

# IMPACT

A Performance Report of Kenya's Water Services Sector - 2022/23

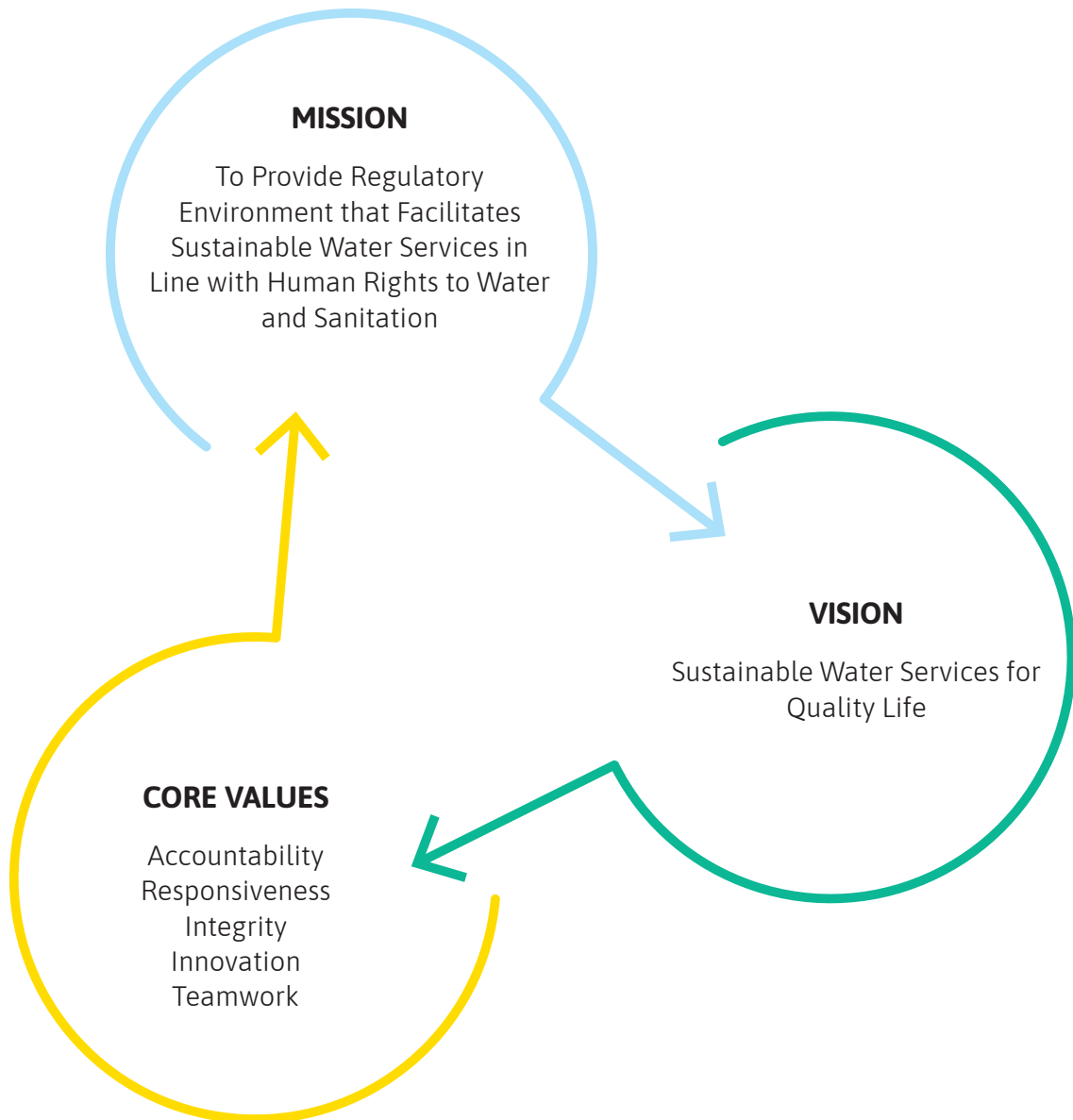


Issue No. 16 - 2024

# IMPACT

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# Abbreviations and Acronyms

|                |   |
|----------------|---|
| <b>CWI</b>     | Credit Worthiness Index                       |
| <b>DWQ</b>     | Drinking Water Quality                        |
| <b>KPIs</b>    | Key Performance Indicators                    |
| <b>NAWASIP</b> | National Water and Sanitation Investment Plan |
| <b>NRW</b>     | Non-Revenue Water                             |
| <b>O+M</b>     | Operation and Maintenance                     |
| <b>PE</b>      | Personnel Expenditure                         |
| <b>SDGs</b>    | Sustainable Development Goals                 |
| <b>SSSPs</b>   | Small-Scale Service Providers                 |
| <b>UN</b>      | United Nations                                |
| <b>WASH</b>    | Water Hygiene and Sanitation                  |
| <b>WASREB</b>  | Water Services Regulatory Board               |
| <b>WSP</b>     | Water Service Provider                        |
| <b>WWDA</b>    | Water Works Development Agency                |

# Foreword



*Anyone who can solve the problems of water will be worthy of two Nobel prizes - one for peace and one for science - **John F. Kennedy***

The publication of the 16<sup>th</sup> edition of Impact coincides with the launch of our 5<sup>th</sup> Strategic plan and the publication of four regulatory tools. The 5<sup>th</sup> strategic plan running up to 2027 focuses on building a sustainable and resilient water services sector that meets the needs of present and future generations. The four guidelines reviewed are Corporate Governance, Tariff, Asset development and a guideline on advanced water treatment using membrane technology.

In this report, we highlight the performance of the water services sector over the period 2022/2023. The report indicates that in the current period, three indicators showed improvement, four remained stagnant, and four declined. This represents a decrease compared to the previous period, where eight indicators improved, one remained stagnant, and two declined. The water services sector has three immediate goals of improving access, ensuring cost recovery and reducing losses. Water coverage and Non-Revenue Water

(NRW) have demonstrated improvement, while sewerage sanitation and overall sanitation have remained unchanged. It is recommended that water coverage and NRW target an annual improvement of two percentage points each, while sewerage sanitation and overall sanitation require growth rates of 3.5 and 1.0 percentage points, respectively. The water coverage in regulated areas increased by three percentage points, rising from 62% to 65%. The contributions to this change were 43% from the SSSPs and 57% from the regulated WSPs.

The average performance remained unchanged at 44% during the period. However, the number of WSPs with a score exceeding 50% increased by one, rising from 36 to 37. The regulator is in the process of developing an indicator for assessing the performance of utilities on sanitation. This metric will consider both on-site and off-site factors. It is expected to be implemented starting from the next reporting period.



I wish to extend my congratulations to utilities that are demonstrating admirable performance and express my optimism that they will sustain an upward trend and uphold consistent performance improvement. Consequently, the regulator will persist in implementing the management models outlined in the guidelines for water service provision in the country.

**Job Chirchir**  
**Chairman**

# Preface



***I wish to call for continued collaboration between the two levels of government in providing information that will help the regulator track and report on sector performance.***

Impact serves as the regulator's tool for tracking sector performance. This publication provides the regulator with a platform to report on the performance of licensees and monitor the achievement of sector goals. The 16th edition looks at the period 2022/2023 and assesses the performance of 92 Water Services Providers, of which 88 are publicly owned and four are privately owned. The report also sheds light on the water services landscape in the counties, examining crucial matters like access and the influence of utility efficiency on achieving sector goals. In the current report, we also delve into the position of Small-scale Service Providers (SSSPs) following a very elaborate process of mapping and collecting baseline data on these systems.

As the clock ticks towards 2030, it is crucial for all stakeholders to intensify their efforts to achieve sector goals. The completion of the National Water and Sanitation Investment Plan offers the sector an opportunity to advocate for necessary resources while ensuring the efficient use of available funding.

Moving forward, WASREB will aim to track financial flows within the sector and assess the impact of this financing on the realization of the rights to water and sanitation. During the current period, the regulator has upgraded the data collection tool, and it is expected that all stakeholders in water and sanitation will utilize this platform, making it a comprehensive resource for information on water services.

WASREB acknowledges the utilities that reported during the current period and appreciates the County Governments for providing data on SSSPs. I wish to call for continued collaboration between the two levels of government in providing information that will help the regulator track and report on sector performance.

The report is organized into five chapters. Chapter One provides background information, while Chapters Two, Three, and Four focus on sector development, detailed performance review, and the status of water services in the counties, respectively. Chapter Five presents the conclusion.

I sincerely hope that all stakeholders will utilize this report to strengthen their efforts and enhance their contributions towards the progressive realization of the right to water. For its part, the regulator will continue to support any interventions in this endeavour.

**Dr. Julius Itunga**  
**Ag. CEO WASREB**



| CHAPTER ONE |

# BACKGROUND



***Water is humanity's lifeblood. From the food we eat. To the ecosystems and biodiversity that enrich our world. To the prosperity that sustains nations. To the economic engines of agriculture, manufacturing, and energy generation. To our health, hygiene, and survival itself. Water is a human right — and a common development denominator to shape a better future.***

António Guterres, Secretary-general, 22 March 2023 (United Nations, Secretary-General, 2023a)

## 1.1 Tracking the Attainment of the SDGs

### 1.1.1 Global Outlook on the attainment of SDGs

The Right to Safe Drinking Water and Sanitation (2015) recognizes the right to water and sanitation as distinct rights. The water right, as defined in this resolution, is the entitlement to have access to sufficient, safe, acceptable, physically accessible, and affordable water for personal and domestic use. The right to sanitation is the entitlement to physical and affordable access to sanitation in all spheres of life. It should be safe, hygienic, secure, socially and culturally acceptable, and provide privacy while ensuring dignity.

***Too little, too much, and too dirty water” has become the mantra for the global water crisis***

(Chen, 2018; Boyd, 2020; Global Commission on the Economics of Water, 2023)

To support the implementation of SDG 6, the UN General Assembly declared the period from 2018 to 2028 as the International Decade for Action, “Water for Sustainable Development” (Water Action Decade). The year 2023 marked the halfway milestone for SDG 6 progress. With only seven years remaining until the conclusion of the 2030 Agenda for Sustainable Development, urgent and decisive action is required to alter the current trajectory and expedite advancements on Sustainable Development Goal (SDG) 6.

The first United Nations Water Conference (held in Mar del Plata, Argentina, in 1977) warned about an impending water crisis if action was not taken (United Nations, 1978). The New York conference in 2023 acknowledged that the water crisis is already here and that it is worsening.



From March 22<sup>nd</sup> to 24<sup>th</sup>, 2023, the first United Nations conference on water in 46 years took place successfully, which interrogated the status of SDG 6. The conference reported the global status as follows:

- Access to safely managed drinking water, sanitation, and basic hygiene services is still out of reach for billions of people, especially in rural areas and least-developed countries (SDG targets 6.1 and 6.2).
- A significant portion of household wastewater is not treated properly. Comparable data on total and industrial wastewater flows are lacking in many parts of the world. Although 60% of the world's monitored water bodies have good ambient water quality, data gaps make it difficult to assess global trends and leave many at risk (SDG target 6.3).
- Water stress has increased globally. This presents a serious concern for the sustainability of food production and the resilience of agricultural systems in the face of the challenges posed by climate change (SDG target 6.4).
- Only one SDG region is on track to

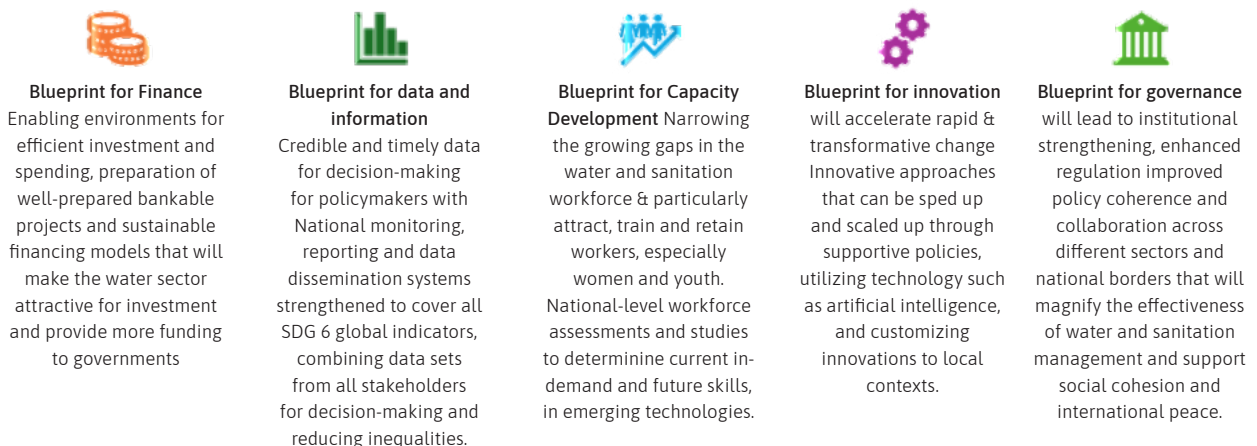
have all its transboundary rivers, lakes, and aquifers covered by operational arrangements by 2030 (SDG target 6.5).

- One-fifth of the world's river basins are experiencing rapid changes in the area covered by surface waters, indicating flooding and drought events. These changes are associated with climate change and poor water resource management (SDG target 6.6).
- Official development assistance commitments to the water sector decreased by 12% from 2015 to 2021, and actual disbursements decreased by 15% over the same period, despite the increased funding needed to meet SDG 6 targets (SDG target 6. a).
- National policies and laws increasingly recognize participatory procedures, but implementation has been insufficient (SDG target 6. b).

The SDG 6 Synthesis Report on Water and Sanitation 2023 provided a “blueprint” to accelerate progress on water and sanitation, including the implementation of the Water Action Agenda commitments, and is illustrated below: -

Figure 1.1:

The five SDG 6 blueprints for how to gain momentum for SDG 6 progress and implementation of the Water Action Agenda





This position is reiterated in Africa Agenda 2063, a strategic framework for the socio-economic transformation of the African continent over 50 years, that emphasizes the importance of achieving universal access to clean water and adequate sanitation services for all African citizens by 2063.

Despite the SDG 6 targets being universally applicable and aspirational, each government must decide how to incorporate them into national planning processes, policies, and strategies based on national realities, capacities, levels of development, and priorities. With seven years remaining until 2030, a 'quantum leap' is necessary to accelerate the vision for 2030.

### 1.1.2 National Outlook on the Attainment of SDGs

The Ministry of Water, Sanitation, and Irrigation is responsible for ensuring that everyone has the right to clean and safe water, adequate sanitation, and sufficient food to support the country's development; as outlined in Article 43 of the Constitution, which guarantees these rights to all citizens. By 2030, the Ministry aims to achieve universal access targets for Water Supply and Sanitation (WSS) services. These include ensuring 100% access to water in both urban and rural water supply services. For sanitation, the targets are 40% access to sewerage in urban areas and 100% access to improved sanitation facilities near households in rural areas, with focused investment in rural sanitation services to eliminate open defecation in the 15 (fifteen) counties where it's most prevalent.

*According to the 2019 Kenya Population and Housing Census, almost 85 per cent of this open defecation in Kenya takes place in 15 counties: Baringo, Garissa, Homa Bay, Isiolo, Kajiado, Kilifi, Kwale, Mandera, Marsabit, Narok, Samburu, Tana River, Turkana, Wajir, and West Pokot.*

#### 1) Engagement with County Governments

WASREB guided various County Governments on service delivery improvement strategies in their respective areas. In addition, WASREB collaborated with the Council of Governors by participating in the 1st biennial Devolution Conference. Throughout the conference, WASREB engaged with various stakeholders and delegates and showcased its success stories in regulating the water providers, ensuring consumers are protected, and enjoying their rights to quality water and its contributions towards the 10 years of Devolution.

Further engagement was undertaken during the Council of Governors (COG) organized landmark workshop involving County Executive Committee Members (CECMs) for Water from all 47 counties. During this workshop, participants extensively discussed the WASREB Corporate Governance Guidelines 2023 which are instrumental in enhancing good governance in provision of water services and promoting effective collaboration between national and county governments. We extend our



Hon. Andrew Mwadime, Governor Taita Taveta County



gratitude for the valuable contributions made, particularly by the COG Water Caucus led by HE Andrew Mwadime, Governor of Taita Taveta County, for facilitating a conducive environment for these discussions.

## 2) **Regulatory Focus**

Throughout 2022/2023 – 2023/2024, under the auspices of Strategic Planning (SP), WASREB witnessed significant milestones within its regulatory framework. The SP spearheaded the conception and execution of a comprehensive risk management framework, receiving the seal of approval from the Board of Directors (BOD), thus ensuring proactive identification, assessment, and mitigation of potential risks. Moreover, it orchestrated seamless collaboration across diverse interdepartmental functions to ensure cohesive operations, including licensing, tariffs, communications, human resources, legal affairs, monitoring,

inspections, enforcement, and supply chain management. This collaborative spirit extended to partnerships with key sectoral entities such as the Ministry of Water, Sanitation, and Irrigation (MWSI), the Water Sector Trust Fund (WSTF), as well as with multisectoral bodies like the Council of Governors (CoG), Kenya Bureau of Standards (KEBS), Kenya National Bureau of Statistics (KNBS), and the National Irrigation Authority (NIA). Additionally, as a linchpin, SP facilitated fruitful collaborations with esteemed development partners such as the Gatsby Foundation, World Bank, UNICEF, REACH-OXFORD, and the African Development Bank (AfDB), among others. This collaborative approach not only fostered synergies but also elevated regulatory oversight and fortified sectoral resilience, thus advancing WASREB's mission of ensuring sustainable water service provision for all Kenyans. Integral to this success was WASREB's dedication in upholding ISO

standards, facilitating continuous monitoring and evaluation, and spearheading initiatives for perpetual enhancement. This vibrant synergy not only fortified regulatory oversight but also propelled the sector towards sustained excellence, embodying the commitment to ensuring equitable and sustainable water service provision for all.

### 3) **Water and Sanitation Investors Conference (WASIC)**

The Water Sector Trust Fund (WSTF) in collaboration with the Ministry of Water, Sanitation and Irrigation (MWSI) and the Council of Governors organized a Water and Sanitation Investors Conference (WASIC) 2024 whose theme was “Accelerating Investments for Sustainable Access to Water and Sanitation for All,” organized by the Ministry of Water, Sanitation, and Irrigation (MWSI) in collaboration with Water Sector Trust Fund (Water Fund) and the Council of Governors.

During the conference where valuable discussions were held, Hon. Zacharia Njeru, Cabinet Secretary of MWSI, unveiled the National Water and Sanitation Investment and Financing Plan (NAWASIP) (2024), which aims to achieve universal access to water and sanitation by 2030. WASREB was an event sponsor and an active contributor to the WASIC deliberations.

The NAWASIP seeks to provide a shared intergovernmental strategy for expanding access to water and sanitation. The document was developed jointly by the National and County Governments with a consensus building on the services, financing scenarios, and reforms needed.

NAWASIP indicates that Kenya’s Water and Sanitation Sector faces a substantial funding gap of KES 466 billion for investments as it strives to reach Sustainable Development Goal No. 6, which seeks to guarantee universal access to safe and sustainable water and sanitation management for all by the year 2030. To fund this gap, it is necessary to leverage public-private partnerships and blended financing mechanisms to attract private and commercial investments.



WASREB Ag. CEO Dr. Julius Itunga



Launch of NAWASIP, during WASIC 2024 Conference

## 1.2 Amendments to the Water Act 2016

The Constitution of Kenya enshrines access to clean water as a fundamental human right, and the Water Act 2016 aligns the water sector with this vision, emphasizing devolution and shared responsibilities between the National and County Governments. Despite a national goal of achieving universal access to water, sanitation, and hygiene services (WASH) by 2030, the government is confronted with a significant financing gap of KES 466 billion. To bridge this gap, leveraging private investment in the water sector is crucial.

In response to the President's call for the establishment of a framework to enhance public-public-private financing in WASH, the Ministry of Water, Irrigation, and Sanitation (MWIS) proposed amendments to the Water Act 2016, aligning it with the Public Private Partnership Act 2021. Published on July 26, 2023, the Water (Amendment) Bill, 2023 aims to operationalize public-private partnerships in the water sector, towards bridging the financing gap and enhancing water delivery efficiency.

Once enacted into law, the proposed amendments to the water Act 2016 will still require extensive collaboration, consultation, and engagement between the national and county governments to ensure mutual benefit and contribute to the socio-economic development of Kenya.

## 1.3 Emerging issues in the Water Sector

### i. Sector Financing Gap

In the pursuit of achieving the Sustainable Development Goals (SDGs), financing plays a pivotal role. Within this context, the Kenya water sector faces challenges, whereby despite tariffs serving as a dependable funding source, the sector lags in leveraging this source. Notably, the National Water Sector Investment Plan (NAWASIP) aims to secure Kshs. 45 billion through real tariff increases and Kshs. 6 billion from a sanitation levy. These initiatives, aligned with cost-reflective tariffs for Water Service Providers (WSPs), can unlock creditworthy utilities and facilitate financing from Public-Private Partnerships (PPPs) totalling Kshs. 204 billion, along with commercial financing of Kshs. 59 billion.

While commendable progress has been made, some WSPs encounter resistance from their principal shareholders—the counties—when applying for tariffs. Additionally, compliance with regulatory requirements remains a challenge. Gazette Notice No. 12188 of 2018 outlines fees that WSPs should pay to the Water Services Regulatory Board (WASREB), including the regulatory levy. This levy, equivalent to 4% of WSPs' turnover, empowers WASREB to fulfil its mandate effectively, maintain its autonomy, and contribute to a resilient regulatory framework that safeguards consumer and stakeholder interests.



## ii. Onsite Sanitation

The link between low levels of sanitation coverage and diminished quality of life, as well as hindered economic growth, is well-documented. The enactment of the national sanitation management policy has set the target for 40% for sewerage sanitation by 2030. It is estimated that a total investment of Ksh 442 billion is required for urban sanitation initiatives. Of this amount, Kshs 3 billion is expected to be funded from the Sanitation Levy. It is imperative then, that players take a comprehensive approach that includes both sewerage and non-sewerage sanitation.

Viewing human waste from an economic perspective offers opportunities for economic growth, job creation, women's empowerment, environmental conservation, and recycling. The sanitation economy combined with the menstrual hygiene market has a potential value of \$1.77 billion and could double to \$3.06 billion in the future. By adopting a market economy for human waste, significant economic benefits can be achieved, job opportunities created, women empowered, and the environment protected through recycling and reuse.

## iii. Data Integrity

WASREB monitoring has observed that there is an increase in data inconsistencies submitted by WSPs in the sector. WSPs are providing different datasets for licensing, tariff evaluations, and sector reporting which leads to inconsistency errors, and discrepancies.

performance report. WSPs need to improve their data management capabilities and ensure compliance with data integrity standards. By prioritizing data integrity and implementing robust measures, it will uphold data quality standards and strengthen regulatory oversight by WASREB.

## iv. Aggregation and Disaggregation of Water Service Provision

Kiambu and Machakos Counties have applied to consolidate multiple providers with a view of leveraging on economies of scale, potentially affecting the overall performance. On the other hand, Bungoma, Trans - Nzoia, Nyamira, and Kisii counties have applied to de-cluster the water service provision to have distinct providers for each County but face challenges with trans-county resources and asset transfer. WASREB recognizes that the Constitution empowers Counties to establish Water Service Providers (WSPs) to manage the provision of water services within their areas. However, they are urged to undertake detailed assessments and stakeholder participation for positive outcomes.

## v. Inadequate Collaboration with National Agencies

WASREB is actively working to boost capacity and data accuracy in the water sector by strengthening collaboration with key national agencies. These include the Kenya National Bureau of Statistics (KNBS) for population data and the Survey of Kenya for geospatial information systems, especially in

mapping service areas. Notably, less than 5% of audited reports by Water Service Providers (WSPs) were found unqualified in 2021/2022. Collaborating with the Office of the Auditor-General is essential to enhance the quality of financial reports, aiming for better financial management and accountability. Additionally, there's an urgent need to accelerate the transfer of assets from the National Government to County Governments. This bottleneck in asset transfer hinders the sector's ability to secure financing and maintain operational sustainability. Counties must prioritize this coordination effort to gain deeper insights into water resources and make more informed decisions.

*In our quest to confront the monumental environmental challenges of our time—climate change, biodiversity loss, and pollution—there is but one path forward: teamwork. We share one Earth and bask under the same sun, and we must recognize that there is no backup plan. There's no other planet waiting for us to escape to. Hence, it's imperative that we unite our efforts with urgency and determination to safeguard our precious planet and protect its natural splendour. Together, let's embark on this crucial journey to secure a sustainable future for generations to come*



Abdullah Bin Ali Amri,  
Chairman of the Environment Authority of Oman

#### vi. Climate Resilience and Environmental Sustainability

In March, the sixth (6th) UN Environment Assembly (UNEA-6) took place in Nairobi, Kenya. At this event, resolutions were passed calling on Member States and specialized agencies to act on climate matters. Later, the Africa Climate Summit (ACS) was held in Nairobi from September 4th to 6th, 2023 identifying climate change as the single greatest challenge to humanity and the biggest threat to life on Earth. It also recognized that 400 million people in Africa lack access to clean drinking water and 700 million lack good sanitation. The summit called for urgent collective action, both continentally and globally particularly to provide \$100 billion in annual climate finance, as promised in 2009 at the UNFCCC COP15 in Copenhagen, Denmark. Additionally, the summit called for climate-positive investments to support industries that can transform the planet and enable African countries to achieve middle-income status by 2050. This presents an opportunity for the Kenyan Water and Sanitation Sector to leverage integrated water resource management, climate-resilient infrastructure, and climate financing.

#### vii. Inclusivity in Access to Water and Sanitation Services.

The impact of insufficient access to clean water, proper sanitation, and hygiene facilities is significantly higher on women, children, and vulnerable groups exposing them to increased disease burden, poor learning outcomes, and high child mortality.



To ensure inclusivity and equity, the water services sector in Kenya must prioritize mainstreaming and disaggregating data on Water, Sanitation, and Hygiene (WASH) across society. This involves considering the needs of women, children, and vulnerable groups especially those residing in, Arid and Semi-Arid Lands (ASALs), marginalized areas, and low-income areas, and following the Sustainable Development Goals to address these problems and ensuring everyone has access to basic services.

## 1.4 Development in Regulation

### 1.4.1 The Regulatory Journey – Two Decades Later!

The Water Services Regulatory Board (WASREB) is a non-commercial State Corporation, whose mandate is to ensure there is access to quality water services for all. WASREB was established under the Water Act of 2002 and operationalized in the year 2003. An essential aspect of the Water Act 2002 was the separation and decentralization of roles and responsibilities of provision of water services and management of water resources; the creation of new institutions, and enhanced public participation in service provision.

WASREB's journey began in 2003 under the Water Act of 2002, with a mission to ensure access to quality water services for all. Initially overseeing Water Services Boards (WSBs) who were developing water services assets and delivering water services through water service providers as their agents.

WASREB started operations in 2003 under the stewardship of its first CEO Mr. John Rao Nyaoro with just five employees. The office space was shared between WASREB and two other Water Agencies, the Water Sector Trust Fund (Water Fund) and Water Resource Authority (WRA).

During that period, seven (7) Water Services Boards (WSBs) had been established with their respective service areas defined along the seven drainage basins and WASREB was mandated to license these entities to provide services within their jurisdictions. The law required the WSBs to provide water services through contracted agents in form of Water Service Providers (WSPs) to ensure that water services were availed to all parts of the country done through the signing of Service Provision Agreements (SPAs) with Water Service Providers (WSPs).

With the commencement of the Water Act No. 43 of 2016, the focus shifted towards devolution, with county governments assuming responsibility for water services provision and the management of Water Service Providers (WSPs). WSPs became accountable for delivering water services within their designated areas and managing county assets. The regulatory process also changed, with WSPs now applying directly to the Water Services Regulatory Board (WASREB) for licenses.

From the 5 employees at inception, WASREB now has a workforce of 47 with a vibrant number of interns and attaches. WASREB supports its operations through a levy charged for water services initially at

1% of WSP turnover, subsequently revised to 4% following the expansion of WASREB mandate under the Water Act 2016.

Over the 20 years, WASREB has attained several objectives including: -

- Developed several regulatory tools meant to guide the sector to ensure improvement in service delivery which include the license; a Water Regulation Information System (WARIS); guidelines on Corporate Governance; Tariff setting; Consumer engagement; Reporting; Water vending; Sanitation Levy; Rural Water Services; Disaster Management; Drinking water and Effluent Management and Inclusive urban sanitation.
- Regulatory oversight through increased sector surveillance and oversight through a robust Inspection & Monitoring Programme whose implementation continues to provide significant information upon which regulation can be modelled.
- Structured and diverse avenues for consumer engagement through activities that include the development of a radio program to disseminate information on regulation, publication of supplements, and rallying stakeholder involvement in matters of regulation during World Water Day, shows, and exhibitions.
- ISO 9001:2015 certification. The award of the certification implied that the services of the Regulator could now be benchmarked with those of other leading regulators. WASREB embedded the commitments in the QMS in its service charter.
- Bonafide member of the Eastern and Southern Africa Water and Sanitation (ESAWAS) Regulators Association whose focus is the development of an effective Water and Sanitation regulatory framework in the member countries. Peer Regulatory bodies from other countries that have benchmarked with WASREB include RURA of Rwanda, AURA of Mozambique, and WURD of Uganda. This has helped the Regulator draw lessons also from the other regulatory peers.
- Sixteen (16) publications of IMPACT from the first sector performance in 2007. The information used in the Impact report is collected through the Water Regulation Information System (WARIS).
- Financial autonomy under Legal Notice Number 36 of 2008 and Gazette Notice No. 12188 of 2018 requiring all WSPs to remit 1% - 4% respectively of their turnover to WASREB.
- Capacity building of the WSPs, Board of Directors, Management Teams, as well as the County leadership on Legal and Regulatory requirements and compliance.
- Enforcement of regulatory actions on Non-Revenue Water management reduction which was above 50% in the last 10 years to 43% in 2023. This has been through sensitization on local media, social media platforms, consumer engagement forums, and workshops. which ensured the public became more proactive in assisting the sector through whistleblowing illegal connections and reporting on bursts and leaks.

WASREB has faced challenges in stakeholder engagement, staff establishment, and enforcement. Externally, there are challenges such as low operational efficiency of WSPs, political interference, and climate change. To overcome these challenges, WASREB plans to use

opportunities like a favorable environment for regulating rural water services, partnerships, technology and data analytics, and increased awareness of regulation.

WASREB has learned several lessons, especially on the critical importance of effectively enforcing compliance with guidelines, sustained partnership with key stakeholders, timely surveillance of the sector, and embracing business continuity strategies to ensure service continuity in the event of disasters or pandemics.

## 1.5 Regulatory Interventions

### 1.5.1 Licensing

Out of the 37 evaluated license applications, 20 were approved and were subjected to public consultations, resulting in a total of 83 licensed WSPs. The increased number of applications can be attributed to capacity-building efforts, as many utilities previously lacked a clear understanding of licensing requirements. One of the anticipated developments in the foreseeable future is the automation of the license application process to expedite and streamline procedures, enhancing efficiency.

Some emerging issues include boundary disputes between neighboring utilities. Addressing these disputes requires fostering open communication and collaboration among the utilities, county governments, and the Water Works Development Agencies. This collaboration aims to achieve mutually acceptable solutions, prevent future conflicts, safeguard consumer interests, and ensure the continuity of service provision.

### 1.5.2 Tariff Review

During the period 2022/2023, a total of 92 utilities were assessed. Among these, 32 water service providers (WSPs) have valid tariffs, which translates to approximately 34% of the assessed WSPs. It should be noted that most WSPs have their tariffs under review, and it is projected that more than half of the WSPs will have a valid tariff.

Looking ahead, WASREB aims to have at least 60% of the licensed WSPs in the country operating under valid tariffs by the end of December 2024. The focus is to increase this percentage to 100%. However, some tariff reviews faced political resistance, with some WSPs being blocked from applying for tariff renewals and implementing approved tariffs.

### 1.5.3 Capacity Building of Counties and Utilities on Regulatory Requirements

WASREB facilitates training sessions, workshops, and seminars on topics relevant to water service provision, regulatory processes, and governance. Compliance workshops for Water Service Providers (WSPs) were conducted in various Water Works Development Agency (WWDA) areas. These capacity-building efforts cover areas such as water quality, regulatory compliance, licensing, tariffs, and corporate governance.

#### 1.5.4 Review of Regulatory Tools

WASREB conducted a review of various tools and guidelines: -

1. **Corporate Governance Guidelines:** Aim to enhance leadership and management within water service institutions, particularly water service providers. They clarify governance principles, autonomy, oversight, and the necessary structures for economical and efficient water service provision. The review addressed concerns about insufficient public consultation regarding previous guidelines.
2. **Asset Development Guidelines:** Establish criteria for the development of water and sanitation assets to ensure quality and value for money. They also promote collaboration between relevant institutions to support sustainable water service systems.
3. **Guidelines for Treatment of Turbid Water:** Outline the application of advanced water treatment technologies in Kenya, specifically for treating turbid surface water. The goal is to address various challenges and improve water treatment performance.
4. **Tariff Guidelines:** The initial tariff guidelines, were based on the Water Act 2002, and a review was necessary to align them with new laws and regulations. They will guide tariff determination and reviews for all Water Service Providers to ensure fair and reasonable tariffs that balance commercial, social, and ecological interests.

Public participation in the review process involved both physical and online sessions targeting all major stakeholders across the country and the Council of Governors (CoG), Water Caucus.

#### 1.5.5 Technology Adoption

During the year under review, WASREB has made substantial improvements to its Information and Communication Technology (ICT) systems. These enhancements include three notable ICT initiatives: -

- **Upgrade of the MajiData tool and the GIS portal:** The new MajiData, is the database of the Kenyan Water Sector, that contains updated annual data including information on water supply and sanitation services for WSPs and counties' performance, maps, and data presentation in urban low-income areas.
- **Rollout of the WASREB Integrated Management Information Systems (WIMIS)** to streamline and re-engineer processes, improve collaboration, and enhance decision-making across the organization.
- **Upgrade of the Water Regulation Information System (WARIS) to Version 4.0,** marking a crucial milestone in water resource management technology. introduces a monthly data collection cycle, for billing and technical data, enhanced data visualization capabilities, and upgraded analytical tools.
- **Development of Sanitracker:** An online platform aimed at streamlining the provision of sanitation services particularly emptying and transport services whereby from a central database, customers can request sanitation services from registered and compliant sanitation services providers in the private sector. By design, the user WSPs bear the responsibility to guide and onboard the compliant service providers operating within their service areas.

### 1.5.6 Rural Water Services

WASREB Undertook a mapping exercise to identify the small-scale service providers in all 47 counties in Kenya. The exercise was meant to identify the Small-Scale Service Providers and their levels of service. The output of the mapping exercise was updated into MajiData and is meant to aid the counties in the implementation of the guidelines of service provision in rural and underserved areas. Ultimately the mapping will support regulation of services by this category of providers.

### 1.5.7 Non-Revenue NRW Management

The Non-Revenue Water (NRW) Management standards were launched during the current period to enhance water management efficiency. This collaborative initiative involved key sector players, including the Water Services Regulatory Board (WASREB). WASREB conducted compliance workshops for Water Service Providers (WSPs), focusing on NRW reduction. Additionally, a specialized police unit was established by the Ministry of Water, Sanitation, and Irrigation in collaboration with the Ministry of Interior and National Administration to address illegal water connections.

To encourage public participation, a toll-free hotline was set up for reporting water theft, pipe bursts, and other NRW-related issues. WASREB emphasized integrating NRW Management as a strategic objective during the licensing process for WSPs. These providers are also required to allocate resources for NRW reduction in tariff applications. Furthermore, NRW staff underwent training at the Kenya Water Institute (KEWI) to learn best practices in the region.

#### A. Strengthening Collaborations

WASREB expresses gratitude to all our development partners for their invaluable support in numerous initiatives nationwide, which greatly contribute to effective regulation. Some of these initiatives include: -

**ESAWAS** supported the CWIS (Citywide Inclusive Sanitation) Implementation program aimed at enabling the regulator to implement initiatives that formalize service systems. Key among these included the creation of baseline data for onsite sanitation whereby two utilities, Malindi and Nakuru Urban, were earmarked for piloting. The implication is that with such developments, utilities can plan and make data-driven decisions given inclusive sanitation services across the entire service chain whether sewerage or non-sewerage.

**The World Bank, through the Kenya-WASH (K-WASH)** program seeks to enhance access to water sanitation services in tailor-made initiatives across nineteen (19) counties via a hybrid initiative with both a Program-for-Results (PforR) and an Investment Project Financing (IPF) component (Turkana, Samburu, West Pokot, Baringo, Garissa, Mandera, Tana River, Kwale, Makeni, Kitui, Tharaka Nithi, Kirinyaga, Murang'a, Narok, Migori,

Kericho, Vihiga, Bomet, and Nandi ) from 2024 to 2030. ). Additionally, it supports the transition of refugee camps into integrated municipal settlements for both refugees and host communities.

**The U.S. Agency for International Development (USAID)** has funded two projects: -

- **Western Kenya Water Project (WKWP)** is supporting eight counties in Western Kenya (Bungoma, Busia, Homa Bay, Kakamega, Kisii, Kisumu, Migori, and Siaya) and with Lake Victoria North and South Basins to deliver inclusive and sustainable services that strengthen water security.
- **STAWI** is working alongside county governments across the Northern and Southeastern counties of Garissa, Isiolo, Marsabit, Samburu, Turkana, Wajir, Kitui, Makueni, and Taita Taveta to advance water security for social, economic, and environmental needs.
- **WASH – FIN 2**

**UNICEF** under its Kenya WASH program Kenya targeted the counties of Nairobi, Nakuru, and Homabay with the principal activity undertaken to establish and support the adoption of sector coordination meetings under the leadership of the county government as part of regular practice. Also, a series of capacity-building workshops focusing on strengthening governance were convened.

**Water & Sanitation for the Urban Poor (WSUP)** supported the development of a template to facilitate utility adoption of the sanitation development fee, and the development of sanitation indicators which will monitor WSPs, as well as report and track progress on the achievement of sanitation.

**REACH** Program Kenya based at the Institute for Climate Change and Adaptation, University of Nairobi is working to enhance climate Resilience and water security, especially in the Arid and Semi-Arid Lands (ASALS) of Kenya

## B. Stakeholder Engagement

WASREB enhances stakeholder collaborations through various initiatives and strategies aimed at promoting engagement, transparency, and accountability. This is achieved through:

- **Stakeholder Consultations:** As mandated by the Water Act 2016, WASREB conducts public consultations for license and tariff reviews. In the past year, WASREB organized twenty-five (25) license and ten (10) tariff public consultation meetings. These gatherings provide consumers with opportunities to voice concerns, offer feedback, and engage in decision-making processes concerning water service provision.
- **Capacity Building of Stakeholders:** WASREB facilitates training sessions, workshops,



and seminars on topics relevant to water service provision, regulatory processes, and governance. Compliance workshops for Water Service Providers (WSPs) were conducted in various Water Works Development Agency (WWDA) areas. These capacity-building efforts cover areas such as water quality, regulatory compliance, licensing, tariffs, and corporate governance.







CHAPTER TWO

# SECTOR DEVELOPMENT



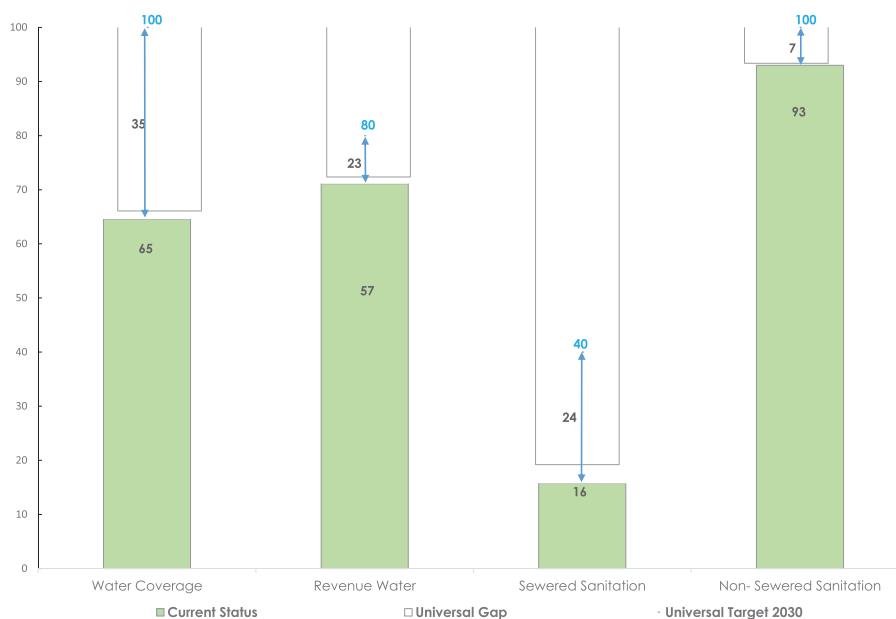


**Access to water improves BUT sanitation stagnates.**

Despite achieving a three-percentage-point increase in water coverage, this still fall short of the required five percentage points needed to reach the targets for universal access in the next seven years. In the current reporting period, the main contributor to the increase is the integration of small-scale operators within the territories of regulated utilities. To ensure sustainability of services provided by these operators, the regulator will continue to implement the management models outlined in the guidelines for water service provision in rural and other underserved areas. A total of 953 additional Small-Scale Service Providers (SSSPs) were identified within the territories of regulated Water Service Providers (WSPs); however, their data was not provided by the regulated utility. The 953 SSSPs account for a population of 785,444 of the additional population served totalling 1,774,849. Production decreased by 1.3% during the period, while the volume billed increased by 1.5%. The rise in billed volume was relatively low compared to the 11% increase in the population served. Consequently, the per capita consumption declined from 28 litres per capita per day (l/c/d) to 26 l/c/d.

Figure 2.1 illustrates the status of national goals concerning the three primary areas of focus: increasing access, reducing losses, and enhancing cost recovery, as outlined in The National Water Services Strategy (2020-2025). To facilitate comparison among the four indicators, all metrics have been standardized to have a target of 100%.

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



Water coverage and Non-Revenue Water (NRW) demonstrated improvement, while sewerage sanitation and overall sanitation remained unchanged. It is recommended that water coverage and NRW target an annual improvement of five percentage points each, while sewerage sanitation and overall sanitation require growth rates of 3.5 and 1.0 percentage points, respectively.

## 2.1 Access to Water and Sanitation Services

The water coverage in regulated areas increased by three percentage points, rising from 62% to 65%. The contributions to this change were 51% from the SSSPs and 49% from the regulated WSPs. However, the increase in the population served with sewer, at 112,296, only represented 19% of the necessary annual growth of approximately one million people.

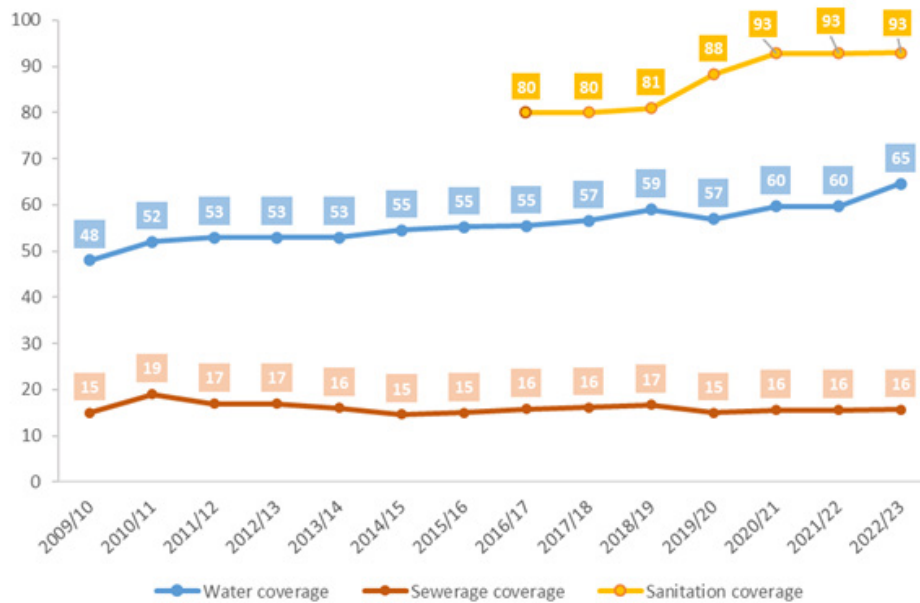
**Table 2.1: Summary of Sector Data**

| Parameter  | 2021/22        | 2022/23        | Variance, No  | Variance, % |
|--|----------------|----------------|---------------|-------------|
| Total Population in Service Area                     | 26,731,200     | 28,266,927     | 1,535,728     | 5.7         |
| Total Population Served with Water                   | 16,473,785     | 18,248,634     | 1,774,849     | 10.8        |
| Population Served with Sewer                         | 4,324,983      | 4,437,279      | 112,296       | 2.6         |
| Population Served with Sanitation Services           | 24,878,702     | 26,280,303     | 1,401,601     | 5.6         |
| Total Water Produced, m <sup>3</sup>                 | 459,361,145    | 453,532,187    | -5,828,958    | -1.3        |
| Total Water Billed, m <sup>3</sup>                   | 254,261,544    | 257,995,383    | 3,733,839     | 1.5         |
| Total Water Billed (domestic), m <sup>3</sup>        | 164,284,639    | 166,030,354    | 1,745,715     | 1.1         |
| Total Revenue, Kshs                                  | 24,624,564,304 | 26,448,013,664 | 1,823,449,359 | 7.4         |
| Per capita production, l/c/d (domestic production)   | 49.4           | 45.8           | -3.6          | -7.2        |
| Per capita production, l/c/d (using full Production) | 76.4           | 71.2           | -5.2          | -6.9        |
| Per capita consumption, l/c/d                        | 28.3           | 26.0           | -2.3          | -8.1        |
| To no. of connections, water                         | 1,359,577      | 1,415,656      | 56,079        | 4.1         |
| To no. of connections, sewer                         | 370,220        | 389,835        | 19,615        | 5.3         |

During the period, an additional 1,774,849 people were served, surpassing the population increase within the service area of the WSPs of 1,535,728. The SSSPs contributed 785,444, while the regulated utilities contributed 750,284 to this growth.

Despite a 2.6% increase in the number of people served, the proportion of the population receiving sewerage services remained constant at 16%. This increase of 112,296 people is relatively low compared to the 1,774,849 increase in population in the service area. Similarly, the total sanitation rate remained unchanged at 93%.

Figure 2.2: Trend in Water and Sanitation Coverage



## 2.2 Sector Financing

NAWASIP has estimated that meeting the Water and Sanitation Sector goals by 2030 would require a total financing of Ksh 995 billion. However, only Ksh 529 billion is provided through budgetary projections resulting to a financing gap of Ksh 466 billion.

The financing gap could potentially be covered by private financing amounting to Ksh 395 billion and a household contribution of Ksh 23 billion. The Ksh 23 billion household contribution over seven years translates to an annual amount of approximately Ksh 3.3 billion, or Ksh 60 per capita. At the current average tariff of Ksh 95 per cubic meter (m<sup>3</sup>) and a cost of Ksh 108 per cubic meter (m<sup>3</sup>), the sector is not able to generate the necessary revenues to deliver services and make investments. To achieve full cost recovery, a cost coverage level of 150% is required, meaning that the sector must have an average tariff of at least Ksh 162 per cubic meter (m<sup>3</sup>). This sum would amount

to an annual total of Ksh 6.2 billion, or Ksh 268 per capita which is significantly low. Therefore, there is a need to boost self-financing as the initial step in bridging the investment deficit.

## 2.3 Efficiency in Water and Sanitation Services Provision

A clear policy and a facilitative legal framework are essential components of an appropriate enabling environment for efficient water and sanitation services. To support these policies and legal frameworks, institutional framework that delineates mandates and establishes mechanisms for ensuring accountability for results must be put in place.

At the regulatory level, suitable instruments including a robust licensing regime and tariff-setting mechanisms to guide the sector towards efficient service delivery have been established. This has ensured predictability, coherence, and legitimacy of the regulatory framework.

Utilities, as the focal point of service provision, need to establish clear visions and strategies to enhance their services. This involves developing realistic strategic and business plans, which should be supported by achievable financing plans. The availability of reliable data and the adoption of appropriate technology are the decisive factors that differentiate between good and poor performance. To close the efficiency loop, inclusivity in decision-making through public participation and coordination in planning, while ensuring the ring-fencing of revenues, must be enforced.

### 2.4 Performance of Utilities

As a major player towards realization of the rights to water and sanitation, the regulator must ensure utilities are efficient and that there is development in the sector. This involves utilities having the capacity to finance operations, adhere to standards, enhance efficiency, and refrain from imposing unjustified costs on consumers.

It is acknowledged that the sector has adopted performance-based financing to support utilities towards improvement of service delivery. However, this initiative must be complemented by effective oversight of the utilities. A utility operates within a framework that demand accountability to various stakeholders. Balancing these multiple demands help in fostering transparency and enhances operational independence of utilities. The connection between accountability and good governance has been established. This calls for all stakeholders in the accountability framework, including both levels of government, regulators, financiers, and consumers, fulfil to adequately fulfil their respective roles. The level of accountability however depends on the actors' ability to undertake enforcement actions for both positive and negative performance.

As in previous periods, utilities were assessed and 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 | 2022/23 | Trend |
|--|---------|---------|-------|---------|-------|
| Water Coverage, %                            | 60      | 62      | ↑     | 65      | ↑     |
| Drinking Water Quality, %                    | 92      | 95      | ↑     | 90      | ↓     |
| Hours of Supply, hrs/day                     | 16      | 17      | ↑     | 17      | →     |
| Non- Revenue Water, %                        | 45      | 45      | →     | 43      | ↑     |
| Metering Ratio, %                            | 96      | 95      | →     | 97      | ↑     |
| Staff Productivity, No. per 1000 Connections | 7       | 7       | →     | 7       | →     |
| Personnel expenditure as % of O+M Costs, %   | 50      | 47      | ↑     | 48      | ↓     |
| Revenue Collection Efficiency, %             | 94      | 95      | ↑     | 93      | ↓     |
| O+M Cost Coverage, %                         | 99      | 96      | ↓     | 95      | ↓     |
| Sewered Sanitation Coverage, % *             | 16      | 16      | ↑     | 16      | →     |
| Sanitation Coverage, % *                     | 93      | 93      | →     | 93      | →     |

Good
  Acceptable
  Not Acceptable
  Benchmark Varies

\* Not used in ranking



The regulator is currently developing an indicator to evaluate utility performance in sanitation, which will encompass both on-site and off-site factors. This indicator is expected to be implemented starting from the next reporting period.

In the current period, three indicators showed improvement, four remained stagnant, and four declined. This represents a decrease compared to the previous period, where eight indicators improved, one remained stagnant, and two declined.

### 2.5 Utility Ranking

The performance framework outlined in section 3.6 establishes the maximum attainable score for a utility at 200 points. According to this assessment, Nakuru Urban emerged as the leading utility scoring 166 points, followed by Nyeri and Nanyuki with scores of 165 and 162, respectively. Samburu occupied the lowest position with a score of 0 points, followed by Olkejuado with 13 points. Tuuru and Busia ranked third from the bottom, each scoring 17 points. The average performance remained unchanged at 44% during the period. Nevertheless, the number of WSPs with a score exceeding 50% remaining at 36. Table 2.3 displays the top and bottom 10 utilities overall performance.

**Table 2.3: Top and Bottom 10 Utilities**

| TOP TEN UTILITIES 2022/23 |                |                 | BOTTOM TEN UTILITIES 2022/23 |           |                 |
|---------------------------|----------------|-----------------|------------------------------|-----------|-----------------|
| Rank                      | Utility        | Score (Max 200) | Rank                         | Utility   | Score (Max 200) |
| 1                         | Nakuru Urban   | 166             | 79                           | Mbooni    | 27              |
| 2                         | Nyeri          | 165             | 80                           | Wajir     | 27              |
| 3                         | Nanyuki        | 162             | 81                           | Tana      | 23              |
| 4                         | Isiolo         | 154             | 82                           | Marsabit  | 23              |
| 5                         | Thika          | 150             | 83                           | Elwak     | 21              |
| 6                         | Kisumu         | 148             | 84                           | Bomet     | 17              |
| 7                         | Meru           | 147             | 85                           | Busia     | 17              |
| 8                         | Ruiru-Juja     | 145             | 86                           | Tuuru     | 17              |
| 9                         | Kakamega       | 144             | 87                           | Olkejuado | 13              |
| 10                        | Murang'a Urban | 143             | 88                           | Samburu   | 0               |

The evaluation of performance over time recognizes that utilities operate under diverse conditions, which can influence their performance. Consequently, this could hinder certain utilities from quickly ascending to the top. Conversely, despite operating in favourable environments, some utilities may not fully capitalize on this opportunity to enhance their performance. Comparing the current performance of the utility with that of the previous period aims to acknowledge efforts made towards improving performance. To ensure a continuous upward trend and maintain consistent performance improvement, positive changes must be observed for two consecutive years. In the present scenario, the periods under consideration are 2020/21 and 2021/22. Additionally, the utility must achieve a score of at least 50% in both reporting periods.

Table 2.4: Top Improvers and Bottom Losers

|    | WSP               | Score 2021/22 | Score 2022/23 | Variance |    | WSP          | Score 2021/22 | Score 2022/23 | Variance |
|----|-------------------|---------------|---------------|----------|----|--------------|---------------|---------------|----------|
| 1  | Kakamega          | 124           | 144           | 20       | 79 | Nakuru Rural | 115           | 92            | -23      |
| 2  | Kirinyaga         | 103           | 114           | 11       | 80 | Tana         | 47            | 23            | -24      |
| 3  | Mathira           | 117           | 128           | 11       | 81 | Muthambi 4K  | 101           | 76            | -24      |
| 4  | Kisumu            | 141           | 148           | 8        | 82 | Tavevo       | 83            | 56            | -27      |
| 5  | Isiolo            | 146           | 154           | 7        | 83 | Bomet        | 45            | 17            | -27      |
| 6  | Murang'a South    | 112           | 119           | 7        | 84 | Kyeni        | 59            | 31            | -28      |
| 7  | Othaya Mukurweini | 100           | 107           | 7        | 85 | Busia        | 45            | 17            | -29      |
| 8  | Nanyuki           | 157           | 162           | 5        | 86 | Gatundu      | 108           | 77            | -31      |
| 9  | Nakuru Urban      | 161           | 166           | 5        | 87 | Samburu      | 46            | 0             | -46      |
| 10 | Naromoru          | 101           | 106           | 4        | 88 | Tuuru        | 65            | 17            | -49      |

Kakamega is the utility that recorded the most improvement, followed by Kirinyaga and Mathira, respectively. Conversely, Tuuru, Samburu, and Gatundu are the utilities experiencing the most significant declines. Furthermore, it is worrying that the pace of decline significantly surpasses the pace of progress, presenting an unfavourable scenario for the sector.

## 2.6 Regional Benchmarking

Benchmarking the performance of the largest utilities within a country is hindered by the absence of comparable peers, and in some countries, there is only a single utility. This poses a challenge when it comes to comparing performance. Hence, regional benchmarking becomes crucial for large utilities or those operating as sole entities in different countries where comparable peers are lacking. Although acknowledging the differing operating environments across countries, benchmarking against utilities of similar size allows both regulators and utilities to draw valuable lessons on enhancing performance.

The focus of the regional benchmarking process is on the largest or solitary national utilities from each country. However, in the current year, the best-performing utilities in each of the countries were also considered. The nine utilities considered in this section are Nairobi City Water and Sewerage Company (NCW&SC) of Kenya; Lusaka Water and Sanitation Company (LWSC) of Zambia; Dar Es Salaam Water and Sanitation Authority (DAWASA) of Tanzania; Águas da Região Metropolitana de Maputo (AdRMM) of Mozambique; Water and Sewerage Company (WASCO) of Lesotho; Water and Sanitation Corporation Ltd (WASAC) of Rwanda; Zanzibar Water Authority (ZAWA) of Zanzibar; National Water and Sewerage Corporation (NWSC) of Uganda and Lilongwe Water Board (LWB) of Malawi.

The performance analysis of the nine utilities using the ten selected KPIs is summarized in Table 2.5.

**Table 2.5: Performance Summary of the Utilities in the Ten KPIs**

| INDICATOR CLUSTER          | KPI                            | Weight | NCW&SC | LWSC | DAWASA | AdRMM | WASCO | WASAC | ZAWA | NWSC | LWB  |
|----------------------------|--------------------------------|--------|--------|------|--------|-------|-------|-------|------|------|------|
|                            |                                |        |        |      |        |       |       |       |      |      |      |
| Quality of Service         | Water Coverage, %              | 10     | 80%    | 93%  | 83%    | 53%   | 60%   | 83%   | 89%  | 84%  | 86%  |
|                            | Sewerage Coverage, %           | 5      | 51%    | 18%  | 10%    | -     | 4%    | -     | 10%  | 23%  | -    |
|                            | Water Quality, %               | 15     | 96%    | 98%  | 87%    | 100%  | 95%   | 99%   | 93%  | 100% | 89%  |
|                            | Hours of Supply, No            | 10     | 7      | 18   | 20     | 15    | 18    | 21    | 14   | 18   | 22   |
| Economic Efficiency        | O&M Cost Coverage, %           | 10     | 95%    | 107% | 96%    | 92%   | 77%   | 187%  | 73%  | 123% | 180% |
|                            | Collection Efficiency, %       | 15     | 97%    | 100% | 96%    | 87%   | 88%   | 99%   | 85%  | 96%  | 93%  |
|                            | Staff Cost vs O&M Costs, %     | 5      | 59%    | 43%  | 38%    | 30%   | 41%   | 33%   | 32%  | 42%  | 28%  |
| Operational Sustainability | Staff/1,000 W&S Connections, % | 5      | 7.3    | 3.8  | 4.0    | 3.3   | 4.0   | 5.1   | 3.4  | 5.1  | 5.0  |
|                            | Metering Ratio, %              | 10     | 100%   | 65%  | 100%   | 78%   | 100%  | 100%  | 39%  | 100% | 100% |
|                            | NRW, %                         | 15     | 50%    | 54%  | 39%    | 46%   | 57%   | 46%   | 37%  | 38%  | 41%  |

To prevent complacency, the benchmarking exercise also evaluated the performance of the top-performing utilities in each country. However, data was only available for five utilities: Nyeri from Kenya, Eastern WSC from Zambia, Iringa WSSA from Tanzania, Blantyre WB from Malawi, and WASAC from Rwanda. The utilities are listed below in descending order of performance.

**Table 2.6: Performance of the Best Utilities in the Ten KPIs**

| Utility               | Quality of Service |                   |               |                 | Economic Efficiency |                       |                               | Operational Sustainability |     |                |
|-----------------------|--------------------|-------------------|---------------|-----------------|---------------------|-----------------------|-------------------------------|----------------------------|-----|----------------|
|                       | Water Coverage     | Sewerage Coverage | Water Quality | Hours of Supply | O&M Coverage        | Collection Efficiency | Staff Cost as a % of O&M Cost | Staff/1,000 WS Connections | NRW | Metering Ratio |
|                       | %                  | %                 | %             | Hours/d ay      | %                   | Ratio                 | %                             | Ratio                      | %   | %              |
| Nyeri WSP, Kenya      | 98%                | 33%               | 100%          | 24              | 102%                | 97%                   | 39%                           | 4.1                        | 17% | 100%           |
| Eastern WSC, Zambia   | 94%                | 4%                | 100%          | 21              | 64%                 | 100%                  | 58%                           | 5.6                        | 46% | 100%           |
| Iringa WSSA, Tanzania | 95%                | 30%               | 97%           | 24              | 97%                 | 96%                   | 31%                           | 3.5                        | 23% | 100%           |
| Blantyre WB, Malawi   | 85%                | N/A               | 97%           | 22              | 90%                 | 88%                   | 28%                           | 8.7                        | 53% | 100%           |
| WASAC, Rwanda         | 83%                | N/A               | 99%           | 21              | 187%                | 99%                   | 33%                           | 5.1                        | 46% | 100%           |





| CHAPTER THREE |

# DETAILED PERFORMANCE REVIEW

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*Performance must be consistent, and any change should be credible!*

### 3.1 Introduction

Performance assessment and ranking remain a critical dimension in promoting utilities improvement by monitoring advancements towards the established sector objectives, WASREB ensures that attention remains on crucial sectoral aspects and facilitates progress the targets. The annual performance assessment calls attention to areas requiring sector attention, and the data forms a basis for informed decisions based to achieve superior outcomes. Ultimately, effective performance assessment requires a strong focus on measurement and continuous improvement.

### 3.2 Can we sustain the gains of the reforms?

The decline in four indicators (section 2.4) as compared to only one in the previous year is an undesirable trend for the sector. In the year under review all three economic efficiency indicators declined in addition to the drinking water quality indicator. The decline in cost recovery is a threat to sustainability and it is jeopardizing the sector aspiration for increased self-financing for investments. The disproportionately high staff expenditure relative to O&M Costs is likely contributing to the low O&M cost coverage. It is essential for all stakeholders need toto adopt good governance practices in the WSPs to reverse this decline.

### 3.3 Data Accuracy and Compliance in Reporting

During the period under review, eighty-eight (88) public and four (4) private utilities submitted data, a 98% compliance with reporting. In the current period, Ndaragwa and Lodwar WSPs did not submit data, and Mutitu WSP's license was revoked. Conversely, Wajir submitted performance data after a long absence while Kakamega Rural WSP became operational.

Regarding accuracy of the data, there is concern that some utilities submitted data that deviates from what is already held by the regulator from other reliable sources such as inspections. This was addressed by thorough verification by the validation team.

The imperative now is for utilities to enhance their data management practices and ensure consistency to foster confidence.

Figure 3.1: Trend in Data Submission by Utilities

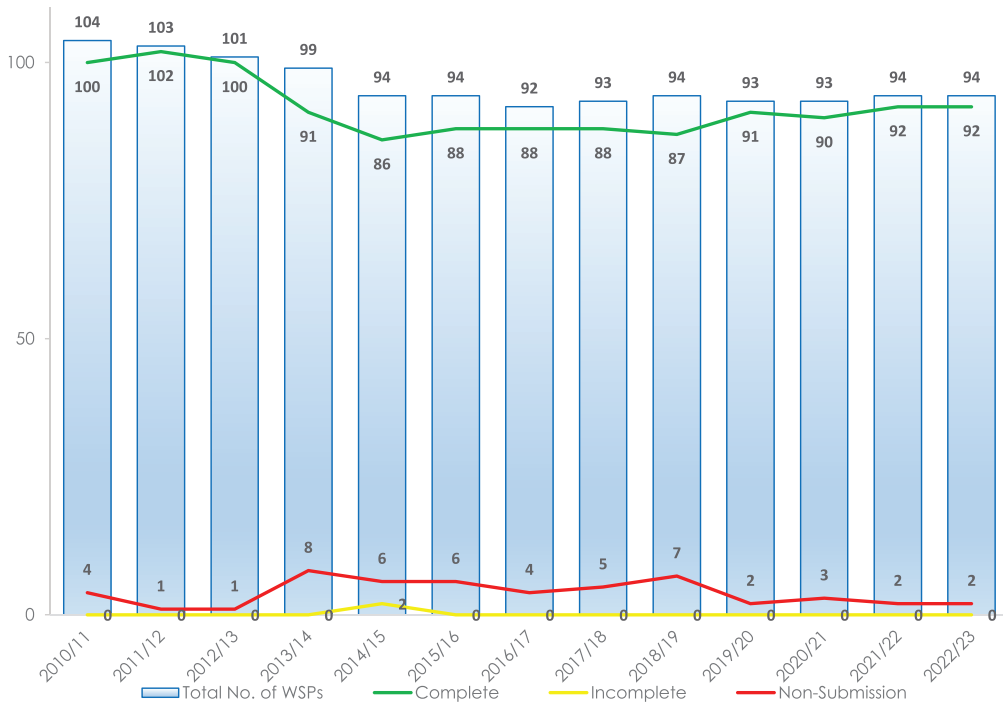


Table 3.1 presents the overall data for the different utilities evaluated.



Table 3.1: General Data on Utilities 2022/23

| INDICATORS                               | Total Population in Service Area | Total Populations Served | Total no. of connections (active+inactive) | Total No. Active Connections | 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 2023 | Licensing Status as at June 2023 |
|--|----------------------------------|--------------------------|--|------------------------------|---------------------|------------------------|----------------------------------|---|---------------------------------|-----------------------|-------------------------------|--------------------------------|--------------------|------------------------------------|----------------------------------|
| <b>Very Large (235,000 connections)</b>  |                                  |                          |  |                              |                     |                        |                                  |   |                                 |                       |                               |                                |                    |                                    |                                  |
| Nairobi                                  | 5,029,777                        | 4,099,476                | 444,659                                    | 440,634                      | 1                   | 10,574                 | 180.82                           | 53,986                                      | 95,380                          | 47                    | 121                           | 36                             | 3,117              | Valid                              | Valid                            |
| Eldoret                                  | 496,478                          | 407,129                  | 104,806                                    | 95,074                       | 1                   | 769                    | 14.89                            | 6,487                                       | 9,286                           | 38                    | 100                           | 44                             | 397                | Valid                              | Valid                            |
| Mombasa                                  | 1,312,315                        | 746,740                  | 90,914                                     | 44,141                       | 1                   | 767                    | 11.31                            | 4,167                                       | 5,469                           | 52                    | 41                            | 15                             | 341                | Under Processing                   | Valid                            |
| Kisumu                                   | 484,472                          | 445,937                  | 70,924                                     | 69,862                       | 1                   | 1,038                  | 11.72                            | 3,778                                       | 7,330                           | 37                    | 72                            | 23                             | 309                | Valid                              | Under Processing                 |
| Nakuru Urban                             | 575,408                          | 545,256                  | 66,675                                     | 63,110                       | 1                   | 1,090                  | 11.97                            | 5,706                                       | 8,464                           | 29                    | 60                            | 29                             | 173                | Under Processing                   | Valid                            |
| Nyeri                                    | 156,212                          | 128,149                  | 64,286                                     | 56,110                       | 1                   | 644                    | 7.80                             | 5,006                                       | 6,493                           | 17                    | 167                           | 107                            | 228                | Valid                              | Valid                            |
| Thika                                    | 351,397                          | 323,444                  | 60,677                                     | 56,223                       | 1                   | 914                    | 14.14                            | 6,188                                       | 9,577                           | 32                    | 120                           | 52                             | 305                | Valid                              | Under Processing                 |
| Ruiru-Juja                               | 556,407                          | 492,467                  | 57,389                                     | 55,249                       | 2                   | 1,018                  | 13.18                            | 6,653                                       | 7,989                           | 39                    | 73                            | 37                             | 300                | Under Processing                   | Valid                            |
| Murang'a South                           | 494,133                          | 344,661                  | 53,083                                     | 38,631                       | 1                   | 211                    | 6.16                             | 2,758                                       | 3,373                           | 45                    | 49                            | 22                             | 162                | Under Processing                   | Under Processing                 |
| Nzola                                    | 840,278                          | 398,161                  | 51,345                                     | 42,205                       | 5                   | 420                    | 8.19                             | 4,175                                       | 4,221                           | 48                    | 56                            | 29                             | 269                | Under Processing                   | Valid                            |
| Kilifi Mariakani                         | 1,018,239                        | 645,601                  | 46,771                                     | 35,317                       | 3                   | 562                    | 10.28                            | 3,177                                       | 5,674                           | 45                    | 44                            | 13                             | 266                | Under Processing                   | Valid                            |
| Gatundu                                  | 313,045                          | 148,639                  | 44,721                                     | 30,808                       | 1                   | 142                    | 5.22                             | 3,347                                       | 3,521                           | 33                    | 96                            | 62                             | 141                | Under Processing                   | Valid                            |
| Embu                                     | 236,660                          | 193,850                  | 43,359                                     | 43,359                       | 1                   | 409                    | 7.51                             | 3,384                                       | 4,607                           | 39                    | 106                           | 48                             | 226                | Valid                              | Valid                            |
| Kirinyaga                                | 519,041                          | 333,582                  | 42,467                                     | 31,215                       | 9                   | 172                    | 6.21                             | 2,043                                       | 2,618                           | 58                    | 51                            | 17                             | 159                | Valid                              | Under Processing                 |
| Malindi                                  | 562,202                          | 400,815                  | 41,128                                     | 26,605                       | 1                   | 509                    | 6.91                             | 4,230                                       | 5,313                           | 23                    | 47                            | 29                             | 220                | Under Processing                   | Valid                            |
| Kakamega                                 | 437,035                          | 419,422                  | 41,024                                     | 37,965                       | 2                   | 334                    | 4.57                             | 2,016                                       | 2,856                           | 37                    | 30                            | 13                             | 168                | Valid                              | Valid                            |
| Kericho                                  | 420,597                          | 157,446                  | 40,031                                     | 28,164                       | 2                   | 195                    | 3.91                             | 1,352                                       | 1,836                           | 53                    | 68                            | 24                             | 210                | Valid                              | Valid                            |
| Ohaya Mukurweini                         | 184,935                          | 86,292                   | 36,563                                     | 23,002                       | 2                   | 192                    | 6.46                             | 3,292                                       | 4,129                           | 36                    | 205                           | 105                            | 129                | Under Processing                   | Valid                            |
| <b>Large (10,000-34,999 connections)</b> |                                  |                          |  |                              |                     |                        |                                  |   |                                 |                       |                               |                                |                    |                                    |                                  |
| Mathira                                  | 162,787                          | 103,680                  | 33,978                                     | 22,956                       | 1                   | 145                    | 2.02                             | 1,037                                       | 1,275                           | 37                    | 53                            | 27                             | 72                 | Under Processing                   | Valid                            |
| Nakuru Rural                             | 1,133,006                        | 772,534                  | 30,751                                     | 17,473                       | 6                   | 325                    | 7.45                             | 1,366                                       | 4,080                           | 45                    | 26                            | 5                              | 139                | Under Processing                   | Valid                            |
| Tavevo                                   | 371,337                          | 200,898                  | 28,834                                     | 18,946                       | 3                   | 321                    | 6.12                             | 2,816                                       | 3,545                           | 42                    | 83                            | 38                             | 252                | Under Processing                   | Valid                            |
| Nanyuki                                  | 129,583                          | 121,918                  | 28,763                                     | 28,290                       | 1                   | 383                    | 4.04                             | 1,598                                       | 2,818                           | 30                    | 91                            | 36                             | 134                | Valid                              | Valid                            |
| Murang'a West                            | 155,757                          | 100,061                  | 27,149                                     | 14,694                       | 1                   | 95                     | 2.72                             | 865   | 1,321                           | 51                    | 74                            | 24                             | 77                 | Under Processing                   | Valid                            |
| Murang'a Urban                           | 97,679                           | 97,608                   | 26,571                                     | 23,020                       | 1                   | 290                    | 3.09                             | 1,722                                       | 2,331                           | 24                    | 87                            | 48                             | 129                | Under Processing                   | Valid                            |
| Nyahururu                                | 119,153                          | 106,763                  | 25,326                                     | 23,429                       | 2                   | 236                    | 3.24                             | 1,076                                       | 1,995                           | 38                    | 83                            | 28                             | 148                | Valid                              | Valid                            |
| Gusii                                    | 867,370                          | 357,629                  | 24,662                                     | 24,476                       | 7                   | 231                    | 3.58                             | 799   | 1,231                           | 66                    | 27                            | 6                              | 161                | Expired                            | Expired                          |
| Garissa                                  | 144,367                          | 98,649                   | 23,318                                     | 20,459                       | 1                   | 301                    | 5.55                             | 1,539                                       | 3,469                           | 38                    | 154                           | 43                             | 184                | Expired                            | Expired                          |
| Bomet                                    | 381,363                          | 43,732                   | 22,957                                     | 7,582                        | 1                   | 96                     | 3.63                             | 660   | 1,238                           | 66                    | 227                           | 41                             | 177                | Under Processing                   | Under Processing                 |
| Kwale                                    | 680,009                          | 217,675                  | 22,730                                     | 21,467                       | 1                   | 200                    | 4.63                             | 1,580                                       | 2,167                           | 53                    | 58                            | 20                             | 140                | Under Processing                   | Valid                            |
| Meru                                     | 168,539                          | 130,563                  | 21,272                                     | 16,899                       | 1                   | 234                    | 3.37                             | 2,010                                       | 2,723                           | 19                    | 71                            | 42                             | 115                | Under Processing                   | Valid                            |
| Ngandori Nginda                          | 86,574                           | 66,286                   | 19,582                                     | 19,165                       | 1                   | 79                     | 2.72                             | 2,179                                       | 1,785                           | 34                    | 112                           | 90                             | 72                 | Valid                              | Valid                            |
| Kilui                                    | 403,668                          | 246,304                  | 18,660                                     | 10,576                       | 1                   | 158                    | 3.18                             | 1,157                                       | 1,630                           | 49                    | 35                            | 13                             | 121                | Under Processing                   | Under Processing                 |
| Sibo                                     | 572,163                          | 325,036                  | 18,503                                     | 15,946                       | 5                   | 140                    | 2.53                             | 895   | 1,102                           | 56                    | 21                            | 8                              | 127                | Under Processing                   | Valid                            |
| Telu Aberdare                            | 80,106                           | 60,000                   | 18,315                                     | 12,577                       | 1                   | 69                     | 2.57                             | 1,579                                       | 1,651                           | 36                    | 117                           | 72                             | 72                 | Under Processing                   | Valid                            |
| Nitih                                    | 150,198                          | 80,971                   | 18,213                                     | 12,966                       | 1                   | 80                     | 3.51                             | 830   | 1,449                           | 59                    | 119                           | 28                             | 85                 | Under Processing                   | Under Processing                 |
| Gatamathi                                | 134,467                          | 78,130                   | 17,396                                     | 13,353                       | 1                   | 77                     | 3.29                             | 1,064                                       | 1,359                           | 59                    | 115                           | 37                             | 66                 | Under Processing                   | Valid                            |
| Mavoko                                   | 351,789                          | 186,076                  | 17,066                                     | 15,439                       | 1                   | 201                    | 1.17                             | 450   | 785                             | 33                    | 17                            | 7                              | 94                 | Under Processing                   | Valid                            |
| Kikuyu                                   | 432,025                          | 407,854                  | 16,882                                     | 9,841                        | 1                   | 144                    | 2.84                             | 832   | 1,731                           | 39                    | 19                            | 6                              | 95                 | Under Processing                   | Valid                            |
| Isiolo                                   | 86,768                           | 79,991                   | 14,955                                     | 14,204                       | 1                   | 107                    | 2.15                             | 1,345                                       | 1,507                           | 30                    | 74                            | 46                             | 63                 | Under Processing                   | Under Processing                 |
| Kiambu                                   | 151,286                          | 124,451                  | 13,821                                     | 10,370                       | 1                   | 257                    | 3.36                             | 1,762                                       | 2,202                           | 34                    | 74                            | 39                             | 73                 | Valid                              | Valid                            |
| Limuru                                   | 287,553                          | 233,480                  | 13,348                                     | 12,732                       | 1                   | 144                    | 1.86                             | 866   | 1,286                           | 31                    | 22                            | 10                             | 85                 | Valid                              | Valid                            |
| Gatanga                                  | 185,657                          | 57,692                   | 12,743                                     | 10,053                       | 1                   | 63                     | 1.84                             | 913   | 1,210                           | 34                    | 87                            | 43                             | 74                 | Under Processing                   | Valid                            |
| Githunguri                               | 220,141                          | 54,263                   | 12,677                                     | 10,086                       | 1                   | 49                     | 1.83                             | 471   | 596                             | 67                    | 92                            | 24                             | 41                 | Expired                            | No Licence                       |
| Naivasha                                 | 386,617                          | 349,938                  | 12,611                                     | 10,961                       | 1                   | 226                    | 2.23                             | 1,124                                       | 1,667                           | 25                    | 17                            | 9                              | 87                 | Valid                              | Expired                          |
| Ngakata                                  | 83,608                           | 80,991                   | 11,698                                     | 8,539                        | 1                   | 40                     | 1.12                             | 649   | 714                             | 36                    | 38                            | 22                             | 37                 | Valid                              | Valid                            |
| Oloolaiser                               | 419,180                          | 324,487                  | 11,625                                     | 6,514                        | 5                   | 121                    | 1.64                             | 912   | 1,065                           | 35                    | 14                            | 8                              | 139                | Under Processing                   | Expired                          |
| Imetha                                   | 144,178                          | 132,254                  | 11,555                                     | 6,396                        | 1                   | 48                     | 1.19                             | 578   | 723                             | 39                    | 25                            | 12                             | 87                 | Under Processing                   | Pending Issuance                 |
| Amatsi                                   | 395,682                          | 40,142                   | 11,455                                     | 5,978                        | 1                   | 65                     | 1.75                             | 668   | 1,199                           | 31                    | 119                           | 46                             | 78                 | Under Processing                   | Valid                            |
| Karuri                                   | 254,629                          | 179,247                  | 11,106                                     | 7,668                        | 1                   | 85                     | 1.38                             | 839   | 991                             | 28                    | 21                            | 13                             | 63                 | Expired                            | Valid                            |
| Kyeni                                    | 94,227                           | 16,896                   | 10,998                                     | 4,121                        | 1                   | 16                     | 0.68                             | 351   | 326                             | 52                    | 110                           | 57                             | 26                 | Expired                            | Expired                          |
| Busia                                    | 360,059                          | 47,732                   | 10,886                                     | 6,992                        | 3                   | 63                     | 1.00                             | 429   | 464                             | 53                    | 57                            | 25                             | 92                 | Expired                            | Under Processing                 |
| Homabay                                  | 272,816                          | 129,682                  | 10,813                                     | 8,966                        | 1                   | 55                     | 0.73                             | 286   | 426                             | 42                    | 15                            | 6                              | 108                | Valid                              | Pending Issuance                 |
| Noi Turesh                               | 239,542                          | 78,389                   | 10,397                                     | 7,699                        | 1                   | 76                     | 1.54                             | 907   | 969                             | 37                    | 54                            | 32                             | 59                 | Expired                            | Pending Issuance                 |
| <b>Medium (5,000-9,999 connections)</b>  |                                  |                          |  |                              |                     |                        |                                  |   |                                 |                       |                               |                                |                    |                                    |                                  |
| Machakos                                 | 245,070                          | 109,748                  | 9,954                                      | 6,957                        | 1                   | 105                    | 0.97                             | 542   | 660                             | 32                    | 24                            | 14                             | 63                 | Under Processing                   | Valid                            |
| Tuuru                                    | 281,139                          | 16,026                   | 9,605                                      | 3,199                        | 1                   | 22                     | 1.59                             | 466   | 261                             | 84                    | 272                           | 80                             | 114                | Expired                            | No Licence                       |
| Nyandarua                                | 114,728                          | 46,037                   | 9,587                                      | 6,388                        | 1                   | 51                     | 0.88                             | 461   | 477                             | 46                    | 53                            | 27                             | 66                 | Under Processing                   | Valid                            |
| Kibwezi Makindu                          | 291,783                          | 116,790                  | 9,537                                      | 7,064                        | 1                   | 85                     | 1.48                             | 689   | 940                             | 37                    | 35                            | 16                             | 86                 | Expired                            | No Licence                       |
| Narok                                    | 129,792                          | 54,259                   | 7,834                                      | 7,507                        | 1                   | 103                    | 1.21                             | 402   | 796                             | 34                    | 61                            | 20                             | 91                 | Valid                              | Pending Issuance                 |
| Embe                                     | 46,730                           | 37,177                   | 7,389                                      | 3,968                        | 1                   | 32                     | 1.12                             | 381   | 509                             | 54                    | 82                            | 28                             | 41                 | Expired                            | Under Processing                 |
| Tana                                     | 121,807                          | 41,639                   | 7,039                                      | 5,139                        | 3                   | 28                     | 1.84                             | 398   | 651                             | 65                    | 121                           | 26                             | 76                 | Under Processing                   | Under Processing                 |
| Migori                                   | 385,554                          | 92,866                   | 6,315                                      | 3,342                        | 7                   | 20                     | 0.53                             | 233   | 302                             | 43                    | 16                            | 7                              | 57                 | Expired                            | Under Processing                 |
| Kapsabet Nandi                           | 99,897                           | 21,643                   | 6,007                                      | 4,437                        | 2                   | 53                     | 1.24                             | 331   | 778                             | 37                    | 157                           | 42                             | 36                 | Under Processing                   | Valid                            |
| Kirandich                                | 40,651                           | 15,420                   | 5,525                                      | 3,902                        | 1                   | 30                     | 1.70                             | 462   | 576                             | 66                    | 302                           | 82                             | 39                 | Expired                            | No Licence                       |
| Murugi Mugumango                         | 33,631                           | 28,389                   | 5,476                                      | 4,654                        | 1                   | 14                     | 3.61                             | 1,591                                       | 1,914                           | 47                    | 349                           | 154                            | 26                 | Expired                            | No Licence                       |
| Chemususu                                | 120,038                          | 49,721                   | 5,385                                      | 2,331                        | 1                   | 23                     | 0.88                             | 288   | 392                             | 56                    | 49                            | 16                             | 43                 | Expired                            | Valid                            |
| Samburu                                  | 347,669                          | 119,225                  | 5,093                                      | 4,300                        | 6                   | 8                      | 0.42                             | 27  | 216                             | 49                    | 10                            | 1                              | 98                 | Expired                            | Pending Issuance                 |
| <b>Small (&lt;5,000 connections)</b>     |                                  |                          |  |                              |                     |                        |                                  |   |                                 |                       |                               |                                |                    |                                    |                                  |
| Lamu                                     | 37,674                           | 27,433                   | 4,929                                      | 2,456                        | 2                   | 23                     | 0.59                             | 260   | 301                             | 49                    | 59                            | 26                             | 70                 | Expired                            | Valid                            |
| Kiambere Mwingi                          | 180,395                          | 129,958                  | 4,907                                      | 3,120                        | 2                   | 120                    | 0.93                             | 326   | 605                             | 35                    | 20                            | 7                              | 47                 | Under Processing                   | Valid                            |
| Iten Tambach                             | 86,764                           | 56,102                   | 4,392                                      | 2,484                        | 1                   | 34                     | 0.73                             | 303   | 495                             | 32                    | 35                            | 15                             | 46                 | Expired                            | Valid                            |
| Mandera                                  | 131,604                          | 37,109                   | 4,347                                      | 3,065                        | 1                   | 19                     | 0.53                             | 185   | 280                             | 47                    | 39                            | 14                             | 101                | Expired                            | Valid                            |
| Kakamega Rural                           | n.c.d.                           | n.c.d.                   | 4,281                                      | 3,454                        | -                   | 13                     | 0.29                             | 179   | 185                             | 36                    | n.c.d.                        | n.c.d.                         | 37                 | n/a                                | No Licence                       |
| Oi Kalou                                 | 137,008                          | 52,182                   | 3,717                                      | 2,764                        | 1                   | 42                     | 0.55                             | 262   | 345                             | 37                    | 29                            | 14                             | 38                 | Under Processing                   | Valid                            |
| Olkejuado                                | 168,209                          | 30,150                   | 3,599                                      | 2,891                        | 1                   | 12                     | 0.26                             | 71  | 143                             | 44                    | 23                            | 6                              | 31                 | Under Processing                   | No Licence                       |
| Muthambi 4K                              | 19,151                           | 7,152                    | 3,291                                      | 2,174                        | 1                   | 9                      | 0.74                             | 504   | 558                             | n.c.d.                | 284                           | 193                            | 18                 | Expired                            | No Licence                       |
| Kapenguria                               | 168,811                          | 11,690                   | 3,289                                      | 1,357                        | 1                   | 21                     | 0.34                             | 172   | 221                             | 35                    | 80                            | 40                             | 57                 | Expired                            | No Licence                       |
| Rukanga                                  | 9,139                            | 7,943                    | 2,557                                      |                              |                     |                        |                                  |   |                                 |                       |                               |                                |                    |                                    |                                  |

### 3.4 Utility Categorization vs Service Delivery

Categorizing utilities according to size and ownership structure facilitates equitable performance comparisons. The size of a utility indicates its potential business, typically assessed by the number of connections it serves. The number of connections utilized for the categorization purpose are active connection. It is noteworthy that verified dormant connections are an indicator of a utility's inability to effectively serve its customers. Addressing this issue of dormant connections is crucial, as it can affect the financial sustainability of utilities and the quality of service, they offer in the long run. To tackle this issue, interventions to address the root cause of these dormant connections will be required.

Ownership structure distinguishes utilities as either publicly or privately owned. These entities operate in distinct governance and economic environments, necessitating varied regulatory incentives. Public utilities typically cater to an economically diverse clientele spanning from high to low-income earners, whereas privately owned utilities tend to serve a more uniform customer base of medium to high-income individuals, operating within a smaller population. The management approaches and funding mechanisms are also different thus the distinction in ranking the two types of utilities.

Figure 3.2: Movement in Size Categories

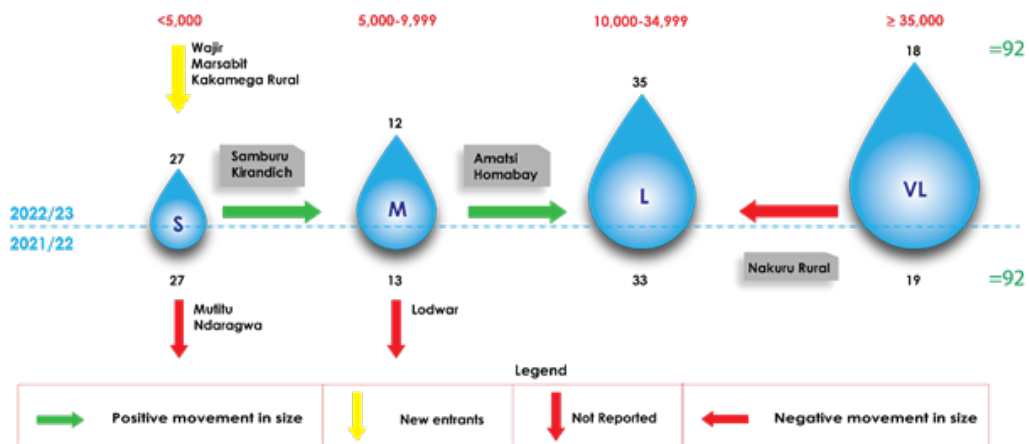
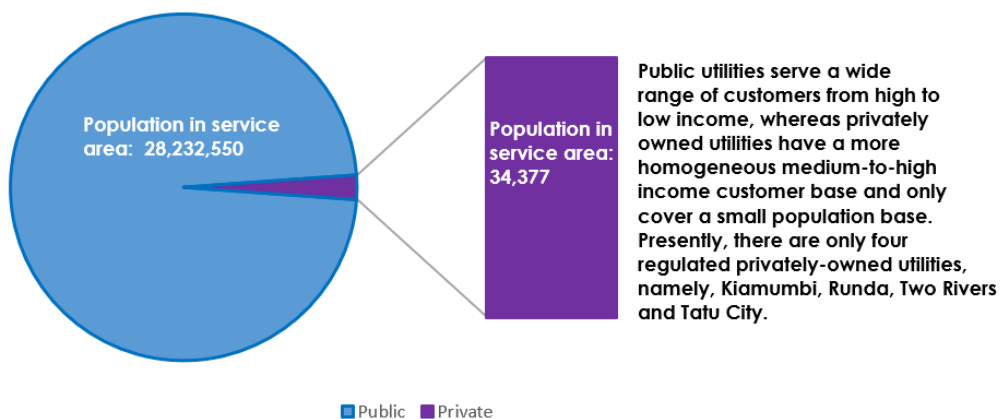


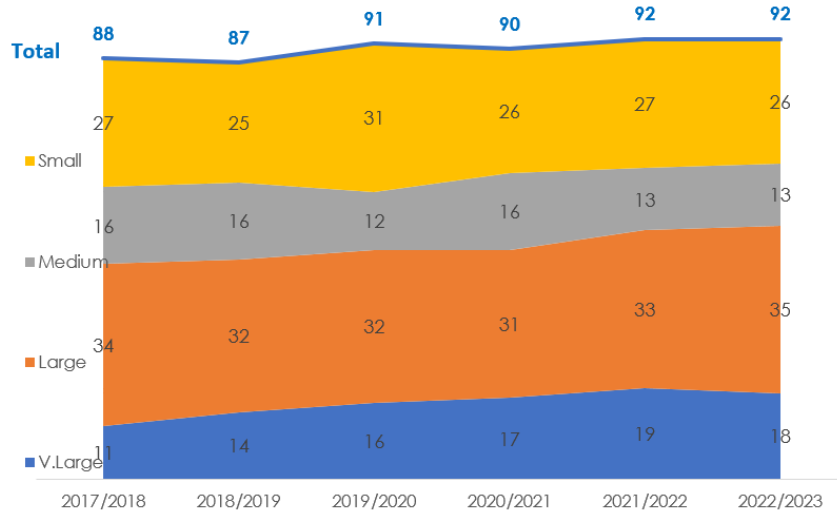
Figure 3.3: Categorization by Ownership



### 3.5 Analysis of Utilities and Market Share

The rise in utility size not only reflects their potential business scope but also grants them the opportunity to harness the benefits of economies of scale.

Figure 3.4: Proportion of Utilities in Size Categories



The very large category lost one utility to the large category while two WSPs graduated from small to medium and two graduated from to medium to large.

Figure 3.5: Market Share by Utility Size

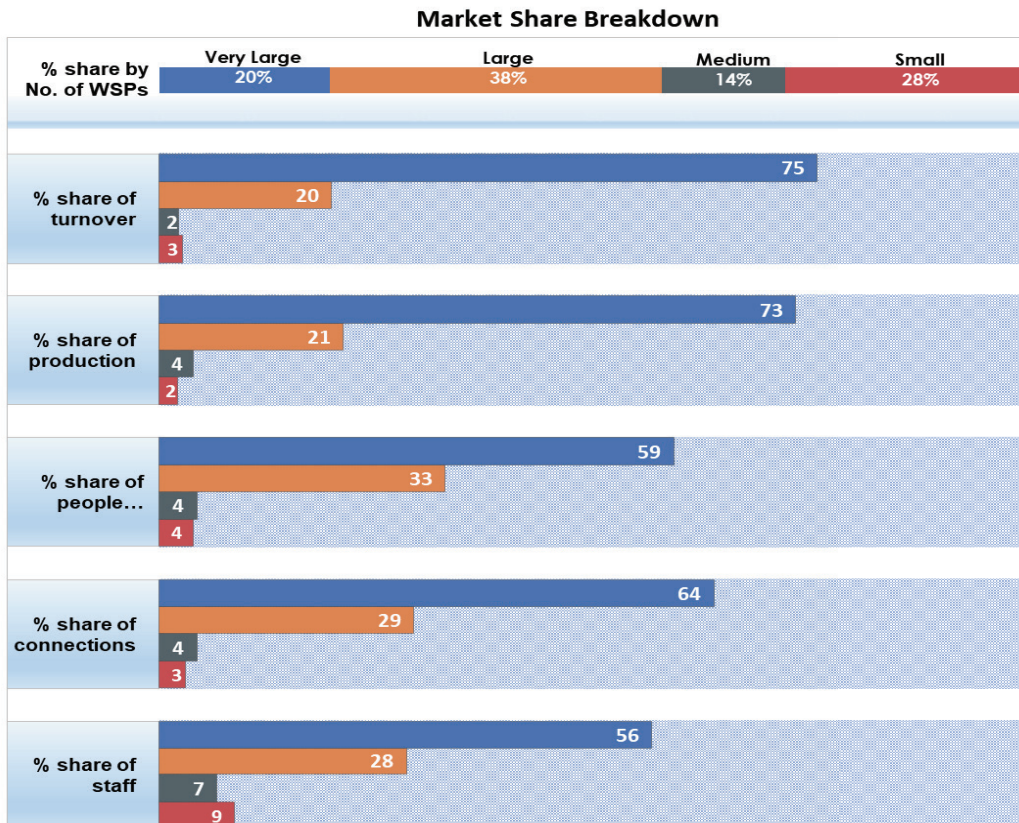


Figure 3.5 indicates a slight rise in the number of utilities classified as Very Large and Large, from 52 to 53, now encompassing 58% of all regulated utilities in the sector. These water service providers dominate the market in terms of revenue, water production, and the number of people they serve. In the current period, the contribution of these 54 utilities to the sector notably surged, constituting 95% of total turnover, 94% of total water production, and 91% of the population.

In summary, this data provides valuable insights into the market share and growth of water service providers within the water sector.

### 3.6 Performance Analysis and Ranking

Performance evaluation and ranking are determined by a utility's performance across nine Key Performance Indicators (KPIs), with the scoring thresholds and benchmarks for these KPIs detailed in Table 3.2.

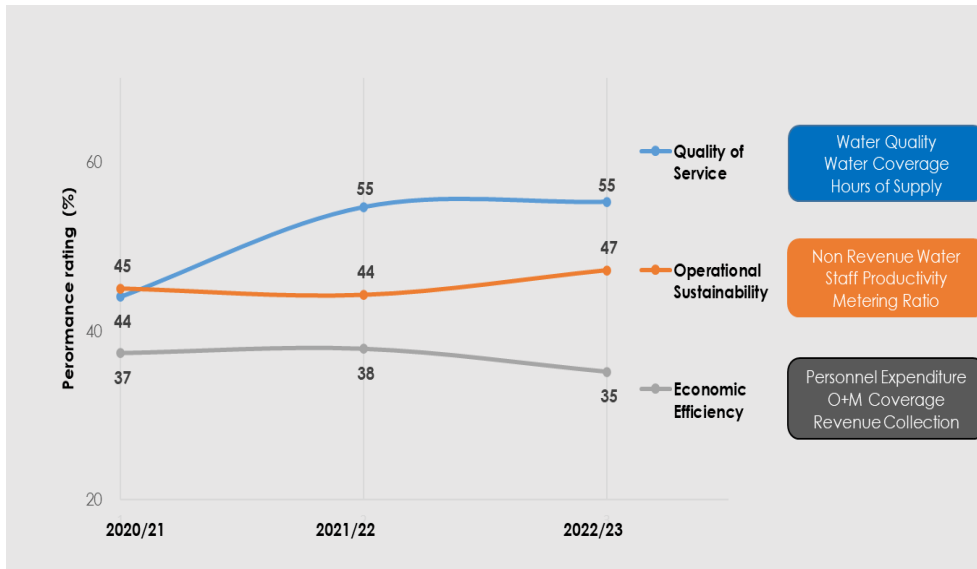
**Table 3.2: Performance Indicators, Sector Benchmarks and Scoring Regime**

| 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         |    |
|                            |                                  | Population <100,000                                  | 17-24                              | 12-16        | <12   | ≤10            | 0          |    |
|                            |                                  |  |                                    |              | ≥16   | 20             |            |    |
|                            |                                  |  |                                    |              | ≤6    | 0              |            |    |
| Economic Efficiency        | 4                                | Large and Very Large Companies                       | <20%                               | 20-30%       | >30%  | ≤25            | 15         |    |
|                            |                                  | Medium Companies                                     | <30%                               | 30-40%       | >40%  | ≥35            | 0          |    |
|                            |                                  | Small Companies                                      | <40%                               | 40-45%       | >45%  | ≤30            | 15         |    |
|                            |                                  |  |                                    |              |       | ≥40            | 0          |    |
|                            |                                  |  |                                    |              |       | ≤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 |
|                            |                                  |  | Medium & Small (less than 3 towns) | <7           | 7-11  | >11            | ≥8         | 0  |
|                            |                                  |  | Medium & Small (3 or more towns)   | <9           | 9-14  | >14            | ≤7         | 20 |
|                            |                                  |  |                                    |              |       | ≥11            | 0          |    |
|                            |                                  |  |                                    |              | ≤9    | 20             |            |    |
|                            |                                  |  |                                    |              | ≥14   | 0              |            |    |
| 9                          | Metering Ratio, %                | 100%   | 95-99%                             | <95%         | 100%  | 15             |            |    |
|                            |                                  |  |                                    |              | ≤80%  | 0              |            |    |
| <b>Total Maximum Score</b> |                                  |  |                                    |              |       |                | <b>200</b> |    |

### 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



The sector registered a slight improvement in the Quality of Service and Operational Sustainability. However, Economic Efficiency registered a drastic decline during the period under review. The trend in these indicators has continuously been declining over the last 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.

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

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

| Indicator                   | DWG (%) | 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 |
|-----------------------------|---------|-----------------------|--------------------|--------------------------|---|-----------------------------------|--|-----------------------|--------------------|-------------|---------------------|-----------------|
| <b>Very Large Utilities</b> |         |                       |                    |                          |   |                                   |  |                       |                    |             |                     |                 |
| Nakuru Urban                | 100     | 29                    | 95                 | 21                       | 3                                       | 98                                | 29   | 110                   | 100                | 166         | 1                   | 1               |
| Nyeri                       | 100     | 17                    | 82                 | 24                       | 4                                       | 106                               | 48   | 116                   | 100                | 165         | 2                   | 2               |
| Thika                       | 100     | 32                    | 92                 | 21                       | 5                                       | 95                                | 36   | 112                   | 100                | 150         | 3                   | 5               |
| Kisumu                      | 100     | 37                    | 92                 | 24                       | 4                                       | 93                                | 29   | 103                   | 100                | 148         | 4                   | 6               |
| Ruiru-Juja                  | 93      | 39                    | 89                 | 20                       | 5                                       | 90                                | 29   | 147                   | 100                | 145         | 5                   | 8               |
| Kakamega                    | 100     | 37                    | 96                 | 21                       | 4                                       | 97                                | 44   | 103                   | 100                | 144         | 6                   | 9               |
| Embu                        | 100     | 39                    | 82                 | 23                       | 5                                       | 96                                | 43   | 94                    | 100                | 131         | 7                   | 14              |
| Eldoret                     | 93      | 38                    | 82                 | 22                       | 4                                       | 111                               | 50   | 91                    | 100                | 123         | 8                   | 17              |
| Murang'a South              | 100     | 45                    | 70                 | 20                       | 4                                       | 108                               | 47   | 91                    | 100                | 119         | 9                   | 19              |
| Kirinyaga                   | 100     | 58                    | 64                 | 20                       | 5                                       | 95                                | 54   | 82                    | 100                | 115         | 10                  | 20              |
| Malindi                     | 100     | 23                    | 71                 | 15                       | 8                                       | 96                                | 37   | 96                    | 100                | 115         | 10                  | 20              |
| Othaya Mukurweini           | 100     | 36                    | 47                 | 24                       | 6                                       | 106                               | 43   | 97                    | 98                 | 107         | 12                  | 26              |
| Kilifi Mariakani            | 96      | 45                    | 63                 | 18                       | 8                                       | 100                               | 33   | 84                    | 100                | 96          | 13                  | 35              |
| Nairobi                     | 98      | 47                    | 82                 | 7                        | 7                                       | 90                                | 61   | 99                    | 100                | 88          | 14                  | 43              |
| Nzoia                       | 93      | 48                    | 47                 | 20                       | 6                                       | 89                                | 38   | 103                   | 100                | 80          | 15                  | 46              |
| Gatundu                     | 67      | 33                    | 47                 | 21                       | 5                                       | 90                                | 63   | 97                    | 100                | 77          | 16                  | 48              |
| Kericho                     | 100     | 53                    | 37                 | 17                       | 7                                       | 92                                | 63   | 79                    | 99                 | 74          | 17                  | 53              |
| Mombasa                     | 94      | 52                    | 57                 | 14                       | 8                                       | 92                                | 46   | 97                    | 100                | 72          | 18                  | 55              |
| <b>Large Utilities</b>      |         |                       |                    |                          |   |                                   |  |                       |                    |             |                     |                 |
| Nanyuki                     | 100     | 30                    | 94                 | 23                       | 5                                       | 99                                | 50   | 126                   | 100                | 162         | 1                   | 3               |
| Isiolo                      | 100     | 30                    | 92                 | 20                       | 4                                       | 103                               | 52   | 105                   | 100                | 154         | 2                   | 4               |
| Meru                        | 100     | 19                    | 77                 | 20                       | 7                                       | 103                               | 42   | 110                   | 100                | 147         | 3                   | 7               |
| Murang'a Urban              | 100     | 24                    | 100                | 24                       | 6                                       | 89                                | 49   | 102                   | 100                | 143         | 4                   | 10              |
| Ngandoni Nginda             | 100     | 34                    | 77                 | 24                       | 4                                       | 93                                | 44   | 104                   | 100                | 135         | 5                   | 11              |
| Mathira                     | 100     | 37                    | 64                 | 23                       | 3                                       | 97                                | 44   | 112                   | 100                | 128         | 6                   | 15              |
| Nyahururu                   | 100     | 38                    | 90                 | 23                       | 6                                       | 98                                | 51   | 88                    | 100                | 128         | 7                   | 16              |
| Naivasha                    | 99      | 25                    | 91                 | 24                       | 8                                       | 85                                | 44   | 108                   | 100                | 122         | 8                   | 18              |
| Ngagaka                     | 38      | 36                    | 97                 | 24                       | 4                                       | 94                                | 63   | 104                   | 98                 | 112         | 9                   | 23              |
| Githunguri                  | 97      | 67                    | 25                 | 16                       | 4                                       | 98                                | 32   | 66                    | 100                | 109         | 10                  | 24              |
| Murang'a West               | 100     | 51                    | 64                 | 22                       | 5                                       | 88                                | 49   | 123                   | 93                 | 108         | 11                  | 25              |
| Limuru                      | 93      | 31                    | 81                 | 14                       | 7                                       | 102                               | 38   | 84                    | 100                | 107         | 12                  | 27              |
| Imetha                      | 100     | 39                    | 92                 | 17                       | 14                                      | 102                               | 46   | 91                    | 86                 | 100         | 13                  | 32              |
| Kiambu                      | 93      | 34                    | 82                 | 19                       | 7                                       | 90                                | 38   | 100                   | 100                | 99          | 14                  | 33              |
| Nithi                       | 97      | 59                    | 54                 | 19                       | 7                                       | 96                                | 39   | 89                    | 100                | 98          | 15                  | 34              |
| Kitui                       | 100     | 49                    | 61                 | 15                       | 11                                      | 104                               | 28   | 60                    | 100                | 93          | 16                  | 37              |
| Nakuru Rural                | 94      | 45                    | 68                 | 20                       | 8                                       | 108                               | 47   | 99                    | 93                 | 92          | 17                  | 38              |
| Tetu Aberdare               | 88      | 36                    | 75                 | 22                       | 6                                       | 91                                | 55   | 105                   | 100                | 92          | 17                  | 38              |
| Gatamathi                   | 99      | 59                    | 58                 | 23                       | 5                                       | 88                                | 61   | 104                   | 54                 | 89          | 19                  | 40              |
| Kwale                       | 93      | 53                    | 32                 | 17                       | 7                                       | 96                                | 27   | 77                    | 99                 | 88          | 20                  | 42              |
| Karuri                      | 59      | 28                    | 70                 | 13                       | 8                                       | 94                                | 30   | 79                    | 100                | 77          | 21                  | 49              |
| Gusii                       | 93      | 66                    | 41                 | 20                       | 7                                       | 90                                | 37   | 96                    | 95                 | 74          | 22                  | 52              |
| Kikuyu                      | 84      | 39                    | 94                 | 12                       | 10                                      | 98                                | 32   | 71                    | 98                 | 73          | 23                  | 54              |
| Amatsi                      | 93      | 31                    | 10                 | 17                       | 13                                      | 90                                | 32   | 60                    | 88                 | 71          | 24                  | 56              |
| Oololaiser                  | 83      | 35                    | 77                 | 16                       | 21                                      | 93                                | 56   | 73                    | 100                | 71          | 25                  | 57              |
| Gatanga                     | 100     | 34                    | 31                 | 17                       | 7                                       | 79                                | 50   | 92                    | 90                 | 70          | 26                  | 58              |
| Garissa                     | 66      | 38                    | 68                 | 22                       | 9                                       | 71                                | 45   | 149                   | 44                 | 62          | 27                  | 61              |
| Mavoko                      | 85      | 33                    | 53                 | 8                        | 6                                       | 96                                | 38   | 88                    | 100                | 59          | 28                  | 63              |
| Tavevo                      | 85      | 42                    | 54                 | 15                       | 19                                      | 100                               | 29   | 76                    | 100                | 56          | 29                  | 67              |
| Nol Turesh                  | 88      | 37                    | 33                 | 7                        | 8                                       | 97                                | 52   | 137                   | 90                 | 55          | 30                  | 70              |
| Sibo                        | 44      | 56                    | 57                 | 18                       | 8                                       | 95                                | 36   | 82                    | 95                 | 52          | 31                  | 71              |
| Homabay                     | 93      | 42                    | 48                 | 15                       | 12                                      | 87                                | 43   | 68                    | 100                | 48          | 32                  | 73              |
| Kyeni                       | 0       | 52                    | 18                 | 18                       | 6                                       | 74                                | 68   | 90                    | 73                 | 31          | 33                  | 76              |
| Bomet                       | 51      | 66                    | 11                 | 15                       | 23                                      | 78                                | 40   | 46                    | 53                 | 17          | 34                  | 84              |
| Busia                       | 90      | 53                    | 13                 | 14                       | 13                                      | 60                                | 46   | 79                    | 26                 | 17          | 35                  | 85              |
| <b>Medium</b>               |         |                       |                    |                          |   |                                   |  |                       |                    |             |                     |                 |
| Kapsabet Nandi              | 100     | 37                    | 22                 | 17                       | 8                                       | 111                               | 40   | 68                    | 100                | 103         | 1                   | 29              |
| Murugi Mugumango            | 1       | 47                    | 84                 | 24                       | 6                                       | 113                               | 53   | 68                    | 100                | 101         | 2                   | 31              |
| Embe                        | 93      | 54                    | 80                 | 15                       | 10                                      | 88                                | 58   | 92                    | 100                | 86          | 3                   | 44              |
| Kibwezi Makindu             | 100     | 37                    | 40                 | 14                       | 12                                      | 96                                | 49   | 83                    | 100                | 77          | 4                   | 47              |
| Machakos                    | 100     | 32                    | 45                 | 12                       | 9                                       | 81                                | 46   | 86                    | 100                | 69          | 5                   | 59              |
| Chemususu                   | 51      | 56                    | 41                 | 18                       | 18                                      | 96                                | 50   | 100                   | 100                | 59          | 6                   | 64              |
| Nyandarua                   | 79      | 46                    | 40                 | 17                       | 10                                      | 94                                | 42   | 92                    | 100                | 58          | 7                   | 66              |
| Narok                       | 72      | 34                    | 42                 | 10                       | 12                                      | 87                                | 35   | 81                    | 100                | 42          | 8                   | 74              |
| Kirandich                   | 61      | 66                    | 38                 | 9                        | 10                                      | 93                                | 23   | 34                    | 80                 | 41          | 9                   | 75              |
| Migori                      | 69      | 43                    | 24                 | 8                        | 17                                      | 78                                | 25   | 39                    | 94                 | 30          | 10                  | 78              |
| Tana                        | 61      | 65                    | 34                 | 10                       | 15                                      | 72                                | 23   | 62                    | 43                 | 23          | 11                  | 81              |
| Tuuru                       | 0       | 84                    | 6                  | 7                        | 36                                      | 79                                | 76   | 80                    | 100                | 17          | 12                  | 86              |
| Samburu                     | 81      | 49                    | 34                 | 8                        | 23                                      | 68                                | 73   | 17                    | 71                 | 0           | 13                  | 88              |
| <b>Small Utilities</b>      |         |                       |                    |                          |   |                                   |  |                       |                    |             |                     |                 |
| Rukanga                     | 94      | n.c.d.                | 87                 | 23                       | 7                                       | 98                                | 44   | 96                    | 100                | 134         | 1                   | 12              |
| Tachasis                    | 93      | 24                    | 88                 | 14                       | 10                                      | 87                                | 40   | 125                   | 91                 | 132         | 2                   | 13              |
| Nyasare                     | 93      | 36                    | 72                 | 10                       | 10                                      | 101                               | 39   | 113                   | 100                | 114         | 3                   | 22              |
| Naromoru                    | 52      | 28                    | 82                 | 22                       | 11                                      | 100                               | 41   | 84                    | 100                | 106         | 4                   | 28              |
| Iten Tambach                | 93      | 32                    | 65                 | 17                       | 19                                      | 90                                | 41   | 96                    | 100                | 101         | 5                   | 30              |
| Wote                        | 100     | 27                    | 23                 | 12                       | 25                                      | 100                               | 49   | 79                    | 100                | 93          | 6                   | 36              |
| Kiambera Mwingi             | 93      | 35                    | 72                 | 9                        | 15                                      | 92                                | 25   | 83                    | 100                | 88          | 7                   | 41              |
| Lamu                        | 93      | 49                    | 73                 | 10                       | 29                                      | 98                                | 47   | 35                    | 100                | 81          | 8                   | 45              |
| Kathiani                    | 74      | 28                    | 60                 | 10                       | 25                                      | 93                                | 36   | 79                    | 100                | 77          | 9                   | 50              |
| Muthambi 4K                 | 23      | n.c.d.                | 37                 | 24                       | 8                                       | 90                                | 35   | 96                    | 100                | 76          | 10                  | 51              |
| Kakamega Rural              | 95      | 36                    | 2                  | 18                       | 11                                      | 47                                | 50   | 40                    | 92                 | 66          | 11                  | 60              |
| Oi Kalou                    | 32      | 37                    | 38                 | 18                       | 14                                      | 98                                | 46   | 82                    | 100                | 60          | 12                  | 62              |
| Matungulu Kangundo          | 0       | 36                    | 11                 | 15                       | 11                                      | 87                                | 44   | 96                    | 100                | 58          | 13                  | 65              |
| Mandera                     | 93      | 47                    | 28                 | 18                       | 33                                      | 58                                | 20   | 11                    | 0                  | 56          | 14                  | 68              |
| Mwala                       | 53      | 27                    | 22                 | 8                        | 22                                      | 123                               | 59   | 70                    | 100                | 56          | 15                  | 69              |
| Yatta                       | 70      | 37                    | 65                 | 13                       | 16                                      | 80                                | 49   | 110                   | 100                | 50          | 16                  | 72              |
| Kapenguria                  | 0       | 35                    | 7                  | 9                        | 42                                      | 67                                | 39   | 101                   | 40                 | 31          | 17                  | 77              |
| Mbooni                      | 24      | 33                    | 3                  | 6                        | 21                                      | 86                                | 69   | 50                    | 100                | 27          | 18                  | 79              |
| Wajir                       | 0       | 60                    | 12                 | 12                       | 113                                     | 19                                | 24   | 2                     | 54                 | 27          | 19                  | 80              |
| Marsabit                    | 67      | 59                    | 0                  | 8                        | 113                                     | 100                               | n.c.d.   | 64                    | 0                  | 23          | 20                  | 82              |
| Elwak                       | 0       | 49                    | 13                 | 9                        | 70                                      | 88                                | 39   | 11                    | 67                 | 21          | 21                  | 83              |
| Olkejuado                   | 0       | 44                    | 18                 | 10                       | 107                                     | 78                                | 46   | 44                    | 87                 | 13          | 22                  | 87              |



### 3.6.1.1 Top and Bottom Utilities

The top utility was Nakuru Urban with a score of 166 out of the possible 200 points, which is a 7-point decline from the top performance in the previous reporting period. Nyeri and Nanyuki took up the second and third positions with scores of 165 and 162 respectively. The utilities in the bottom three positions for the reporting period were Samburu at position 88, Olkejuado at position 87, and Tuuru at position 86.

The worst performers in the Very Large, Large, Medium, and Small categories were Mombasa, Busia, Samburu, and Olkejuado respectively.

### 3.6.1.2 Privately Owned

In the privately owned category, Tatu City maintained its position as the top performer followed by Two Rivers which rose from the bottom position last year. Runda maintained position three in the category while Kiamumbi dropped to the last position from position two last year.

However, amidst these dynamics, all the utilities in this category registered an improvement in the overall performance.

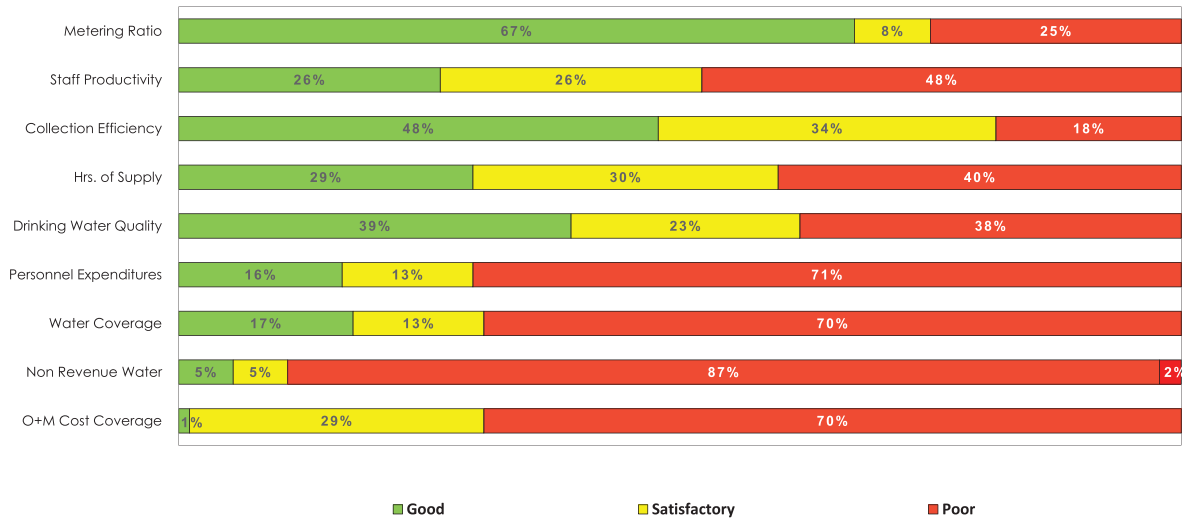
**Table 3.4: Overall Ranking for Privately-Owned Utilities**

| 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                       | 7                                       | 110                               | 26   | 119                   | 100                | 187         | 1                   | 1               |
| Two Rivers            | 100     | 3                     | 100                | 24                       | 2                                       | 164                               | 19   | 116                   | 100                | 186         | 2                   | 2               |
| Runda                 | 100     | 20                    | 100                | 16                       | 17                                      | 100                               | 29   | 142                   | 100                | 177         | 3                   | 3               |
| Kiamumbi              | 92      | 15                    | 95                 | 24                       | 7                                       | 108                               | 24   | 107                   | 100                | 162         | 4                   | 4               |

### 3.6.2 Performance against Sector Benchmarks

The three ranges of sector benchmark classified as ‘good’, ‘acceptable’, and ‘not acceptable’ (Table 3.2) are used to define the performance of the KPIs. Based on performance in these KPIs, utility performance can also be classified along the three performance ranges using performance limits defined in Table 3.2 to determine the cut-off score. Figure 3.7 shows the performance of utilities about sector benchmarks and the proportion 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 third year running with 82% of the utilities meeting the acceptable sector benchmark, an improvement of three percentage points from the previous 79% of the utilities. This is despite an overall sector decline in collection efficiency. Non-revenue water remained the least performing KPI with majority of the utilities not meeting the acceptable benchmark.

On the other hand, within each cluster of KPIs, the least number of utilities met the performance benchmark in the following: **Quality of Service** – Water Coverage (30%); **Economic Efficiency** – O+M Cost Coverage (30%) and, **Operational Sustainability** – Non-Revenue Water (10%). The poor performance in these three indicators is of concern since 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 cooperate towards result-based efforts aimed at turning around performance in these areas and accelerating the achievement of the set targets.

### 3.6.3 Performance Over Time

This section presents the performance of the utilities in the current reporting period relative to the previous period. Tables 3.5 and 3.6 show performance over time of publicly and privately-owned utilities respectively.

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.

Table 3.5: Performance Over Time of Publicly Owned Utilities

| Rank | WSP               | Score 2021/22 | Score 2022/23 | Rank | WSP                | Score 2021/22 | Score 2022/23 |
|------|-------------------|---------------|---------------|------|--------------------|---------------|---------------|
| 1    | Nakuru Urban      | 161           | 166           | 45   | Lamu               | 78            | 81            |
| 2    | Nyeri             | 173           | 165           | 46   | Nzoia              | 78            | 80            |
| 3    | Nanyuki           | 157           | 162           | 47   | Kibwezi Makindu    | 92            | 77            |
| 4    | Isiolo            | 146           | 154           | 48   | Gatundu            | 108           | 77            |
| 5    | Thika             | 157           | 150           | 49   | Karuri             | 60            | 77            |
| 6    | Kisumu            | 141           | 148           | 50   | Kathiani           | 72            | 77            |
| 7    | Meru              | 143           | 147           | 51   | Muthambi 4K        | 101           | 76            |
| 8    | Ruiru-Juja        | 152           | 144           | 52   | Gusii              | 16            | 74            |
| 9    | Kakamega          | 124           | 144           | 53   | Kericho            | 79            | 74            |
| 10   | Murang'a Urban    | 154           | 143           | 54   | Kikuyu             | 61            | 73            |
| 11   | Ngandori Nginda   | 134           | 135           | 55   | Mombasa            | 51            | 72            |
| 12   | Rukanga           | 130           | 134           | 56   | Amatsi             | 65            | 71            |
| 13   | Tachasis          | 135           | 132           | 57   | Oloolaiser         | 31            | 71            |
| 14   | Embu              | 139           | 131           | 58   | Gatanga            | 57            | 70            |
| 15   | Mathira           | 117           | 128           | 59   | Machakos           | 59            | 69            |
| 16   | Nyahururu         | 106           | 128           | 60   | Kakamega Rural     | -             | 66            |
| 17   | Eldoret           | 136           | 123           | 61   | Garissa            | 41            | 62            |
| 18   | Naivasha          | 114           | 122           | 62   | Oi Kalou           | 70            | 60            |
| 19   | Murang'a South    | 112           | 119           | 63   | Mavoko             | 50            | 59            |
| 20   | Malindi           | 119           | 114           | 64   | Chemususu          | 37            | 59            |
| 21   | Kirinyaga         | 103           | 114           | 65   | Matungulu Kangundo | 75            | 58            |
| 22   | Nyasare           | 86            | 114           | 66   | Nyandarua          | 61            | 58            |
| 23   | Ngagaka           | 113           | 112           | 67   | Tavevo             | 83            | 56            |
| 24   | Githunguri        | 75            | 109           | 68   | Mandera            | 48            | 56            |
| 25   | Murang'a West     | 108           | 108           | 69   | Mwala              | 63            | 56            |
| 26   | Othaya Mukurweini | 100           | 107           | 70   | Nol Turesh         | 16            | 55            |
| 27   | Limuru            | 108           | 107           | 71   | Sibo               | 50            | 52            |
| 28   | Naromoru          | 101           | 106           | 72   | Yatta              | 35            | 50            |
| 29   | Kapsabet Nandi    | 71            | 103           | 73   | Homabay            | 61            | 48            |
| 30   | Iten Tambach      | 112           | 101           | 74   | Narok              | 33            | 42            |
| 31   | Murugi Mugumango  | 91            | 101           | 75   | Kirandich          | 54            | 41            |
| 32   | Imetha            | 49            | 100           | 76   | Kyeni              | -             | 31            |
| 33   | Kiambu            | 111           | 99            | 77   | Kapenguria         | 46            | 31            |
| 34   | Nitithi           | 85            | 98            | 78   | Migori             | 23            | 30            |
| 35   | Kilifi Mariakani  | 82            | 96            | 79   | Mbooni             | 25            | 27            |
| 36   | Wote              | 75            | 93            | 80   | Wajir              | -             | 27            |
| 37   | Kitui             | 102           | 93            | 81   | Tana               | -             | 23            |
| 38   | Nakuru Rural      | 115           | 92            | 82   | Marsabit           | -             | 23            |
| 39   | Tetu Aberdare     | 115           | 92            | 83   | Elwak              | 35            | 21            |
| 40   | Gatamathi         | 83            | 89            | 84   | Bomet              | 45            | 17            |
| 41   | Kiambere Mwingi   | 99            | 88            | 85   | Busia              | 45            | 17            |
| 42   | Kwale             | 83            | 88            | 86   | Tuuru              | 65            | 17            |
| 43   | Nairobi           | 93            | 88            | 87   | Olkejuado          | 24            | 13            |
| 44   | Embe              | 91            | 86            | 88   | Samburu            | 46            | 0             |

To be recognized as improved, a utility must have shown improvement over two consecutive reporting periods and the score must be at least 50 points.

Table 3.6: Performance Over Time of Privately-Owned Utilities

| Rank | WSP        | Score 2021/22 | Score 2022/23 |
|------|------------|---------------|---------------|
| 1    | Tatu City  | 159           | 187           |
| 3    | Runda      | 152           | 177           |
| 2    | Two Rivers | 146           | 186           |
| 4    | Kiamumbi   | 153           | 162           |

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

Table 3.7 indicates the overall performance of utilities. The average score was 42% which was a marginal improvement of two percentage points from the previous period. The trend in improvement has been consistent for the three years 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             | 44               |
| 2022/23 | 92               | 47               | 51             | 44               |

### 3.6.4 Performance of Utilities by Indicators

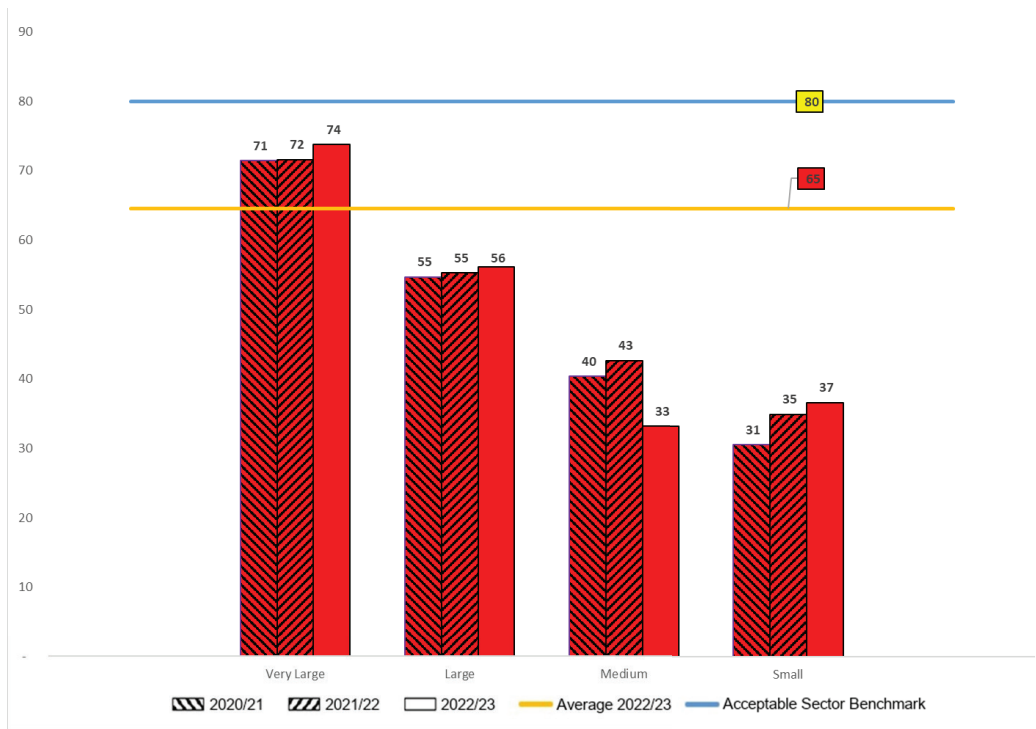
#### a) Water Coverage %

In the period 2022/23, water coverage increased from 62% to 65% from the previous period. The increase in coverage is partly attributed to the inclusion of water coverage data from small-scale service providers within the area of service of 73 regulated Water services providers which contributed 785,444 additional people. The 92 utilities served 18.25 million people representing roughly 4.7 million households with potable drinking water in the period 2022/23 out of the 28.6 million people within their service area. Furthermore, active water connections increased from 1.36 million to 1.41 million representing a 3.7% growth.

Despite the growth in the number of connections, Per capita consumption declined marginally from 28.3m<sup>3</sup> to 26.05m<sup>3</sup> indicating a slight decline in the quality of service especially to the domestic category of consumers.

At the utility size level, water coverage by large utilities increased by 2% from 72% to 74% which was the best improvement compared to the other size categories. Large utilities recorded an increase of 1% from 55% -56%. Small utilities had an increase of 2% from 35 % to 37%. On the other hand, water coverage by medium recorded a decline of 10% as shown in Figure 3.8.

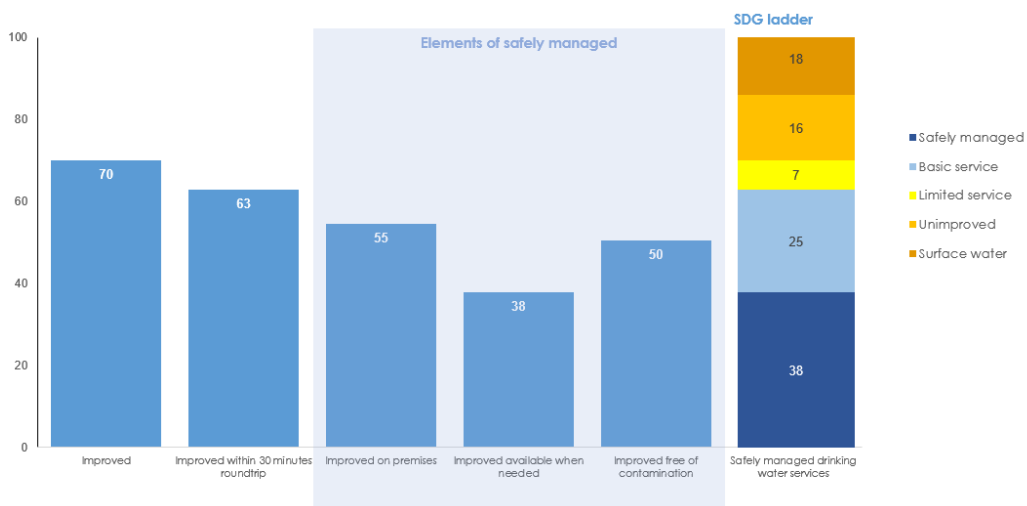
Figure 3.8: Water Coverage by WSP category, %



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 is at 38%.

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



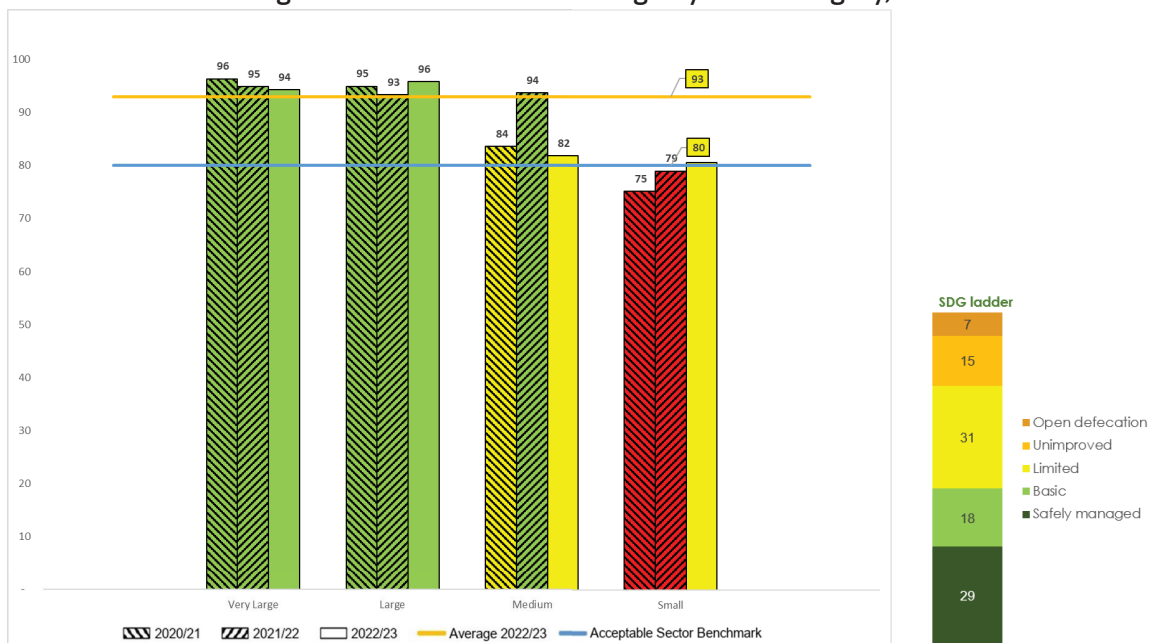
### b) Sanitation Coverage

Sanitation coverage, which represents the proportion of the population with access to improved sanitation facilities such as toilets, latrines, and wastewater systems plays a key role in promoting public health and human dignity. Sanitation comprises three essential elements: sanitation facilities, safe and hygienic handling of human waste, and management of wastewater.

Achieving adequate sanitation requires ensuring **accessibility, affordability, and sustainability** for all community members, a goal attainable through a blend of infrastructure advancement and the implementation of impactful policies reinforced by regulatory measures.

The overall sanitation for the period dropped marginally from 93.07% to 92.97%. The decline is mainly experienced in the medium WSP category which declined by 12 percentage points, and the Very large category which declined by 1% as shown in (Figure 3.10). Large and Small size categories improved by 3% and 1% respectively.

Figure 3.10: Sanitation coverage by WSP category, %



The SDG Target 6.2 focuses on achieving access to adequate and equitable sanitation and hygiene for all and end open defecation. The adequacy of wastewater management in line with the requirements of safely managed sanitation is at 29%.

Safely managed sanitation is defined as use of at least a basic sanitation facility and a handwashing facility with soap and water, which is not shared with other households, and where excreta are treated safely either on-site or off-site.

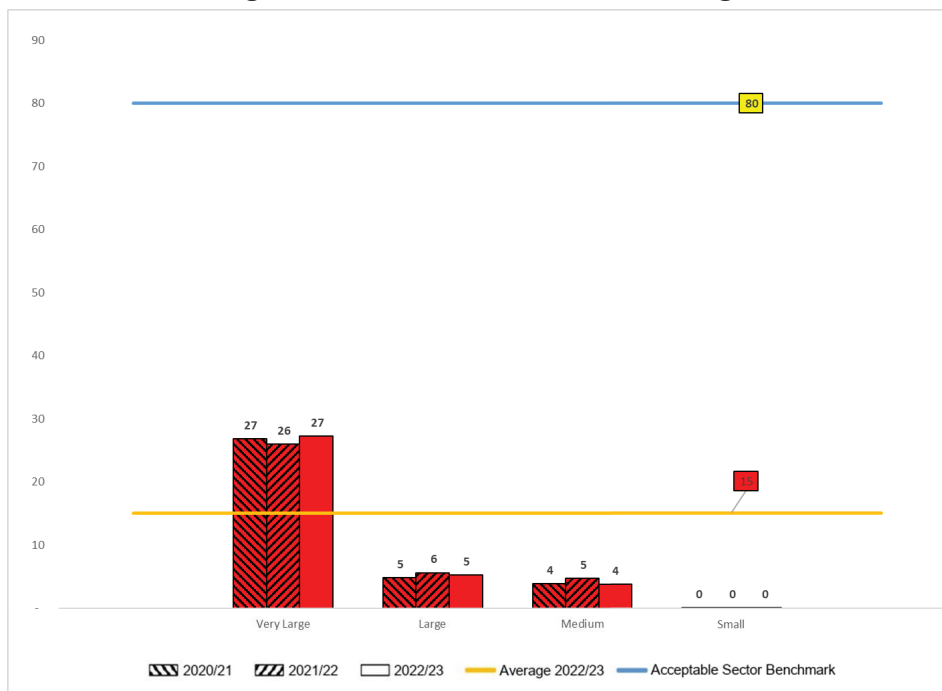


### c) Sewered Sanitation Coverage

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 national coverage for sewered sanitation remained at 16%.

The average number of people served per connection decreased from 12.8 in 2021/22 to 11.4 in the current period. This, like water coverage, implies a decline in quality of service.

Figure 3.11: Sewered Sanitation coverage

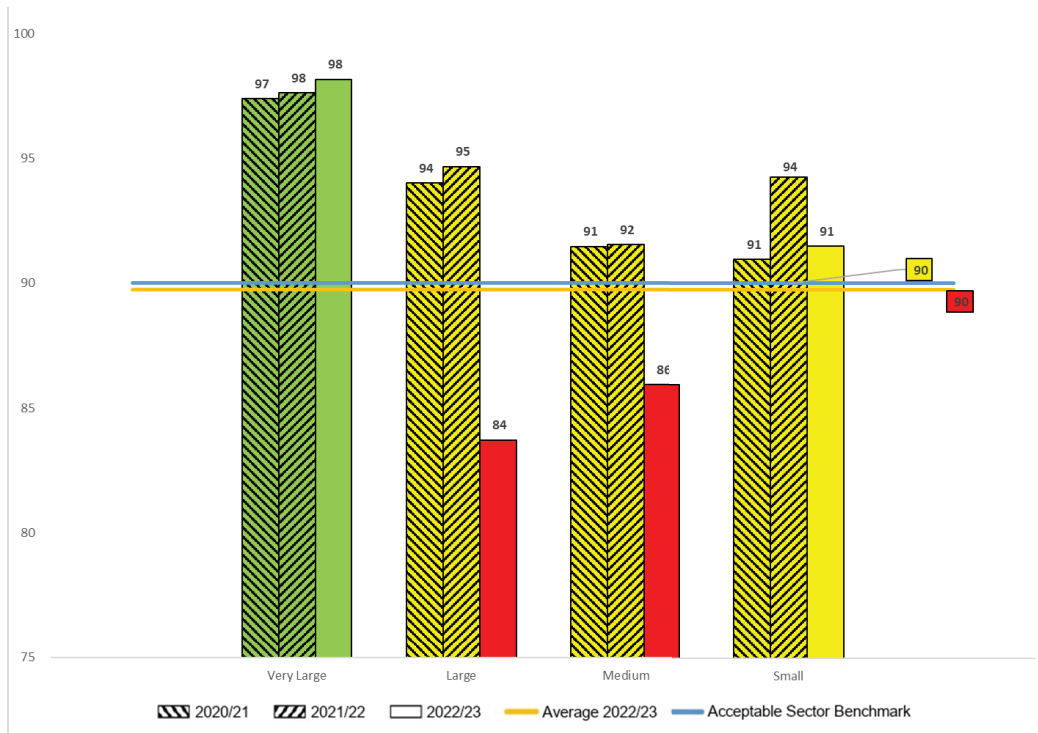


### d) Drinking Water Quality

Water quality refers to the chemical, physical, and biological characteristics of water based on the standards of its usage. It is most often used concerning a set of standards against which compliance, achieved through the treatment of the water, can be assessed. The standards used to monitor and assess water quality reflect on the safety of human contact, the health of ecosystems, the extent of water pollution, and the condition of drinking water. In assessing drinking water quality, water service providers must comply with residual chlorine and bacteriological standards and with the reporting requirements set out in the water quality guidelines. The number of tests carried out and test results within the national standards for drinking water are critical in assessing compliance. A weighted factor of compliance with residual chlorine and bacteriological standards coupled with the reporting requirements is used in determining the utility's performance. Drinking water quality has a consequential impact on water supply.

In 2022/23, the national drinking water quality was 90%, a decline of five percentage points compared with the previous reporting period. This was mainly due to a failure in regular monthly reporting, which influenced the utility's performance. Nevertheless, a slight improvement has been noted with the WSPs in the very large category, whose average was 98%.

Figure 3.12: Drinking Water Quality, %



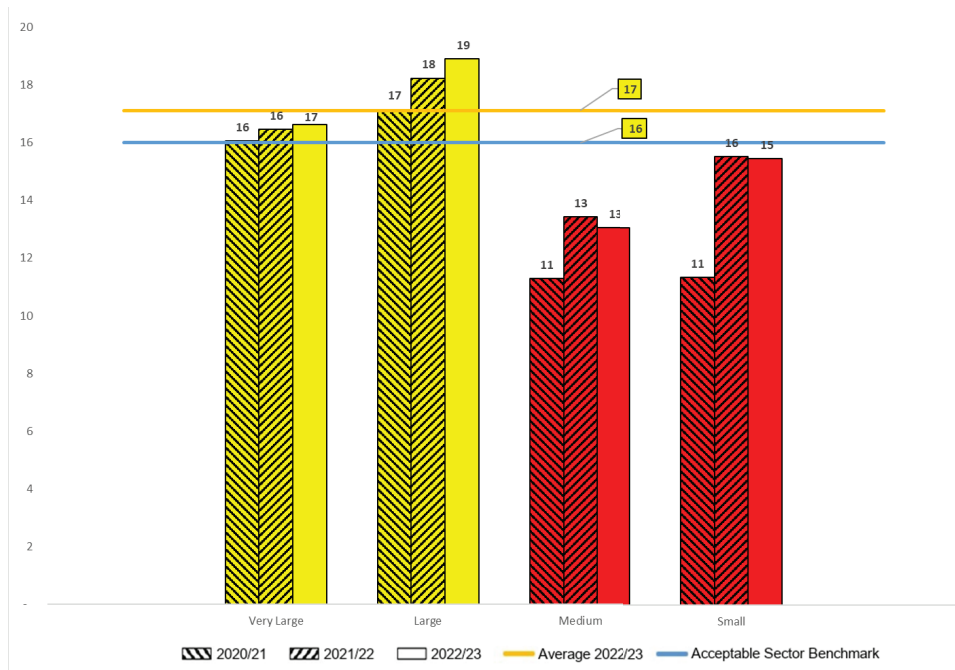
**e) Hours of Supply**

Hours of supply refer to the continuity of supply by a water service provider to its customers. It is one of the indicators of service quality of WSPs closely monitored to promote comparative competition and performance improvements. During 2022/23, an average supply of 17 hours per day was reported same as in 2021/22. This is a good quality of service for utilities with greater than 100,000 population within the service area and satisfactory for a population greater than 100,000.

In 2022/23, only 12 utilities provided water continuously for 24 hours per day. These include Kisumu, Murang’a Urban, Murungi Mugumango, Muthambi 4K, Naivasha, Ngagaka, Ngandori Nginda, Nyeri, and Othaya Mukurweini which are public utilities in addition to Kiamumbi, Tatu City and Two Rivers WSPs, which are private water utilities. Regarding hours of service in the major cities which have high population, in Nairobi water was provided on average for 7 hours a day, in Mombasa for 14 hours, and in Nakuru Urban for 21 hours.

Figure 3.13 below depicts a comparison of average hours of supply per each of the four categories of water services provision namely Very Large, Large, Medium, and Small from 2020/21 to the current reporting period, 2022/23. Growth in the continuity of supply is seen in the very large and large categories, most of which attained an acceptable sector benchmark of the range of 16 hours and above.

**Figure 3.13: Hours of Supply, No**



**f) Non- Revenue Water**

Non-revenue water (NRW) refers to water that has been produced but is billed to any customer. These losses are categorized as either real losses (such as leaks) or apparent losses (for instance due to theft, metering inaccuracies, unbilled customers, or wastage on un-metered customers’ premises). High NRW levels negatively impact the financial viability of water utilities and the quality of water itself.

In 2022/23, the national NRW was 43%, which is an improvement of two percentage points from the previous figure of 45%. The improvement was noted in the very large, large and small categories from 45% in the previous period to 43%, 45% to 42% and from 34% to 31% respectively. In the medium category of WSPs, the average NRW declined significantly from 45% in the previous report to 52%. In all the categories, the NRW average remained above the sector benchmark of 25%, an indication that there is a need for a deliberate effort to reduce water losses.

In terms of volume, the sector lost 195.5 million cubic meters of water during the year, which in monetary terms, is equivalent to Kshs. 10.2 billion, without allowing the 25% ideal

benchmark losses. On allowing the 25% losses, the volume of water lost was 113.38 million cubic meters, which in monetary terms is the same as Kshs.6.1 billion lost for one year. Allowing for a per capita consumption of 50 litres/person/day, the same volume of water lost could serve an additional 6.2 million people (more than the population of Nairobi) in the year.

Figure 3.14 Non-Revenue Water, %

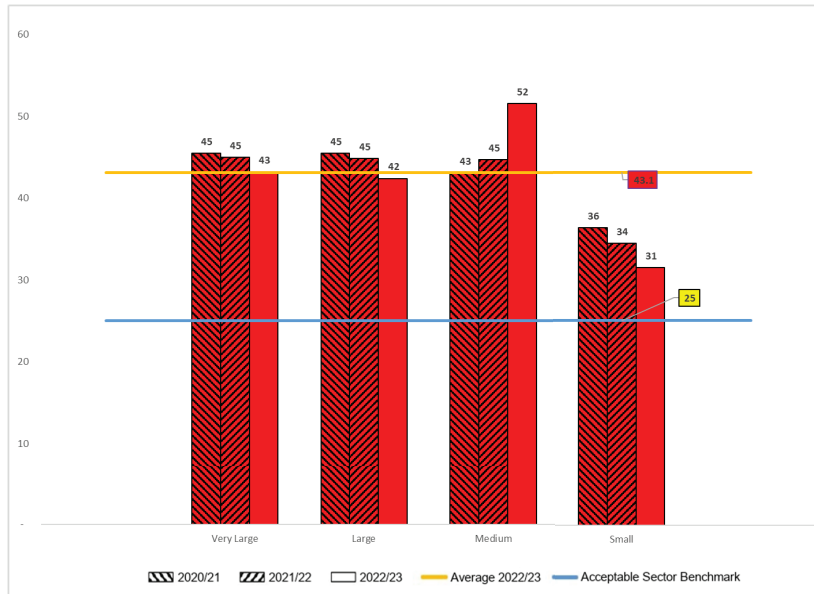
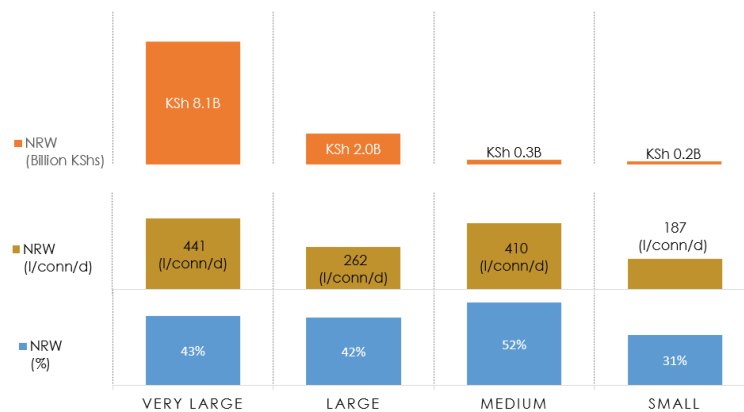


Figure 3.15: Breakdown of NRW



**g) Dormant Connections**

Dormant Connections assesses the performance of a water service provider (WSP) by examining the number of access points that remain disconnected or have not received water for more than three months expressed as a percentage of the total water connections.

$$\text{Dormant Connections} = \left\{ \frac{\text{Number of accounts that have been disconnected or have not received water for more than three months}}{\text{Total Water Connections}} \right\} \times 100$$

The total proportion of dormant connections to total connections was at 18% for the period under review. A closer analysis indicates that the number of dormant accounts under the Large Category has been on an upward trajectory in the last 3 years. In the small category, the increase from the previous period was a significant 5% points. From the data, WSPs with high dormant connections often exhibit one or more of the following characteristics: sporadic water supply, poor drinking water quality, catering to extensive rural populations, and/or operating in regions with abundant alternative water sources and community water initiatives and customer databases that are not updated.

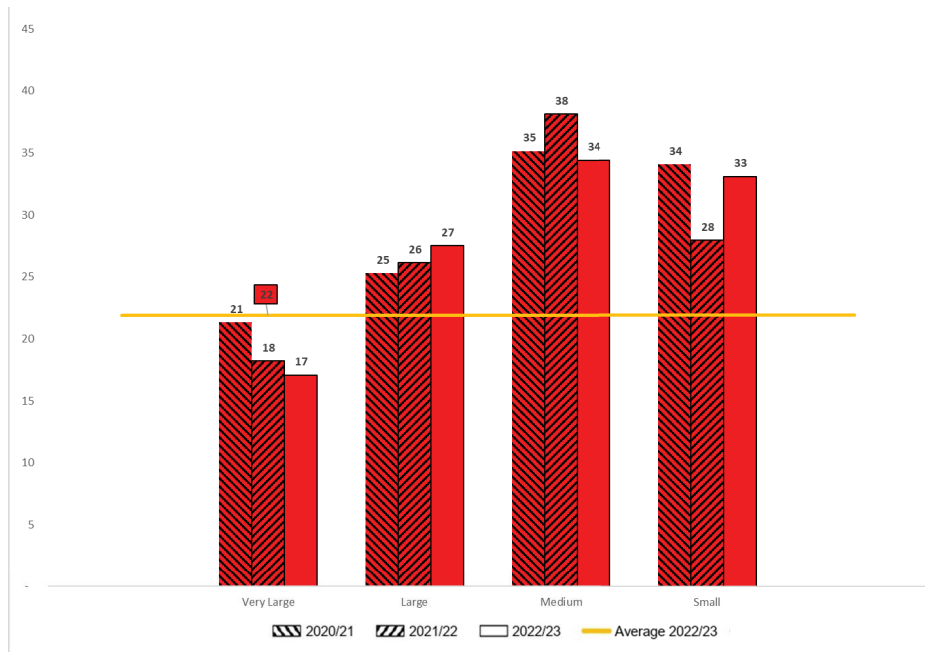
- In the Very Large and Large Categories, Mombasa had 52% of its connections as dormant. Others include Gatundu (31%), Kirinyaga (27%), Malindi (35%), Muranga West (46%), Nakuru Rural (43%) and Kericho (30%).
- In the Medium and Small categories Bomet & Tuuru both had 67% of their connections as dormant, closely followed by Kyeni (63%), Kapenguria (59%), and Migori and Embe at 47 & 46 % respectively. Urban WSPs in this category with significant dormant included Kikuyu (42%) and Oololaiser (40%)

When a substantial portion of connections remain dormant, it affects the water service provider's market share. Dissatisfied customers will seek alternatives to this basic need and unregulated water service providers might step in to fill the gap, thus clawing back on the gains of the water reforms. High dormant connection rates may suggest problems like poor water quality or signal service gaps. Ultimately, an increase in dormant connections could also indicate illegal connections and gaps in the billing system.

Indeed, dormant connections have significant repercussions for water service providers (WSPs), and addressing dormant connections provides an easily attainable target for WSPs to increasing water coverage, sustaining revenue, and ensuring efficient water service delivery.



Figure 3.16: Dormant Connections, %



**h) Metering Ratio**

The metering ratio is the number of connections with functional meters expressed as a percentage of the total number of active water connections.

$$\text{Metering Ratio} = \left\{ \frac{\text{Number of connections with functional meters}}{\text{Total Active Water Connections}} \right\} \times 100$$

The metering ratio improved from 95% in the previous period to 97%, a commendable step. However, 23 WSPs did not have 100% metering. The following are the WSPs who attained very low metering ratios of ≤ 80%.

Table 3.8: WSPs with Low Metering Ratios

| Name of WSP    | Metering Ratio (%) |
|----------------|--------------------|
| 1. Kirandich   | 80                 |
| 2. Kyeni       | 73                 |
| 3. Samburu     | 71                 |
| 4. Elwak       | 67                 |
| 5. Gatamathi   | 54                 |
| 6. Wajir       | 54                 |
| 7. Bomet       | 53                 |
| 8. Garissa     | 44                 |
| 9. Tana        | 43                 |
| 10. Kapenguria | 40                 |
| 11. Busia      | 26                 |
| 12. Mandera    | 0                  |
| 13. Marsabit   | 0                  |

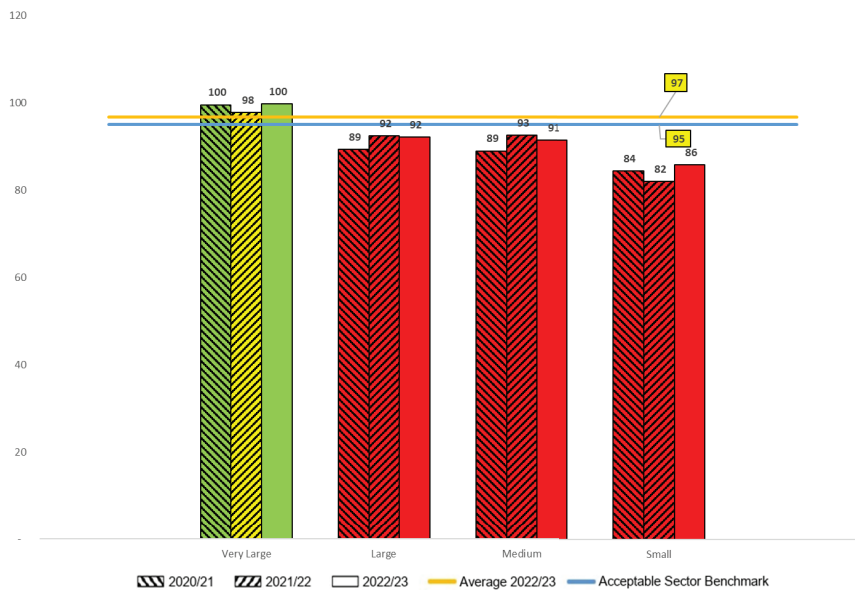
Despite, meter degradation over time that necessitates regular servicing or replacement, maintaining a healthy metering ratio presents substantial revenue protection prospects for all WSPs.

Three specific initiatives have demonstrated the highest return on investment for WSPs:

- i. Transitioning from flat-rate billing to metered consumption for all customers.
- ii. Installing, replacing, and ensuring accuracy, precision, and reliability of meters for large consumers.
- iii. Implementing smart metering for production meters i.e. large flow meters that are usually located on the outlet of water treatment works or on trunk/carrier mains / large diameter pipes.

Water utilities are required to work towards 100% metering, which is focused on functionality and not the mere presence of a meter.

Figure 3.17: Metering Ratio, %



**i.) Staff productivity (Staff per 1,000 connections)**

Staff Productivity refers to the number of staff in employment for every 1,000 connections (total active water and, where applicable, sewer connections). A lower staff-to-connections ratio generally indicates higher efficiency, as it suggests fewer staff members are needed to manage more connections. Overall performance in terms of Staff Productivity has stagnated at 7 staff per 1000 connections.

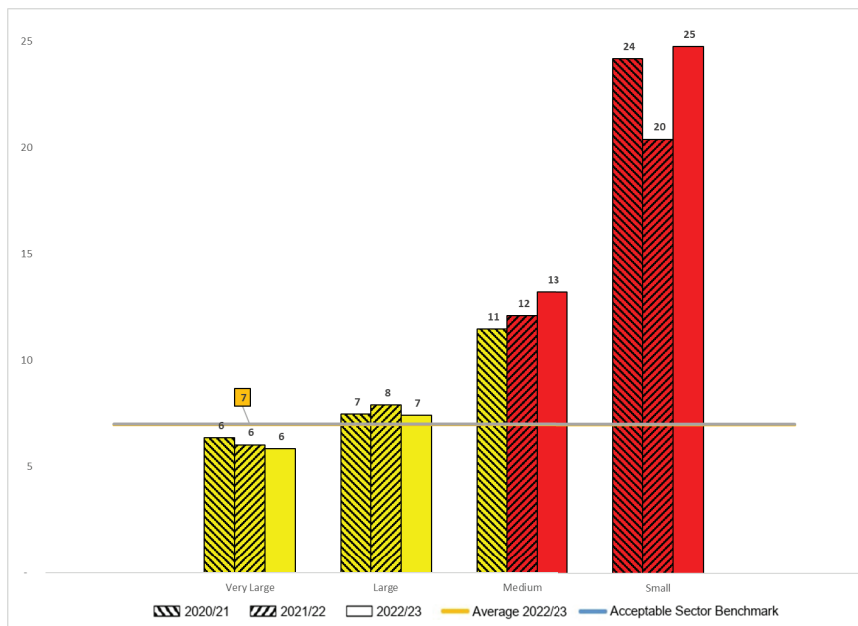
Water service providers (WSPs) operating in regions with low population density often exhibit a higher staff-to-connections ratio. Similarly, WSPs managing multiple standalone systems, such as boreholes or many small production sites, also tend to have elevated ratios.

Maintaining an appropriate balance between staff levels and the number of connections is crucial for smooth service delivery.

| Name of WSP | Staff Productivity |
|-------------|--------------------|
| Ololaiser   | 21                 |
| Mwala       | 22                 |
| Samburu     | 23                 |
| Bomet       | 23                 |
| Wote        | 25                 |
| Kathiani    | 25                 |
| Lamu        | 29                 |
| Mandera     | 33                 |
| Tuuru       | 36                 |
| Kapenguria  | 42                 |
| Elwak       | 70                 |
| Olkejuado   | 107                |
| Wajir       | 113                |
| Marsabit    | 113                |
| Mbooni      | 21                 |

Adequate staffing ensures timely maintenance, repairs, and efficient handling of customer needs. Conversely, excessive staffing lowers productivity and strains utility budgets. Tracking this KPI is essential for water utilities. It allows them to assess staff productivity,

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



**j) Personnel expenditure as % of O+M Costs**

Personnel expenditures as a percentage of O+M Costs measure whether personnel-related expenses align with overall operational and maintenance (O+M) costs, as defined by sector benchmarks. In the recent evaluation, performance dropped slightly from 47% in 2021/22 to

48% in 2022/2023 i.e. Out of the total O+M costs of approximately 28 billion, 13 billion were attributed to personnel costs which imposes a significant cost burden on the utilities.

Over the past five years, this indicator has fluctuated between 45% and 50%, indicating that nearly half of the day-to-day running costs of water utilities are spent on staff related expenditures. This disproportionately high staff cost to O&M implies that the utilities may be constrained in undertaking repairs/maintenance, and rehabilitations/ expansions necessary to improve service delivery.

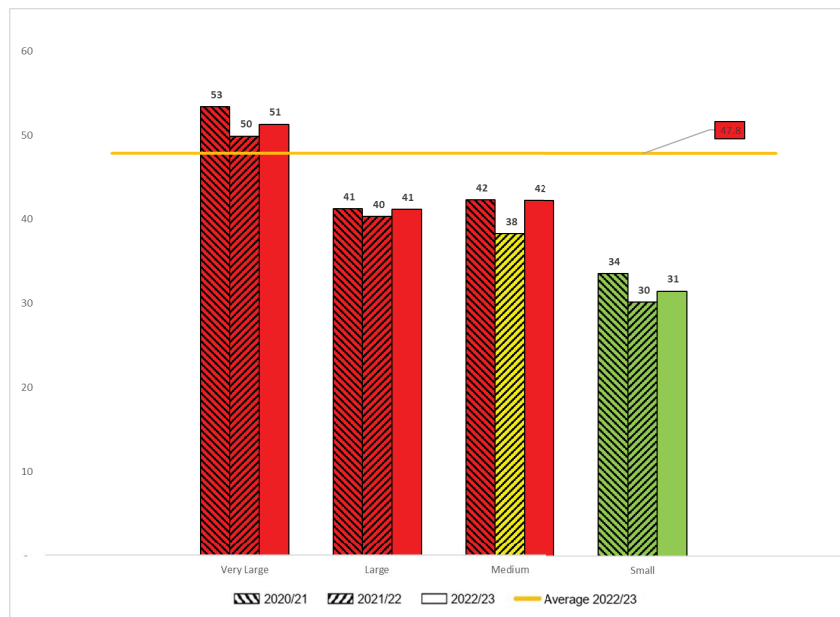
Among the 88 evaluated Water Service Providers (WSPs), only 11 met the sector benchmark for their respective categories. These include Elwak, Kapenguria, Nyasare, Kathiani, Muthambi 4K, Migori, Kiambere Mwingi, Wajir, Tana, Kirandich, and Mandera WSPs. A majority of WSPs, 64 No. (73%) were outside the sector benchmarks. Notable examples include Samburu (73%), Kericho (63%), Nairobi (61%), Oloolaiser (56%), Eldoret (50%), Murang'a Urban (49%) & Nyeri (48%). This high ratio has been attributed to among others agitation for higher pay through labour unions and management actions and unjustified hiring of staff. There are also cases of utilities with reasonable personnel expenditures but whose ratio appears high due to with very low production costs (electricity, chemicals).

**Table 3.9: WSPs outside sector benchmark, Personnel Expenditures**

| Category                        | No. | %   |
|---------------------------------|-----|-----|
| <b>Outside Sector Benchmark</b> | 64  | 73% |
| <b>Median Performance</b>       | 12  | 14% |
| <b>Within Sector Benchmark</b>  | 11  | 13% |
| <b>No credible data</b>         | 1   | 1%  |

Optimizing personnel expenditure is crucial to ensure efficient resource allocation and adherence to sector benchmarks. Additionally, NAWASIP targets to generate Ksh. 529 billion from sector reforms, with Kshs. 31 billion aimed to be raised through efficiency gains. This is one of the areas that should be targeted.

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

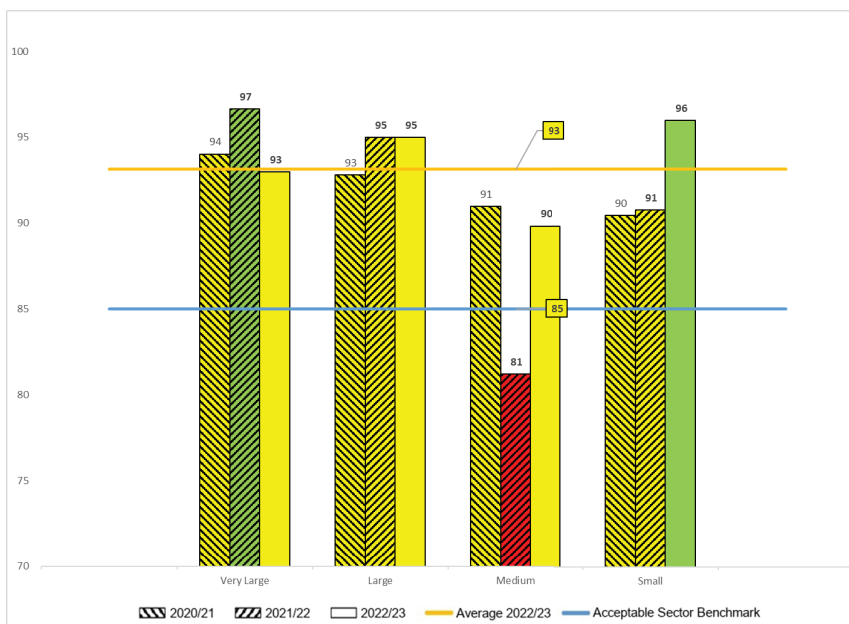


k) Revenue Collection Efficiency

Revenue collection efficiency refers to the proportion of the amount billed that the WSP can collect in a given period. This indicator assesses the efficacy of the utility’s revenue collection system. Higher revenue collection efficiency is desirable since it is through the funds collected from billings that a WSP fund its operations.

Overall, Revenue Collection Efficiency declined from 95% in 2021/22 to 93% mainly due to a decline in collection efficiency from the very large category by 4%.

Figure 3.20: Revenue Collection Efficiency, %





**l) Operation and Maintenance Cost coverage**

Operation and Maintenance (O+M) Cost Coverage is a measure of a utility’s ability to meet its recurrent (operational and maintenance) costs using its own generated revenues mainly from water and sewerage billings. This indicator is a proxy measure for the financial health and sustainability of the utility as own-generated revenues are more reliable and predictable compared to other sources of utility revenue such as subsidies and grants.

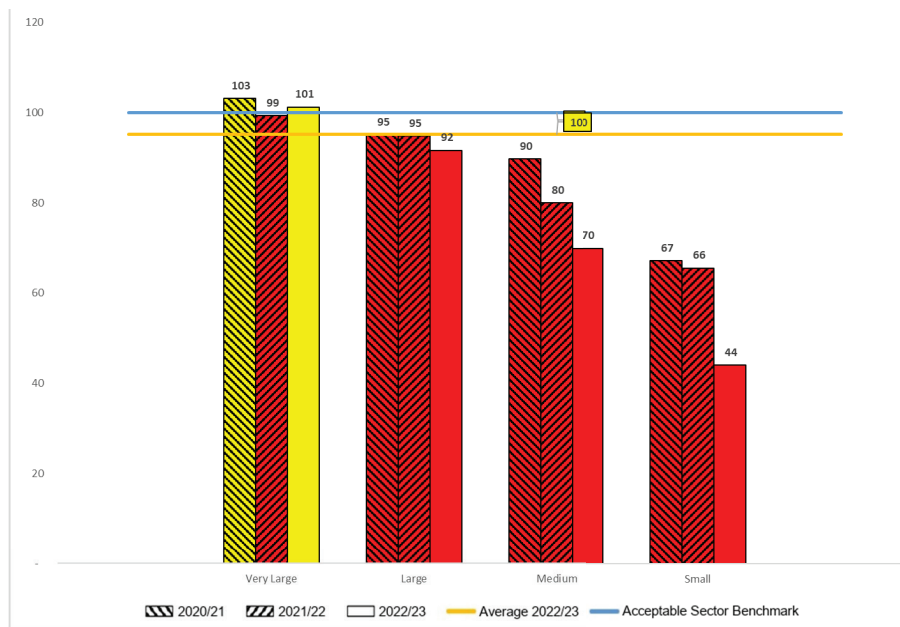
For a utility to be self-sustainable, the following levels of operational cost coverage ratios defined in Table 3.8 must be met.

**Table 3.10: Operation and Maintenance (O+M) Cost Coverage 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 can meet O+M costs, service debts, and renew its assets.

**Figure 3.21: O+M Cost Coverage, %**



Operation cost coverage went down by 1% point from 96% in 2021/22 to 95% in 2022/23. Save for the very large category, which improved by 2%, the other size categories recorded a decline in operation cost coverage with the small size category recording the highest decline of 22 percentage points. WSPs that had a cost coverage of less than 60% are:

|                |      |           |      |
|----------------|------|-----------|------|
| Amatsi         | 59.6 | Lamu      | 35.3 |
| Mbooni         | 50.0 | Kirandich | 34.2 |
| Bomet          | 46.3 | Samburu   | 16.9 |
| Olkejuado      | 44.4 | Elwak     | 11.3 |
| Kakamega Rural | 40.3 | Mandera   | 11.0 |
| Migori         | 39.1 | Wajir     | 1.8  |

This indicator recorded an overall decline for the third time in a row indicating increased difficulty for utilities to fully cover their operational costs, especially for the small and medium-sized categories. Utilities should ensure that they operate using cost-reflective tariffs as approved by the Regulator. To avoid instances of expired tariffs, utilities must have an obligation to apply for tariff review to WASREB at least six months before the expiry of the current tariff.

In terms of cost control, WSPS should focus on cost reduction through controlling the ever-expanding staff costs, adoption of alternative energy sources such as solar energy and adoption of efficiency improvement such as reduction of non-revenue water.

**m) Comparative Cost of Production and Average Tariff**

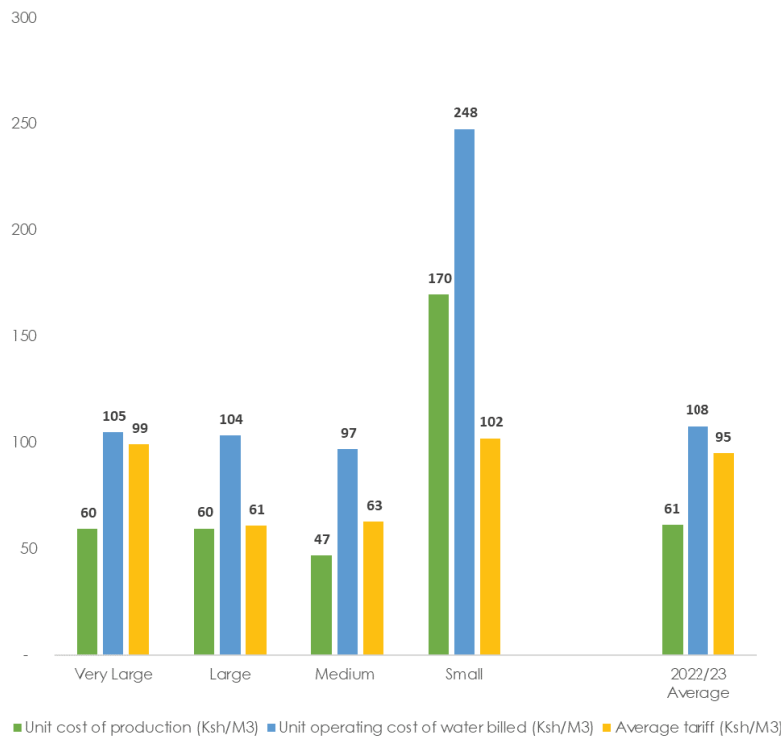
Comparing the unit cost of water billed against the company's Average tariff is key in assessing the company's financial sustainability. A higher average tariff

than the unit cost of water billed implies the ability of the company's internally generated revenues to cover operational costs after factoring in losses due to non-revenue water.

The operational efficiency of a utility could be evaluated by comparing the unit cost of water billed and the unit cost of production. The wide disparity between the two indicators is an indication of inefficiencies in operations. In the period under review, the average unit cost of production and average cost per unit billed was 61 and 108 respectively. This disparity is attributed to the high inefficiencies.

Overall, the Average tariff increased by Ksh 4 to Ksh 95 per unit in 2022/23. On the other hand, the Unit cost of production increased by Ksh 5 to Ksh 61, and the Unit costs of water billed went up by Ksh 7 to Ksh 108 in 2022/23. Costs increased at a higher rate than revenues for the utilities, further explaining the decline in operational cost coverage.

**Figure 3.22: Tariff Cost Comparison**

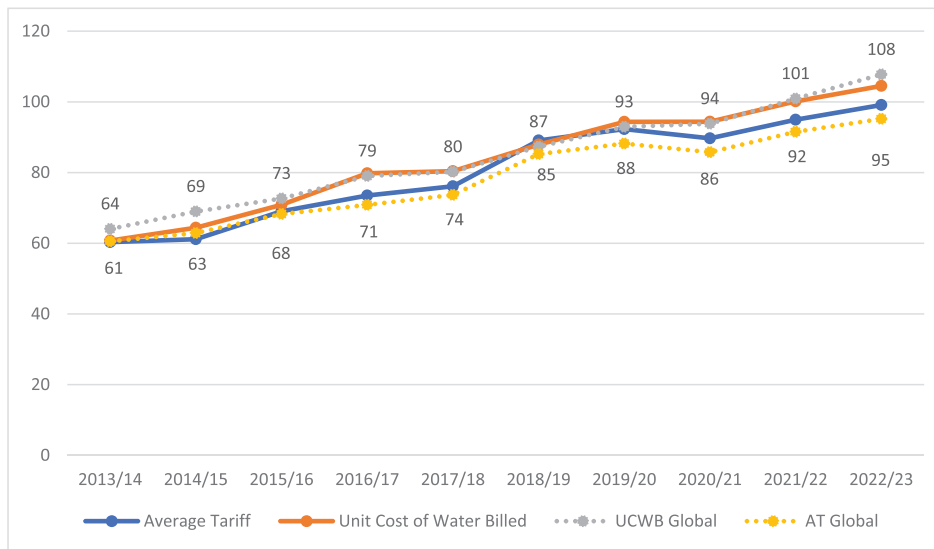


**Trends in Tariff and Cost Comparison**

Trend analysis for tariff and cost comparison for the four size categories shows that only very large companies have their unit cost of water billed almost matched by the average tariff over the years. The other categories have always had a unit cost of water billed being higher than the average tariff since 2013/2014.

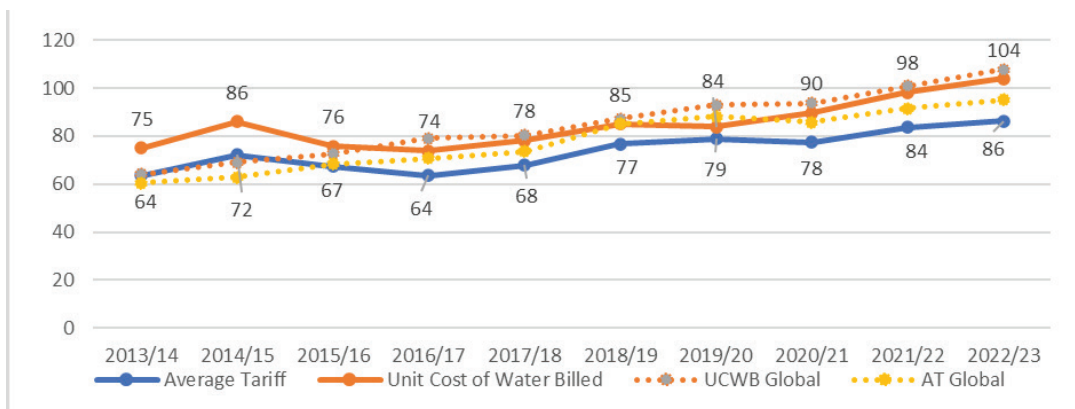
The Unit Cost of Water Billed Global (UCWB Global) and the Global Average Tariff (AT Global) were almost similar to the unit cost of water billed and average tariff for very large utilities as shown in the chart below throughout 2013/14. This is mainly due to economies of scale and their diverse customer base where cross subsidy can be applied effectively during pricing.

Figure 3.23: Tariff cost comparison: Very Large



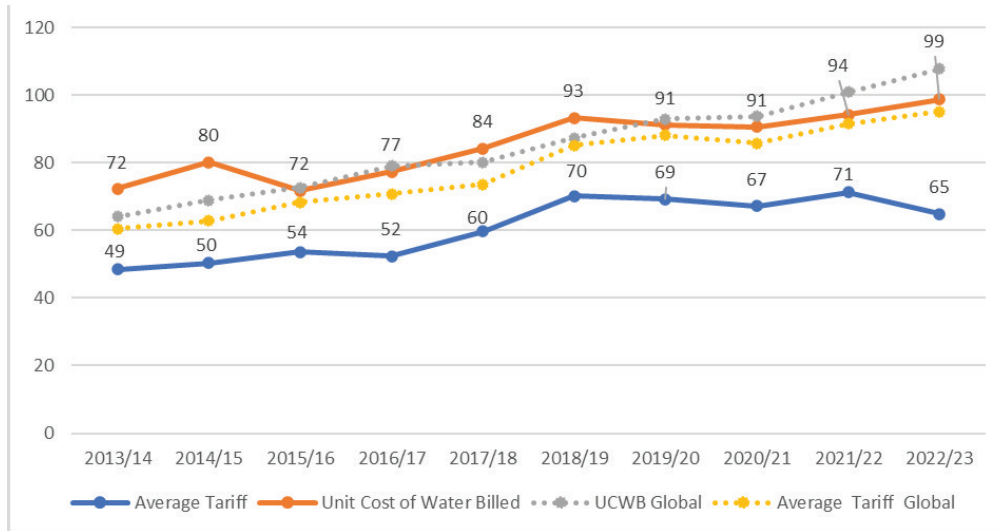
For large companies, the global average tariff has been slightly higher than that of large companies from 2015/16. During the same period, the unit cost of water billed for large companies has been the same as the global one. This implies that the large category utilities fall short of cost coverage compared to the national average for all the periods from 2013/2014 as shown in the trend below.

Figure 3.24: Tariff Cost Comparison: Large



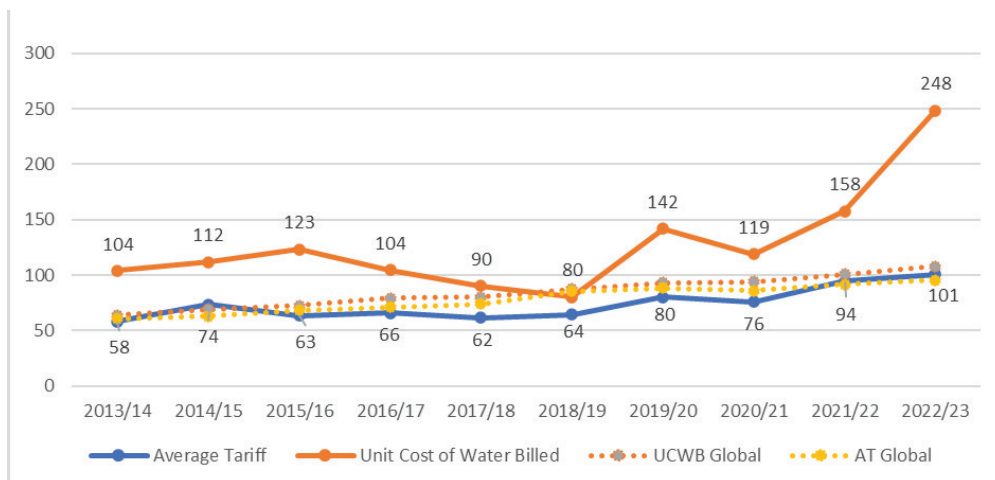
The medium-size category exhibited a wider disparity between the average tariff and unit cost of water billed compared to the other categories and the national average indicating poorer operational cost. To close the gap, medium-sized WSPs should either reduce operational expenses or increase the average tariff. The latter is more feasible and more sustainable.

Figure 3.25: Tariff Cost Comparison: Medium



For the small-sized utilities, the unit cost of water billed was higher than the global for most of the periods since 2013/2014 indicating very high operating costs compared to volumes of sold. This could be due to their nature which denies them economies of scale.

Figure 3.26: Tariff Cost Comparison: Small



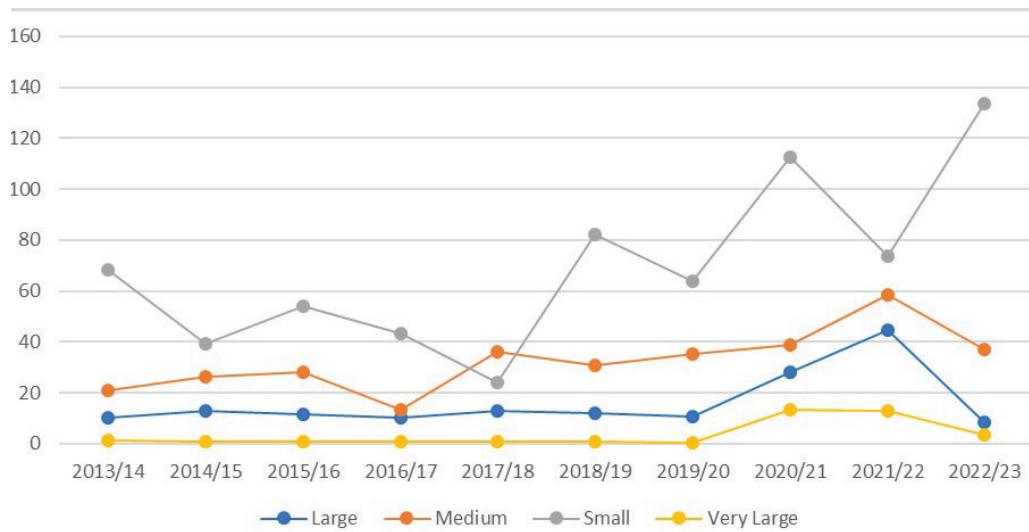
### 3.6.5 Grant Dependence

Grant dependence is a proxy measure of a utility’s reliance on subsidies and grants to fund its operations. The indicator is calculated by dividing total grants and subsidies by the total revenues generated internally. Utilities should rely solely on internally generated revenues for their operational costs. Subsidies and grants may be advanced to fund capital expenditure.

In the figure below, small, medium, and large utilities are yet to wean themselves of subsidies and grants. Very large utilities have operated with their source revenue save for the period during which a Conditional liquidity support grant was advanced to cushion utilities from the adverse effects of the COVID-19 pandemic.



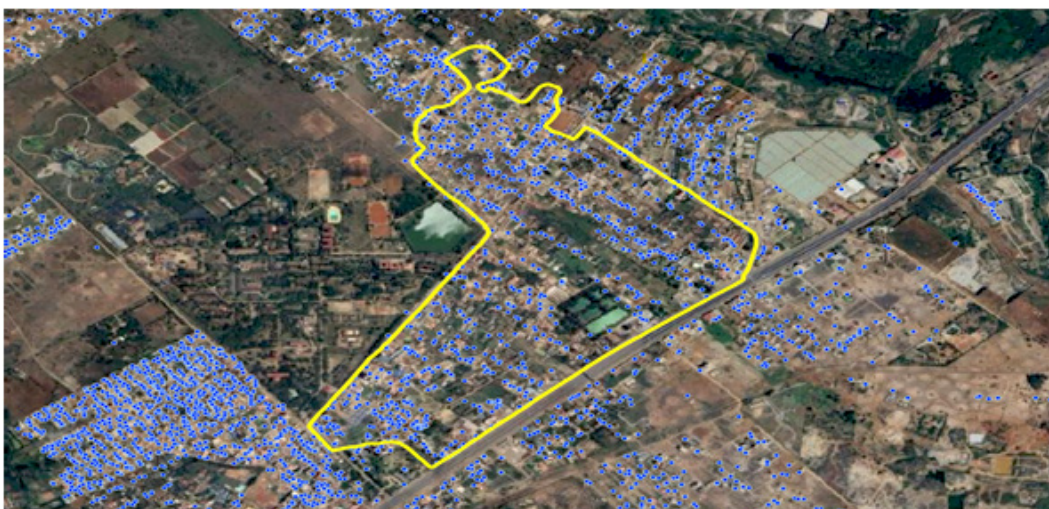
Figure 3.27: Grant Dependence within the WSP Categories



**n) Water and Sanitation Coverage in Low-Income Areas**

Low-income areas are pockets within the WSPs service areas whose socio-economic characteristics tend to impede the provision of water services through formal means. It therefore becomes necessary for the service providers to develop LIA-specific strategies on how to ensure the LIA population has access to clean water and reasonable sanitation. To keep accurate data on LIA coverage, utilities must have updated versions of the LIA data which includes the maps and the geodata. Linking these to the customers’ billing data allows the utilities to keep track of service coverage with reliable accuracy.

During the 2022/23 reporting period, 46% of water utilities reported LIA water coverage of more than 60%. On access to sanitation, 42% of the assessed WSPs reported sanitation coverage of more than 60%. Both the level of access to water and sanitation in the LIAs are assessed under the impact sub-indicator of pro-poor assessment.



Leveraging on GIS for accurate tracking of connections within LIAs (Ruiru-Juja)

### **3.6.6 Pro-poor Assessment**

The National Water Services Strategy (NWSS) requires utilities to adopt a comprehensive strategy for serving different low-income areas through a stepwise approach, which promotes low-cost outlets (yard taps and water kiosks) as well as individual connections thereby gradually replacing informal service provision. To track the attainment of water and sanitation services to the underserved population, the regulator guides and allows utilities to report on pro-poor specific issues as detailed in the pro-poor indicator. In its entirety, the pro-poor indicator is a four-dimensional composite indicator that seeks to assess; the planning, governance, financing, and impact of initiatives geared towards 'leaving no one behind!' in matters of water and sanitation services provision.

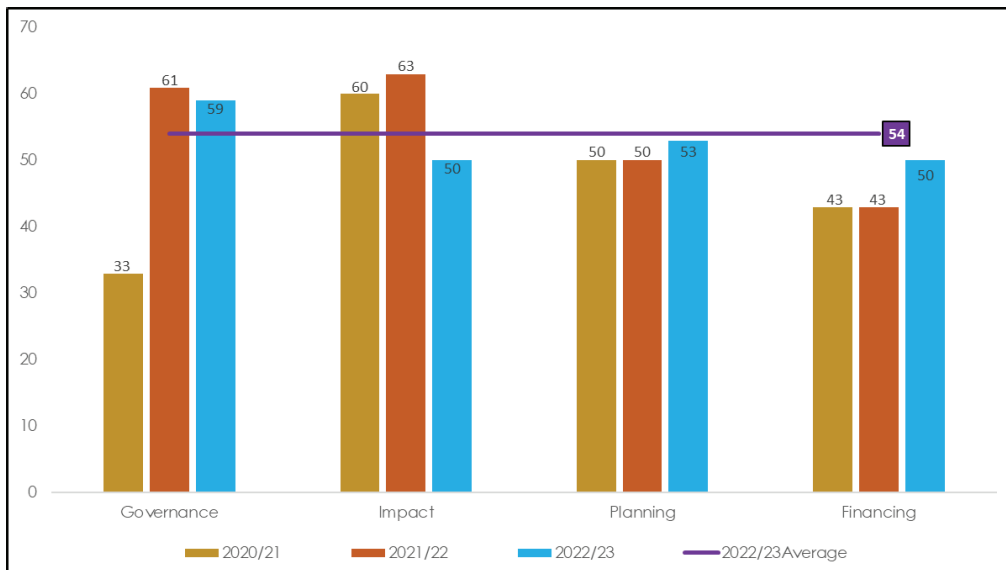
#### ***Approach to the Pro-poor Assessment***

By design, the pro-poor assessment tool allows for a two-step assessment where utilities undertake a self-assessment followed by a validated by the regulator. At its basic detail, pro-poor performance assessment is highly qualitative and consequently, its validation is strictly evidence-based. As such, the utilities must present clear-cut evidence to support their self-assessment scores. The evidence cuts across a range of sources which may include ratified documents, progress reports, minutes of approval, financial data, and even GIS data. For a utility to be assessed on po-poor performance, they are required to complete the submission process of the pro-poor data set through the Water Regulation Services Information System (WARIS)

#### ***Pro-poor Performance in 2022/23***

During the reporting period 2022/23, 53 utilities were assessed for pro-poor performance. In terms of size, the reporting utilities included 14 very large, 26 large 4 medium, and 9 small. Eight new entrants were assessed in the period under review while 18 utilities previously assessed were not assessed in the 2022/23 due to failure by the utilities to complete the data submission in WARIS.

Figure 3.28: Performance in Pro-poor Parameters



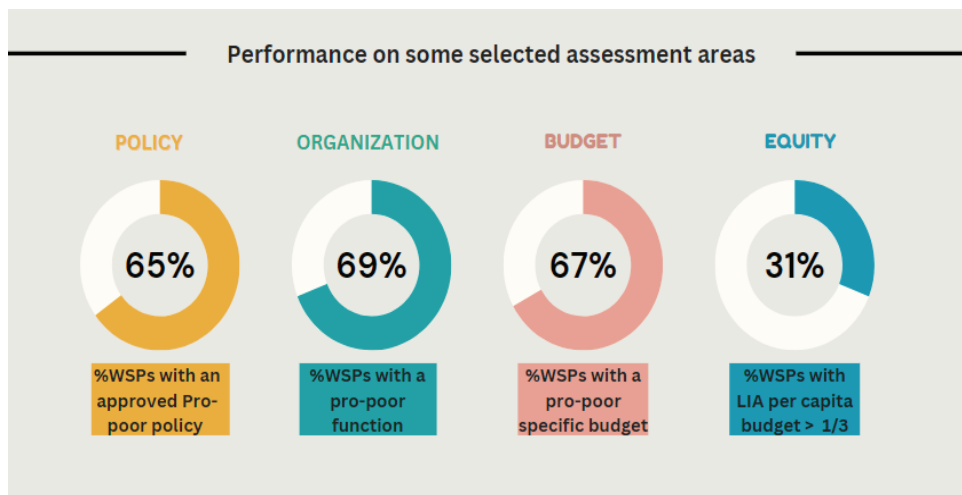
During the reporting period, there was a significant drop in performance across all four sub-indicators, with financing registering the largest drop. Overall, the average pro-poor performance stood at 48% which was a ten-percentage point drop compared to 2021/22. The top performing WSPs were Nyeri, Kisumu, and Naivasha.

The proportion of utilities with approved pro-poor policies stood at 65% while 67% had a pro-poor specific budget. However, while assessing for equity, only 31% of the

utilities had an LIA per capita budget greater than 1/3 when compared to the per capita budget for the entire population served by the WSP. It is therefore critical that WSPs work towards equity in resource allocation during budgetary allocations. Equally, pro-poor vote heads should be traceable in the main budget.

**3.6.7 Creditworthiness Assessment**

Creditworthiness of utilities is crucial in unlocking financing of the water sector and hence accelerating the realization of SDG



6 of universal access to water and sanitation to all. With limited funds from the exchequer coupled with heavy capital requirements needed to achieve 100% coverage, tariffs may not be adequate hence the need to tap into alternative sources of finances which include commercial lending and blended finance.

For utilities to achieve these alternative forms of financing they must guarantee potential lenders the ability to repay the loan along with the agreed interest and payment duration. 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. 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.

This report illustrates the creditworthiness index utilizing familiar rating symbols (such as AAA, BB, etc.) while excluding considerations for Socioeconomic and Governance indicators. The index is constructed from 23 indicators, each assigned a specific weight as outlined in Annex 7. The analysis provided is grounded in financial and operational data sourced from WARIS and the financial statements for the fiscal year 2022/2023.

**Table 3.11: 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 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 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 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.   |

91 utilities were assessed, and the performance summary is presented in Table 3.10.

**Table 3.12: Creditworthiness Index**

| Score   | >85 | 71 to 85 | 61 to 70 | 51 to 60 | 41 to 50 | 31 to 40 | <=30      |
|---------|-----|----------|----------|----------|----------|----------|-----------|
| Rating  | AAA | AA       | A        | BBB      | BB       | B        | NO RATING |
| 2021/22 | 0   | 2        | 3        | 3        | 31       | 25       | 16        |
| 2022/23 | 0   | 0        | 4        | 21       | 24       | 35       | 7         |

A comparison with the previous period reveals that the highest performing utility has dropped from a score of “AAA” to “A.” However, the number of utilities scoring at least a “B” has risen from 64 in the last reporting period to 83 in the current period. Table 3.11 presents the performance of each of the 48 utilities assessed, including their performance in the previous period.



**Table 3.13: CWI Performance Summary**

| WSP               | 2021/22      |           | 2022/23 |           | Change In Score |
|-------------------|--------------|-----------|---------|-----------|-----------------|
|                   | Score        | Rating    | Score   | Rating    |                 |
| Nyeri             | 78           | AA        | 66      | A         | -12             |
| Ruiru-Juja        | 62           | A         | 63      | A         | -1              |
| Nanyuki           | 46           | BB        | 61      | A         | 16              |
| Murang'a West     | 34           | B         | 60      | BBB       | 27              |
| Kakamega          | 53           | BBB       | 60      | BBB       | 7               |
| Rukanga           | 46           | BB        | 59      | BBB       | 13              |
| Isiolo            | Not Assessed | -         | 59      | BBB       | 0               |
| Runda             | Not Assessed | -         | 59      | BBB       | 0               |
| Nakuru Urban      | 45           | BB        | 59      | BBB       | 13              |
| Malindi           | 46           | BB        | 59      | BBB       | 12              |
| Meru              | Not Assessed | -         | 59      | BBB       | 0               |
| Tachasis          | 55           | BBB       | 58      | BBB       | 3               |
| Nggakaka          | Not Assessed | -         | 55      | BBB       | 0               |
| Mufambii 4k       | 49           | BB        | 55      | BBB       | 6               |
| Ngandoni Nainda   | Not Assessed | -         | 54      | BBB       | 0               |
| Kisumu            | 39           | B         | 54      | BBB       | 15              |
| Tatu City         | 44           | BB        | 54      | BBB       | 11              |
| Thika             | 70           | A         | 54      | BBB       | -16             |
| Tetu Aberdare     | 48           | BB        | 54      | BBB       | 6               |
| Embu              | 50           | BB        | 54      | BBB       | 4               |
| Murang'a Urban    | 41           | B         | 51      | BBB       | 10              |
| Murang'a South    | 45           | BB        | 51      | BBB       | 6               |
| Njiru             | 45           | BB        | 51      | BBB       | 6               |
| Othaya Mukurweni  | 49           | BB        | 51      | BBB       | 2               |
| Nyasare           | 29           | NO RATING | 50      | BB        | 21              |
| Naiyasha          | 54           | BBB       | 50      | BB        | -4              |
| Gatundu           | 42           | BB        | 48      | BB        | 6               |
| Two Rivers        | 38           | B         | 48      | BB        | 10              |
| Murugi Mugumango  | Not Assessed | -         | 47      | BB        | 0               |
| Imelito           | 36           | B         | 46      | BB        | 10              |
| Narobi            | 42           | BB        | 46      | BB        | 4               |
| Garissa           | 31           | B         | 45      | BB        | 14              |
| Limuru            | 48           | BB        | 45      | BB        | -3              |
| Eldoret           | 48           | BB        | 45      | BB        | -3              |
| Olkalou           | 41           | B         | 44      | BB        | 4               |
| Kilwezi Makindu   | 46           | BB        | 44      | BB        | -2              |
| Kisumu            | 34           | B         | 44      | BB        | 10              |
| Kirinyaga         | 49           | BB        | 43      | BB        | -6              |
| Mavoko            | 32           | B         | 43      | BB        | 10              |
| Githunguri        | 38           | B         | 43      | BB        | 5               |
| Embe              | Not Assessed | -         | 43      | BB        | 0               |
| Naromoru          | 47           | BB        | 43      | BB        | -4              |
| Kiambere Mwingi   | 39           | B         | 42      | BB        | 4               |
| Gatamathi         | 37           | B         | 41      | BB        | 4               |
| Nyahururu         | 46           | BB        | 41      | BB        | -5              |
| Iten Tambach      | Not Assessed | -         | 41      | B         | 0               |
| Tuuru             | 38           | B         | 40      | B         | 2               |
| Mombasa           | 39           | B         | 40      | B         | 1               |
| Nzola             | 41           | BB        | 39      | B         | -1              |
| Mwala             | Not Assessed | -         | 39      | B         | 0               |
| Rathiani          | 44           | BB        | 39      | B         | -4              |
| Taveya            | 41           | BB        | 39      | B         | -2              |
| Wote              | 29           | NO RATING | 39      | B         | 10              |
| Malindi           | 32           | B         | 39      | B         | 7               |
| Nakuru Rural      | 31           | B         | 39      | B         | 7               |
| Karuri            | 37           | BB        | 38      | B         | 1               |
| Matungulu Kagundo | 44           | BB        | 38      | B         | -4              |
| Galana            | 31           | NO RATING | 37      | B         | 6               |
| Chemususu         | Not Assessed | -         | 37      | B         | 0               |
| Marsabit          | 24           | NO RATING | 37      | B         | 13              |
| Yatta             | 33           | B         | 37      | B         | 4               |
| Gusii             | 29           | NO RATING | 36      | B         | 7               |
| Kwale             | 41           | BB        | 36      | B         | -5              |
| Narok             | 31           | B         | 36      | B         | 4               |
| Kifi Mariakani    | 28           | NO RATING | 35      | B         | 7               |
| Tana              | 36           | B         | 35      | B         | -1              |
| Kitui             | 37           | B         | 34      | B         | -3              |
| Nyandarua         | 39           | B         | 34      | B         | -4              |
| Sibo              | 46           | BB        | 34      | B         | -12             |
| Machakos          | Not Assessed | -         | 34      | B         | 0               |
| Kapenguria        | 40           | B         | 34      | B         | -6              |
| Rikuyu            | 22           | NO RATING | 34      | B         | 12              |
| Kericho           | 35           | B         | 33      | B         | -2              |
| Kapsabet Nandi    | 40           | B         | 33      | B         | -7              |
| Olkejuado         | 25           | NO RATING | 33      | B         | 8               |
| Ololaiser         | 30           | NO RATING | 33      | B         | 3               |
| Hornaboy          | 24           | NO RATING | 32      | B         | 9               |
| Lamu              | 24           | NO RATING | 32      | B         | 8               |
| Kisumu            | 23           | NO RATING | 31      | B         | 8               |
| Busia             | Not Assessed | -         | 31      | B         | 0               |
| Amatsi            | Not Assessed | -         | 29      | NO RATING | 0               |
| Mbooni            | 28           | NO RATING | 27      | NO RATING | -1              |
| Bomet             | 17           | NO RATING | 26      | NO RATING | 9               |
| Mandera           | 13           | NO RATING | 23      | NO RATING | 10              |
| Ewak              | Not Assessed | -         | 22      | NO RATING | 0               |
| Migori            | Not Assessed | -         | 22      | NO RATING | 0               |
| Wajir             | 12           | NO RATING | 21      | NO RATING | 9               |
| Sombruru          | 34           | B         | n.c.d.  | NO RATING | 0               |
| Nal Tutesh        |              |           |         |           |                 |

The analysis also considered the most improved and declined utilities during the reporting period. Kakamega was the most improved while Nakuru Rural recorded the greatest decline. The five most improved and five highest decliners is presented in Table 3.14 and 3.15 respectively.

**Table 3.14: Improvers**

| WSP           | 2021/22 |           | 2022/23 |        | Change In Score |
|---------------|---------|-----------|---------|--------|-----------------|
|               | Score   | Rating    | Score   | Rating |                 |
| Kakamega      | 34      | B         | 60      | BBB    | 27              |
| Nyasare       | 29      | NO RATING | 50      | BB     | 21              |
| Murang'a West | 46      | BB        | 61      | A      | 16              |
| Kisumu        | 39      | B         | 54      | BBB    | 15              |

**Table 3.15: Bottom Losers**

| WSP          | 2021/22 |        | 2022/23 |        | Change In Score |
|--------------|---------|--------|---------|--------|-----------------|
|              | Score   | Rating | Score   | Rating |                 |
| Nakuru Urban | 66      | A      | 59      | BBB    | -7              |
| Olkejuado    | 40      | B      | 33      | B      | -7              |
| Ruiru-Juja   | 75      | AA     | 64      | A      | -11             |
| Nyeri        | 78      | AA     | 66      | A      | -12             |
| Machakos     | 46      | BB     | 34      | B      | -12             |
| Thika        | 70      | A      | 54      | BBB    | -16             |

**3.7 Compliance**

One of the key objectives of regulation is to ensure compliance with sector standards, regulations, and guidelines by water service providers. Compliance by utilities to the set standards progressively ensures a better quality of services, efficiency in operations, consumer-centricity, and environmental conservation. The Regulator has continued to apply a variety of tools to fast-improve compliance, for instance, capacity building of WSPs and County Governments, inspections, enforcement actions, and public reporting.

Whereas effective regulation 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. A compliant utility has a valid license and tariff, submits requisite reports in time as per the reporting guidelines, and adheres to relevant water laws and gazette notices including payment of regulatory levies.

The status of Compliance by utilities is illustrated in Annex 6. The regulator employs various approaches to ensure compliance, tailored to the attitudes of the licensees. Some of the measures taken during the period to enforce compliance included:

- 1) Nairobi City Water and Sewerage Company. The WSP was penalized for non-compliance with regulatory requirements.
- 2) Nakuru Urban Water and Sanitation Services Company. The Condition Liquidity Support Grant II was withheld for delay in the appointment of the Board of Directors.
- 3) Nakuru Rural Water and Sanitation Company. The Condition Liquidity Support Grant II was withheld for delay in the appointment of the Board of Directors.
- 4) Naivasha Water and Sanitation Company. The Condition Liquidity Support Grant II was withheld for the delay in the appointment of the Board of Directors.
- 5) Eldoret Water and Sanitation Company: The WSP was penalized and required to rebate customers for non-compliance with the approved tariff.
- 6) Murang'a Urban Water and Sewerage Company. The WSP was penalized for non-compliance with legal and regulatory requirements.





| CHAPTER FOUR |

# SITUATION OF WATER SERVICES IN COUNTIES





## Enhancing Accountability mechanisms for better performance

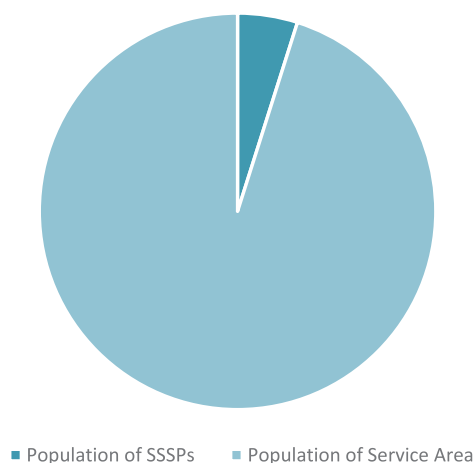
The promulgation of the Constitution of Kenya, in 2010 has had a wide range of effects on the water sector. Generally, the Constitution recognizes access to clean and safe water as a basic human right and allocates the responsibility for water supply and sanitation service provision to 47 established counties. The 2016 Water Act was enacted to align the water sector with the Constitution's primary objective of devolution. The act recognizes that water services provision is a shared responsibility between the national government and the county government. It also gives priority to the use of abstracted water for domestic purposes over irrigation and other uses. Other key provisions in the Constitution that touch upon water include the responsibility of the national government for management of the use of international waters and water resources; affirmative action programs to ensure water for marginalized groups, and description of national versus county public works.

In aligning water services, particularly for marginalized groups, with the constitution of Kenya 2010, the Water Act 2016 has obliged county governments to put in place measures to provide water services to rural areas that are considered not commercially viable. The measures referred to include the development of point sources, small-scale piped systems, and standpipes that meet the standards set by the Regulatory Board and which may be managed by community associations, public benefits organizations, or a private person

under a contract with the county government. To implement such obligations, County Governments are required to formulate and submit annually to WASREB 5-year development plans which include investments and financing plans for the provision of water services within their areas of jurisdiction as provided by section 94 of the Water Act 2016. 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 mandates. As part of the technical assistance, WASREB has in place a Guideline on the Provision of Water for Rural and Underserved Areas in 2019.

### 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 data also includes Small Scale Service Providers (SSSPs) within the service areas of the utilities.



The population in the entire service area of regulated utilities is 28.3 million out of the total national population of 51.3 million. This is 55% of the total population, which is an increase of 0.9 percentage points from the figure of 54.1%, which was reported in the previous period. The increase in the population served is attributed to the growth in the service area of the formalized utilities. The population of the Small-Scale Service Providers within the regulated areas of 785,444 was also included.

### ***The journey of water services provision: A look at the SSSPs***

*Section 72 (1)(a) and (p) as read together with section 94(3) of the Water Act requires the regulator to determine and prescribe national standards and make recommendations on how to provide basic water services to marginalised areas. As part of this mandate and in support of the sector's efforts towards the full realisation of the Right to Water and considering the predominance of community-managed systems in rural areas and further appreciating the related governance and non-functionality issues, it is important that national standards in water service provision also apply to these systems.*

*For decades, voluntary community management has been the prevailing practice for small-scale water systems in rural Kenya. However, sustainability challenges have emerged from this approach. As a result, there has been a shift towards professionalizing the management of these systems, aiming to ensure that investments are sustainable. This is crucial for the progressive realization of the rights to water and sanitation.*

*WASREB has formulated guidelines for water and sanitation services provision in rural and marginalized areas. These guidelines are designed to ensure adherence to water service standards with respect to quality, cost, and customer service. The ultimate goal is to safeguard the health and safety of consumers.*

*WASREB is currently collaborating with counties to formalize rural water services, aiming to streamline and professionalize their operations. For instance, during the reporting period, Kakamega County established the Kakamega Rural Water Company to improve water service access in marginalized areas.*

*WASREB also has mapped the Small-Scale Service Provider in all the 47 counties which are currently hosted at the spatial database accessible from Majidata ([majidata.wasreb.go.ke](http://majidata.wasreb.go.ke)). The number of Small-Scale Service providers identified is at 8,216, with 953 of these providers being within the service areas of regulated utilities.*

*It is then imperative that the regulator will continue to update this database as part of monitoring the progressive realization of the right to water. This in turn will enable the county governments to operationalize section 94 of the Water Act 2016 that requires the devolved governments to focus on areas that are not commercially viable under the guiding principle of leaving no one behind.*

#### 4.1.1 Regulation within the Service Area

##### a) Water Utilities within the Counties

The regulated utilities are 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  | 26              |              | 10        |               | 6        |          | 3      |  | 1 |  | 1  |  |
| Counties        | Bomet           | Mombasa      | Baringo   | Kajiado       | Embu     | Machakos | Kiambu |  |   |  |    |  |
|                 | Bungoma         | Narok        | Kakamega  | Makueni       | Murang'a |          |        |  |   |  |    |  |
|                 | Busia           | Nyamira      | Kilifi    | Meru          | Nyeri    |          |        |  |   |  |    |  |
|                 | Elgeyo Marakwet | Samburu      | Kirinyaga | Nairobi       |          |          |        |  |   |  |    |  |
|                 | Garissa         | Siaya        | Kitui     | Nakuru        |          |          |        |  |   |  |    |  |
|                 | Homabay         | Taita-Taveta | Laikipia  | Tharaka-Nithi |          |          |        |  |   |  |    |  |
|                 | Isiolo          | Tana River   | Mandera   |               |          |          |        |  |   |  |    |  |
|                 | Kericho         | Trans-Nzoia  | Migori    |               |          |          |        |  |   |  |    |  |
|                 | Kisii           | Turkana      | Nandi     |               |          |          |        |  |   |  |    |  |
|                 | Kisumu          | Uasin Gishu  | Nyandarua |               |          |          |        |  |   |  |    |  |
|                 | Kwale           | Vihiga       |           |               |          |          |        |  |   |  |    |  |
|                 | Lamu            | Wajir        |           |               |          |          |        |  |   |  |    |  |
|                 | Marsabit        | West Pokot   |           |               |          |          |        |  |   |  |    |  |

Twenty-six counties are each served by a single regulated utility. Kiambu County has the highest number of regulated utilities, with ten (eight public and two private). Both Machakos and Nyeri counties each have six WSPs. During the reporting period, Kakamega County established Kakamega Rural WSP to manage service provision in rural areas. The cross-county WSPs include Gusii Water and Sanitation Company, which serves Kisii and Nyamira counties, and Nzoia Water Services Company, which serves Bungoma and Trans Nzoia counties. Turkana is the only county that did not submit performance data for this reporting period.



Table 4.2: General County Data for Regulated Utilities

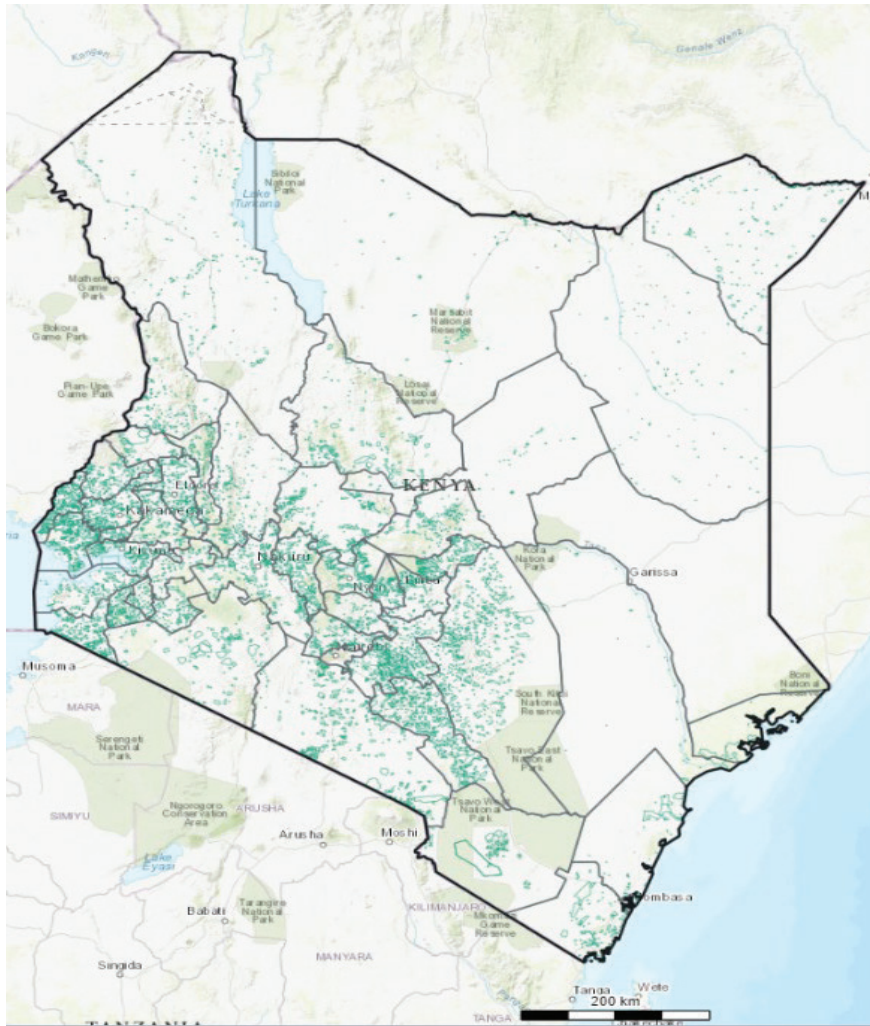
| County ID | County           | Population in the County | Percentage of County population within service areas of Utilities | Population served | INDICATORS (Aggregated Regulated Utilities) |                       |         |                       |      |
|-----------|------------------|--------------------------|---|-------------------|---|-----------------------|---------|-----------------------|------|
|           |                  |                          |   |                   | Water Coverage (%)                          | O+M cost coverage (%) | NRW (%) | Sewerage Coverage (%) |      |
| 1         | Mombasa          | 1,312,345                | 100   | 57                | 57  |                       | 97      | 52                    | 11   |
| 2         | Kwale            | 954,224                  | 72  | 23                | 32  |                       | 77      | 53                    | 0    |
| 3         | Kilifi           | 1,590,562                | 99  | 66                | 67  |                       | 89      | 35                    | 0    |
| 4         | Tana River       | 346,653                  | 35  | 12                | 34  |                       | 62      | 65                    | 0    |
| 5         | Lamu             | 162,612                  | 23  | 17                | 73  |                       | 35      | 49                    | 0    |
| 6         | Taita-Taveta     | 360,641                  | 100   | 56                | 54  |                       | 76      | 42                    | 0    |
| 7         | Garissa          | 934,338                  | 15  | 11                | 68  |                       | 149     | 38                    | 29   |
| 8         | Wajir            | 823,706                  | 23  | 3                 | 12  |                       | 2       | 60                    | 0    |
| 9         | Mandera          | 974,646                  | 25  | 5                 | 23  |                       | 11      | 48                    | 0    |
| 10        | Marsabit         | 543,600                  | 31  | 4                 | 0   |                       | 64      | 59                    | 0    |
| 11        | Isiolo           | 279,830                  | 31  | 29                | 92  |                       | 105     | 30                    | 7    |
| 12        | Meru             | 1,611,152                | 37  | 17                | 72  |                       | 101     | 32                    | 8    |
| 13        | Tharaka-Nithi    | 402,180                  | 50  | 29                | 59  |                       | 85      | 50                    | 0    |
| 14        | Embu             | 641,789                  | 85  | 62                | 79  |                       | 97      | 39                    | 5    |
| 15        | Kitui            | 1,177,803                | 50  | 32                | 64  |                       | 65      | 46                    | 1    |
| 16        | Machakos         | 1,550,883                | 58  | 28                | 49  |                       | 88      | 33                    | 20   |
| 17        | Makueni          | 1,022,086                | 57  | 15                | 34  |                       | 79      | 35                    | 0    |
| 18        | Nyandarua        | 652,096                  | 39  | 15                | 40  |                       | 92      | 43                    | 0    |
| 19        | Nyeri            | 781,169                  | 77  | 51                | 71  |                       | 110     | 27                    | 23   |
| 20        | Kirinyaga        | 639,398                  | 83  | 53                | 66  |                       | 83      | 56                    | 0    |
| 21        | Murang'a         | 1,095,507                | 97  | 62                | 70  |                       | 100     | 42                    | 11   |
| 22        | Kiambu           | 2,791,896                | 93  | 71                | 79  |                       | 111     | 36                    | 30   |
| 23        | Turkana          | 950,380                  | 10  | 6                 | n.d.  |                       | n.d.    | n.d.                  | n.d. |
| 24        | West Pokot       | 662,195                  | 25  | 2                 | 7   |                       | 101     | 35                    | 0    |
| 25        | Samburu          | 347,633                  | 100   | 34                | 34  |                       | 17      | 49                    | 0    |
| 26        | Trans-Nzola      | 1,055,324                | 38  | 18                | 47  |                       | 103     | 48                    | 9    |
| 27        | Uasin Gishu      | 1,273,591                | 39  | 32                | 82  |                       | 91      | 38                    | 68   |
| 28        | Elgeiyo Marakwet | 486,787                  | 18  | 12                | 65  |                       | 96      | 32                    | 0    |
| 29        | Nandi            | 934,619                  | 14  | 5                 | 36  |                       | 80      | 35                    | 0    |
| 30        | Baringo          | 708,103                  | 23  | 9                 | 39  |                       | 59      | 62                    | 0    |
| 31        | Laikipia         | 566,637                  | 44  | 40                | 92  |                       | 109     | 34                    | 37   |
| 32        | Nakuru           | 2,397,932                | 87  | 70                | 89  |                       | 108     | 32                    | 18   |
| 33        | Narok            | 1,289,072                | 10  | 4                 | 42  |                       | 81      | 34                    | 2    |
| 34        | Kajiado          | 1,340,925                | 62  | 32                | 53  |                       | 106     | 36                    | 0    |
| 35        | Kericho          | 957,709                  | 44  | 16                | 37  |                       | 79      | 53                    | 8    |
| 36        | Bomet            | 930,170                  | 41  | 5                 | 11  |                       | 46      | 66                    | 1    |
| 37        | Kakamega         | 1,941,333                | 65  | 23                | 88  |                       | 98      | 37                    | 12   |
| 38        | Vihiga           | 602,294                  | 66  | 7                 | 10  |                       | 60      | 31                    | 0    |
| 39        | Bungoma          | 1,783,660                | 24  | 12                | 47  |                       | 103     | 48                    | 9    |
| 40        | Busia            | 951,182                  | 38  | 5                 | 13  |                       | 79      | 53                    | 7    |
| 41        | Siaya            | 1,049,675                | 55  | 31                | 57  |                       | 82      | 56                    | 1    |
| 42        | Kisumu           | 1,225,593                | 40  | 36                | 92  |                       | 103     | 37                    | 15   |
| 43        | Homabay          | 1,194,418                | 23  | 11                | 48  |                       | 68      | 42                    | 8    |
| 44        | Migori           | 1,192,977                | 35  | 10                | 34  |                       | 55      | 42                    | 0    |
| 45        | Kisii            | 1,306,923                | 50  | 20                | 41  |                       | 96      | 66                    | 6    |
| 46        | Nyamira          | 608,549                  | 36  | 15                | 41  |                       | 96      | 66                    | 6    |
| 47        | Nairobi          | 4,947,734                | 100   | 83                | 82  |                       | 100     | 47                    | 49   |

### b) Small Scale Service Providers within the Counties

The spatial illustration of the SSSPs mapped within all 47 counties is as per the diagram.

Table 4.3: Number of SSSPs within the Regulated Service Area

| Number of SSSPs | Population Served by SSSPs |
|-----------------|----------------------------|
| <b>953</b>      | <b>1,373,923</b>           |



Key: ■ SSSP Service Area

Source: Majidata

While 55% of the population lies within the service areas of the formalized WSPs, it should be noted that the served population of 18.2 million translates to a national coverage of 36%.

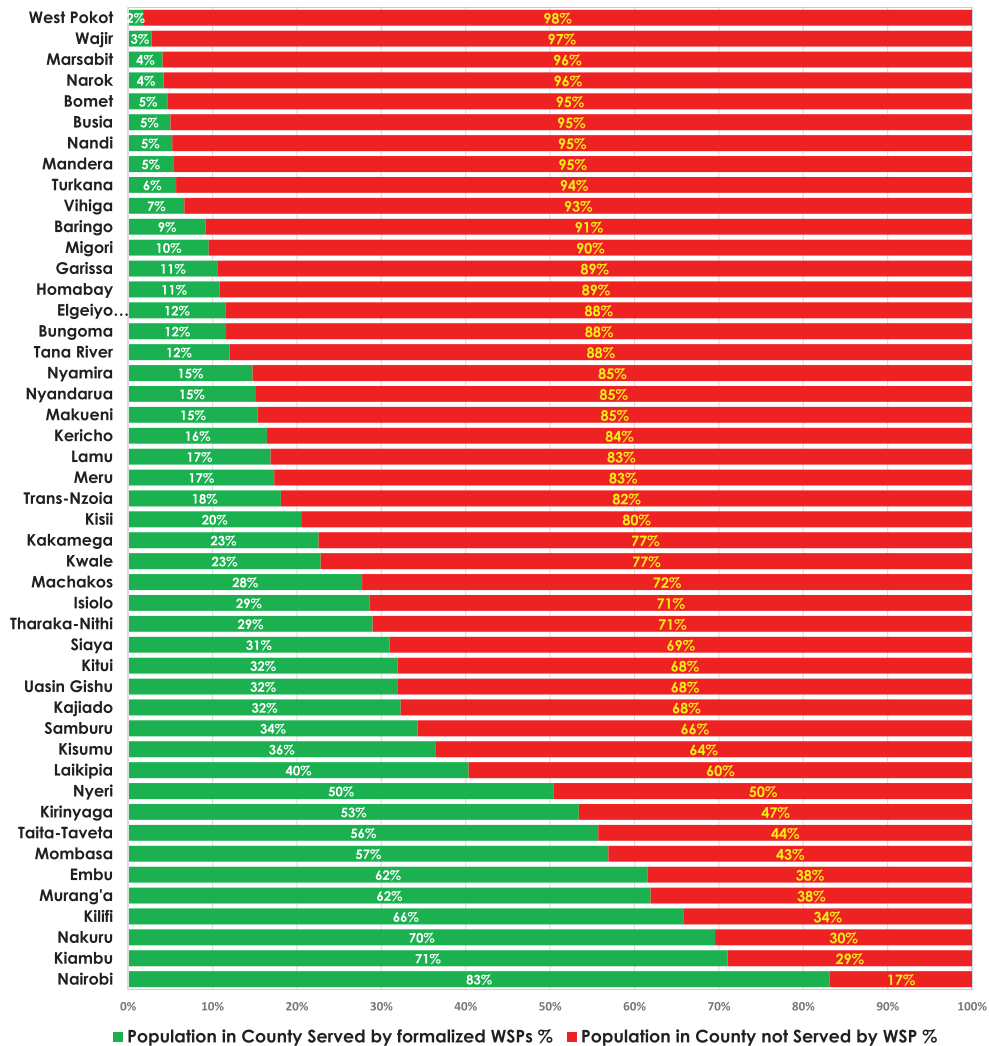
Table 4.4: WSPs with SSSPs within the Regulated Service Area

| S/N | Water Service Provider | No of SSSPs | Population of SSSPs | S/N | Water Service Provider | No of SSSPs | Population of SSSPs |
|-----|------------------------|-------------|---------------------|-----|------------------------|-------------|---------------------|
| 1   | Nakuru Rural           | 58          | 106,790             | 38  | Ruiru-Juja             | 6           | 10,930              |
| 2   | Nol Turesh Loitokitok  | 19          | 77,906              | 39  | Othaya Mukurweini      | 5           | 9,900               |
| 3   | Sibo                   | 48          | 76,040              | 40  | Embu                   | 13          | 9,250               |
| 4   | Kakamega Rural         | 47          | 65,180              | 41  | Nakuru                 | 9           | 9,050               |
| 5   | Gusii                  | 28          | 48,800              | 42  | Murang'a South         | 15          | 9,030               |
| 6   | Kitui                  | 49          | 46,912              | 43  | Machakos               | 20          | 8,930               |
| 7   | Kibwezi Makindu        | 24          | 46,750              | 44  | Kakamega               | 8           | 8,920               |
| 8   | Kiambere Mwingi        | 58          | 45,110              | 45  | Kiambu                 | 2           | 8,612               |
| 9   | Limuru                 | 10          | 39,796              | 46  | Olkejuado              | 8           | 8,200               |
| 10  | Amatsi                 | 28          | 36,350              | 47  | Kilifi Mariakani       | 10          | 8,150               |
| 11  | Wote                   | 21          | 34,380              | 48  | Kisumu                 | 8           | 8,050               |
| 12  | Naivasha               | 9           | 33,310              | 49  | Kericho                | 13          | 7,850               |
| 13  | Samburu                | 25          | 32,850              | 50  | Kyeni                  | 7           | 6,800               |
| 14  | Gatundu                | 11          | 32,200              | 51  | Yatta                  | 10          | 6,700               |
| 15  | Malindi                | 12          | 31,600              | 52  | Nyeri                  | 2           | 6,680               |
| 16  | Kikuyu                 | 11          | 31,131              | 53  | Embe                   | 4           | 6,500               |
| 17  | Busia                  | 19          | 30,550              | 54  | Murang'a West          | 4           | 5,748               |
| 18  | Marsabit               | 10          | 29,600              | 55  | Kapsabet Nandi         | 7           | 4,800               |
| 19  | Tana                   | 12          | 29,450              | 56  | Imetha                 | 4           | 4,720               |
| 20  | Githunguri             | 4           | 23,658              | 57  | Meru                   | 7           | 4,200               |
| 21  | Migori                 | 14          | 23,500              | 58  | Chemususu              | 5           | 3,600               |
| 22  | Kapenguria             | 22          | 21,650              | 59  | Gatanga                | 4           | 3,600               |
| 23  | Bomet                  | 14          | 21,550              | 60  | Mavoko                 | 7           | 3,300               |
| 24  | Eldoret                | 18          | 20,750              | 61  | Nyahururu              | 4           | 3,200               |
| 25  | Ngagaka                | 3           | 20,000              | 62  | Thika                  | 4           | 2,650               |
| 26  | Kathiani               | 13          | 19,750              | 63  | Mathira                | 3           | 2,400               |
| 27  | Oloolaiser             | 13          | 17,550              | 64  | Nyandarua              | 5           | 2,200               |
| 28  | Mwala                  | 18          | 17,400              | 65  | Karuri                 | 4           | 2,190               |
| 29  | Mbooni                 | 12          | 16,470              | 66  | Murang'a               | 1           | 2,000               |
| 30  | Matungulu Kangundo     | 15          | 16,100              | 67  | Ngandori Nginda        | 2           | 1,950               |
| 31  | Kwale                  | 19          | 15,100              | 68  | Nanyuki                | 1           | 1,500               |
| 32  | Nzoia                  | 15          | 14,750              | 69  | Tetu Aberdare          | 1           | 1,000               |
| 33  | Tuuru                  | 12          | 14,200              | 70  | Gatamathi              | 2           | 850                 |
| 34  | Olkalou                | 11          | 13,760              | 71  | Tachasis               | 1           | 750                 |
| 35  | Kirinyaga              | 19          | 12,920              | 72  | Narok                  | 1           | 500                 |
| 36  | Wajir                  | 15          | 12,600              | 73  | Nairobi City           | 1           | 450                 |
| 37  | Mombasa                | 8           | 11,900              | 74  | Naromoru               | 1           | 450                 |

#### 4.1.2 Access to Water Services

During the period under review, 55% of the national population lived in areas served by regulated utilities. Nairobi County led in water coverage at 83% which was a three-percentage point drop from 86% during the previous reporting period. Kiambu at 71%, and Nakuru at 70% were ranked second and third respectively while Kilifi was ranked fourth with a water coverage of 66%. The county with the least water coverage was West Pokot at 2% similar to the previous reporting period. This was followed by Wajir and Marsabit at 3% and 4% respectively. Turkana was the only county that did not report in the current period.

Figure 4.1: Water Coverage within all Counties 2022/23



WASREB remains committed to addressing the needs of underserved areas by ensuring that County Governments implement the Guidelines for the Provision of Water and Sanitation Services in Rural and Underserved Areas.

Table 4.5: Water Coverage in the Counties- Top 10 and Bottom 10

| TOP TEN      |                                    | BOTTOM TEN |                                    |
|--------------|------------------------------------|------------|------------------------------------|
| County       | Population served in the county, % | County     | Population served in the county, % |
| Nairobi      | 83                                 | Vihiga     | 7                                  |
| Kiambu       | 71                                 | Turkana    | 6                                  |
| Nakuru       | 70                                 | Mandera    | 5                                  |
| Kilifi       | 66                                 | Nandi      | 5                                  |
| Murang'a     | 62                                 | Busia      | 5                                  |
| Embu         | 62                                 | Bomet      | 5                                  |
| Mombasa      | 57                                 | Narok      | 4                                  |
| Taita-Taveta | 56                                 | Marsabit   | 4                                  |
| Nyeri        | 53                                 | Wajir      | 3                                  |
| Kirinyaga    | 53                                 | West Pokot | 2                                  |

## 4.2 County Water Services Strategies

Regarding the growth of investments in the water sector, the county governments are required to develop strategies that include innovative funding arrangements and resource mobilization techniques that revolve around attracting more public and private investments in water development. These may include government funding, ring-fenced funding, grants from development partners, transboundary water resources funding mechanisms, the Public-Private-Partnership funding model; and the private sector and other investments in the form of build-own-transfer, build-own-operate, and build-own-operate-transfer financing model. The execution of these funding strategies is expected to increase water coverage within the counties while leveraging on bulk water transfer from other counties.

All counties have developed the county integrated plans, with strategies to improve access to water and sanitation services. County Governments are required by law to submit annually to WASREB and the Cabinet Secretary in charge of water affairs, a 5-year development plan incorporating investments and financing plans for the 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.

## 4.3 Coordination in Investment

Ensuring effective water service management at the county level hinges on addressing structural obstacles, cultivating trust, and optimizing resource allocation in the implementation

of investments. Kenya has implemented tier levels of government through devolution reforms. Despite recognizing the functional interdependence in water service delivery, the scope and frequency of coordination between national and county levels of government have fallen short of expectations. Weak coordination within the tier governments negatively impacts water service delivery. Persistent disputes over functional assignments and trust loss contribute to this situation.

Kenya requires significant investments in water supply and sanitation to meet Vision 2030 and SDG targets.

Generally, there is a persistent challenge in the coordination of investments between County governments, NGOs, and the private sector in the water sector.

## 4.4 Financing of WSS and tariff reforms to Enhancing Cost Recovery

Addressing the financing challenge in water supply and sanitation (WSS) requires a multifaceted approach, including tariff reforms, prudent financial management, and supportive policies. By doing so, we can ensure reliable and sustainable water services for all. County Governments are tasked with the responsibility of overseeing the WSPs, financing WSS investments, and exploring financing options to enhance water and sanitation services. WSPs manage WSS systems and play a key role in ensuring access to clean water and proper sanitation. However, financing these systems has been challenging.

Some of the options relating to financing and tariff reforms to enhance cost recovery are discussed below.

**Tariff Levels:** Low tariff levels have always been an obstacle to recovering operation and maintenance costs in WSS systems.

When tariffs are insufficient, they hinder adequate maintenance, reduce asset performance, and shorten overall asset life.

**Cost Recovery:** Cost recovery remains a convenient policy for financing both existing and future water infrastructure. Implementing realistic approaches to cost recovery is essential. This involves balancing the need for affordable services with the financial sustainability of WSS systems.

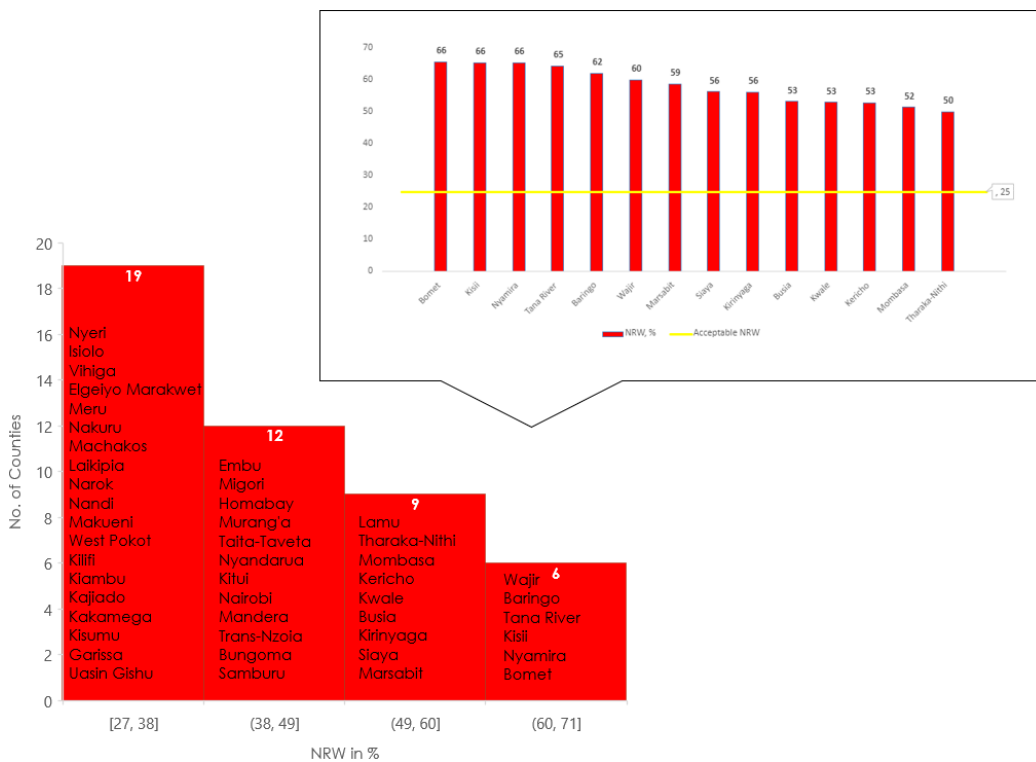
**Policy and Regulation:** Effective policies, institutions, and regulations play a critical role in sustainable financing. Both national and County Governments including all stakeholders must collaborate to create an enabling environment that supports cost recovery mechanisms.

#### 4.5 Utility Efficiency

##### 4.5.1 Reduction of Non-Revenue Water

Water loss continues to be the biggest challenge to many counties. A high percentage of water is lost through apparent losses (commercial losses) such as water theft, meter error, meter reading error, and unbilled authorized consumption.

Figure 4.2: Non-Revenue Water within the counties





From the period under review, none of the counties are within the acceptable benchmark of less than 25% of the NRW level. Six counties recorded NRW of above 60%. These are Wajir (60%), Baringo (62%), Tana River (65%), Bomet (66%), Kisii and Nyamira (66%). It should be noted that Kisii and Nyamira counties are both served by Gusii Water and Sanitation Company. This means that such utilities may not be able to cover all the costs and may become unsustainable in the long run.

Counties are encouraged to support their utilities to implement the required interventions to deal with this challenge. These interventions may 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 stringent 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.

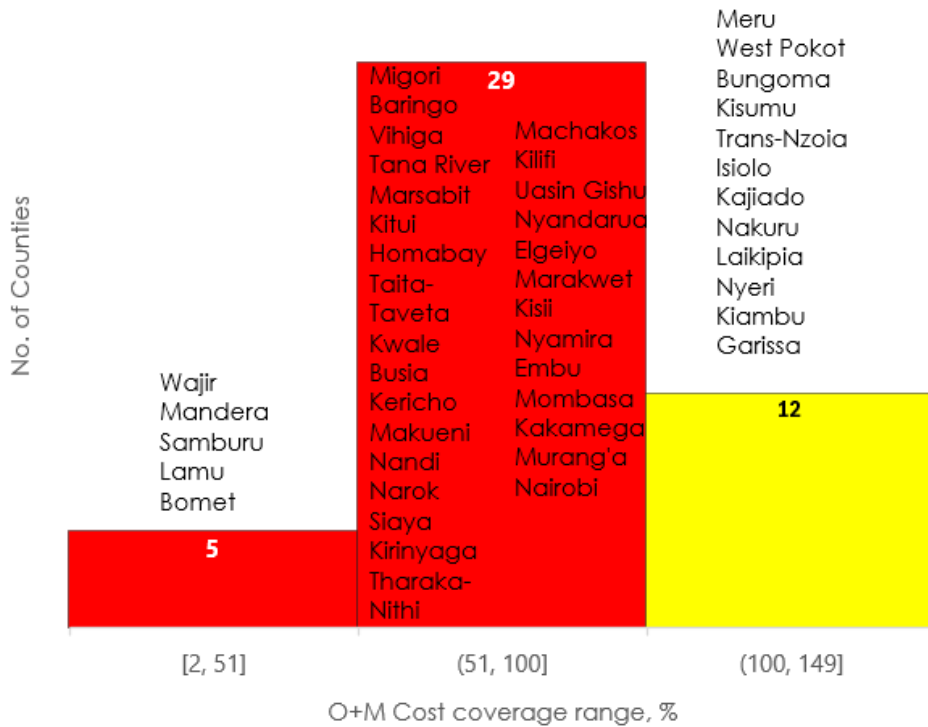
#### **4.5.2 Recovery of O+M Costs**

The recovery of O+M costs by utilities is key for the 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 130% is desirable. The main driver for this indicator is the tariff coupled with adherence to the sector benchmark on costs.

Twelve counties recorded cost coverage above 100%, with Garissa recording an impressive cost coverage of 149%.

On the contrary, some WSPs still struggle to recover their costs with some at below 50%. These are Bomet (46%), Lamu (35%), Samburu (17%), Mandera (11%) and Wajir (2%).

Figure 4.3: O+M Cost Coverage within the Counties



County government 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 that 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.

In addition to using the tariffs to improve financing mechanisms, the counties should increase the investment allocations, in addition to funding support from the national government and development partners. The county governments being the owners of the WSPs should nurture the water services providers to develop bankable projects that can attract external funding to ensure optimal returns and in turn self-sustainability.

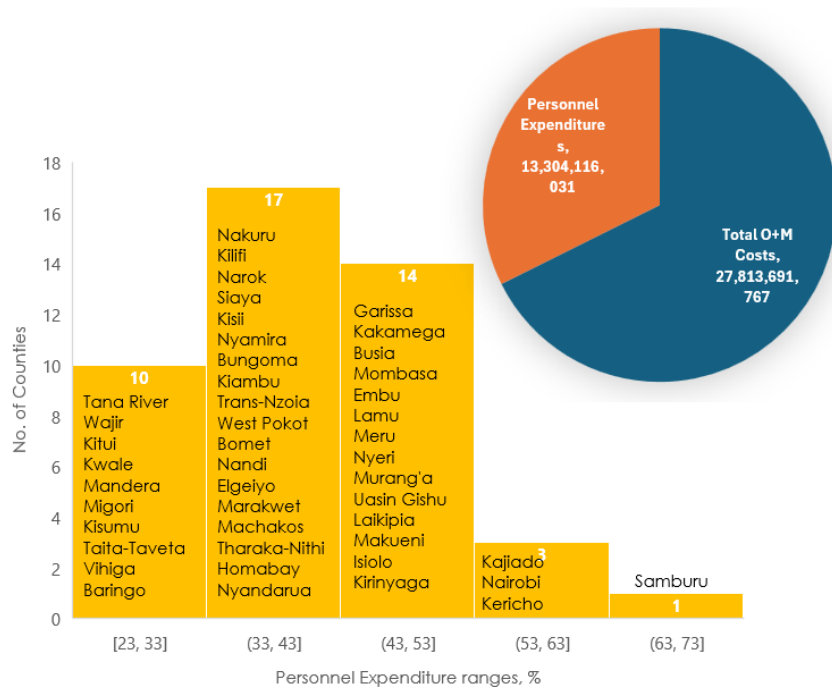
#### 4.5.3 Personnel Expenditure as Percentage of O+M Costs

The ratio of expenditure on personnel costs to the total O+M costs is a measure used to avert negligence of other aspects of operations at the expense of paying staff. Samburu County was rated the worst performer in this indicator at 73% followed by Kericho at 63% which has continued to record a drop for the last consecutive 2 years. WSPs, within ten counties have a

personnel ratio above 50% (see table). Nairobi County, the most densely populated county, stands at 61%. The benchmark for this indicator is dependent on the size of a utility. Large utilities are expected to benefit from economies of scale hence a lower benchmark. The sector benchmark for large utilities on this parameter is 20%. The national average for the current period is 48%

| County      | PE Ratio, % |
|-------------|-------------|
| Samburu     | 73          |
| Kericho     | 63          |
| Nairobi     | 61          |
| Kajiado     | 54          |
| Kirinyaga   | 53          |
| Isiolo      | 52          |
| Makueni     | 51          |
| Laikipia    | 51          |
| Uasin Gishu | 50          |
| Murang'a    | 50          |

Figure 4.4: Personnel Expenditure as Percentage of O+M Costs

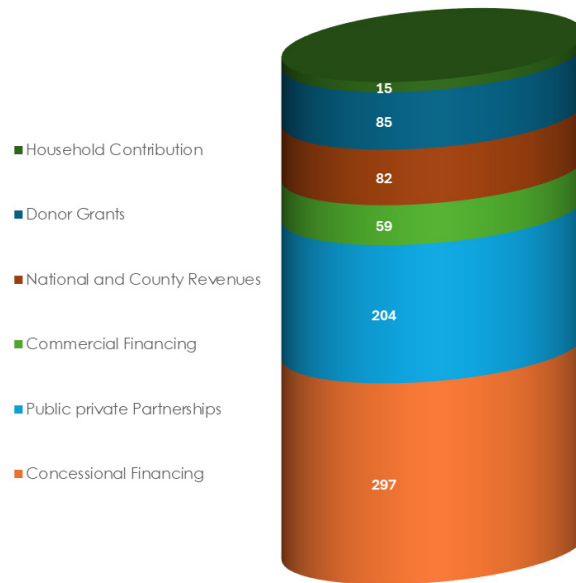


#### 4.6 Tracking Financial Flows

The National Water and Sanitation Investment and Financing Plan (NAWASIP) has been developed by the MOWSI.

The aim of NAWASIP is in line with the SDG 6 of achieving universal access to safely managed water and sanitation. The plan includes development projects and accompanying programs and policy reforms to achieve the sector goals.

**Figure 4.5: Sector Financing**



Under NAWASIP, the sustainable policy interventions identified are improved service delivery, increased private sector investments, and expanding sector financing.

The WASH sector requires approximately KES 742 Billion to achieve universal coverage by rehabilitating existing infrastructure and expanding supply. The government budget covers 11% of the total required to reach the 2030 goal, creating a significant opportunity for the private sector.

To improve service delivery there is a need for continuous monitoring of the progress in line with SDG definitions. In addition to that, incentivizing greater investments at the county level on non-sewered sanitation.

There is a need to expand the network for water services through public sector investments. Utilities are also required to transition to cost recovery tariffs and effective use of levies. This will in turn attract investors to expanding sector financing.

**4.7 County Issues**

Water service providers, especially small and medium-sized ones are confronted with several challenges that impact their ability to deliver sustainable water services. Water-related challenges vary across different counties. Some of the critical issues related to water in specific counties are highlighted below:-

- **Water Scarcity:** Informal settlements in various areas face water scarcity due to inadequate basic services. Many urban poor have been relying on inexpensive pit latrines and drawing water from nearby wells.

- **Climate Change and Drought:** Counties generally have suffered dry climate, coupled with recurrent droughts and floods caused by global warming, attributed to worsened water scarcity. Droughts have impacted low water availability for both rural and urban populations.
- **Untreated Water:** Untreated drinking water has been a common trend, especially in rural and community-managed water systems. Poor management of water resources also has contributed to water pollution and high costs of water treatment.
- **Failure to apply for tariff adjustment.** Some of the WSPs have been operating using unjustified tariffs over a long period and others using ETA.
- **Deteriorating performance** as evidenced by the Impact Reports over time.
- Need for **proper data management.**
- **Governance challenges** including, ethical issues, efficiency issues, and accountability issues have been noticed in some WSPs established by the counties.
- A majority of WSPs have been grappling with **high levels of water losses.**
- **Water coverage** in most of the counties has remained **low.**
- **High Operation and Maintenance Costs:** Maintaining water infrastructure, repairing leaks, and ensuring water quality require significant financial resources. Small and medium providers often struggle to cover these costs, affecting service reliability.
- **Insufficient Funding:** Limited financial resources pose a significant obstacle for water providers. Insufficient funding by County governments affects infrastructure development, maintenance, and expansion efforts.





| CHAPTER FIVE |

# CONCLUSION





## ***Performance assessment and Reporting must inspire action!***

Efforts to assess performance in the water services sector are driven by the goal of enhancing services for consumers. The assessment aims to evaluate the sector's current status to guide stakeholders on areas needing improvement to achieve national and global objectives. The need for this becomes clearer as we move closer to 2030. In conclusion, it is recommended to prioritize attention on the following areas:

### **5.1 Tackling Governance Concerns**

The section on governance assessment clearly demonstrates that the governance of utilities directly impacts their technical performance. Proper and efficient governance is therefore crucial to ensure utility adherence to regulations, effective infrastructure investment, proper maintenance practices, sustainable resource management, and risk mitigation among others. This should be reinforced by public reporting and stakeholder engagement mechanisms that ensure that decisions are made transparently and in the public interest. Proper governance therefore ensures that water utilities can effectively meet the challenges of providing safe and reliable water services to communities while adapting to evolving environmental, social, and economic conditions and is essential for ensuring the reliable delivery of safe and clean water to communities.

### **5.2 Ensuring the Effectiveness of Investments is Crucial**

According to NAWASIP, the sector is required to mobilize an additional Ksh 652 billion above business as usual to reach universal coverage for water and sanitation services. As the sector explores alternative financing options, there is a need for the sector to continue implementing reforms that enhance efficiency. Studies have shown that enhancing revenue collection and fixing water losses to acceptable levels while reducing costs can increase revenues by up to 70% without an increase in applicable tariffs. Utilities must therefore put in place realistic NRW reduction strategies and implement efficiency measures that will reduce costs. Further, the sector must enhance coordination in investments and enhance capital efficiency with a clear framework to account for impact. The shift of financing to being performance-based should be sustained in the long term.

### **5.3 Ensuring Sustainability of Service Provision**

The sector has recorded a decline in cost recovery in the last 3 years. Although the increase in costs (8.8%) was marginally higher than the increase in revenues (7.4%), a factor that contributed to the drop, the efficiency of the utilities needs to be addressed in addition to fixing the tariff. Utilities are required to explain to county leadership the necessity for tariffs that facilitate cost recovery and the detrimental impact of a persistent investment gap, which leads to the degradation of services.

#### 5.4 Improving Utility Efficiency

Utility efficiency is critical to ensure sustainable services. The persistence of inefficiencies in utilities, along with tariffs that are insufficient to cover costs, remains a barrier to achieving full cost recovery. At the current average tariff of Kshs 95 per cubic meter and an NRW level of 43%, the consumers are paying Kshs 28 per cubic meter for inefficiencies. It is noted however that the unit cost of water billed is Ksh 107 per cubic meter which is either covered by subsidies or deterioration in quality of service. A tariff below the unit cost of water billed deprives the utility of necessary funds for asset renewal and overall service sustainability. The sector must prioritize operational efficiency as a key means of fostering sustainability.

#### 5.5 Enhancing Resilience

The adverse effects of climate change directly affect water availability and quality making it crucial for the water sector to adapt to these changes. Building resilience in water and sanitation infrastructure ensures reliable access despite climate variability, leading to water service resilience amid this challenge. There is a need therefore for all stakeholders to address the challenges posed by climate change, to ensure water security, promote sustainable development, and enhance social equity.



# ANNEXES

### ANNEX 1: METHODOLOGY FOR QUALITY OF SERVICE KPIS

| KPI CLUSTER   | Indicator                     | Indicator elements  | Computation   |
|---|-------------------------------|---|---|
| <b>QUALITY OF SERVICE</b>   | <b>Water Coverage</b>         | Population served through individual connections-A  | Total No. of active connections * Average household size<br><br>The average household size is derived from the census data and is unique for each area<br><br>The allowed per capita consumption is 20l/c/day and 10l/c/day for domestic and communal water points respectively |
|   |                               | Population served through yard taps-B   | Total No. of active yard taps * Average No. of households served by a yard tap * Average household size<br><br>Allowed range of average number of households per yard tap is 4-10   |
|   |                               | Population served through small MDUs-C  | Total No. of active small MDUs * Average No. of households per small MDU * Average household size<br><br>Allowed range of average number of households per small MDU is 4-10  |
|   |                               | Population served through medium MDUs-D   | Total No. of active medium MDUs * Average No. of households per medium MDU * Average household size<br><br>Allowed range of average number of households per medium MDU is 11-20  |
|   |                               | Population served through large MDUs-E  | Total No. of active large MDUs * Average No. of households per large MDU * Average household size<br><br>Allowed average number of households per large MDU is >21  |
|   |                               | Population served through Kiosks-F  | Total No. taps (depends on kiosk type) * Average No. of people served per tap<br><br>Allowed range for kiosks is 100-400 people<br>Sublocation population is derived from Census data and growth rates applied appropriately  |
|   |                               | Number of people  | A+B+C+D+E+F   |
|   |                               | Population in Service Water Coverage  | Sum population of all sublocations within the WSP service area<br>Number of people served with water services/ Population in Service area   |
|   | <b>Drinking Water Quality</b> | Compliance with planned no. of residual chlorine tests  | $\Sigma$ total no. of residual chlorine tests conducted of all the schemes within the WSP service area / $\Sigma$ total no. of residual chlorine tests planned of all the schemes within the WSP service area * 100   |
|   |                               | Compliance with residual Chlorine standards   | $\Sigma$ total no. of residual Chlorine tests within norm for all the schemes within the WSP service area / $\Sigma$ 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  | $\Sigma$ total no. of bacteriological tests conducted of all the schemes within the WSP service area / $\Sigma$ total no. of bacteriological tests planned of all the schemes within the WSP * 100  |
|   |                               | Compliance with bacteriological standards   | $\Sigma$ total no. of bacteriological tests within norm for all the schemes within the WSP service area / $\Sigma$ 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  |
|   | <b>Hours of Supply</b>        | Drinking Water Quality  | 0.4 * Drinking Water quality, Residual Chlorine + 0.6 * Bacteriological quality   |
| 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   |
|----------------------------|---|--|---|
| <b>ECONOMIC EFFICIENCY</b> | <b>Personnel Expenditure as a Percentage of O&amp;M Costs</b> | Total personnel expenditures                 | Sum of personnel expenditures incurred during the reporting period<br><br>They include basic salaries, allowances, wages, gratuity, statutory and pension contributions by employer, subscriptions and training levy, leave, Incentives (Bonus) & Any other personnel expenditure.                                    |
|                            |   | Personnel Expenditure as a Percentage of O&M | $(\text{Total personnel expenditures} / \text{Total O+M}) * 100$  |
|                            | <b>Operation and Maintenance Cost Coverage</b>                | Total operating revenues<br>A                | Sum of billing for water, sewerage and other services<br><br>Billing for other services include charges on connection and reconnection, illegal connections, meter rent, meter testing, replacement of stolen meters and exhauster services.  |
|                            |   | Total operating expenditures<br>B            | Sum of expenses on personnel, BoD, General admin, direct operations, maintenance and levies and fees.<br><br>1. Direct operational expenditures include electricity, chemicals and fuel for vehicles.<br><br>2. Levies and fees include water abstraction fees, WSB fees, effluent discharge fees and regulatory levy |
|                            |   | Operation and Maintenance Cost Coverage      | $(A/B) * 100$   |
|                            | <b>Revenue Collection Efficiency</b>                          | Total water and sewerage billing             | 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                        | $(\text{Total Collection} / \text{Total Billing}) * 100$  |

## ANNEX 3: METHODOLOGY FOR OPERATIONAL SUSTAINABILITY KPIs

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

## ANNEX 4: COMPONENTS OF DRINKING WATER

| Utility           | DWQ - Residual Chlorine (%) | DWQ - Bacteriological Quality (%) | DWQ (%) |
|-------------------|-----------------------------|-----------------------------------|---------|
| Nairobi           | 97                          | 100                               | 98      |
| Eldoret           | 91                          | 100                               | 93      |
| Mombasa           | 97                          | 92                                | 94      |
| Kisumu            | 100                         | 100                               | 100     |
| Nakuru Urban      | 100                         | 100                               | 100     |
| Nyeri             | 100                         | 100                               | 100     |
| Thika             | 100                         | 100                               | 100     |
| Ruiru-Juja        | 99                          | 100                               | 93      |
| Murang'a South    | 100                         | 100                               | 100     |
| Nzoia             | 100                         | 100                               | 93      |
| Kilifi Mariakani  | 97                          | 95                                | 96      |
| Gatundu           | 99                          | 45                                | 67      |
| Embu              | 100                         | 100                               | 100     |
| Kirinyaga         | 100                         | 100                               | 100     |
| Malindi           | 100                         | 100                               | 100     |
| Kakamega          | 100                         | 100                               | 100     |
| Kericho           | 100                         | 100                               | 100     |
| Othaya Mukurweini | 99                          | 100                               | 100     |
| Mathira           | 100                         | 100                               | 100     |
| Nakuru Rural      | 95                          | 93                                | 94      |
| Tavevo            | 71                          | 94                                | 85      |
| Nanyuki           | 100                         | 100                               | 100     |
| Murang'a West     | 100                         | 100                               | 100     |
| Murang'a Urban    | 100                         | 100                               | 100     |
| Nyahururu         | 100                         | 100                               | 100     |
| Gusii             | 92                          | 99                                | 93      |
| Garissa           | 100                         | 43                                | 66      |
| Bomet             | 61                          | 45                                | 51      |
| Kwale             | 97                          | 90                                | 93      |
| Meru              | 100                         | 100                               | 100     |
| Ngandori Nginda   | 100                         | 100                               | 100     |
| Kitui             | 100                         | 100                               | 100     |
| Sibo              | 42                          | 45                                | 44      |
| Tetu Aberdare     | 96                          | 83                                | 88      |
| Nithi             | 98                          | 96                                | 97      |
| Gatamathi         | 98                          | 100                               | 99      |
| Mavoko            | 98                          | 76                                | 85      |
| Kikuyu            | 93                          | 78                                | 84      |
| Isiolo            | 100                         | 100                               | 100     |
| Kiambu            | 100                         | 88                                | 93      |
| Limuru            | 99                          | 100                               | 93      |
| Gatanga           | 100                         | 100                               | 100     |
| Githunguri        | 95                          | 98                                | 97      |
| Naivasha          | 98                          | 99                                | 99      |
| Ngagaka           | 95                          | -                                 | 38      |
| Oloolaiser        | 87                          | 80                                | 83      |

| Utility            | DWQ - Residual Chlorine (%) | DWQ - Bacteriological Quality (%) | DWQ (%) |
|--------------------|-----------------------------|-----------------------------------|---------|
| Imetha             | 100                         | 100                               | 100     |
| Amatsi             | 100                         | 100                               | 93      |
| Karuri             | 71                          | 51                                | 59      |
| Kyeni              | -                           | -                                 | -       |
| Busia              | 99                          | 84                                | 90      |
| Homabay            | 100                         | 100                               | 93      |
| Nol Turesh         | 69                          | 100                               | 88      |
| Machakos           | 100                         | 100                               | 100     |
| Tuuru              | -                           | -                                 | -       |
| Nyandarua          | 100                         | 65                                | 79      |
| Kibwezi Makindu    | 100                         | 100                               | 100     |
| Narok              | 94                          | 58                                | 72      |
| Embe               | 100                         | 100                               | 93      |
| Tana               | 97                          | 37                                | 61      |
| Migori             | 84                          | 59                                | 69      |
| Kapsabet Nandi     | 100                         | 100                               | 100     |
| Kirandich          | 88                          | 43                                | 61      |
| Murugi Mugumango   | -                           | 1                                 | 1       |
| Chemususu          | 65                          | 41                                | 51      |
| Samburu            | 87                          | 78                                | 81      |
| Lamu               | 99                          | 97                                | 93      |
| Kiambere Mwingi    | 84                          | 100                               | 93      |
| Iten Tambach       | 98                          | 98                                | 93      |
| Mandera            | 94                          | 96                                | 93      |
| Kakamega Rural     | 95                          | 95                                | 95      |
| Ol Kalou           | 56                          | 15                                | 32      |
| Olkejuado          | -                           | -                                 | -       |
| Muthambi 4K        | -                           | 38                                | 23      |
| Kapenguria         | -                           | -                                 | -       |
| Rukanga            | 85                          | 100                               | 94      |
| Naromoru           | 36                          | 63                                | 52      |
| Elwak              | -                           | -                                 | -       |
| Wajir              | -                           | -                                 | -       |
| Yatta              | 100                         | 50                                | 70      |
| Kathiani           | 94                          | 61                                | 74      |
| Kiamumbi           | 100                         | 86                                | 92      |
| Matungulu Kangundo | -                           | -                                 | -       |
| Wote               | 100                         | 100                               | 100     |
| Mbooni             | 19                          | 28                                | 24      |
| Nyasare            | 100                         | 100                               | 93      |
| Tachasis           | 99                          | 92                                | 93      |
| Runda              | 100                         | 100                               | 100     |
| Mwala              | 75                          | 39                                | 53      |
| Two Rivers         | 100                         | 100                               | 100     |
| Tatu City          | 100                         | 100                               | 100     |
| Marsabit           | 52                          | 77                                | 67      |



**ANNEX 5:  
PRO-POOR ASSESSMENT**

| Rank | Utility        | Size | PRO-POOR PARAMETERS |        |          |           | Totals | Weighted score (%) |
|------|----------------|------|---------------------|--------|----------|-----------|--------|--------------------|
|      |                |      | Governance          | Impact | Planning | Financing |        |                    |
| 1    | Nyeri          | VL   | 16                  | 30     | 15       | 12        | 73     | 93%                |
| 1    | Kisumu         | VL   | 16                  | 30     | 15       | 12        | 73     | 93%                |
| 3    | Naivasha       | L    | 16                  | 30     | 13       | 10        | 69     | 87%                |
| 4    | Thika          | VL   | 16                  | 27     | 15       | 10        | 68     | 87%                |
| 5    | Kakamega       | VL   | 16                  | 27     | 16       | 8         | 67     | 85%                |
| 6    | Nzoia          | VL   | 18                  | 22     | 12       | 12        | 64     | 84%                |
| 7    | Mombasa        | VL   | 16                  | 25     | 15       | 8         | 64     | 82%                |
| 8    | Nanyuki        | L    | 16                  | 24     | 13       | 10        | 63     | 81%                |
| 8    | Eldoret        | VL   | 16                  | 24     | 13       | 10        | 63     | 81%                |
| 10   | Nakuru Urban   | VL   | 12                  | 26     | 15       | 12        | 65     | 82%                |
| 11   | Kwale          | L    | 16                  | 22     | 12       | 10        | 60     | 78%                |
| 12   | Embu           | VL   | 16                  | 17     | 13       | 12        | 58     | 77%                |
| 13   | Limuru         | L    | 12                  | 24     | 10       | 12        | 58     | 74%                |
| 14   | Tavevo         | L    | 16                  | 17     | 8        | 14        | 55     | 74%                |
| 14   | Ruiru Juja     | VL   | 16                  | 15     | 14       | 10        | 55     | 73%                |
| 16   | Gatamathi      | L    | 16                  | 12     | 12       | 14        | 54     | 74%                |
| 17   | Homabay        | L    | 8                   | 25     | 14       | 12        | 59     | 73%                |
| 18   | Murang'a Urban | L    | 16                  | 20     | 7        | 10        | 53     | 70%                |
| 19   | Nairobi        | VL   | 12                  | 20     | 13       | 10        | 55     | 71%                |
| 20   | Mathira        | L    | 16                  | 18     | 8        | 10        | 52     | 69%                |
| 21   | Mavoko         | L    | 16                  | 12     | 13       | 10        | 51     | 69%                |
| 22   | Malindi        | VL   | 16                  | 14     | 12       | 8         | 50     | 67%                |
| 23   | Nyahururu      | L    | 12                  | 21     | 10       | 8         | 51     | 65%                |
| 23   | Meru           | L    | 12                  | 17     | 12       | 10        | 51     | 66%                |
| 23   | Imetha         | L    | 12                  | 15     | 12       | 12        | 51     | 67%                |
| 26   | Isiolo         | L    | 10                  | 19     | 10       | 10        | 49     | 62%                |
| 27   | Kiambu         | L    | 12                  | 13     | 14       | 8         | 47     | 62%                |
| 28   | Kirinyaga      | VL   | 15                  | 16     | 10       | 2         | 43     | 56%                |
| 29   | Murang'a South | VL   | 15                  | 9      | 8        | 10        | 42     | 58%                |
| 30   | Murang'a West  | L    | 14                  | 6      | 10       | 12        | 42     | 59%                |
| 31   | Sibo           | L    | 15                  | 17     | 9        | 0         | 41     | 53%                |
| 32   | Bomet          | L    | 18                  | 7      | 9        | 4         | 38     | 54%                |
| 33   | Nithi          | L    | 12                  | 10     | 10       | 8         | 40     | 54%                |
| 34   | Nakuru Rural   | L    | 10                  | 12     | 11       | 8         | 41     | 54%                |
| 35   | Kikuyu         | L    | 5                   | 14     | 14       | 8         | 41     | 51%                |
| 36   | Gatanga        | L    | 16                  | 2      | 6        | 0         | 24     | 36%                |
| 37   | Oloolaiser     | L    | 8                   | 10     | 6        | 0         | 24     | 31%                |
| 38   | Mandera        | S    | 5                   | 4      | 6        | 10        | 25     | 34%                |
| 39   | Yatta          | S    | 0                   | 13     | 7        | 8         | 28     | 33%                |
| 40   | Amatsi         | L    | 12                  | 7      | 0        | 0         | 19     | 27%                |
| 41   | Gusii          | L    | 6                   | 9      | 2        | 2         | 19     | 24%                |
| 42   | Kitui          | L    | 4                   | 14     | 2        | 0         | 20     | 23%                |
| 43   | Nyasare        | S    | 2                   | 7      | 1        | 10        | 20     | 26%                |
| 44   | Narok          | M    | 0                   | 16     | 4        | 0         | 20     | 21%                |
| 44   | Lamu           | S    | 0                   | 8      | 8        | 4         | 20     | 24%                |
| 46   | Wote           | S    | 5                   | 10     | 0        | 0         | 15     | 18%                |
| 47   | Iten Tambach   | S    | 4                   | 7      | 2        | 0         | 13     | 16%                |
| 48   | Mwala          | S    | 4                   | 5      | 0        | 0         | 9      | 12%                |
| 49   | Elwak          | S    | 0                   | 9      | 0        | 0         | 9      | 9%                 |
| 50   | Kirandich      | M    | 0                   | 3      | 2        | 2         | 7      | 8%                 |
| 51   | Kapenguria     | S    | 0                   | 3      | 0        | 2         | 5      | 6%                 |
| 52   | Tana           | M    | 0                   | 4      | 0        | 0         | 4      | 4%                 |
| 53   | Kapsabet Nandi | M    | 0                   | 2      | 0        | 0         | 2      | 2%                 |

## ANNEX 6: COMPLIANCE ASSESSMENT

| WSP                | Licensing Status | Tariff Status | Payment of regulatory levies | Reporting           |
|--------------------|------------------|---------------|------------------------------|---------------------|
| Kisumu             | Valid            | Justified     | Fully Compliant              | Partially Compliant |
| Nakuru Urban       | Valid            | Unjustified   | Fully Compliant              | Partially Compliant |
| Thika              | Valid            | Justified     | Fully Compliant              | Partially Compliant |
| Othaya Mukurweni   | Valid            | Unjustified   | Fully Compliant              | Partially Compliant |
| Runda              | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Ruru-Juja          | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Eldoret            | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Nyahururu          | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Kericho            | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Naivasha           | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Nyeri              | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Kakamega           | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Nakuru Rural       | Valid            | Justified     | Partially Compliant          | Fully Compliant     |
| Mavoko             | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Tetu Aberdare      | Valid            | Unjustified   | Partially Compliant          | Fully Compliant     |
| Murang'a West      | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Embu               | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Nzoia              | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Kilifi Mariakani   | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Limuru             | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Mathira            | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Kwale              | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Nairobi            | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Machakos           | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Murang'a Urban     | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Kiinyaga           | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Malindi            | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Ngagaka            | Valid            | Justified     | Partially Compliant          | Partially Compliant |
| Kikuyu             | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Two Rivers         | Valid            | Unjustified   | Fully Compliant              | Non-Compliant       |
| Kitui              | Valid            | Unjustified   | Partially Compliant          | Non-Compliant       |
| Kiambu             | Valid            | Justified     | Partially Compliant          | Non-Compliant       |
| Sibo               | Valid            | Unjustified   | Partially Compliant          | Non-Compliant       |
| Gatundu            | Valid            | Unjustified   | Partially Compliant          | Non-Compliant       |
| Oi Kalou           | Valid            | Unjustified   | Partially Compliant          | Non-Compliant       |
| Kapsabet Nandi     | Valid            | Justified     | Partially Compliant          | Non-Compliant       |
| Kiambere Mwingi    | Valid            | Unjustified   | Partially Compliant          | Non-Compliant       |
| Nyandarua          | Valid            | Justified     | Partially Compliant          | Non-Compliant       |
| Mombasa            | Valid            | Justified     | Non-Compliant                | Partially Compliant |
| Murang'a South     | Valid            | Justified     | Non-Compliant                | Partially Compliant |
| Tavevo             | Valid            | Justified     | Non-Compliant                | Partially Compliant |
| Ngandori Nginda    | Valid            | Justified     | Non-Compliant                | Partially Compliant |
| Karuri             | Valid            | Justified     | Non-Compliant                | Partially Compliant |
| Narok              | Valid            | Justified     | Non-Compliant                | Non-Compliant       |
| Nyasare            | Valid            | Justified     | Non-Compliant                | Non-Compliant       |
| Gatanga            | Valid            | Unjustified   | Non-Compliant                | Non-Compliant       |
| Amatsi             | Valid            | Unjustified   | Non-Compliant                | Partially Compliant |
| Tachasis           | Valid            | Unjustified   | Non-Compliant                | Partially Compliant |
| Bomet              | Valid            | Unjustified   | Non-Compliant                | Partially Compliant |
| Naromoru           | Valid            | Unjustified   | Non-Compliant                | Non-Compliant       |
| Tana               | Under Processing | Justified     | Non-Compliant                | Non-Compliant       |
| Matungulu Kangundo | Under Processing | Justified     | Non-Compliant                | Non-Compliant       |
| Nihi               | Pending Issuance | Unjustified   | Partially Compliant          | Non-Compliant       |
| Imetha             | Valid            | Unjustified   | Non-Compliant                | Non-Compliant       |
| Lamu               | Valid            | Unjustified   | Non-Compliant                | Non-Compliant       |
| Nanyuki            | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Kibwezi Makindu    | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Migori             | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Chemususu          | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Iten Tambach       | Valid            | Unjustified   | Partially Compliant          | Partially Compliant |
| Mandera            | Valid            | Unjustified   | Non-Compliant                | Non-Compliant       |
| Samburu            | Valid            | Unjustified   | Non-Compliant                | Non-Compliant       |
| Wote               | Valid            | Unjustified   | Non-Compliant                | Non-Compliant       |
| Rukanga            | Valid            | Unjustified   | Non-Compliant                | Non-Compliant       |
| Ndaragwa           | Valid            | Unjustified   | Non-Compliant                | Partially Compliant |
| Mbooni             | Valid            | Unjustified   | Non-Compliant                | Non-Compliant       |
| Tatu City          | Valid            | Unjustified   | Fully Compliant              | Non-Compliant       |
| Isiolo             | Pending Issuance | Unjustified   | Partially Compliant          | Partially Compliant |
| Busia              | Pending Issuance | Unjustified   | Non-Compliant                | Non-Compliant       |
| Nol Turesh         | Pending Issuance | Unjustified   | Non-Compliant                | Non-Compliant       |
| Eiwak              | Pending Issuance | Unjustified   | Partially Compliant          | Non-Compliant       |
| Kirandich          | Under Processing | Unjustified   | Partially Compliant          | Non-Compliant       |
| Gusii              | Under Processing | Unjustified   | Partially Compliant          | Partially Compliant |
| Kyeni              | Under Processing | Unjustified   | Partially Compliant          | Non-Compliant       |
| Githunguri         | Under Processing | Unjustified   | Partially Compliant          | Partially Compliant |
| Muthambi 4K        | Under Processing | Unjustified   | Partially Compliant          | Partially Compliant |
| Lodwar             | No Licence       | Unjustified   | Non-Compliant                | Non-Compliant       |
| Turu               | No Licence       | Unjustified   | Non-Compliant                | Non-Compliant       |
| Embe               | No Licence       | Unjustified   | Non-Compliant                | Partially Compliant |
| Murugi Mugumango   | No Licence       | Unjustified   | Non-Compliant                | Non-Compliant       |
| Kapenguria         | No Licence       | Unjustified   | Partially Compliant          | Partially Compliant |
| Yatta              | No Licence       | Unjustified   | Partially Compliant          | Non-Compliant       |
| Kiamumbi           | No Licence       | Unjustified   | Non-Compliant                | Non-Compliant       |
| Kathiani           | No Licence       | Unjustified   | Partially Compliant          | Non-Compliant       |
| Homabay            | No Licence       | Unjustified   | Non-Compliant                | Non-Compliant       |
| Olkejuado          | No Licence       | Unjustified   | Non-Compliant                | Non-Compliant       |
| Mwala              | No Licence       | Unjustified   | Non-Compliant                | Non-Compliant       |
| Oloolaiser         | Expired          | Unjustified   | Non-Compliant                | Fully Compliant     |
| Garissa            | Expired          | Unjustified   | Non-Compliant                | Partially Compliant |

## ANNEX 7: CREDITWORTHINESS ASSESSMENT GUIDE

| Indicators  | Definition   | Source | Weight     | 4                                    | 3   | 2  | 1                        | 0             |
|---|--|--------|------------|--------------------------------------|---|--|--------------------------|---------------|
| <b>Economic Indicators</b>  |  |        |            |                                      |   |  |                          |               |
| 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        |
| <b>Operational Indicators</b>   |  |        |            |                                      |   |  |                          |               |
| 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            |
| <b>Financial Indicators</b>   |  |        |            |                                      |   |  |                          |               |
| <b>Revenue Indicators</b>   |  |        |            |                                      |   |  |                          |               |
| 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 Tariff 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%           |
| <b>Cost Indicators</b>  |  |        |            |                                      |   |  |                          |               |
| 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%        |
| <b>Profitability Indicators</b>   |  |        |            |                                      |   |  |                          |               |
| 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           |
| <b>Liquidity &amp; Solvency Indicators</b>                                |  |        |            |                                      |   |  |                          |               |
| 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 provision% Cash provision for bad and doubtful debts    | Cash provision for bad and doubtful debt /Consumer bad debt provision%   | 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 efficiency :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% |
| <b>Total</b>  |  |        | <b>100</b> | <b>4.0</b>                           | <b>3.0</b>                                | <b>2.0</b>                                 | <b>1.0</b>               | <b>-</b>      |





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