW levels of 45%, the total value of the loss in 2021/22 is estimated at a Kshs. 11.2 Billion, while allowing for the acceptable level of losses at 20%. Non-Revenue Water must be controlled as it is a direct expense to the customer and contradicts the country's aspiration to move towards higher living standards. Concerted efforts from all actors is required to deal with this challenge.

5.5 Enhance Inclusivity

The increasing demand for services mainly as a result of the population increasing at a higher rate compared to service provision leads to poor service quality. The foregoing situation by extension leads to an increasing inequality and in certain cases discrimination in service provision especially within low-income areas. Realization of the national targets for water and sanitation therefore depends to a large extent on the utilities' orientation towards demand, seen in terms of service improvement to the poor. Utilities are required to demonstrate stronger orientation towards the underserved and low-income areas if universal access is to be guaranteed.

5.6 Management of Water Resources

A critical factor for improved services is the availability of water resources. Climate change and its variability continue to impact negatively on this factor. Current projections of climate change create uncertainties with regard to availability of water resources. In line with SDG 6, all actors should implement integrated water resources management at all levels, including trans-boundary co-operation as appropriate. Sound management of water resources is necessary to protect and preserve the resource for use by future generations.

Current Projections of Climate Change Create Uncertainties with Regard to Availability of Water Resources.

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-
		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
		Number of people served with	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
		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: COMPONENTS OF DRINKING WATER

Utility	DWQ - Residual Chlorine (%)	DWQ - Bacteriological Quality (%)	DWQ (%)
Nairobi	96	95	95
Eldoret	93	100	97
Mombasa	99	97	98
Nakuru	99	100	100
Kisumu	98	100	93
Nzoia	100	100	93
Thika	100	100	100
Nyeri	100	100	100
Murang'a South	100	100	100
Ruiru-Juja	100	100	93
Gatundu	100	100	93
Kilifi Mariakani	100	100	100
Embu	95	99	97
Nakuru Rural	100	100	93
Kirinyaga	99	99	99
Kakamega	98	100	93
Kericho	100	100	100
Malindi	100	100	100
Othaya Mukurweni	100	100	100
Tavevo	100	100	93
Mathira	100	100	100
Nanyuki	100	100	100
Murang'a	100	100	100
Murang'a West	100	100	100
Nyahururu	99	100	93
Gusii	73	74	74
Garissa	100	-	40
Meru	100	100	100
Kwale	100	92	95
Bomet	100	100	93
Ngandori Nginda	100	100	93
Kitui	100	100	100
Nithi	100	97	93
Tetu Aberdare	100	100	93
Sibo	99	83	90
Limuru	100	98	93
Mavoko	72	52	60
Kikuyu	92	67	77
Gatamathi	98	100	99
Isiolo	100	100	100
Busia	100	100	93
Kiambu	100	100	100
Oloolaiser	98	74	84
Gatanga	100	100	93
Ngagaka	97	-	39
Naivasha	89	97	93

Utility	DWQ - Residual Chlorine (%)	DWQ - Bacteriological Quality (%)	DWQ (%)
Imetha	100	100	93
Kyeni	-	39	23
Karuri	66	93	82
Githunguri	91	97	93
Lodwar	38	-	15
Nol Turesh	91	73	80
Machakos	100	100	93
Amatsi	99	98	93
Homabay	100	100	93
Tuuru	94	91	92
Kibwezi Makindu	100	100	100
Nyandarua	99	63	77
Embe	100	100	93
Narok	94	57	72
Tana	26	61	47
Migori	79	81	80
Kapsabet Nandi	100	100	93
Murugi Mugumango	-	-	-
Chemususu	67	41	52
Lamu	98	70	81
Kirandich	95	-	38
Kiambere Mwingi	99	100	93
Mutitu	-	-	-
Iten Tambach	98	98	93
Mandera	94	96	93
Samburu	93	95	93
Ol Kalou	45	48	47
Olkejuado	-	-	-
Muthambi 4K	-	-	-
Kapenguria	99	56	73
Wote	98	89	93
Naromoru	-	-	-
Elwak	-	-	-
Rukanga	96	100	93
Yatta	100	-	40
Ndaragwa	-	11	7
Matungulu Kangundo	18	17	17
Kiamumbi	57	48	52
Mbooni	70	44	55
Nyasare	100	100	93
Runda	100	100	93
Tachasis	100	92	93
Kathiani	99	80	n.c.d.
Mwala	100	100	93
Tatu City	100	100	100
Two Rivers	100	100	93

ANNEX 5: PRO-POOR ASSESSMENT

RANK	PRO-POOR PARAMETERS / UTILITY	GOVERNANCE	IMPACT	PLANNING	FINANCING	TOTALS	WEIGHTED SCORE 2021-22 (%)
1	Kisumu	18	30	16	12	76	97%
2	Nakuru	18	27	16	14	75	96%
3	Nairobi	18	28	16	12	74	95%
4	Nyeri	18	27	16	12	73	94%
5	Murang'a	16	28	14	14	72	92%
6	Thika	18	24	16	14	72	92%
7	Naivasha	18	29	12	12	71	91%
8	Kericho	18	22	16	14	70	88%
9	Eldoret	18	24	14	12	68	87%
10	Nzoia	18	25	12	12	67	87%
11	Kakamega	14	25	14	14	67	85%
12	Mathira	16	27	10	10	63	83%
13	Nanyuki	12	28	14	10	64	82%
14	Kwale	18	20	14	12	64	81%
15	Nakuru Rural	18	19	16	10	63	80%
16	Embu	16	22	11	12	61	78%
17	Nyahururu	14	23	12	12	61	78%
18	Bomet	18	22	8	10	58	76%
19	Murang'a South	16	20	10	12	58	75%
20	Tetu Aberdare	16	20	10	10	56	73%
21	Homabay	14	23	14	4	55	72%
22	Busia	12	18	13	14	57	71%
23	Kirinyaga	15	17	11	10	53	68%
24	Mombasa	18	12	15	8	53	67%
25	Imetha	16	18	9	6	49	65%
26	Garissa	16	12	11	10	49	62%
27	Meru	12	16	12	8	48	61%
28	Gatamathi	10	19	6	12	47	60%
29	Sibo	18	14	7	6	45	60%
30	Oloolaiser	12	21	11	0	44	59%
31	Nithi	12	11	13	12	48	58%
32	Gusii	11	23	8	0	42	58%
33	Ngandori	4	25	4	10	43	56%
34	Kikuyu	6	20	12	6	44	56%
35	Tavevo	16	17	6	0	39	54%
36	Kiambu	12	17	11	0	40	53%
37	Ruiru Juja	10	14	5	10	39	50%
38	Kahuti	6	16	4	12	38	48%
39	Kilifi Mariakani	12	14	10	0	36	48%
40	Limuru	5	25	4		34	48%
41	Amatsi	12	17	5	0	34	48%
42	Machakos	8	21	4	0	33	47%
43	Yatta	5	23	4	0	32	45%
44	Lamu	5	12	11	8	36	44%
45	Isiolo	13	9	10	0	32	42%
46	Kiambere Mwingi	8	16	7	0	31	42%
47	Kitui	4	21	4	0	29	41%
48	Migori	12	15	0	0	27	40%
49	Karuri	0	25	0	0	25	37%
50	Narok	0	22	4	0	26	36%
51	Kibwezi Makindu	4	17	4	0	25	35%
52	Kapsabet Nandi	7	15	2	0	24	34%
53	Wote	4	16	4	0	24	33%
54	Tachasis	8	13	0	0	21	31%
55	Mavoko	8	7	4	0	19	26%
56	Narumoru	0	16	0	0	16	24%
57	Eldama Ravine/Chemususu	0	13	2	0	15	21%
58	Nyasare	2	12	0	0	14	21%
59	Iten Tambach	4	7	4	0	15	20%
60	Ol Kalou	0	12	0	0	12	18%
61	Kyeni	6	6	0	0	12	18%
62	Nol Turesh Loitokitok	0	9	0	0	9	13%
63	Olkejuado	0	4	4	0	8	10%

ANNEX 6: CREDITWORTHINESS ASSESSMENT GUIDE

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

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