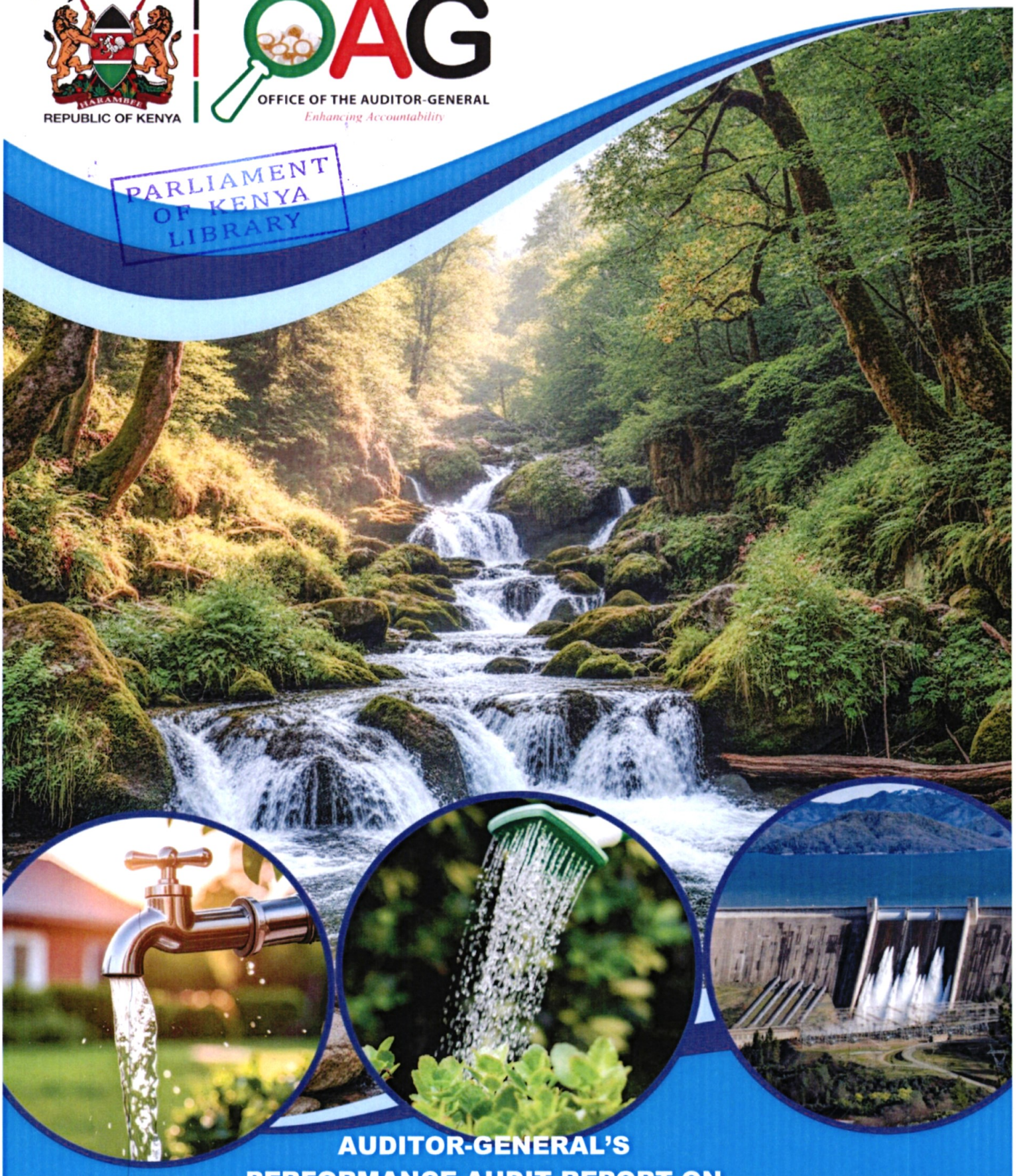
REPUBLIC OF KENYA

OFFICE OF THE AUDITOR-GENERAL

*Enhancing Accountability*





# AUDITOR-GENERAL'S PERFORMANCE AUDIT REPORT ON REGULATION OF WATER ABSTRACTION

APRIL 2026

## VISION

Making a difference in the lives and livelihoods of the Kenyan people

## MISSION

Audit services that impact on effective and sustainable service delivery

## OUR CORE VALUES

Integrity • Credibility • Relevance • Accountability • Independence

## FOREWORD

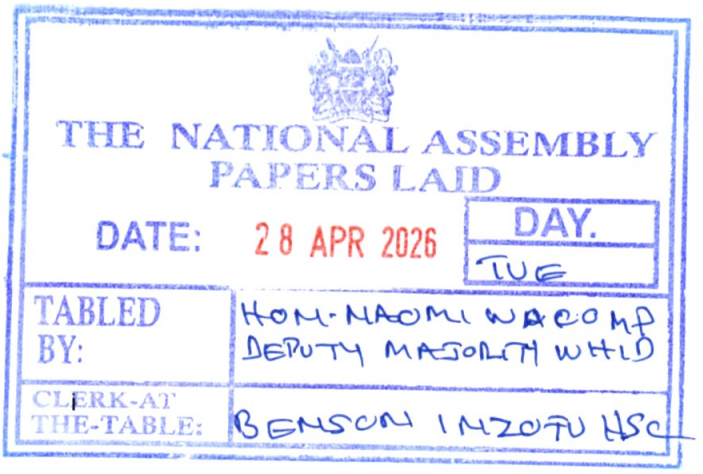
I am pleased to present this Performance Audit Report on Regulation of Water Abstraction. My Office carried out the audit under the mandate conferred to me by Article 229(6) of the Constitution of Kenya, 2010, to confirm whether or not public money has been applied lawfully and in an effective way. In addition, Section 36 of the Public Audit Act, 2015 requires the Auditor-General to examine the economy, efficiency and effectiveness with which public money has been expended.

Performance, financial and compliance audits form the three-pillar audit assurance framework that I have established to give focus to the varied and wide scope of the audit work done by my Office. The framework is intended to provide a high level of assurance to stakeholders that public resources are not only correctly disbursed, recorded and accounted for, but that the use of the resources results in positive impact on the lives and livelihoods of the Kenyan people. The main goal of our performance audits is to ensure effective use of public resources and promote service delivery to Kenyans.

The Report is submitted to Parliament in accordance with Article 229(7) of the Constitution of Kenya, 2010 and Section 39(1) of the Public Audit Act, 2015. In addition, I have submitted copies of the report to the Chief of Staff and Head of Public Service, Principal Secretary, The National Treasury, Principal Secretary, State Department for Water and Sanitation, and Chief Executive Officer, Water Resources Authority.

**FCPA Nancy Gathungu, CBS**
**AUDITOR-GENERAL**

**14 April, 2026**



## TABLE OF CONTENTS

## LIST OF FIGURES



## LIST OF TABLES

## LIST OF ACRONYMS

| Acronyms | Meaning |
|---|---|
| MCM | Million Cubic Metres |
| OAG | Office of the Auditor-General |
| SDG | Sustainable Development Goal |
| WAP | Water Allocation Plan |
| WRA | Water Resources Authority |
| WRUA | Water Resources Users Association |

## GLOSSARY OF TERMS

| Term | Meaning |
|---|---|
| Abstraction | The removal of water from any water source, either permanently or temporarily. |
| Allocable Water Quantity | The portion of available water that can be allocated for environmental needs and basic uses. |
| Aquifer | An underground layer of permeable rock that store groundwater. A group of interconnected such rocks is called an aquifer suit. |
| Authorization | A written approval issued by the Authority to facilitate the construction of abstraction works. |
| Basin Area | Land from which water naturally flows into a watercourse it acts like a water storage facility where during the rains, the vegetation cover allows the water ample time to percolate deep down and move as a sub-surface flow to recharge the rivers, springs and groundwater. It also referred to as a catchment area. |
| Environmental Reserve | The portion of water set aside to meet environmental and basic human needs before allocating water for other uses. The reserve is determined during water use planning. |
| Groundwater | Water stored beneath the earth's surface in rock formations known as aquifers. |
| Hydrological Assessment | Assessment to evaluate how much surface water is available, how it varies over time, and whether the proposed water use is sustainable, without harming the environment or other users. |
| Hydrogeological Assessment | Assessment to evaluate the availability, movement, quality, and sustainability of groundwater for informed allocation for abstraction decisions. |
| Permitting | A process through which the Water Resources Authority regulates water abstractions for different uses. |
| River Gauging Station | A site where river water levels and flows are measured regularly. |

| | |
|---|---|
| Sub–basin | A portion of a basin which is itself defined as the area draining to a water course. The sub-basin area refers to the Authority's administrative area composed of a number of sub-basin units. |
| Surface Water | Water found on the earth's surface, including rivers, lakes, reservoirs, and wetlands. |
| Telemetric Station | An automated monitoring station that collects and transmits water data electronically in real time. |
| Tested Yield | The maximum quantity of water that can be safely abstracted from a borehole based on pumping test results. |
| Water Stress | A condition where water demand exceeds available supply or where poor-quality limits its use. |

# EXECUTIVE SUMMARY

## Background of the Audit

1. Kenya is a water-scarce country, with per capita water availability significantly below the recommended global per capita water resources of 1000 $m^3$. While the main drivers of water scarcity in the Country have been high population growth and catchment area destruction, the situation is made worse by the recurrent, prolonged droughts. In response, there has been an increase in the number of water abstractions in the Country, especially through the sinking of boreholes.

2. The Government established the Water Resources Authority under the Water Act, 2016, to manage water resources, including regulating water abstraction, ensuring equitable allocation, and safeguarding environmental reserves. Despite the existence of the Authority, instances of over-abstraction of available water resources have been noted in the Country.

3. The audit was undertaken due to the following factors: -

   i) Review of the Water Resources Situation, Performance and Annual Status Reports, revealed that the number of abstractions permits issued by the Authority increased by 46%, from 7,641 in the Financial Year 2018/2019 to 11,144 in the Financial Year 2023/2024. This calls for proper regulation of activities to ensure that abstractions are conducted sustainably.

   ii) There have been reports in the media expressing concerns about over-abstraction of surface water, which limits water availability for downstream users. Concerns about the increased abstraction of groundwater have also been reported in the media. Both the National Assembly and County Assemblies of Bomet and Mombasa have also expressed concerns about the impact of abstraction activities upstream on the downstream users.

   iii) Target 4 of the Sustainable Development Goal (SDG) 6 seeks to ensure substantial increase in water-use efficiency across all sectors and sustainable withdrawals and supply of freshwater to address water

scarcity and a substantial reduction of the number of people suffering from water scarcity, by 2030. Therefore, it was necessary to conduct the audit to shed some light on how well the Authority has ensured that water abstraction in the Country is conducted sustainably.

### Objective of the Audit

4. The audit assessed **"whether the Authority implements the measures put in place to protect water resources from over-abstraction".** Specifically, the audit assessed whether:

   i) Water resources in the Country are undergoing water stress due to abstraction activities;
   ii) The Authority considers current information on water availability status when making decisions on allocation of water use rights;
   iii) The Authority has taken deliberate steps to ensure that abstraction is maintained within permitted daily withdrawal limits; and
   iv) The Authority has been able to prevent illegal abstraction activities.

### Scope of the Audit

5. The audit assessed operations of the Authority in all the six (6) basin areas. The activities examined were: water use planning, permit processing, compliance monitoring, and enforcement activities. The audit focused on five (5) years, from Financial Years 2020/2021 to 2024/2025. However, to assess hydrological trends and impact, the analysis was extended to ten (10) years, July 2015 to June 2025.

### Limitation of Scope

6. Due to a challenge in obtaining information on water flow volumes and abstracted quantities from surface and groundwater resources, examination of impact of abstraction was limited to simple hydrological trend analysis, and only for four (4) major rivers, namely Athi, Nyando, Tana and Ewaso Ng'iro.

## Summary of Audit Findings

### Impact of Water Abstraction on Water Resources

7. Analytical review of the hydrological trends revealed a declining trend in the water flow levels in rivers Nyando, Athi, Tana and Ewaso Ng'iro, while the number of licensed abstraction activities in these rivers rose annually during the period 2015 to 2024. Interviews with the Authority's staff and focus group discussions with the leadership of Water Resource Users Association (WRUAs) also revealed declining water levels in rivers and aquifers, drying of springs and boreholes, reduced downstream flows, and increased water-related conflicts, due to abstraction activities. Besides climate change effects and degradation of catchment areas, the decline in water flow volumes was attributed to inadequate regulation of abstraction activities, as discussed below: -

#### 1. Failure to Consider Current Water Availability When Allocating Water Use Rights

8. Regulation 82 (1) and (2) of the Water Resources Regulations, 2021 (Reviewed as Regulation 79(1) and (2) of the Water (Resources) Regulations, 2025) and Guidelines for Water Allocation Plans (WAP) Development, 2019 require the Authority, on basis of data to develop and regularly update water allocation plans for each of the 199 sub-basin units. However, the Authority had developed allocation plans for only four (4) sub-basin units.

9. In addition, permit processing was to be supported by such critical documents as WRUAs comments, hydrological or hydrogeological assessment reports, and an independent assessment by the Authority on water availability status. While these documents were necessary to guide decisions on the sustainable allocation of water to abstractors, most processed permits were not supported by the documents. Out of seventy-seven (77) sampled permits, processed between Financial Years 2023/2024 and 2024/2025, fifty-eight (58) lacked independent assessment reports by the Authority, forty-four (44) lacked WRUA comments, and thirty-six (36) lacked hydrological or hydrogeological assessment reports.

10. Consequently, the audit established instances of over-abstraction from the available water resources, thereby creating water stress situations in the affected resources. Several factors limited the Authority's performance in water use planning, as outlined below: -

### i) Limited Water Resource Surveys

11. Development of the water allocation plan was to be preceded by water resource surveys. However, the Authority conducted only eight (8) surveys during the period under review. The audit noted that the Authority received a total of Kshs.123,500,000 for this activity during the period under review, but spent only Kshs.77,046,494, reflecting 62% absorption rate. Besides, the Authority conducted eight (8) surveys during the period under review, but only three (3) had been transitioned into water allocation plans.

12. The audit revealed that the surveys were to be conducted by a team of staff drawn from surface, groundwater, water quality and pollution control, and licensing divisions at the sub-basin level. However, some sub-basin area offices did not have these technical staff in post, but had non-technical staff instead.

### ii) Insufficient Monitoring Stations

13. The Authority had established the optimal number of water monitoring stations as required by the National Water Masterplan, 2030. However, interviews with the Authority's staff revealed that the network of the monitoring stations was not sufficiently distributed across the basin areas. A substantial number of surface water and groundwater monitoring stations were also non-functional, affecting the collection of data for water use planning and decision-making purposes. The audit also established that the Authority relied on the available privately-owned boreholes for groundwater monitoring, but faced access restrictions.

### iii) Inadequate Implementation of Mechanisms to Facilitate Data Collection

14. To ensure continuous data collection on water availability status, the Authority had established three (3) key mechanisms: data collection from the manual river gauging stations by gauge readers; data submission by licensed abstractors on

abstracted quantities; and direct data collection and transmission by the telemetric stations. However, the audit revealed challenges in the implementation of these mechanisms.

15. Gauge readers were supposed to submit data to the Authority every month, however, this was not the case as data submission was inconsistent. The audit established that the Authority's engagement with gauge readers was informal, which affected payment of gauge readers' wages and the consistency of data submission. Gauge readers were paid a monthly honorarium of Kshs.1,000, however, their payment had been delayed. Outstanding honoraria owed to 356-gauge readers were Kshs.14,813,000 as at June 2025.

16. Analysis of data for a sample of nine (9) telemetric stations also revealed that only two (2) transmitted data in the Financial Year 2024/2025, due to maintenance challenges. Similarly, none of the sampled licensed abstractors submitted data on abstracted quantities to the Authority in the Financial Year 2024/2025, despite this being a condition in the permit.

17. To address the challenge of data submission by abstractors, the Water Resources Regulations of 2021 (reviewed 2025) introduced smart meters as a monitoring tool to be installed by abstractors. Smart meters would record and transmit data to the Authority. However, only 222 out of 8,343 abstractors with valid water use permits had installed smart meters as of November 2025. The audit established that the uptake was limited by the high cost and non-availability of the smart meters in the local market. Only one (1) vender had been accredited by the Authority to supply the smart meters.

### 2. Inadequate Compliance Monitoring and Enforcement

18. To regulate abstraction of water from water resources, the Authority is required to enforce compliance with the requirements in the Water Act, 2016, and the Water Resources Regulations, 2021 (reviewed 2025). However, the audit revealed that compliance monitoring was limited and conducted on an ad hoc basis. Despite a sub-basin area office covering more than one county, compliance monitoring was limited to areas located near the offices. Compliance

monitoring was also constrained by hostility from abstractors that hindered access to the abstractor's site by the Authority's staff. Physical verifications and focus group discussions with the leadership of WRUAs revealed that illegal abstraction activities were rampant across the Country.

19. Enforcement actions were also limited to regularization of illegal abstractions, disconnection of abstraction points and confiscation of equipment, which were not deterrent. Besides, the Authority had planned to regularize 14,900 abstractions with expired authorizations during the Financial Years 2020/2021 to 2024/2025. However, only 5,693 were regularized, representing 38% achievement rate.

20. Further, the Authority used penalties and permit variation as enforcement actions against licensed abstractors who exceed their permitted daily abstraction limits. However, these approaches were revenue-inclined and encouraged over-abstraction as long as the abstractors had the capacity to pay. Analysis of abstracted water quantities maintained by the Authority, for a sample of forty-two (42) abstractors with smart meters, revealed that twenty-four (24) or 57% exceeded permitted daily limits. Out of these, seven (7) abstracted more than ten times the permitted daily limit on average.

### 3. Delays in Permit Processing

21. The Water Resources Regulations, 2021 (reviewed 2025), requires the Authority to issue a permit within thirty-one (31) days of an application. However, the audit noted that the processing time by the Authority was prolonged and varied across sub-basins, increasing the risk of non-compliance. The average processing time for Class C permit in Nairobi Sub-Basin and Nanyuki Sub-Basin areas was 88 and 170 days, respectively. Similarly, the average processing time for Class D permit was 103 days in Nanyuki Sub-Basin area and 144 days in the Naivasha Sub-Basin area.

22. The audit established that the Authority had a shortage of technical staff, especially in licensing, surface, and groundwater. This contributed to delays in

implementation of activities that facilitate permit processing. Delays were also attributed to the lack of set timelines for the activities in the permitting process.

### 4. Inadequate Sensitization of Abstractors on Sustainable Abstraction

23. Objective 3(i) of the National Water Resource Strategy, 2020–2025, requires the Authority to enhance awareness on the relevant water use rights and obligations among water users and communities. However, the audit revealed that the sensitization conducted by the Authority was ad hoc and limited in nature. Review of sensitization reports also revealed that the sessions conducted largely focused on general community awareness, rather than the specific objective of sensitizing abstractors on compliance requirements.

## Conclusion

24. The Water Resources Authority has not effectively protected water resources from over-abstraction, which is likely to cause water stress situations if the current status quo is maintained. The Authority allocates water use rights without paying attention to availability status, while abstractors leverage their capacity to extract as much water as possible, without considering future supply and ecological needs of the resource. Specific conclusions are as follows: -

25. The Authority has established a network of monitoring stations, but has failed to implement the measures in place to ensure continuous data collection. This has negatively affected water use planning in the Country. Water use planning is further constrained by the Authority's limited capacity to conduct water resource surveys. Despite these shortcomings, the Authority continues to allocate water use rights without adequately considering the availability of water resources. As a result, ground and surface water sources are drying up due to over-abstraction.

26. Despite the Authority's mandate being largely technical, it prioritized the recruitment of non-technical staff over technical personnel. Consequently, the Authority's wage bill has remained high, limiting its ability to recruit the technical staff required to carry out its core functions. This affected the implementation of

critical activities such as water use planning, permitting, and compliance and enforcement, resulting in increased unregulated water abstraction.

27. The Authority has failed to enforce daily withdrawal limits, leading to over-abstraction of water by licensed abstractors. Instead, the Authority uses revenue-incentive enforcement actions, which encourage abstractors to withdraw more, as long as they have the capacity to pay.

28. The Authority's enforcement efforts have not been effective in preventing illegal abstraction. Monitoring and follow-up, which are key to promoting compliance, are not effectively planned, and executed. In addition, the extensive delays experienced in the process of issuing water use permits discourage new applications and encourage illegal abstractions during the waiting period.

29. The Authority has not sensitized abstractors on sustainable water abstraction. Abstractors are, therefore, oblivious of the impact of daily abstraction limits in ensuring a continuous water supply. The Authority continues to regularize the illegal abstractions without consideration of water availability.

### Recommendations

30. In view of the findings and conclusion of the audit, the following recommendations are proposed for implementation by the Authority, to ensure effective regulation of water abstraction: -

### Water Use Planning

31. To improve performance in conducting water resource surveys and development of water use plans, the Authority should:

    i) Leverage on partnerships with other actors in the water sector to support water abstraction and pollution surveys;
    ii) Work closely with the State Department for Water and Sanitation to address the challenges affecting the absorption of development funds allocated to the Authority. This will improve the absorption of funds

allocated for water abstraction and pollution surveys, as well as rehabilitation and maintenance of monitoring stations;

iii) Align staff recruitment practices with the 70:30 ratio of technical to administrative staff recommended by the Public Service Commission. This will ensure that the Authority has sufficient staff to undertake its core mandate; and

iv) Ensure stakeholder engagement is conducted when planning for water resource surveys. This will ensure that the conducted surveys are transitioned into water use plans.

32. To enhance the sufficiency of the water resources monitoring network, the Authority should:

i) Plan and undertake a comprehensive mapping to establish the distribution of the available water monitoring stations. This will aid in making decisions on equitable distribution of the available monitoring network and in identifying the maintenance needs of the stations;

ii) Develop and implement a maintenance schedule for its monitoring stations to enhance the continuous functionality of the telemetric stations;

iii) Formalize its engagement with private borehole owners whose boreholes are being used as groundwater monitoring points. This will ensure that the Authority has unrestricted access to the boreholes for data collection purposes;

iv) Prioritize climate-proofing as a critical component of the monitoring stations to protect the stations from destruction by floods; and

v) Collaborate with Water Resources Users Associations and local administration officers to provide security for the monitoring stations to protect them from vandalism.

33. To ensure continuous collection of data on water availability status, the Authority should:

i) Formalise its engagement with gauge readers to promote commitment and consistency in gauge reading. The formal arrangements will also

facilitate resource planning and allocation towards data collection from the manual stations; and

ii) Prequalify and accredit more smart meter vendors to address the monopoly currently affecting the availability and cost of the meters. The information on accredited smart meter vendors should be made available to abstractors to promote compliance.

### Permitting

34. To ensure timely processing of the water use permits, the Authority should set and enforce timelines for the activities in the permitting process. This, together with improvements in human resource management, will improve efficiency in permit processing and encourage compliance among abstractors.

### Compliance and Enforcement

35. To ensure compliance with the regulatory framework on sustainable abstraction, the Authority should:

i) Incorporate sensitization of abstractors in its annual work plans and budgets, and ensure that the activity is implemented. This will ensure adequate sensitization of abstractors on sustainable abstraction and promote compliance;

ii) Work closely with the State Department for Water and Sanitation to review the mandate of the Water Police Unit, to include enforcement of water abstraction permit conditions; and

iii) Enhance the use of prosecution as an enforcement action to deter illegal abstraction activities.

# CHAPTER 1: BACKGROUND OF THE AUDIT

## Introduction

1.1 Kenya is considered a water-scarce country, regularly experiencing extreme water shortage during periodic dry spells. According to the Water Resources Authority's 2024 Annual Water Resource Situation Report, the Country's per capita water resources are estimated at 452 $m^3$, compared to the global recommended 1000 $m^3$. The National Water Master Plan, 2030 projects the Country's annual per capita water resources availability to decline to 393 $m^3$ in 2030. While the main drivers of water scarcity in the Country have been high population growth and catchment area destruction, the situation is made worse by the recurrent, prolonged droughts due to climate change[1].

1.2 In response to water scarcity, the Country has witnessed an increase in water abstraction, that is, drawing of water from any water resource, either permanently or temporarily. This can either be in the form of surface water abstraction from rivers, streams, and lakes, or groundwater abstraction through drilling of boreholes and wells. Regulating water abstraction is, therefore, necessary to ensure sustainable and equitable use of the limited water resources.

1.3 Realizing the need for sustainable management and utilization of water resources, the Government established the Water Resources Authority, hereafter referred to as the Authority, through the Water Act, 2016. The Authority's responsibility includes water resource allocation planning, monitoring, and enforcement of rules and regulations governing abstraction. Despite the existence of the Authority, instances of over-abstraction of available resources have been noted in the Country[2].

---

[1] Kenya State of Environment Report, 2024 by the National Environment Management Authority.

[2] Concerns of over abstraction reported in the Annual Water Resources Situation Report, Kenya State of Environment Report, 2024 and media reports.

## Motivation for the Audit

1.4 The following factors motivated the Auditor-General to undertake an audit in this area: -

i. Water abstraction in Kenya has witnessed a significant rise in the recent past. Review of the Water Resources Situation, Performance and Annual Status Reports revealed that the number of abstraction permits issued by the Authority increased by 46%, from 7,641 in the Financial Year 2018/2019 to 11,144 in the Financial Year 2023/2024. This calls for proper regulation of activities to ensure that abstractions are conducted in a sustainable manner.

ii. There have been public concerns captured in media reports about increased surface water abstraction upstream, which limits water availability for users downstream[3]. Debates by the National Assembly and County Assemblies of Bomet and Mombasa have also expressed concerns of water abstraction activities upstream, which limit access to water by consumers downstream[4].

iii. News of unsustainable abstraction of groundwater in the cities has also made headlines on numerous occasions. The media reported increased and uncontrolled water abstraction in the cities, posing a threat of collapse of buildings in the future, due to the exposed vacuum left underneath[5].

iv. Regulation of water abstraction is necessary for the achievement of the Sustainable Development Goal (SDG) 6 on clean water and sanitation. Specifically, Target 4 of SDG 6 seeks to ensure substantial increase in water-use efficiency across all sectors and sustainable withdrawals and supply of freshwater to address water scarcity and substantial reduction of the number of people suffering from water scarcity, by 2030.

---

[3] Daily Nation dated 9 June, 2022 - https://nation.africa/kenya/counties/isiolo/residents-warned-over-use-of-river-isiolo-for-irrigation

[4] https://parliament.go.ke/sites/default/files/2023-07/Hansard%20Report%20-%20Wednesday%2C%2026th%20July%202023%20%28P%29.pdf

[5] Kenya News Agency dated 21 February, 2024 – https://www.kenyanews.go.ke/concern-over-unsustainable-abstraction-of-underground-water-in-cities/

## CHAPTER 2: DESIGN OF THE AUDIT

### Audit objective

2.1 The audit assessed whether the Authority implements the measures put in place to protect water resources from over-abstraction. Specifically, the audit assessed whether:

i) Water resources in the Country are undergoing water stress due to abstraction activities;

ii) The Authority considers current information on water availability status when making decisions on allocation of water use rights;

iii) The Authority has taken deliberate steps to ensure that abstraction is maintained within permitted daily withdrawal limits; and

iv) The Authority has been able to prevent illegal abstraction activities.

### Audit Scope

2.2 The audit examined the operations of the Authority for a period of five (5) financial years, covering 2020/2021 to 2024/2025, which was deemed sufficient to establish a trend in water abstraction activities. However, to establish the impact of abstraction activities on water resources, the audit focused on a ten (10) year period, from July 2015 to June 2025. The Authority's operations assessed were, water use planning, permit processing, compliance monitoring and enforcement. The Audit focused on all the six (6) basins in the Country.

### Limitation of Scope

2.3 Due to a challenge in obtaining information on water flow volumes and abstracted quantities from surface and groundwater resources, examination of impact of abstraction was limited to simple hydrological trend analysis and only for four (4) major rivers, namely Athi, Nyando, Tana and Ewaso Ng'iro.

### Methodology of the Audit

2.4 The audit was conducted in accordance with the Performance Auditing Standard, ISSAI 3000, issued by the International Organization of Supreme Audit Institutions

(INTOSAI). The Standard requires that the audit is planned and performed to obtain sufficient and appropriate audit evidence. The Standard also requires that the audit should provide a reasonable basis for the findings, conclusion, and recommendations, based on the audit objectives.

### Methods of Gathering Audit Evidence

2.5 The audit team used document review, interviews, and physical verification to collect data as outlined below. The collected data was analysed through descriptive, content, and comparative analysis and presented in the form of tables and graphs.

### Sampling and Sample Size

2.6 The audit team used a combination of cluster and purposive sampling to select the sub-basins for purposes of data collection. The Authority's operations are organized into six (6) Basins and twenty-six (26) Sub-basin areas, as shown in Appendix 1. For purposes of data collection, the audit team sampled five (5) basin areas. Each of the five (5) basin areas was treated as a cluster from which at least one (1) sub-basin area was sampled. Purposive sampling was used to select the sub-basin areas with the highest concentration of abstraction activities. The sampled basin and sub-basin areas are listed in **Table 1.** At the sub-basin area level, the audit team used random sampling to select abstractors and monitoring stations to verify.

**Table 1: Sampled Basin and Sub-basin Areas**

| Basin Area | Sampled Sub-basin Area |
|---|---|
| Lake Victoria North- Kakamega Office | Lower Nzoia Yala |
| Lake Victoria South -Kisumu Office | Northern Shoreline Nyando |
| Rift Valley- Nakuru Office | Lakes Nakuru Naivasha |
| Athi- Machakos Office | Nairobi |
| | Middle Athi |
| Ewaso Ng'iro- Nanyuki Office | Upper Ewaso Ng'iro |

*Source: OAG Compilation*

### Interviews and Focus Group Discussions

2.7 The audit team conducted interviews with staff of the Authority at the Headquarters, basin, and sub-basin area offices. The team also conducted focus group

discussions with the leaders of compliant[6] Water Resources Users Associations (WRUAs), in each of the sampled sub-basin areas. The list of persons engaged is presented in **Table 2,** while the list of WRUAs engaged is presented in **Appendix 2**.

**Table 2: List of People Interviewed**

| Interviewee | Reasons for the Interview |
|---|---|
| Key staff of the Authority responsible for water resource assessment, permitting, compliance monitoring and enforcement, community engagement, planning, finance, and accounting. | To gather information on:<br>- Water resource planning and allocation;<br>- Water use permitting;<br>- Level of compliance with laws and permit conditions;<br>- Level of stakeholder engagements;<br>- Resource availability for regulating water abstraction;<br>- Activities implemented in the basin and sub-basin areas; and<br>- Challenges and successes in regulation of water abstraction. |
| Leadership of compliant Water Resources Users Associations in the sampled sub-basins. | To gather information on:<br>- The Associations' level of involvement in the permitting process;<br>- Effectiveness of activities implemented by the Authority on regulating water abstraction;<br>- Impact of abstraction on water resources; and<br>- Prevalence of illegal abstraction activities. |

*Source: OAG Compilation*

### Physical Inspection

2.8 Physical inspections were conducted to assess the status of sampled monitoring stations and the level of compliance of abstractors. A checklist was used to capture information from abstractors, metering gauge readers, and monitoring stations. The sampled twenty-seven (27) monitoring stations are presented in **Appendix 3.**

### Document Review

2.9 The team reviewed documents relevant to regulation of water abstraction, including abstractors' database, progress reports, monitoring reports, annual workplan and budgets, as indicated in **Table 3**.

[6] According to interviews with staff of the Authority, WRUA is considered compliant if it has a registration certificate, a Memorandum of Understanding with the Authority, a KRA PIN and files returns, and has held election as per its constitution and filed returns with the Attorney General.

**Table 3: List of Reviewed Documents**

| Documents Reviewed | Purpose of the review |
|---|---|
| Water Act, 2016 and Water Resources Regulations, 2025 | To obtain information on the responsibilities of the Authority in relation to the regulation of abstraction activities, and compliance requirements for abstractors. The information formed the basis for assessment criteria. |
| Water allocation thresholds and plans | To obtain information on:<br>- Allocable water quantity; and<br>- Status of the information being used by the authority to guide issuance of water use rights. |
| Water Situation, State of Environment, Water Resources Performance Reports | To obtain information on the impact of water abstraction on water resources. |
| Reports and documents related to staffing of the Authority | To obtain information on the sufficiency of staff for implementation of activities on regulation of water abstraction. |
| Water monitoring equipment inventory, and records of data submitted by gauge readers, abstractors, and telemetric stations | To obtain information on:<br>- The availability and status of equipment for monitoring of water resources; and<br>- Consistency of data collection from the monitoring networks. |
| Enforcement and compliance monitoring reports | To obtain information on:<br>- The enforcement actions taken against non-compliant abstractors;<br>- Frequency of compliance monitoring conducted by the authority; and<br>- Availability of smart meters across the sub-basins. |
| Annual work plans and financial documents, implementation reports, and inventory of resources (motor vehicles, computers, office space, internet) | To obtain information on:<br>- The Authority's priorities on sensitization, monitoring and enforcement activities;<br>- Funding of activities towards regulation of abstraction;<br>- Availability of resource for implementation of water abstraction regulation activities; and<br>- Status of implementation of planned activities. |
| Water permit database, Service Charter, permit application supporting documents, and permit approval documents. | To obtain information on:<br>- Permitted abstractors and the status of their permits;<br>- Timelines of the various services offered by the authority;<br>- Data collected from existing monitoring stations; and<br>- Authority's sensitization initiatives towards adherence to allowable limits. |

*Source: OAG Compilation*

## Assessment Criteria

2.10 The audit assessment criteria were drawn from the Water Act, 2016, the Guidelines for Water Allocations Plans Development, 2019, the Water Resources Regulations, 2021 (Reviewed 2025), and the 2030 Agenda for Sustainable Development Goals. The main assessment criteria are as outlined below. Detailed criteria are presented in Chapter 4 in the discussion of audit findings.

i. Target 6.4 of SDG requires governments to substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

ii. Regulation 82(1) and (2) of the Water (Resources) Regulations, 2021 (Reviewed as Regulation 79(1) and (2) of the Water (Resources) Regulations, 2025) requires the Authority to maintain a database for purposes of water resource management.

iii. Section 10.1 of the Guidelines for Water Allocations Plans Development, 2019, states that the Authority should, every five years, update the water allocation plans or guides to reflect the current status of the sub-basin or sub-catchment.

iv. Section 13(2c) of the Water Act, 2016, empowers the Authority to monitor compliance by water users with the conditions of permits and the requirements of the Act. To ensure adherence to permitted maximum allowable abstraction limits, the Authority is expected to undertake continuous monitoring and enforcement.

v. Section 36(a) of the Water Act, 2016 states that a permit is required for any use of water from a water resource. According to Regulation 29 of the Water Resources Regulations, 2021 (Reviewed as Regulation 31 of the Water (Resources) Regulations, 2025), a water use permit is valid for five (5) years, after which an abstractor is supposed to renew it. Further, according to Regulation 24 of Water (Resources) Regulations, 2021 (Reviewed as Regulation 26 of the Water (Resources) Regulations 2025), an Authorization to Construct Works does not authorize an applicant to commence abstraction or the proposed use of the water before the conditions governing the authorization are certified as having been met.

# CHAPTER 3: DESCRIPTION OF THE AUDIT AREA

## Background on Water Abstraction in Kenya

3.1. Kenya is divided into six (6) drainage basins, each constituting a network of surface and groundwater resources. The basins are Lake Victoria, which is divided into North and South, Rift Valley, Athi, Tana, and Ewaso Ng'iro North. Within these basins is a system of lakes, rivers, streams, and aquifers grouped into 199 sub-basin units. The distribution of the basins is as shown in **Table 4**.

**Table 4: Basin Areas**

| Basin Area | Number of Sub-basin Units |
|---|---|
| 1. Lake Victoria North Basin Area | 40 |
| 2. Lake Victoria South Basin Area | 29 |
| 3. Rift Valley Basin Area | 33 |
| 4. Athi Basin Area | 32 |
| 5. Tana Basin Area | 39 |
| 6. Ewaso Ng'iro North Basin Area | 26 |
| **Total** | **199** |

*Source: Legal Gazette Supplement No. 207 of 2021: Designation of Basin Areas*

3.2. Each of these basins have varying levels of water availability. According to the Kenya State of Environment Report, 2024, Tana Basin is the most endowed with water resources, while the Athi Basin is the least endowed, as shown in **Table 5.**

**Table 5: Available and Projected Water Resources by Basin Area**

| Basin Area | 2010 (MCM/yr)[7] | 2030 (MCM/yr) | 2050 (MCM/yr) |
|---|---|---|---|
| Tana | 6,533 | 7,828 | 7,891 |
| Lake Victoria South | 4,976 | 5,937 | 7,195 |
| Lake Victoria North | 4,742 | 5,077 | 5,595 |
| Rift Valley | 2,559 | 3,147 | 3,903 |
| Ewaso Ng'iro North | 2,251 | 3,011 | 1,810 |
| Athi | 1,503 | 1,634 | 2,043 |

*Source: Kenya State of Environment Report, 2024*

[7] MCM/yr means Million Cubic Metres per year.

3.3. The concentration of water abstraction interests varies across the basins as shown in **Table 6**. The Athi Basin has the highest concentration, followed by Rift Valley, while Lake Victoria South has the lowest.

**Table 6: Distribution of Abstraction Interests Across the Basins as at October 2025**

| Basin/Catchment Area | Number of Surface Water Abstraction Interests | Number of Groundwater Water Abstraction Interests | Total Number of Abstraction Interests |
|---|---|---|---|
| Lake Victoria North | 1,951 | 4,132 | 6,083 |
| Lake Victoria South | 512 | 3,047 | 3,559 |
| Rift Valley | 966 | 6,287 | 7,253 |
| Athi | 1,506 | 32,035 | 33,541 |
| Tana | 2,542 | 6,400 | 8,942 |
| Ewaso Ng'iro North | 921 | 4,277 | 5,198 |
| **Total** | **8,398** | **56,178** | **64,576** |

*Source: Water Resources Authority's Permitting Database*

## Water Use Planning

3.4. Water use planning is the process through which the Authority identifies the current water availability status and forecasts the demand for each of the sub-basin units. To facilitate this, the Authority has established a network of monitoring stations and mechanisms for data collection from the stations. The Authority also undertakes periodic water abstraction and pollution surveys to collect data on issues such as pollution levels, abstraction demand, climate change impacts, and availability status. The information collected through the monitoring stations and the surveys is used to develop a water allocation for the sub-basin unit, which forms the basis for sustainable distribution of the available water resources in the basin.

## Abstraction Categories

3.5. For purposes of equitable sharing and sustainable utilization of water resources, the Authority issues four classes of permits. Class A permit is reserved for social water use, mainly community-level domestic water consumption. Class B, Class C, and Class D are based on the level of economic water use, where the user pays for the quantity of water abstracted. The higher the volume of water required for abstraction,

the higher the class of permit. **Table 7** outlines the different classes of permits. The Authority has set the thresholds for surface water allocation for each class of permit for all 199 sub-basin units. In addition, the Authority has set the thresholds for groundwater allocation from all the aquifers in the Country.

**Table 7: Water Use Permit Classes**

| Class of Permit | Description |
|---|---|
| A | Water use activity is deemed by virtue of its scale to have a low risk of impacting the water resource. |
| B | Water use activity is deemed by virtue of its scale to have the potential to make a significant impact on the water resource. |
| C | Water use activity is deemed by virtue of its scale to have a measurable impact on the water resource. |
| D | Water use activity which involves either international waters, two different catchment areas, or is of a large scale or complexity and which is deemed by virtue of its scale to have a measurable impact on the water resource. |

*Source: The Permit Thresholds, 2007*

## Government Objectives and Undertakings in Regulation of Water Abstraction

3.6. According to the Water Master Plan, 2030, the Government seeks to guarantee water security through infrastructure expansion, sustainable abstraction, conservation, and equitable allocation by 2030. To achieve this objective, the Government has implemented various water supply projects, mainly the construction of multi-purpose dams and the drilling of boreholes. The Government also considers catchment area restoration as a priority in sustainable management and utilization of water resources. The Government aims to secure water resources and ensure sustainable use in line with the Kenya Vision 2030. A key objective is to guarantee that water is allocated to meet basic human needs, ecological requirements, and inter-basin transfers, ensuring both social equity and environmental sustainability.

## Key Players in Regulation of Water Abstraction

3.7. The overall responsibility for water resources management vests in the State Department for Water and Sanitation. However, actual implementation of activities is the responsibility of the Water Resources Authority. Other key players in the regulation of water abstraction are outlined in **Table 8**.

**Table 8: Key Players in Regulation of Water Abstraction**

| Level | Actor | Role |
|---|---|---|
| National Level | State Department for Water and Sanitation | - Policy formulation<br>- Development, management, regulation, protection, and equitable allocation of water resources. |
| | Water Resources Authority | - Enforcement of rules and regulations governing abstraction.<br>- Catchment area protection.<br>- Water resources monitoring and allocation planning<br>- Water pollution control. |
| | The National Environmental Management Authority | - Environmental impact assessment of abstraction activities<br>- Pollution control through regulation of effluent discharge to water bodies. |
| | Water Professionals (Hydrologists and hydrogeologists) | - Assessment of water resources for permitting. |
| County Level | County Government | - Advisory on water resources management to the Authority through the Basin Water Resources Committee. |
| | Water Service Providers | - Acquire water use and effluent discharge permits. |
| Local Level | Water Resources Users Association | - Catchment conservation.<br>- Conflict resolution. |
| | Abstractors | - Acquire water use and effluent discharge permits. |

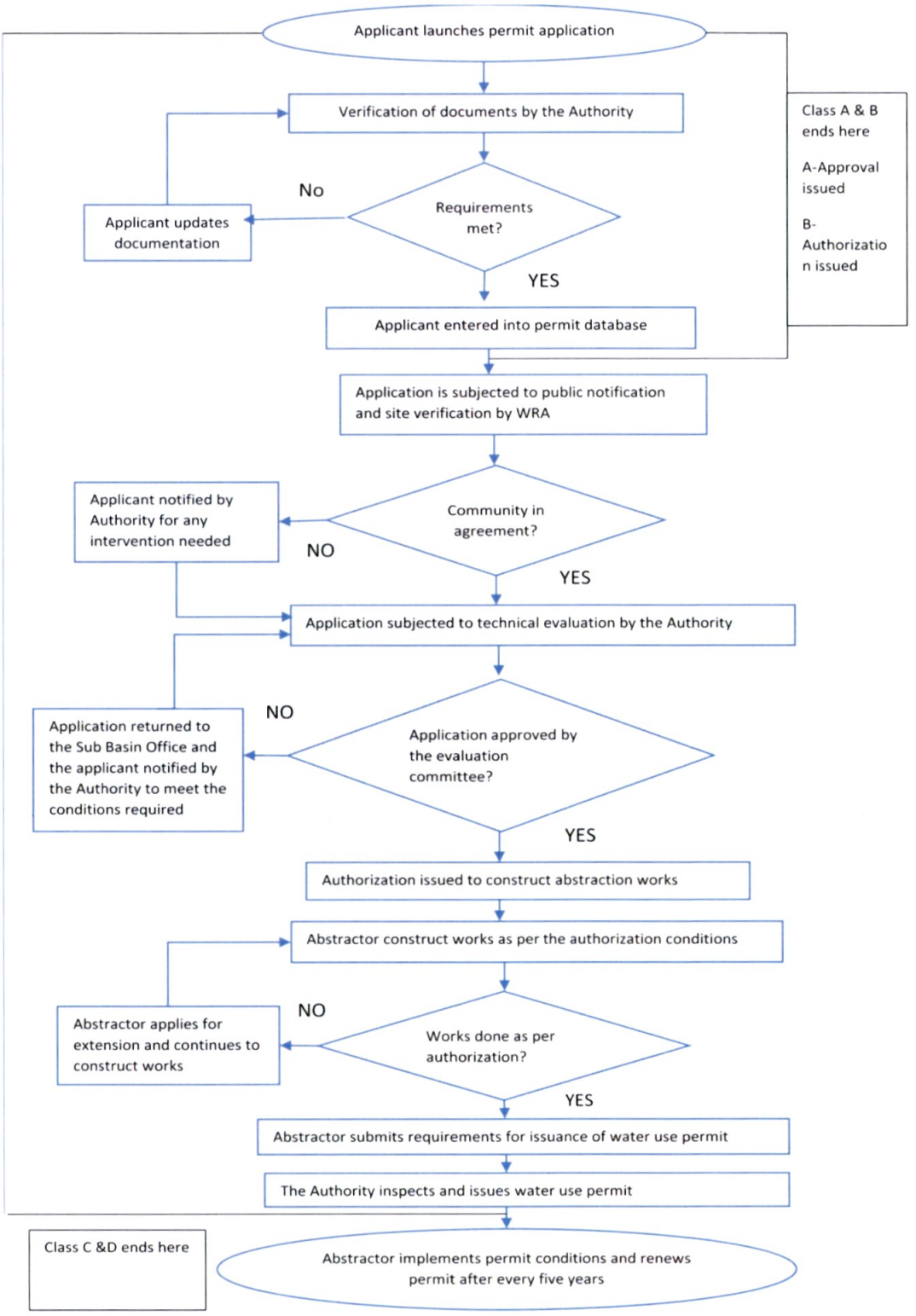
*Source: Auditor's conceptualization from information provided by the Authority*

## Process Description for Regulation of Water Abstraction

3.8. Regulation of water abstraction includes such activities as permitting, and compliance monitoring and enforcement. Permitting goes through various steps as outlined in **Figure 1**. The Authority is also expected to undertake periodic monitoring to identify illegal abstraction activities and enforce compliance. The key issues constituting illegal abstraction include water abstraction without permit or with expired permits, and abstraction with authorization[8] .

[8] An authorization is issued by the Authority to facilitate construction of abstraction works only. An abstractor is expected to obtain abstraction permit soon after completing the works.

**Figure 1: Permitting Process**




*Source: OAG conceptualisation from information provided by the Authority*

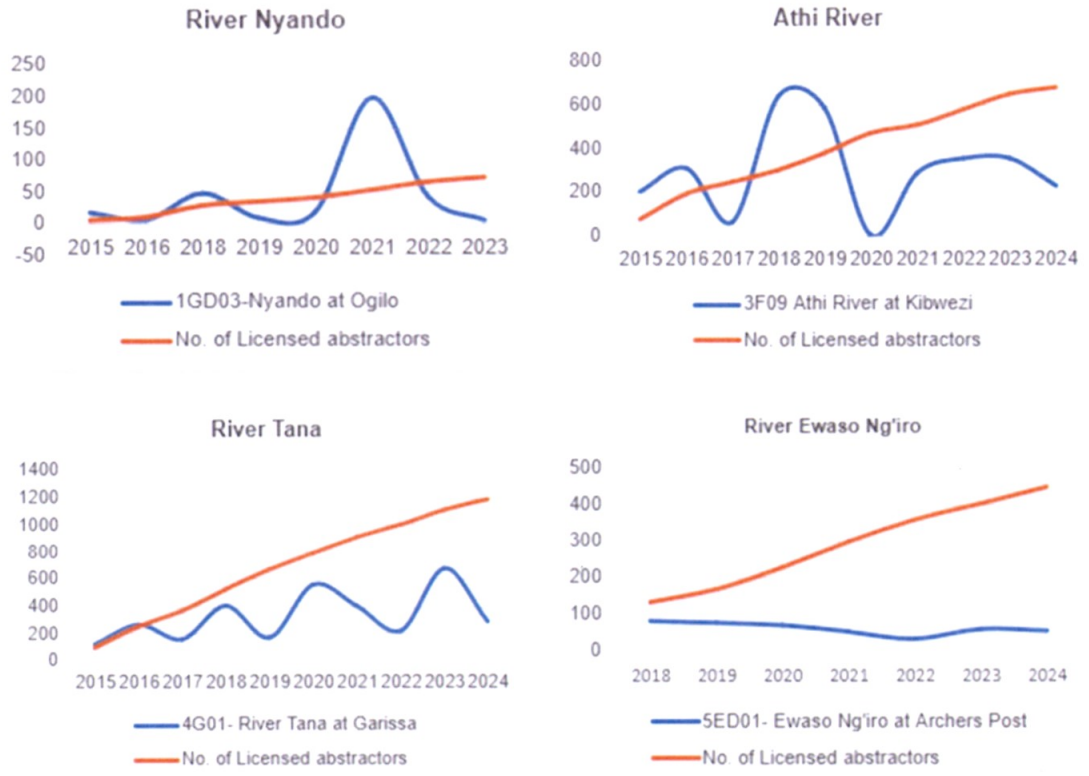
## CHAPTER 4: AUDIT FINDINGS

### Impact of Water Abstraction on Water Resources

4.1. Target 6.4 of Sustainable Development Goal (SDG) 6 requires Governments to substantially increase water-use efficiency across all sectors. There should also be sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

4.2. Analytical review of hydrological trends[9] for the sampled four (4)[10] major rivers, indicated a decline in flow volumes between 2015 and 2024, while the annual load of abstraction activities increased, as shown in **Figure 2**.

**Figure 2: Hydrological Trends for Four Major Rivers in Kenya**




*Source: OAG Analysis of data on river flow volumes and abstractors*

[9] A long-term, directional change in water cycle patterns, like increasing or decreasing precipitation, streamflow, or groundwater levels, often linked to climate change, impacting water availability, ecosystems, and human use

[10] Rivers Nyando, Athi, Tana and Ewaso Ng'iro

4.3. However, the audit could not establish a statistical relationship between abstraction and decline in hydrological trends since the Authority did not have complete data on annual abstracted water quantities during the period under analysis. The trend of water quantity in the aquifers could also not be established since the Authority did not provide groundwater measurements for audit.

4.4. Nevertheless, interviews with the Authority's staff and focus group discussions with the leadership of forty-seven (47) Water Resource Users Associations (WRUAs) indicated declining water levels in rivers and aquifers, drying of springs and boreholes, reduced downstream flows, and increased water-related conflicts, due to abstraction activities.

4.5. The decline in flow volumes and drying up of springs, wells, and boreholes complicates Kenya's water scarcity situation, posing a risk to the achievement of universal access to equitable and affordable safe drinking water, as envisaged in SDG Target 6.1. Further, reduced water availability may harm aquatic life.

4.6. Besides degradation of catchment areas and climate change effects like recurrent droughts, the audit attributed the decline in water flow volumes to inadequate regulation of abstraction activities characterized by:

1. Failure to consider current water availability status when allocating water use rights;
2. Inadequate compliance monitoring and enforcement;
3. Delays in permit processing; and
4. Inadequate sensitization of abstractors on sustainable abstraction.

### 1. Failure to Consider Current Water Availability Status When Allocating Water Use Rights

4.7. Regulation 82 (1) and (2) of the Water Resources Regulations, 2021 (Reviewed as Regulation 79(1) and (2) of the Water (Resources) Regulations, 2025) requires the Authority to maintain data on climate, surface water, groundwater, water quality, catchment conditions, abstractions, permits, water use and any other data relevant to the management of the water resources. The data should help determine

allocable water quantity for each catchment area or basin. Section 10.1 of the Guidelines for Water Allocation Plans (WAP) Development, 2019 requires the Authority to regularly update the plans to reflect the current status of sub-basin. This includes:

i) Undertaking periodic water resource surveys;
ii) Establishing and maintaining a sufficient network of monitoring stations; and
iii) Implementing measures to ensure continuous data collection from the monitoring stations.

4.8. Interviews with the Authority's staff in the sampled basin and sub-basin area offices revealed that the Authority had developed Water Allocation Plans for only four (4) out of 199 sub-basin units in the Country. The Nairobi Aquifer Suite Allocation Plan, 2022-2026, Lamu Water Allocation Plan (2024-2029) and Thika Catchment Water Allocation Plan, 2023 were up to date, while the Naivasha Basin Water Allocation Plan, 2011-2014 was outdated.

4.9. In addition, the audit established that the permit applications were to be accompanied by WRUA comments, hydrological and hydrogeological[11] surveys, and an independent assessment by the Authority on water availability. This information was to be considered during the technical evaluation of the application to ensure that decisions were made based on the current water availability status. However, review of supporting documents for sampled seventy-seven (77) permits, processed between Financial Years 2023/2024 and 2024/2025, revealed that fifty-eight (58) lacked independent assessment reports by the Authority, forty-four (44) lacked WRUA comments, and thirty-six (36) lacked hydrological or hydrogeological assessment reports. Nonetheless, the applications were approved by the Authority.

4.10. Further, the Authority used flow value of Q95[12] based on hydrological assessments to ensure that priority is given to domestic consumption and that the environmental

[11] Hydrological and hydrogeological surveys are scientific investigations to assess water resources, focusing on surface water (hydrology) and groundwater (hydrogeology) respectively.

[12] Q95 is the flow discharge which can be expected to be exceeded 95% of the time in a river system and is equivalent to the environmental flow.

flow[13] of surface water bodies is maintained. To ensure that environmental reserve is maintained during allocation of groundwater, the Authority capped the maximum allocation to 25% of the tested yield[14]. However, review of the Authorities' technical evaluation meeting minutes and reports indicated that out of the sampled seventy-seven (77) abstractors, only eleven (11), consisting of five (5) surface water and six (6) groundwater, had evidence of the Authority's assessment of allocable water quantity.

4.11. Allocation of water use rights without considering the current availability status leads to over-abstraction, thereby creating water stress situations in the affected resources. Focus group discussions with the leadership of forty-seven (47) WRUAs revealed drying up of Kaptumo Spring in Northern Shoreline Nyando Sub-basin area and rivers Teleswani and Timau in Upper Ewaso Ng'iro Sub-basin area and Makindu and Kambu in Middle Athi Sub-basin area.

4.12. Failure to consider data on current water availability status was attributed to limited water resource surveys, insufficient water resources monitoring stations and inadequate implementation of the established data collection mechanisms as discussed below: -

### i) Limited Water Resource Surveys

4.13. Interviews revealed that the Authority prioritized sub-basin units with high risk of water use conflicts for inclusion in the annual workplans. However, review of the Authority's annual work plans and implementation reports for the Financial Years 2020/2021 to 2024/2025 indicated that a total of forty-two (42) surveys were planned, but only eight (8) were conducted, as shown in **Table 9**. Cumulatively, only six (6) Sub-basin area offices had conducted a water abstraction and pollution survey, namely; Elgon Cherangany, Coastal Athi, Lower-Nzoia Yala, Nairobi, Upper Tana, and Upper Ewaso Ng'iro. Out of the surveys conducted, only Nairobi, Lakes Naivasha-Nakuru, and Upper Tana Sub-basin Area Offices transitioned their water resource surveys into allocation plans. Transition of the surveys to allocation plans

[13] Environmental flow- is the quantity, timing, and quality of water flows required to sustain freshwater and estuarine ecosystems and the human livelihoods and well-being that depend on this ecosystem.
[14] Tested yield refers to the amount of water that can be pumped from a borehole without experiencing a reduction in the water table.

was hindered by a lack of stakeholder engagement, which was required before the development of allocation plans.

**Table 9: Water Resource Surveys Conducted During the Period Under Review**

| Financial Year | Planned Number of Surveys | Actual Number of Surveys Conducted | Sub-basin Area Offices that Conducted the Surveys |
|---|---|---|---|
| 2020/2021 | 13 | 4 | Elgon Cherangany, Lower Nzoia-Yala, Upper Tana, and Upper Ewaso Ng'iro |
| 2021/2022 | 15 | 1 | Upper Tana |
| 2022/2023 | 6 | 1 | Upper Tana |
| 2023/2024 | 8 | 2 | Elgon Cherangany, Coastal Athi |
| 2024/2025 | 0 | 0 | - |
| **Total** | **42** | **8** | **-** |

*Source: OAG Review of the Authority's Annual Work Plans and Implementation Reports*

4.14. The audit established that the Authority received a total of Kshs.123,500,000 for water resource surveys during the period under review, but spent only Kshs.77,046,494. This reflected 62% absorption rate.

4.15. The implementation of planned activities was affected by inadequacies in human resource management, characterised by prioritization of non-technical staff. Interviews revealed that the surveys were to be conducted at the sub-basin level by a team of staff drawn from surface, groundwater, water quality and pollution control, and licensing divisions. However, the audit established that some sub-basin area offices lacked these critical staff. For instance, Lower Nzoia Yala Sub-Basin Area Office did not have any officer in these divisions, while Middle Athi Sub-Basin Area Office only had a licensing officer. On the contrary, the sampled sub-basin area offices had more non-technical than technical staff, as outlined in **Table 10**.

**Table 10: Staff Distribution in the Sampled Sub-basin Area Offices**

| | Lower Nzoia Yala | Northern Shoreline Nyando | Lakes Naivasha-Nakuru | Middle Athi | Upper Ewaso Ng'iro | Nairobi |
|---|---|---|---|---|---|---|
| **Non-Technical Staff** | | | | | | |
| Accountants | 1 | 2 | 1 | 1 | 1 | 1 |
| Records Management Officers | 1 | 1 | - | 1 | 2 | 4 |
| Supply Chain Management Assistants | 1 | 1 | - | - | - | 2 |
| Human Resource Officers | 1 | 2 | 1 | - | - | 3 |
| Driver | 1 | 1 | 3 | 1 | 1 | 3 |
| ICT Officers | - | 1 | - | - | - | 2 |
| Admin Assistants | - | 5 | 3 | 1 | - | - |
| Office Assistant | - | 2 | 1 | 1 | - | 1 |
| Admin Officer | - | - | 1 | | - | - |
| Office Administrator | - | - | - | 1 | 3 | 2 |
| Storekeeper | - | - | - | - | - | 1 |
| Revenue Officers | - | - | 1 | 1 | 1 | 4 |
| **Total Non-Technical Staff (A)** | **5** | **15** | **11** | **7** | **8** | **23** |
| **Approved Establishment (B)** | **9** | **9** | **9** | **9** | **9** | **9** |
| **Variance (A-B)** | **-4** | **6** | **2** | **-2** | **-1** | **14** |
| **Technical Staff** | | | | | | |
| Surface Water Officers | - | 2 | 1 | - | - | 3 |
| Groundwater Officers | - | - | 2 | - | 1 | 1 |
| Licensing Officers | 1 | 1 | 1 | 1 | 2 | 3 |
| Water Quality and Pollution Control Officers | - | 1 | - | - | - | 2 |
| Community Engagement Officers | 1 | 1 | 1 | 1 | 1 | 2 |
| Sub-basin Area Coordinator | - | - | 1 | 1 | 1 | 1 |
| **Total Technical Staff in Post (C)** | **2** | **5** | **6** | **3** | **5** | **12** |
| **Approved Establishment (D)** | **20** | **20** | **20** | **20** | **20** | **20** |
| **Variance (C-D)** | **-18** | **-15** | **-14** | **-17** | **-15** | **-8** |
| **Total Staff in Post (A+C)** | **7** | **20** | **17** | **10** | **13** | **35** |

*Source: OAG Analysis of Water Resource Authority Staff Establishment*

4.16. Analysis of the Authority's staffing data revealed that seventy-four (74) technical staff and seven (7) non-technical staff exited service through natural attrition and

dismissal during the period under audit. However, the Authority recruited seventy-two (72) non-technical staff and only eleven (11) technical staff during the period. There was no clear explanation as to why the Authority should prioritize non-technical staff over the technical staff who are required to carry out most of the critical functions.

### ii) Insufficient Monitoring Stations

4.17. The audit revealed that the Authority had established the optimal number of water monitoring stations as required by the National Water Masterplan, 2030. The stations included groundwater, surface water, and weather monitoring stations, as shown in **Table 11.**

**Table 11: Availability of Monitoring Stations in the Country**

| Station Type | Required No. Monitoring Stations | No. of Available Monitoring Stations |
|---|---|---|
| Groundwater | 229 | 229 |
| Surface Water | 222 | 222 |
| Weather | 260 | 260 |
| **Total** | **711** | **711** |

*Source: Water Resources Performance Reports 2022-2023*

4.18. However, interviews with staff of the sampled basin and sub-basin area offices revealed that the network of water resources monitoring stations was not sufficiently distributed across basin areas. For instance, in the Middle Athi Sub-basin area, the surface water monitoring stations were concentrated on the downstream, leaving the upstream with insufficient stations. Nairobi and Upper Ewaso Ng'iro Sub-basin area offices also reported inadequate distribution of groundwater monitoring stations.

4.19. The audit established that four (4) sampled basin areas[15] relied on privately owned boreholes for groundwater monitoring. However, the Authority did not have formal agreements with these borehole owners, which would allow for access and data

[15] Athi Basin, Nairobi Sub-basin, Upper Ewaso Ng'iro Sub-basin, and Ewaso Ng'iro North Basin.

sharing. Interviews revealed that access to these monitoring sites was restricted, resulting in limited control over data and infrastructure.

4.20. Further, analytical review revealed that out of the two hundred and twenty-two (222) surface monitoring stations, one hundred and thirty-eight (138), representing 62%, were in good working condition, seven (7), representing 3%, were partially operational, and seventy-seven (77), representing 35%, were non-functional. Physical inspection of twenty-eight (28) surface water monitoring stations in the sampled six (6) sub-basin areas confirmed existence of non-functional stations. The inspection revealed that ten (10) stations, representing 36%, were non-functional as at the time of field inspections in August 2025. The prevalence of non-functional stations varied across the sampled sub-basin areas, as shown in **Table 12**.

**Table 12: Functionality Status of Surface Water Monitoring Stations**

| Sub-basin | No. of Inspected Stations | No. of Non-Functional Stations | Percentage of Non-Functional Stations |
|---|---|---|---|
| Lower Nzoia Yala | 7 | 2 | 29% |
| Northern Shoreline Nyando | 3 | 1 | 33% |
| Lakes Naivasha-Nakuru | 4 | 1 | 25% |
| Middle Athi | 3 | 1 | 33% |
| Nairobi | 11 | 5 | 45% |
| **Total** | **28** | **10** | **36%** |

*Source: Physical verification by OAG between August and September,2025*

4.21. Similarly, interviews with the Authority's staff in the basin and sub-basin area offices revealed that most groundwater monitoring stations were not functional due to lack of maintenance. For example, in Lake Victoria South Basin Area, two (2) out of thirty-six (36) groundwater stations were functional. In Nairobi Sub-basin Area Office, four (4) out of fifteen (15) groundwater stations were functional.

4.22. Interviews with staff of the Authority and physical verifications also revealed that some of the installed stations had been destroyed by floods, while others, especially the automatic stations, had been vandalized. The audit established that although the surface water monitoring stations were located along the riverbanks, the Authority did not consider climate proofing[16] and security as an integral component

[16] Climate proofing involves actions taken to make the monitoring stations less vulnerable to climate change impacts.

of the station. Focus seemed to be on establishing the stations and not ensuring continuous functionality of the station. Further, review of annual work plans and implementation reports revealed low maintenance activities from the Financial Year 2022/2023 to 2024/2025, as outlined in **Table 13**.

**Table 13: Performance of the Authority in Maintenance of Monitoring Stations**

| Financial Year | No. of Planned Station Maintenance or Rehabilitation | No. of Stations Maintained or Rehabilitated |
|---|---|---|
| 2020/2021 | 50 | 47 |
| 2021/2022 | 70 | 68 |
| 2022/2023 | 70 | 22 |
| 2023/2024 | 118 | 36 |
| 2024/2025 | 0 | 35 |

*Source: OAG Review of the Authority's Annual Work Plans and Implementation Reports*

4.23. The Authority indicated that implementation of planned activities was affected by insufficient staffing, coupled with delays in disbursement of funds from the State Department of Water and Sanitation. The audit also established that the stations to be maintained were supposed to be identified through a comprehensive survey of the monitoring stations in the entire basin or spot inspections by water resource assessment and monitoring officers. However, comprehensive survey of monitoring stations was only conducted in Lake Victoria North, Lake Victoria South, and Tana basins. Spot inspections were not done due to staffing challenges.

### iii) Inadequate Implementation of Mechanisms to Facilitate Data Collection

4.24. To ensure continuous data collection on water availability status, the Authority had established three (3) key mechanisms: data collection from the manual river gauging stations by gauge readers; data submission by licensed abstractors on abstracted quantities; and transmission by the telemetric stations. However, the audit revealed challenges in the implementation of these mechanisms, as outlined below: -

#### a) Non-Submission of Data by Gauge Readers

4.25. The audit established that the Authority engaged members of the community as gauge readers who were expected to take readings of river flow levels twice a day

(morning and evening), fill the data in a form, and submit to the Authority at the end of each month. However, interviews with the Authority's staff and analysis of gauging stations data revealed inconsistent data submission. While performance in submission of data by gauge readers was excellent in Nairobi and Middle Athi Sub-basin areas, Lower Nzoia-Yala, Northern Shoreline Nyando and Lake Naivasha-Nakuru Sub-basin areas recorded very low submission rates, as shown in **Table 14**.

**Table 14: Data Submission by Gauge Readers During the Financial Year 2024/2025**

| Sub-Basin Area | Total No. of Gauge Readers | Number of Gauge Readers that Submitted Data in FY 2024/2025 | | | | | | | | | | | | Average Sub-mission Rate (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | |
| Nairobi | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 0 | 83.3 |
| Middle Athi | 6 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 83.3 |
| Upper Ewaso Ng'iro | 18 | 13 | 12 | 12 | 13 | 13 | 13 | 12 | 10 | 7 | 10 | 8 | 10 | 55.6 |
| Lakes Naivasha-Nakuru | 8 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 2 | 1 | 2 | 37.5 |
| Northern Shoreline Nyando | 14 | 5 | 5 | 6 | 6 | 6 | 5 | 5 | 4 | 4 | 4 | 2 | 0 | 28.5 |
| Lower Nzoia Yala | 13 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7.69 |

*Source: OAG Analysis of Gauge Readers Data*

4.26. Interviews with basin and sub-basin area offices and gauge readers revealed that all gauge readers in the Country were informally engaged, and their work was mainly based on goodwill. This informal engagement affected the consistency and integrity of the data submitted, and the payment of the gauge readers. Interviews with the Authority's staff and gauge readers revealed that gauge readers were entitled to a monthly honorarium of Kshs.1,000, however, the Authority delayed the payments. As at June 2025, the outstanding honoraria were Kshs.14,813,000, as outlined in **Table 15**.

**Table 15: Gauge Readers' Arrears for the Period July 2021-June 2025**

| Basin Area | No. of Gauge Readers | Arrears (Kshs.) |
|---|---|---|
| Athi | 48 | 2,060,000 |
| Ewaso Ng'iro | 40 | 1,606,000 |
| Tana | 89 | 3,543,000 |
| Rift Valley | 56 | 2,381,000 |
| L. Victoria South | 74 | 3,302,000 |
| L. Victoria North | 49 | 1,921,000 |
| **Total** | **356** | **14,813,000** |

*Source: OAG Analysis of Gauge Readers Information Provided by the Authority*

### b) Non-Submission of Data by Abstractors

4.27. As per the permit conditions, abstractors were expected to maintain records of quantities of water abstracted on a daily basis and submit to the Authority every quarter of the year, to facilitate billing and establish the water demand for water use planning. However, interviews with twenty (20) sampled licensed abstractors revealed that none submitted data on abstracted quantities during the Financial Year 2024/2025. The audit revealed that, in the absence of data on abstracted quantities, most abstractors were billed based on the permitted maximum volumes.

4.28. The audit established that although there were penalties for non-compliance as provided for under Section 147 of the Water Act, 2016, the Authority did not enforce this to encourage compliance. The Authority did not also adequately sensitize abstractors on their obligations.

4.29. To address the challenge of data submission, the Water Resources Regulations of 2021 (reviewed 2025) introduced smart meters as a monitoring tool to be installed by abstractors. Smart meters would record and transmit data on abstracted quantities to the Authority. However, the audit established that the uptake of smart meters by abstractors was low, with only two hundred and twenty-two (222) installed across all the basins as of November 2025. This depicted a compliance rate of 3%, as outlined in **Table 16**.

**Table 16: Status of Smart Meter Installation by Abstractors as of November 2025**

| Basin Area Name | No. of Abstractors with Valid Permits | No. of Abstractors with Smart Meters | Compliance Rate (%) |
|---|---|---|---|
| Lake Victoria North | 501 | 96 | 19% |
| Lake Victoria South | 363 | 8 | 2% |
| Rift Valley Basin | 1,469 | 17 | 1% |
| Athi Basin Area | 4,161 | 74 | 2% |
| Tana Basin Area | 1,049 | 24 | 2% |
| Ewaso Ngiro North | 800 | 3 | 0% |
| **Total/ Average** | **8,343** | **222** | **3%** |

*Source: OAG Analysis of Permit Database and Inventory of Smart Meters*

4.30. Interviews with the basin and sub-basin area officers and interactions with sampled abstractors revealed that the uptake was limited by the high cost and non-availability of the smart meters in the local market. Review of the Nairobi Water and Sewerage Company Smart Meter Pricing revealed that the price of a smart meter ranged between Kshs.25,000 and Kshs.320,000, depending on the category of the consumer. The audit also established that the Authority had invited bids for pre-qualification for accreditation of vendors for provision of the smart meters in 2023, however, only one (1) vendor was accredited.

### c) Lack of Transmission of Data by Telemetric Stations

4.31. The audit established that the Authority had installed twenty-nine (29) telemetric stations across the different surface water bodies to facilitate data collection. These stations were to collect and transmit data on water flow levels to the Authority's server on an hourly basis. However, analysis of data for a sample of nine (9) telemetric stations revealed that only two (2) transmitted data in the Financial Year 2024/2025, as shown in **Table 17**. The lack of transmission of data by the telemetric stations was attributed to inadequate maintenance of the stations.

**Table 17: Status of Telemetric Stations Data Transmission**

| Station ID | Water Body (River) | Last Date of Transmission | Duration of Non-transmission (months) |
|---|---|---|---|
| 1EB02 | Isikhu | 12/12/2024 | 7 |
| 1EG02 | Wuoroya | 11/12/2024 | 7 |
| 1JF01 | Kipsonoi | 12/12/2022 | 31 |
| 1JG04 | Sondu Miriu | 09/12/2021 | 43 |
| 2EE07B | Perkerra | 12/12/2023 | 19 |
| 2FC19 | Njoro | 12/12/2022 | 31 |
| 3F09 | Athi Kibwezi | 12/12/2023 | 19 |
| 4G01 | Tana | 12/12/2022 | 31 |
| 5BE01 | Nanyuki | 12/12/2021 | 43 |

*Source: OAG Analysis of data from telemetric stations*

4.32. The low rate of submission of data by the established data collection mechanisms led to the non-availability of data to facilitate water use planning and independent water availability assessment during permit processing.

### 2. Inadequate Compliance Monitoring and Enforcement

4.33. The Water Act, 2016 provides that a permit is required for any abstraction, and the Authority should undertake continuous monitoring and enforcement to ensure compliance with the conditions of the permit. The Act also requires the Authority to formulate and enforce standards, procedures and regulations for the management and use of water resources and flood mitigation. Further, the Water Resources Regulations, 2021 (reviewed 2025) indicate that a water use permit is valid for five (5) years after which it should be renewed.

4.34. Interviews with the Authority's staff from the sampled sub-basin area offices revealed that compliance monitoring was limited and conducted in an ad hoc basis. Monitoring was limited to areas located within close proximity to the sub-basin area offices, leaving out areas that are far off. For instance, Middle Athi Sub-basin Area Office, indicated that due to the vastness of the sub-basin area, compliance monitoring was limited to sub-basin units within Kibwezi and Makindu areas, despite

the Office being responsible for the sub-basin units in Makueni, parts of Machakos, Kajiado, Kitui and Taita Taveta counties.

4.35. To address the challenge, the Authority collaborated with WRUAs to assist in the identification and reporting of illegal abstraction activities. WRUAs were to act as whistle blowers, after which the Authority was expected to undertake compliance monitoring of reported activities. However, focus group discussions with the leadership of forty-seven (47) WRUAs revealed that in three (3) sampled sub-basin areas[17], the Authority had not conducted compliance monitoring, despite WRUAs raising an alarm of illegal abstraction activities. For instance, WRUAs from Middle Athi sub-basin area indicated that the Authority had not taken any action against reported illegal abstractions, which led to over-abstraction in the upstream of the rivers within the sub-basin area.

4.36. Interviews with basin and sub-basin area officers revealed that enforcement actions were limited to regularization of illegal abstractions, disconnection of abstraction points and confiscation of equipment. While the Water Resources Regulations, 2021 (reviewed 2025) provided for the imposition of fines on non-compliance, the Authority preferred regularization over penalties.

4.37. The officers interviewed reported that disconnection of abstraction points and confiscation of equipment were not deterrent, since the illegal abstractors reconnected their equipment or acquired new pumps. This situation was further enabled by lack of follow-up and failure to impose the prescribed penalties.

4.38. While the Authority was expected to regularize illegal abstractions, evidence provided only points to regularization of expired authorizations, leaving out unlicensed abstractors and those with expired permits. The audit established that limited regularization had been done during the period under review. Nevertheless, review of the Authority's annual work plans revealed that the Authority had planned to convert 14,900 abstractions with expired authorizations during the period under

[17] Lower Nzoia Yala, Nairobi and Middle Athi sub-basin areas.

review. However, only 5,693 conversions were achieved, representing 38%. The Authority's performance depicted a declining trend, as outlined in **Table 18**.

**Table 18: Performance of the Authority in Regularization of Authorizations**

| Financial Year | Planned Regularizations | Actual Regularizations | Percentage of Implementation |
|---|---|---|---|
| 2020/2021 | 1,200 | 1,294 | 108% |
| 2021/2022 | 1,200 | 1,173 | 98% |
| 2022/2023 | 1,200 | 442 | 37% |
| 2023/2024 | 5,650 | 1,311 | 23% |
| 2024/2025 | 5,650 | 1,473 | 26% |
| **Total** | **14,900** | **5,693** | **38%** |

*Source: OAG Review of the Authority's Workplans and Implementation Reports*

4.39. Further, the audit established that over-abstraction was addressed by billing any volume beyond 5% of the permitted volume at Ksh.10 per cubic meter. However, this was only possible where data on actual abstracted quantities was available. The Authority also encouraged abstractors who constantly exceeded permitted limits to vary their permits upwards, to align with their water demand. These approaches were revenue-inclined and encouraged over-abstraction, as long as the abstractors had the capacity to pay.

4.40. Analysis of abstracted quantities maintained by the Authority for a sample of forty-two (42) abstractors with smart meters revealed that twenty-four (24), representing 57%, exceeded permitted daily limits, as outlined in **Table 19**.

**Table 19: Extent of Adherence to Daily Permitted Abstraction Quantities**

| No. | Sampled Permit No. | Permitted Daily Abstraction Amount ($M^3$) | Average Abstracted Amount ($M^3$) | Average Over-Abstracted Amount ($M^3$) | Percentage Over-Abstraction |
|---|---|---|---|---|---|
| 1 | WRA/20/NSA/2FC/327/G | 23 | 530 | 507 | 2,204% |
| 2 | WRA/40/MRG/4CB/50/S | 118 | 1,894 | 1,775 | 1,504% |
| 3 | WRA/30/NRB/3BA/23346/G | 20 | 289 | 269 | 1,345% |
| 4 | WRA/40/MRG/4BF/45/S | 600 | 7,425 | 6,825 | 1,138% |
| 5 | WRA/30/NRB/3BA/232/G | 20 | 240 | 220 | 1,100% |
| 6 | WRA/30/NRB/3BA/26236/G | 10 | 115 | 105 | 1,050% |
| 7 | WRA/30/NRB/3BA/232/G | 20 | 212 | 192 | 960% |
| 8 | WRA/20/NSA/2FC/11342/G | 15 | 147 | 132 | 880% |
| 9 | WRA/30/NRB/3BA/13994/G | 20 | 155 | 135 | 675% |
| 10 | WRA/30/KBU/3BC/10298/G | 45 | 312 | 267 | 593% |
| 11 | WRA/20/NSA/2GD/10741/G | 54 | 297 | 243 | 450% |
| 12 | WRA/30/NRB/3BA/53/G | 13 | 58 | 45 | 346% |
| 13 | WRA/30/NRB/3AB/19860/G | 20 | 73 | 53 | 265% |
| 14 | WRA/30/KBU/3BD/11250/G | 20 | 71 | 51 | 255% |
| 15 | WRA/30/NRB/3BA/741/G | 15 | 51 | 36 | 240% |
| 16 | WRA/30/NRB/3BA/232/G | 20 | 60 | 40 | 200% |
| 17 | WRA/30/NRB/3BA/26141/G | 40 | 107 | 67 | 168% |
| 18 | WRA/30/NRB/3BA/18014/G | 20 | 39 | 19 | 95% |
| 19 | WRA/30/NRB/3BA/26569/G | 20 | 38 | 18 | 90% |
| 20 | WRA/40/KTI/4HA/11856/G | 20 | 32 | 12 | 60% |
| 21 | WRA/30/NRB/3AA/25862/G | 90 | 107 | 17 | 19% |
| 22 | WRA/30/NRB/3BA/26093/G | 30 | 35 | 5 | 17% |
| 23 | WRA/40/MRG/4BF/34/S | 1,960 | 2,248 | 288 | 15% |
| 24 | WRA/20/NAR/2KC/28/S | 2,455 | 2,737 | 282 | 11% |

*Source: The Authority's Permit Database*

4.41. Review of the permit database revealed that the Authority had a total of 13,745 water use permits, out of which 5,402, representing 39%, had expired. The Authority also had a total of 41,981 authorizations to construct works, out of which 36,800, representing 88%, had expired. Authorizations to construct works expire after thirteen (13) months and are expected to be converted to water use permits upon completion of works. However, analytical review of the permit database revealed that as of 08 October, 2025, expired authorizations had been outstanding for an average of sixty-eight (68) months.

4.42. Further, focus group discussions with the leadership of forty-seven (47) WRUAs revealed that illegal abstraction activities were rampant in the sub-basin areas, and in most cases, the Authority had not taken any action against such. The high prevalence of illegal abstraction activities was also confirmed through physical verifications of abstraction activities in the sampled sub-basin areas. Out of forty-four (44) abstraction points visited during the audit field inspection in August 2025, twenty-five (25), representing 57%, were illegal: fourteen (14) with authorizations; four (4) with expired permits; and six (6) without any document.

4.43. The Authority's effort towards compliance and enforcement was affected by the following factors: -

i) Abstractors had low level of awareness on sustainable abstraction due to the Authority's ad hoc and limited sensitization activities.

ii) The Authority preferred negotiated compliance instead of prosecution of offenders. Prosecution was only on cases of gross non-compliance.

iii) The e-permitting system had a provision for sending reminders to abstractors to trigger compliance as soon as the authorization or permit expires. However, the system was not well developed to ensure that only the contact details of the abstractor are captured, hence the reminders did not reach the abstractors in most cases. The Authority, in its management response, reported that it had made some improvements in the system to address this problem.

iv) Compliance monitoring was constrained by hostility from abstractors that hindered access of the abstractor's site by the Authority's staff. Despite the Water Police Unit being in place, its mandate was inclined towards protection of the water supply infrastructure developed by the Water Works Development Agencies, and not enforcing water abstraction laws and regulations.

### 3. Delays in Permit Processing

4.44. The Water Resources Regulations, 2021 (reviewed 2025), requires the Authority to issue a permit within thirty-one (31) days of an application. However, the audit noted

that the processing time by the Authority was prolonged and varied across sub-basins, increasing the risk of non-compliance.

4.45. Analytical review of the permit database for a sample of four hundred and forty-eight (448) permits, processed during the Financial Years 2023/2024 and 2024/2025, revealed that the average processing time for Class C permit in the Nairobi sub-basin and Nanyuki sub-basin areas was eighty-eight (88), and one hundred and seventy (170) days, respectively. Similarly, the average processing time for Class D permit was one hundred and three (103) days in Nanyuki sub-basin area and one hundred and forty-four (144) days in the Naivasha sub-basin area. Delays in processing of permits resulted in illegal abstraction activities, which pose a risk to over-abstraction, therefore contributing to water stress.

4.46. Interviews with basin and sub-basin area officers revealed that there were staffing shortages, especially in licensing, surface, and groundwater. Processing of a permit required physical site verifications, in addition to technical evaluations, which was to be undertaken by a licensing officer. However, review of the staff establishment revealed that the Authority had thirty-four (34) licensing officers, against an approved staff establishment of one hundred and forty-four (144). Out of the sampled six (6) sub-basin area offices, Lower Nzoia Yala did not have a licensing officer in post, while Northern Shoreline, Lake Naivasha, and Middle Athi had one (1) officer in post. Interviews with staff in the affected sub-basins revealed that the officers had either retired or transferred with no replacement. As indicated in paragraphs 4.15 and 4.16, human resource management in the Authority has been characterized by the recruitment of non-technical staff over technical staff, which has contributed to the shortages.

4.47. Further, permit processing involved site verification and technical evaluation, but the Authority did not set timelines for each activity in the process. Technical evaluation could not take place before site verification is conducted to confirm compliance with the conditions of the authorizations. This was also made worse by the limited facilitation of the sub-basin area offices.

### 4. Inadequate Sensitization of Abstractors on Sustainable Abstraction

4.48. Objective 3(i) of the National Water Resource Strategy 2020–2025 requires the Authority to enhance awareness on the relevant water use rights and obligations among water users and communities. The audit revealed that sensitization as conducted by the Authority was ad hoc and limited in nature. The Authority did not prioritize sensitization, but rather treated it as an auxiliary activity, conducted during the permitting process and monitoring activities.

4.49. Interactions with sampled twenty (20) licensed abstractors revealed that none was aware of the requirement for maintaining and submitting data to the Authority on daily abstracted quantities. This was despite eighteen (18) of them having been sensitized on adhering to daily abstraction limits. Interviews with staff of the Authority at basin and sub-basin area offices revealed that sensitization was mostly limited to the penalties associated with non-adherence to daily abstraction limits and not its importance in promoting sustainable utilization of the water resources. Inadequate sensitization led to instances of illegal abstraction activities, as the abstractors perceived water to be a free resource, that they were at liberty to withdraw as much as possible.

4.50. The audit noted that the Authority's annual work plans and budgets did not include sensitization activities. Instead, such activities were occasionally embedded within other activities, such as compliance inspections, stakeholder meetings, or environmental awareness campaigns. Review of sensitization reports revealed that the sessions conducted largely focused on general community awareness, rather than the specific objective of sensitizing abstractors on compliance and permit adherence.

### Auditee's Response to Audit Findings

4.51. At the conclusion of the audit, an exit meeting was held, and subsequently a management letter was sent to the management of the Authority, requesting their comments on the audit findings, conclusion, and recommendations. The Authority's

response to the audit findings, conclusion, and recommendations are presented in **Appendix 4**.

## CHAPTER 5: CONCLUSION

5.1. The Water Resources Authority has not effectively protected water resources from over-abstraction, which is likely to cause water stress situations if the current status quo is maintained. The Authority allocates water use rights without paying attention to availability status, while abstractors leverage their capacity to extract as much water as possible, without considering future supply and ecological needs of the resource. Specific conclusions are as follows: -

5.2. The Authority has established a network of monitoring stations, but has failed to implement the measures in place to ensure continuous data collection. This has negatively affected water use planning in the Country. Water use planning is further constrained by the Authority's limited capacity to conduct water resource surveys. Despite these shortcomings, the Authority continues to allocate water use rights without adequately considering the availability of water resources. As a result, both ground and surface water sources are drying up due to over-abstraction.

5.3. Despite the Authority's mandate being largely technical, it has prioritized the recruitment of non-technical staff over technical personnel. Consequently, the Authority's wage bill has remained high, limiting its ability to recruit the technical staff required to carry out its core functions. This has adversely affected the implementation of critical activities such as water use planning, permitting, and compliance and enforcement, resulting in increased unregulated water abstraction.

5.4. The Authority has failed to enforce daily withdrawal limits, leading to over-abstraction of water by licensed abstractors. Instead, the Authority uses revenue-incentive enforcement actions, which encourage abstractors to withdraw more, as long as they have the capacity to pay.

5.5. The Authority's enforcement efforts have not been effective in preventing illegal abstraction. Monitoring and follow-up, which are key to promoting compliance, are not effectively planned and executed. In addition, the extensive delays experienced in the process of issuing water use permits discourage new applications and encourage illegal abstractions during the waiting period.

5.6. The Authority has not sensitized abstractors on sustainable water abstraction. Abstractors are, therefore, oblivious of the impact of daily abstraction limits in ensuring a continuous water supply. The Authority continues to regularize the illegal abstractions without consideration of water availability.

## CHAPTER 6: RECOMMENDATIONS

6.1 In view of the findings and conclusion of the audit, the following recommendations are proposed for implementation by the Authority, to ensure effective regulation of water abstraction: -

### Water Use Planning

6.2 To improve performance in conducting water resource surveys and development of water use plans, the Authority should:

i) Leverage on partnerships with other actors in the water sector to support water abstraction and pollution surveys;
ii) Work closely with the State Department for Water and Sanitation to address the challenges affecting the absorption of development funds allocated to the Authority. This will improve the absorption of funds allocated for water abstraction and pollution surveys, as well as rehabilitation and maintenance of monitoring stations;
iii) Align staff recruitment practices with the 70:30 ratio of technical to administrative staff recommended by the Public Service Commission. This will ensure that the Authority has sufficient staff to undertake its core mandate; and
iv) Ensure stakeholder engagement is conducted when planning for water resource surveys. This will ensure that the conducted surveys are transitioned into water use plans.

6.3 To enhance the sufficiency of the water resources monitoring network, the Authority should:

i) Plan and undertake a comprehensive mapping to establish the distribution of the available water monitoring stations. This will aid in making decisions on equitable distribution of the available monitoring network and in identifying the maintenance needs of the stations;

6.4 Develop and implement a maintenance schedule for its monitoring stations to enhance the continuous functionality of the telemetric stations;

ii) Formalize its engagement with private borehole owners whose boreholes are being used as groundwater monitoring points. This will ensure that the Authority has unrestricted access to the boreholes for data collection purposes;

iii) Prioritize climate-proofing as a critical component of the monitoring stations to protect the stations from destruction by floods; and

iv) Collaborate with Water Resources Users Associations and local administration officers to provide security for the monitoring stations to protect them from vandalism.

6.5 To ensure continuous collection of data on water availability status, the Authority should:

i) Formalise its engagement with gauge readers to promote commitment and consistency in gauge reading. The formal arrangements will also facilitate resource planning and allocation towards data collection from the manual stations; and

ii) Prequalify and accredit more smart meter vendors to address the monopoly currently affecting the availability and cost of the meters. The information on accredited smart meter vendors should be made available to abstractors to promote compliance.

### Permitting

6.6 To ensure timely processing of the water use permits, the Authority should set and enforce timelines for the activities in the permitting process. This, together with improvements in human resource management, will improve efficiency in permit processing and encourage compliance among abstractors.

## Compliance and Enforcement

6.7 To ensure compliance with the regulatory framework on sustainable abstraction, the Authority should:

i) Incorporate sensitization of abstractors in its annual work plans and budgets, and ensure that the activity is implemented. This will ensure adequate sensitization of abstractors on sustainable abstraction and promote compliance;

ii) Work closely with the State Department for Water and Sanitation to review the mandate of the Water Police Unit, to include enforcement of water abstraction permit conditions; and

iii) Enhance the use of prosecution as an enforcement action to deter illegal abstraction activities.

# APPENDICES

## Appendix 1: The Authority's Basin and Sub-Basin Area Offices

| Basin Area | Sub-Basin Area |
|---|---|
| Athi | 1. Middle Athi<br>2. Upper Athi<br>3. Nol Turesh Lumi<br>4. Coastal Athi<br>5. Nairobi |
| Ewaso Ng'iro North | 6. Upper Ewaso Ng'iro<br>7. Ewaso Daua<br>8. Middle Ewaso Ng'iro<br>9. North Ewaso Laggas<br>10. Ewaso Narok Melghis |
| Lake Victoria North | 11. Kipkaren Upper Yala<br>12. Elgon Cherangany<br>13. Lower Nzoia-Yala |
| Lake Victoria South | 14. Southern Shoreline Gucha Migori<br>15. Mara-Sondu<br>16. Northern Shoreline Nyando |
| Rift Valley | 17. Upper Turkwel<br>18. Lower Turkwel<br>19. Lakes Nakuru-Naivasha<br>20. Lakes Baringo- Bogoria<br>21. South Rift Valley |
| Tana | 22. Lower Tana<br>23. Thiba<br>24. Tiva/Tyaa<br>25. Kathita Mutonga<br>26. Upper Tana |

*Source: The Authority's Strategic Plans (2018-2022; 2023-2027)*

## Appendix 2: List of Water Resources Users Associations Engaged in Focus Group Discussions

| Sampled Sub-basin Area | Water Resource Users Associations Engaged | |
|---|---|---|
| 1. Lower Nzoia Yala | 1. Lunabo WRUA<br>2. Siyonga WRUA<br>3. Firatsi WRUA<br>4. Nambale WRUA | 5. Nanguba WRUA<br>6. Kisama WRUA<br>7. Isiukhu WRUA<br>8. Upper Kanaya WRUA |
| 2. Lakes Naivasha-Nakuru | 1. Ngossur WRUA<br>2. Middle Malewa WRUA<br>3. Kianjogu WRUA<br>4. Miwngi- Kitiri WRUA<br>5. Lower Malewa WRUA | 6. Upper Malewa WRUA<br>7. Wanjohi WRUA<br>8. Upper Gilgil WRUA<br>9. Lana WRUA<br>10. Njoro WRUA |
| 3. Middle Athi | 1. Kiboko WRUA<br>2. Makindu WRUA<br>3. Upper Kambu WRUA | |
| 4. Nairobi | 1. Gatharaini WRUA<br>2. Ruai WRUA<br>3. Onkaru WRUA<br>4. Kirichwa WRUA | 5. Isinya WRUA<br>6. Ngong Hills Mbagathi WRUA<br>7. Kiserian WRUA |
| 5. Nyando Shoreline | 1. Kundos WRUA<br>2. Nyangori Awach WRUA<br>3. Madiany WRUA<br>4. Mbogo WRUA<br>5. Cheronget WRUA | 6. Kipchorian WRUA<br>7. Nyando WRUA<br>8. River Kibos WRUA<br>9. Awach Seme WRUA |
| 6. Upper Ewaso Ng'iro | 1. Teleswani WRUA<br>2. Ontulili WRUA<br>3. Loisukut WRUA<br>4. Naromoru WRUA<br>5. Likii WRUA | 6. Ngusishi WRUA<br>7. Moyok WRUA<br>8. Burguret WRUA<br>9. Likii WRUA<br>10. Timau WRUA |

*Source: OAG Compilation*

## Appendix 3: List of Monitoring Stations Inspected

| Basin | Sub-Basin | Sampled Monitoring Stations | Type of Station |
|---|---|---|---|
| 1. Lake Victoria North | Lower Nzoia Yala | 1. Yala Regular Gauge and Telemetric Station | Manual and Telemetric |
| | | 2. Rwambwa Regular Gauge, Automatic and Telemetric Station | Manual and Telemetric |
| | | 3. Sigomere Regular Gauge and Telemetric Station | Manual and Telemetric |
| 2. Lake Victoria South | Northern Shoreline Nyando | 4. Awach Kajulu Regular Gauge Station | Manual |
| | | 5. Lake Victoria Gauge and Telemetric Station | Manual and Telemetric |
| 3. Rift Valley | Lakes Naivasha - Nakuru | 6. Gilgil Regular Gauge Station | Manual |
| | | 7. Mereroni Regular Gauge Station and Telemetric Station | Manual and Telemetric |
| | | 8. Lake Elementaita Regular Gauge Station | Manual |
| 4. Athi | Middle Athi | 9. Chyulu Hills National Park Weather station | Automatic |
| | | 10. Athi regular gauge station and telemetric station | Manual and Telemetric |
| | | 11. Kibwezi regular gauge station | Manual |
| | Nairobi | 12. Technical University of Kenya | Manual |
| | | 13. Kabansora Millers | Manual |
| | | 14. Hill Crest International School | Manual |
| | | 15. Jorgen Ladafoged | Manual |
| | | 16. St. Lawrence University | Manual |
| | | 17. Kabete Treatment Plant | Manual |
| | | 18. Hotel Boulevard | Manual |
| | | 19. Mbagathi River Regular Gauge Station at National Park (3AA06) | Manual |
| | | 20. Mbagathi River Regular Gauge Station at Ongata Rongai bridge | Manual |
| | | 21. Ruirwaka Regular Gauge Station and Telemetric at Runda (3BA10) | Manual and Telemetric |
| | | 22. Nairobi River Regular Gauge Station at Museum Hill (3 BA29) | Manual |
| 5. Ewaso Ngiro North | Upper Ewaso Ng'iro | 23. Teleswani Regular Gauge Station | Manual |
| | | 24. Likii Regular Gauge Station and Telemetric Station | Manual and Telemetric |

*Source: OAG Compilation*

## Appendix 4: Consideration of the Auditee's Management Response

| Ref (Par. no) | Assessment Observation | Management response | OAG's Consideration of Management Comments |
|---|---|---|---|
| General | User of the terms "under ground water" and "ground water" | Throughout the document consider using the term "ground water" rather than "underground water" or "ground water" | Suggested editorial has been adopted |
| 1.2 | In response to water scarcity, the Country has witnessed an increase in water abstraction, that is, drawing of water from any water resource, either permanently or temporarily..... | The increase in water abstraction is due to population and enhanced socio-economic activities (not due to water scarcity). | While your response is correct, par. 1.1 recognises the drivers of water scarcity. Par. 1.2 is about how the population is responding to increased water scarcity. Hence, the suggested editorial has not been adopted. |
| 1.4(iii) | News of unsustainable abstraction of groundwater in the cities has also made headlines on numerous occasions. In addition, the media reported increased and uncontrolled water abstraction in the cities, posing a threat of building collapse in the future due to the exposed vacuum left underneath. | While there is an increase in groundwater abstraction, especially in major urban areas, the media reports of buildings collapsing as a result are sensational as no scientific evidence is adduced. | Motivations for a performance audit are sourced from sources including media articles, parliamentary discussions, and published reports. The information in this case is media article that highlights potential consequences of the current trend in unregulated abstraction activities in Kenyan cities. It therefore formed a ground for an audit to confirm whether the Authority was doing enough to regulate abstraction activities. The information remains unchanged. |
| 1.4 (iv) | Target 4 of the Sustainable Development Goal (SDG) 6 seeks to ensure substantial increase in water-use efficiency across all sectors and sustainable withdrawals and supply of freshwater to address water scarcity and substantial reduction of the number of people suffering from water scarcity, by 2030. | SDG 6 seek to ensure availability of clean water and sanitation. The target is to ensure increase in water use efficiency and sustainable withdrawals and supply of freshwater. Water service provision is outside the mandate of the Water Resources Authority (WRA). During the discussions, it was pointed out that the main reason for increase in the number of boreholes in major urban areas (including Nairobi and | While SDG 6 is broadly on water supply, Target 4 focuses on sustainable withdrawals and efficient use of the water resources, which is basically sustainable abstraction. This squarely falls within the mandate of the Authority.<br>The information remains as reported. |

| Ref (Par. no) | Assessment Observation | Management response | OAG's Consideration of Management Comments |
|---|---|---|---|
| | | Mombasa) is the lack of adequate and reliable water service provision by the Water Service Providers.<br>On water use efficiency, it was pointed out the high level of Non-Revenue Water by the Water Service Providers which leads to inadequate supply. | |
| 2.9 (ii) | Regulation 82 (1) and (2) of the Water Resources Regulations, 2025 requires the Authority to maintain a database for purposes of water resource management. | Should read "Regulation 79(2) and (2) of the Water (Resources) Regulations 2025" | The principal Regulations of 2021 have been retained so that the entire scope of the period under review is taken care of. The statement has been amended to incorporate the 2025 Regulations. |
| 2.9 (v) | Section 36 (a) of the Water Act, 2016 states that a permit is required for any use of water from a water resource. According to Regulation 29 of the Water Resources Regulations, 2021, a water use permit is valid for five (5) years after which an abstractor is supposed to renew it. Further, according to Regulation 24, an Authorization to Construct Works does not authorize an applicant to commence abstraction or the proposed use of the water before the conditions governing the authorization are certified as having been met. | Should read ".... Regulation 31 of the Water (Resources) Regulations 2025. Further according to Regulation 26, an Authorization to Construct Works...." | The same argument in par. 2.9 (ii) used and 2025 Regulations incorporated while maintaining the 2021 Regulations. |
| 3.5 | ..... The Authority has set the maximum threshold for water allocation per each class of permit for each of the 199 sub-basin systems, depending on the water availability status. | The last sentence should read "The Authority has set the thresholds for surface water allocation for each class of permit for all the 199 sub basins. In addition, the Authority has set the thresholds for groundwater allocation from all the aquifers in the Country"<br>Table 7- 3rd column on "Examples of Activities Suitable for the Class" is not factual as the permit classification is determined by the water body and the volume to be abstracted with reference to the published thresholds. | Suggested editorial has been adopted and column three deleted. |

| Ref (Par. no) | Assessment Observation | Management response | OAG's Consideration of Management Comments |
|---|---|---|---|
| 3.8 | The role of county governments, water service providers, and abstractors in water abstraction | This section needs clarification whether it is key players in water abstraction of key players in regulation of water abstraction.<br>If it is regulation of water abstraction, then:<br>County Governments- advisory role on water resources management to the Authority through the Basin Water Resources Committee (yet to be established).<br>Water Services Providers/Abstractors-acquire water use and effluent discharge permits and observe all the conditions of the permit. | The section is on regulation of water abstraction and the key players thereof.<br>The suggested editorial has been adopted. |
| 4.2-4.6 | Impact of Water Abstraction on the Water Resources<br><br>.....declining water levels in rivers and aquifers, drying of springs and boreholes, reduced downstream flows, and increased water-related conflicts, due to abstraction activities | The cause of declining river flows, drying up of springs, boreholes and wells needs to be explained in context. From the text, the following needs to clearly come out;<br>• Springs are the sources of rivers and their drying up is not due to abstraction. Rather it has a lot to do with changing land use patterns (clearing of vegetation in their catchments for agriculture or settlements;<br>• While the drying of boreholes and wells may be due to abstraction, it was also pointed out during the discussions that human developments (paving of surfaces, reclaiming/draining of swamps and wetlands) major factors that affect groundwater recharge. Without recharge, rivers will have low base flows during the dry seasons while shallow boreholes and wells as well as springs will also dry up during the dry season. | We appreciate the information on other factors leading up to the drying up of springs, boreholes and wells, which has been incorporated in par. 4.6.<br><br>However, the observation on springs drying up was obtained from interviews and focus group discussions whereby it was indicated that there were cases of abstractions from the springs leading to their drying up. Same was the case for the drying up of boreholes and wells, which was reported by WRA staff and Water Resource Users Association (WRUA) leaders as attributable to over-abstraction. |

| Ref (Par. no) | Assessment Observation | Management response | OAG's Consideration of Management Comments |
|---|---|---|---|
| 4.7-4.12 | Failure to consider current water availability status when allocating water use rights<br><br>..... the Authority had developed Water Allocation Plans for only four (4) out of 199 sub-basin units in the Country. The Nairobi Aquifer Suite Allocation Plan, 2022-2026, Lamu Water Allocation Plan (2024-2029) and Thika Catchment Water Allocation Plan, 2023 were up to date, while the Naivasha Basin Water Allocation Plan, 2011-2014 was outdated.<br><br>..... permit application documents for sampled seventy-seven (77) abstractors, processed between Financial Years 2023/2024 and 2024/2025 lacked independent assessment reports by the Authority, forty-four (44) lacked WRUA comments, and thirty-six (36) lacked hydrological or hydrogeological assessment reports. Nonetheless, the applications were approved by the Authority. | While it is a fact that Water Allocation Plans (WAPs) have not been developed for most of the sub-basins and aquifers, it is not correct to state that the Authority is allocating water resources without due regard to the current water availability. As discussed during the audit, the WAP is expected to provide a future roadmap on the water allocations, considering the present situation.<br>As part of ensuring fairness during the water allocation, a hydrological and hydrogeological assessment reports is prepared by an independent professional which is then evaluated by the Authority to ensure conformity with the gazetted requirements. The evaluation reports for the sampled applications were submitted during the audit.<br>During the sampling of applications, the audit was informed the Authority transitioned fully to the online application of applications with effect from the Financial Year 2024-2025. In this regard, applications lodged previously did not have soft copies of the hydrological and hydrogeological assessment reports in the system and these could only be availed in hard copies | The Office acknowledges the Authority's efforts in consideration of information on availability status when allocating water use rights.<br><br>However, the auditor's understanding is that WAP provides a basis for sustainable sharing of the water resource among different uses, hence its absence poses a threat to sustainable allocation. The audit team appreciated your documentation challenges and limited the sample used in the analysis to the period after migration to the e-permitting system. Nonetheless documentation could only be obtained for a number of the samples, even after raising the same issue during the exit meeting.<br><br>Besides, no additional evidence has been provided to support the response. The observation remains as reported. |
| 4.13-4.14 | Limited water resource surveys<br><br>Analytical review of the annual expenditures for the period under review revealed inefficient utilization of resources as the available resources was adequate for 13 surveys but only 8 were carried out.... | The Water Abstraction and Pollution Surveys (WAPS) provide the basis for WAP development. The project on WAPS also required implementation of priority activities/actions identified during the survey even as water allocation progresses. It is therefore not correct that more surveys could have been done as this would have been the expense of implementation of priority actions | Considering that the size and magnitude of the surveys may differ across sub-basin units. The observation has been limited to absorption rate. |

| Ref (Par. no) | Assessment Observation | Management response | OAG's Consideration of Management Comments |
|---|---|---|---|
| 4.18-4.24 | Insufficient monitoring stations<br>..... interviews with staff of the sampled basin and sub-basin area offices revealed that the network of water resources monitoring stations was not sufficiently distributed across basin areas.<br>..... in Lake Victoria South Basin Area, only two (2) out of thirty-six (36) groundwater stations were functional. In Nairobi Sub-Basin Area Office, only four (4) out of fifteen (15) groundwater stations were functional.<br>.....destroyed by floods while others, especially the automatic stations, had been vandalized. The audit established that although the surface water monitoring stations were located along the riverbanks, the Authority did not consider climate proofing and security as an integral component of the station. Focus seemed to be on establishing the stations and not ensuring continuous functionality of the station. | The rationalization of the water resources monitoring stations was done in accordance with guidelines provided by the World Meteorological Organization (WMO), taking into consideration the financial resources available for operation and maintenance.<br>While the staff may have opinion on the number and location of the stations, the rationalised networks have considered both climatic, hydrological and spatial factors into consideration.<br>On groundwater monitoring stations (4.21), specifically Lake Victoria South Basin Area, it is indicated only 2 out of 36 stations were operational due to lack of maintenance. This is not correct as the stations in Lake Victoria South Basin Area are manual and use portable dipper for monitoring.<br>On the destruction of monitoring stations by floods (4.22) it is not correct to state that the Authority focuses on installation while neglecting functionality. It is important to note that siting of river gauging stations is dictated by geographical and hydrological conditions and not subjective considerations. | The Office appreciates the Authority's efforts in establishing optimal monitoring stations. However, inadequacies in distribution were noted, affecting the comprehensive collection of data. No evidence has been provided to substantiate the adequacy of current distribution. Additionally, the functionality status of ground water monitoring station was reported during audit fieldwork in August 2025. No evidence has been provided to negate the reported situation. Finally, the Office appreciates the Authority's approach to siting of the monitoring stations. However, good practice requires that you consider the continuous functionality of the station in the wake of climate change, in addition to geographical and hydrological conditions. The observations, therefore, remain as reported. |
| 4.29 | .....although there were penalties for non-compliance as provided for under Section 147 of the Water Act, 2016, the Authority did not enforce this to encourage compliance. The Authority did not also adequately sensitize abstractors on their obligations and did not provide explanation as to why they are not levying penalties for non-compliance. | The Authority only employs prosecution as a last option due to the long time it takes for the cases to be heard and determined. Penalties are for non-compliance including lack of permit/over-abstraction, late renewal of permit, lack of a measuring device and late payment of water use charges are levied. These penalties have been automated in the E-permit system for ease and uniformity of administration across the Country. | Evidence on enforcement of the penalties was not provided. The paragraph is retained. |
| 4.37 | .... enforcement actions were limited to regularization of illegal | The Authority only employs prosecution as a last option due | Evidence as to the enforcing of the penalties |

| Ref (Par. no) | Assessment Observation | Management response | OAG's Consideration of Management Comments |
|---|---|---|---|
| | abstractions, disconnection of abstraction points and confiscation of equipment. While the Water Resources Regulations, 2021 (reviewed 2025) provided for impositions of fines on cases of non-compliance, the Authority preferred regularization over penalties. | to the long time it takes for the cases to be heard and determined. Penalties are for non-compliance including lack of permit/over-abstraction, late renewal of permit, lack of a measuring device and late payment of water use charges are levied. These penalties have been automated in the E-permit system for ease and uniformity of administration across the Country. | was not provided. The paragraph is retained. |
| 4.39 | Regularization of illegal abstractions was also limited to expired authorizations, leaving out those abstracting with expired permits. Nevertheless, review of the Authority's annual work plans revealed that the Authority had planned to regularize 14,900 abstractions with expired authorizations during the period under review. However, only 5,693 conversions were achieved, representing 19%. | Regularization refers to illegal abstractions without documents being assisted to comply with the law. The conversion of authorizations into permits is undertaken as a continuous activity and has been adversely affected by inadequate resources as a field inspection is mandatory before the conversion is processed. The conversion achieved stands at 38%. | The Office appreciates the definition of regularization and hence amended accordingly. The calculation on achievement rate has also been reconfirmed and changed to 38%. |
| 4.40 | ..... The Authority also encouraged abstractors who constantly exceeded permitted limits to vary their permits upwards to align with their water demand. These approaches were revenue-inclined and encouraged over-abstraction as long as the abstractors had the capacity to pay. | Section 51 of the Water Act 2016 and Regulation 36 of the Water (Resources) Regulations 2025 requires the Authority to receive and process a request variation of a permit, including the permitted volumes. The penalty rate of Kshs.10 per $m^3$ is deterrent enough considering it is 4 or 5 times above the normal permit rate. | While the Office acknowledges the use of penalties as an enforcement measure, the audit observed that it was not punitive enough for those who over-abstract, especially for business purposes, leading to the observed high instances of over-abstraction. The observation is therefore is retained as reported. |
| 4.44 (iii) | The e-permitting system had a provision for sending reminders to abstractors to trigger compliance as soon as the authorization or permit expires. However, the system was not well developed to ensure that only the contact details of the abstractor are captured, hence the reminders did not reach the abstractors in most cases. | The E-permit system is an online system where a potential applicant registers their details in the Customer Portal. Some steps have been taken to ensure that only customer details are captured including the limitation that a mobile number cannot be in 2 different profiles. This eliminates the opportunity for agents or other people to register their details on behalf of other people. | The Office appreciates efforts implemented by the Authority to improve the e-permitting system. The efforts will be assessed during the follow-up. The observation is retained since it presents the situation as was observed during the audit. However, a sentence has been added to |

| Ref (Par. no) | Assessment Observation | Management response | OAG's Consideration of Management Comments |
|---|---|---|---|
| | | Efforts are being made to update the Permit Database (PDB) to reflect their real owners. | acknowledge efforts by the Authority to address the problem. |
| 4.50 | Interactions with sampled twenty (20) licensed abstractors revealed that none was aware of the requirement for maintaining and submitting data to the Authority on daily abstracted quantities..... | It is not correct to say that abstractors are not aware of the requirement to maintain and submit abstraction data to the Authority. The permits issued contain a specific provision on maintain a measuring device and submitting data to the Authority on a regular basis. | The audit observed a gap in sensitization as none of the sampled licensed abstractors reported awareness of this requirement. The Authority has also not provided any evidence to prove that it had sensitized the abstractors on permit conditions. Therefore, the observation remains as reported. |
| 5.1 | The Authority allocates water use rights without paying attention to availability status while abstractors leverage on their capacity to extract as much water, without considering future supply needs and the ecological needs of the resource | It is not fair or correct to state that the Authority allocates water without paying attention to the water availability. As discussed during the audit, the absence of Water Allocation Plans report does not mean there is no objective data for decision making on water allocation | The conclusion was drawn in respect to several aspects, absence of Water Allocation Plans was just one of the them. The audit team also analysed a sample of permits issued and found lack of consideration of current water availability situation as reported in par. 4.9. Therefore, the conclusion drawn remains unchanged. |
| 5.2 | The Authority conducts minimal water resource surveys and continues to allocate water use rights without considering water availability status, leading to drying up of ground and surface water resources due to over-abstraction. | As discussed in section 4.2-4.6 above, there is no evidence that has been provided to link legal (or water allocated by the Authority) water abstraction with drying up of rivers | While the Office acknowledges that there are other factors contributing to drying up of rivers, the audit confirmed through interactions with WRUAs and the Authority's staff that unregulated abstraction activities have to a greater extent contributed to this problem as reported in par. 4.4. The conclusion therefore remains unchanged. |
| 5.4 | The Authority has failed to enforce daily withdrawal limits leading to over-abstraction of water by licensed abstractors. And instead, uses revenue-incentive enforcement actions, | There has been no evidence that the Authority has implemented any revenue measures outside the gazetted rates. | The conclusion is about the Authority's preference for penalties as an enforcement action, which does not appear to be deterrent enough as |

| Ref (Par. no) | Assessment Observation | Management response | OAG's Consideration of Management Comments |
|---|---|---|---|
| | which encourage abstractors to withdraw more, as long as they have the capacity to pay. | | reported in paragraph 4.39. Therefore, the conclusion remains unchanged. |
| 6.3 (i) | The Authority plan and undertake a comprehensive mapping to establish the distribution of the available water monitoring stations to aid in making decisions on equitable distribution of the available monitoring network and in identifying the maintenance needs of the stations. | As outlined in Sec 4.17-4.23, the location of monitoring stations is dictated by technical factors and considerations rather than geographical distribution. | The Office appreciates the response. However, a review of the current distribution status is necessary to address the emerging needs on climate change, considering that the rationalization was done more than ten (10) years ago. |
| 6.6(ii) | Review the e-permitting system to ensure that only the contact details of the abstractor are captured during permit application. This will enhance direct communication of the status of permits to the abstractor thereby reducing instances of expired permits and authorization. | Some steps have been taken to ensure that only customer details are captured including the limitation that a mobile number cannot be in 2 different profiles. This eliminates the opportunity for agents or other people to register their details on behalf of other people. Efforts are being made to update the Permit Database to reflect their real owners. | The Office appreciates the efforts implemented by the Authority to improve the e-permitting system. The efforts will be assessed during the follow-up. Therefore, the recommendation has been dropped. |

**CONTACTS**
3rd Floor, Anniversary Towers, University Way, Nairobi
**Phone:** +254 020 3214000 ● **Email:** oag@oagkenya.go.ke ● **Website:** www.oagkenya.go.ke

Office of the Auditor-General, Kenya | Office of the Auditor-General, Kenya | @OAG_Kenya