

PERFORMANCE AUDIT REPORT

ON

**IMPLEMENTATION OF THE KENYA TOWNS SUSTAINABLE
WATER SUPPLY AND SANITATION PROGRAM**

BY THE

MINISTRY OF WATER, SANITATION AND IRRIGATION



MARCH 2023

VISION

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

MISSION

Audit Services that impact on effective and sustainable service delivery

CORE VALUES

Integrity
Credibility
Relevance
Accountability
Independence

MOTTO

Enhancing Accountability

FOREWORD BY THE AUDITOR - GENERAL

I am pleased to present this performance audit report on the Implementation of the Kenya Towns Sustainable Water Supply and Sanitation Program by the Ministry of Water, Sanitation and Irrigation. My Office carried out the audit under the mandate conferred on me by Section 36 of the Public Audit Act, 2015. The Act mandates the Auditor - General to examine the economy, efficiency and effectiveness with which public money has been expended pursuant to Article 229 (6) of the Constitution of Kenya, 2010.

Performance, financial and compliance audits form the three-pillars of the 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 their use results in positive impacts on the lives and livelihoods of the citizens. The main goal of our performance audits is to ensure effective use of public resources and promote service delivery to citizens.

Our performance audits examine compliance with policies, obligations, laws, regulations, standards, and also whether the resources are managed in a sustainable manner. They also examine the economy, efficiency and effectiveness with which public resources have been expended. I am hopeful that corrective action will be taken in line with our recommendations in the report.

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. I have also submitted copies of the report to the Clerk of the Senate, Principal Secretary, Ministry of Water, Sanitation and Irrigation, Principal Secretary, The National Treasury, and the Chief of Staff and Head of Public Service.


CPA Nancy Gathungu, CBS
AUDITOR – GENERAL

16 March, 2023

LIST OF ABBREVIATIONS

AfDB	-	African Development Bank
ESMF	-	Environment and Social Management Framework
GDP	-	Gross Domestic Products
GOK	-	Government of Kenya
INTOSAI	-	International Organization of Supreme Audit Institutions
IPC	-	Interim Payment Certificate
ISA	-	International Standards of Auditing
ISSAIs	-	International Standards of Supreme Audit Institutions
KeNHA	-	Kenya National Highways Authority
KeRRA	-	Kenya Rural Roads Authority
KFS	-	Kenya Forest Service
KPLC	-	Kenya Power and Lighting Company
KRA	-	Kenya Revenue Authority
KTSWSSP	-	Kenya Towns Sustainable Water Supply and Sanitation Program
KURA	-	Kenya Urban Roads Authority
LCS	-	Least Cost Selection
MIC TAF	-	Middle Income Country Technical Assistance Fund
MWSI	-	Ministry of Water, Sanitation and Irrigation
NEMA	-	National Environmental Management Authority
NLC	-	National Land Commission
NRW	-	Non-Revenue Water
OAG	-	Office of the Auditor General
OCB	-	Open Competitive Bidding
PAP	-	Project Affected Persons
PCT	-	Project Coordination Team
PIT	-	Program Implementation Team
QBS	-	Quality Based Selection
QCBS	-	Quality and Cost Based Selection
RAP	-	Resettlement Action Plan
SAI	-	Supreme Audit Institution
SC	-	Steering Committee
SDGs	-	Sustainable Development Goals
SRFPs	-	Standard Request for Proposals
SSS	-	Single Source Selection
WASREB	-	Water Services Regulatory Board
WHT	-	Withholding Tax
WRA	-	Water Resources Authority
WSPs	-	Water Service Providers
WWDA	-	Water Works Development Agencies

DEFINITION OF TERMS

Financing Agreement: The loan and grant agreement signed between the Government of Kenya and the African Development Bank.

Last Mile Connectivity: Last mile infrastructure comprises of a secondary infrastructure and customer outlet that in effect links first mile infrastructure with last mile infrastructure and provides access to water and sanitation services.

Master List: A list of items prepared and submitted by the contractor for consideration of exemption from duty and Value Added Tax.

Non-Revenue Water: This is the difference between the amount of water that is produced by a water utility for consumption or use, and the amount of water that is actually billed to customers.

Project Engineer: A professional who is responsible for all technical and engineering aspects of their assigned projects.

Resident Engineer: An engineer employed to work from site for the Water Works Development Agencies or for the design engineer.

Riparian Land: Kenyan laws define riparian land as being a minimum of 6 metres and up to a maximum of 30 metres on either side of a river bank from the highest water mark.

Specific Exemption: Items within the master list that are exempted as need arises.

Subsidiary Agreement: The subsidiary agreements signed between The National Treasury and the Water Works Development Agencies. It provides the terms and conditions upon which the Water Works Development Agencies access loans, as provided for in the Financing Agreement.

Tariff: This is a price assigned to water supplied or sewerage services offered by Water Service Providers.

Tax Exemption: The right to exclude all or some income from taxation by the Government of Kenya.

Water Abstraction: This is the process of taking water from water bodies such as rivers, lakes, canals, reservoirs or from groundwater for purposes of domestic use, irrigation or other use.

Water Catchment Area: An area where water is collected by the natural landscape.

Way Leave: A right of way granted by a landowner, generally in exchange for payment and in this case for purposes such as laying of pipes.

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EXECUTIVE SUMMARY

Background to the Audit

1. Water and sanitation services are an important resource for life and a catalyst for economic growth and prosperity. Improved access, quality, availability and sustainability of water supply and waste water management services is crucial in catalysing commercial activities, driving economic growth, improving people's quality of life, as well as building resilience against climate variability and change.
2. The need for safe drinking water and sanitation in Kenya is only met at 70% and 32%, respectively. This shows that despite increased government investments in the sector, especially in the last 10 years, access to water and sanitation is still a challenge. This is partly due to rapid urbanization, population growth, and weak institutional capacity of the sector, as well as negative impacts of climate change.
3. The Kenya Towns Sustainable Water Supply and Sanitation Program (KTSWSSP)¹ is one of the government's initiatives aimed at improving access, quality, availability and sustainability of water supply and waste-water management services in Kenya. The Program comprises 48 projects of which 35 are water and sewerage, while 13 are last mile connectivity projects. The water supply projects cover 33 towns, while the waste water management projects cover 23 towns. Access to water and water-borne sewerage services in the 33 towns ranges from 10% to 55% and 40% or below, respectively.
4. The towns selected for the implementation of the Program were prioritized by the Government in the Medium-Term Plan II, 2013-2017 as those with low water and sanitation coverage, and where the water and sanitation needs were not being addressed by any other development partners. The Program's commencement date was January 2017, with the expected completion date being June 2021. As at the time of audit, the Program had 12 ongoing studies that were aimed for future water and sanitation investments, in 12 towns.

Motivation for the Audit

5. The following factors motivated the Auditor- General to carry out the audit: -
 - i. Kenya is a signatory to the United Nations Charter on Sustainable Development Goals (SDGs) which makes her bound by the resolutions. SDG 6 aims to ensure availability and sustainable management of water and sanitation for all. The Sustainable Development Goal 6 addresses issues relating to drinking water, sanitation and hygiene, as well as the quality and sustainability of water resources worldwide. It was important to assess whether the implementation of KTSWSSP by the Ministry of Water, Sanitation and

¹ KTSWSSP is also referred to as "the Program" in this report

Irrigation (MWSI) has resulted to improved access, quality, availability and sustainability of water supply and wastewater management services in the targeted towns.

- ii. The demand for water is projected to rise to 21,468 million cubic meters in the year 2030 against the available 26,634 million cubic meters. Although this seems to be sufficient water to meet the demand, this cannot be guaranteed, due to prevailing destructive human activities that negatively affect water resources and climate variability, and hence the need to manage and conserve the resource. The audit was therefore necessary to assess whether the implementation of the Program has addressed this risk.
- iii. Contaminated water and poor sanitation are linked to transmission of diseases such as cholera, diarrhoea, dysentery, hepatitis A, typhoid and polio. Absent, inadequate, or inappropriately managed water and sanitation services expose individuals to preventable health risks. The successful implementation of this Program is therefore critical.
- iv. The Program was estimated to cost Kshs.45.5 billion, approximately USD 451.66 million, at the then exchange rate. The audit was therefore, important to assess whether the Program delivered on its set objectives and that there was value for money realized from its implementation.
- v. Sustainability of the intended outcomes of KTSWSSP and similar future investments by Water Service Providers is a critical factor towards the progressive realization of improved water and sanitation services in the Country.

Audit Objective

- 6. The objective of the audit was to assess whether the Ministry of Water, Sanitation and Irrigation has ensured that there are adequate measures to enable the timely completion and sustainability of the Program. Specifically, the audit sought to assess:
 - i. Whether the Ministry of Water, Sanitation and Irrigation ensured that the Program was implemented as per the implementation schedule;
 - ii. Whether the Water Works Development Agencies (WWDAs) sought and obtained timely tax exemptions in order to minimize delays in the implementation of the Program;
 - iii. Whether the Water Works Development Agencies ensured that land and wayleaves for project construction were acquired on time;
 - iv. Whether the Ministry of Water, Sanitation and Irrigation and WWDAs ensured timely access to public resources during the Program implementation;

- v. Whether the Ministry of Water, Sanitation and Irrigation, WWDAs and The National Treasury ensured timely processing of contractors' payment certificates;
- vi. Whether the Water Works Development Agencies ensured the implementation of the institutional development support for Water Service Providers, as per the Program's implementation schedule;
- vii. Whether the revenue collected by Water Service Providers was sufficient to cover their operation and maintenance costs; and
- viii. Whether the Ministry of Water, Sanitation and Irrigation and WWDAs have established measures to ensure the sustainability of water supply from water sources.

Scope of the Audit

- 7. The audit examined the operations of the Ministry of Water, Sanitation and Irrigation with regard to co-ordination of Program activities in the three implementing clusters. The team also examined the activities of WWDAs with regard to construction works in the 48 projects where the Program was implemented. To verify the projects' completion status, physical verification was carried out in 10 on-going projects in the following towns; Garissa, Olkalou, Busia, Homabay, Kilifi, Eldoret, Nandi, Kwale and Mombasa. The audit covered the period between January 2016 to July 2022.
- 8. Activities in 10 project beneficiary Water Service Providers (WSPs), in relation to provision of water and sanitation services, were also examined.

Summary of Audit Findings

- 9. The audit revealed issues that could hinder the realisation of the Program's objectives, as detailed below:

I. Delays in Completion of Projects

- 10. The completion date for the implementation of the 48 projects was scheduled for June 2021, a period of 54 months or an equivalent of 4½ years, from the date of signing of the financing agreements. The closure date for disbursements for the Program was December 2021. The Program's status report for April 2022, however, indicated that only 3 out of the 48 projects achieved the initial completion date of 31 December, 2021. These are Murang'a South, Murang'a Urban Water Supply Last Mile Connectivity Projects under the Tana WWDA and the Narok Sewerage Project, under the Central Rift Valley WWDA.
- 11. The project's status report for 10 July, 2022 indicated that an additional 3 projects had been completed as at 10 July, 2022. These are; Isiolo Water and Sewerage Last Mile Project, Chepararia and Othaya Sewerage Projects, bringing the total number of completed projects to 6, representing 13% of the total projects. Out of the 6 completed projects, 4 are last mile connectivity projects, while 2 are sewerage projects. Further analysis of information on projects implementation status revealed

that 2 projects had not commenced. These were Kakamega Town Last Mile Project and Kapenguria Sewerage Project.

a) Extension of Projects' Time Versus Corresponding Works Progress

12. As a result of projects not meeting their initial contractual timelines, contractors had to request for time extensions through their respective WWDAs. The contractual time allocated for projects implementation from the start date to the end date ranged between 8 months to 3 years. 39 out of the 48 projects had their completion dates extended beyond the original date of completion provided in the contract agreements. The time extensions ranged from between one (1) month to 3 years and 3 months. Analysis of time extensions and corresponding works in progress revealed that there was no obvious correlation between time extensions and progress in works.
13. As a result of delays in the implementation of the Program, MWSI wrote to The National Treasury on 11 December, 2020, requesting for an extension of the Program's implementation period. As at that date, the Program was approximately 40% complete, about 4 years after the financing agreement had been effected. On 29 December, 2020 The National Treasury wrote to AfDB requesting for a "No Cost" Program extension of 2 years, from 31 December, 2021 to 31 December, 2023. The approval for extension was granted by AfDB in January 2021, where the projects' completion date was extended to June 2023 and the closure date for disbursements to December 2023.
14. Analysis done to forecast projects completion levels as at December 2023, on the basis of their current works progress, revealed a probability of having 19 out of 38 projects not being completed by December 2023. The forecast indicated that 19 projects will still be having pending works ranging between 2% to 55%.
15. The audit revealed that projects experienced delays during their commencement and thereafter during construction.

b) Delays in the Initial Stages of Commencement of Projects

16. One of the conditions precedent to disbursement of loans and grants for the Program by AfDB was evidence of signing of subsidiary financing agreements, between The National Treasury (TNT) and each WWDA. The agreements were to be signed and declared effective by AfDB by December 2016. However, the subsidiary loan agreements between TNT and the Program implementing agencies were signed on 29 September, 2017 resulting in a delay of about 8 months, which negatively affected the timely commencement of other subsequent scheduled activities.

c) Delays in Awarding Contracts

17. After the signing of subsidiary loan agreements, the Water Works Development Agencies were to have the work contracts signed by August 2017. This was approximately 8 months after signing of the subsidiary loan agreements, which as earlier noted experienced delays. However, after the signing of subsidiary loan agreements on 29 September, 2017, WWDAs delayed to award works contracts. Since awarding of works was not realised as initially planned, AfDB extended the timeline of having all civil works contractors on board to December 2018. This was a timeframe of about 1 year and 3 months, after the signing of the subsidiary loan agreements.
18. After the signing of the subsidiary agreements, WWDAs took between 7 months to 4 years to award works contracts. Taking into consideration the time frame AfDB had provided, of about 1 year 3 months, 21 projects took additional time, ranging from 4 months to over 2 years. The delay was majorly caused by retendering of works, due to non-responsiveness of bids and the fact that last mile connectivity projects were to be funded from savings realised, following completion of procurement processes for the main works components.

d) Delays in Commencement of Projects After Award of Contracts

19. Analysis done on time taken by contractors to commence projects after being awarded contracts indicated that, it took less than 2 months to commence works in 14 projects, representing 29% of the total projects. There were, however, delays in commencement of 34 projects after award of contracts. 26 projects, representing 54% of the total projects, took between 2 months to 5 months to commence after award of contracts. Further, 3 projects took between 6 months to 1 year, while 5 projects took more than 1 year.
20. Analysis of the causes of delays in 25 of the 34 projects that experienced delays in commencement indicated that, delays in the approval of the master list, land acquisition and encroachment of way leaves, led to delayed commencement of 22 projects, representing 88% of these projects. Further, the analysis revealed that court cases and retendering of projects due to non-performance of initial contractors caused the longest delays, ranging between 1 year and 3 months to 2 years and 2 months.
21. As a result of the cumulative delays experienced after the signing of the Program's Financing Agreement in January 2017, the earliest project commencement date was after a period of about 2 years, on 01 November, 2018. Additionally, 3 projects commenced between 1 July, 2021 and 31 January, 2022. This was past the initial completion date for projects and closure date for disbursements, that was scheduled for June 2021 and December 2021, respectively.

22. The audit also revealed that there were delays in timely completion of projects. Some of the issues that negatively affected the timely completion of projects, are among the issues mentioned earlier as having negatively affected the timely commencement of projects.

i. Delays in Processing of the Master List

23. The Program's Appraisal Report, 2016 indicates that KTSWSSP funds are tax exempt. The Water Works Development Agencies were to seek and obtain the necessary tax exemptions on time, in order to minimize delays in payments and hence program implementation. In 7 out of the 10 sampled projects, it took about 2 to 11 months for master lists to be processed. As a result of the delay, approval for master lists was done 3 to 12 months into the construction period. This resulted in subsequent delays in the procurement of the required goods, equipment and services.
24. As at July 2019, The National Treasury had not approved a single master list application for tax exemptions. The main reason provided for this delay was administrative changes at TNT. Besides the processing delay at TNT, the lengthy process for processing tax exemptions was identified as another cause for delays.

ii. Delays in Acquisition of Land for Project Implementation

25. One of the conditions precedent to commencement of works after contract signing was effective access to and possession of the project site, given physically to the contractor by WWDA. The audit revealed that there were delays in acquiring land and wayleaves as a result of delays in: commencement of projects' sites acquisition process and subsequent delays during the process; compensation of Project Affected Persons; encroachment of wayleaves or public land; and delays in approval of request to access or relocate public resources.

a) Delays in the Land Acquisition Process

26. The Water Works Development Agencies took between 4 months to 3 years to begin the land acquisition process with the National Land Commission (NLC), for 11 project sites, after their commencement date. The challenges that affected the timely commencement of project land acquisition included; prolonged validation of land details due to lack of proper documentation of processes during change of land ownership, and resistance for re-settlement from project affected persons.
27. The land for the Nandi Water and Sanitation Project had been identified at the Kenya Forest Service Land at Makong'o. However, no works had commenced for about 1 year since the project start date. Further, the Rift Valley WWDA was yet to receive an authorization from the Cabinet Secretary, Ministry of Environment and Forestry, to cut down trees due to an existing moratorium on all government forests.

b) Delayed Compensation of Project Affected Persons

28. Compensation status for the Athi Cluster as at March 2022, for 9 of its projects that required compensation for land, crops and structures revealed that, only 389 out of the 2,088 Project Affected Persons (PAPs), representing 19% had been compensated as at the time of audit.
29. The Tana Cluster report on compensation of PAPs as at the month of May 2022 revealed that, only 2,949 or 42% out of a total of 7,059 PAPs had been compensated.
30. The Program's Technical Annex states that land compensation is to be fully funded by the government. Section 5:04(i) of the Financing Agreement requires that, counterpart funds by the Government of Kenya be provided during projects implementation. However, counterpart funding remained a major challenge in ensuring appropriate implementation of projects' Resettlement Action Plan reports. For example, the Athi Cluster had an estimated balance for unsettled compensation amounting to Ksh.921,451,396 during the month of March 2022. The cluster received Ksh.100 million in counterpart funds during the period 2021/2022, against a requirement of Ksh.1.8 billion.
31. Failure to acquire identified projects' sites in good time does not only slow progress of work, but also results to increase in value of project sites due to factors like developments taking place within sites and their environs over time.

c) Encroachment of Wayleaves and Public Land

32. Delay in acquisition of projects' sites results in the identified sites being vulnerable to illegal activities that would require compensation during the project implementation phase. When projects take long to commence, there are chances of increased activities along water or sewer line routes, post the design phase. For example, construction of semi-permanent structures, thus creating the need for livelihood compensation. Section 3.4.3 of the African Development Bank Involuntary Resettlement Policy provides for a third group of displaced persons who have no recognizable legal right on the land that they are occupying.

d) Delays in Approval of Requests to Access or Relocate Public Resources

33. The audit established that considerable delays were experienced in some of the projects while obtaining approvals for existing infrastructures for pipeline routes. According to the Kenya Rural Roads Authority, Kenya National Highways Authority (KeNHA) and Kenya Urban Roads Authority service charters, approval of road side developments should take 30, 21 and 14 days, respectively. However, the analysis indicated that processing of most of the approvals took longer than 1 month. For example, approvals done by KeNHA took between 3 months to 1 year.

iii. Contractors had Inadequate Capacity

34. The Changamwe Repooling Sewer Network Project experienced slowed works progress and finally stalled at 20% completion rate. This was as a result of the contractor's inadequate capacity to implement the awarded project. During the audit, 7 other projects were also facing contractor mobilisation challenges. These were; Mwala-Mbiuni Water Supply Project, Kitui and Matuu Last Mile projects, Meru Sewerage Project, Mandera Water Supply Project, Keroka Water Supply Last Mile Project, Kipkaren-Eldoret Water Supply Project, and Kakamega Town Water Distribution and Connections Project.

iv. Delayed Payments to Contractors

35. In 7 out of the 10 sampled projects, none of the Interim Payment Certificates (IPCs) had been processed within the stipulated 56 days. Analysis carried out on 33 IPCs from 6 of these projects revealed that 24 IPCs had been paid, while 9 were at different levels of processing as at the time of audit. Further, 2 of the 9 pending IPCs were still within the stipulated processing time, and 7 were beyond the processing period of 56 days, with a time range of between 2 to 11 months.
36. The factors that negatively affected the processing of IPCs included a new tax reform that requires proof of payment of Withholding Tax (WHT) to be part of the documents attached while processing IPCs. Other reasons at the project implementation level included; long channel for payment processing, lack of budgetary allocations and expired guarantees. Delays at AfDB were due to: submission of wrongly filled disbursement forms, missing supporting documents, mostly invoices from suppliers, consultants and contractors, invalid guarantees, and lack of contract and bank details on the letter head of the beneficiary bank for first payments under the contract.

Effects of Delayed Project Implementation

Cost Escalation

37. One major effect of delayed projects implementation is the cost escalation of projects being implemented under Program. The audit established that both contractors and resident engineers raised or intended to raise claims in relation to delays emanating from coordination aspects of the Program. The contracts however, neither allows contractors to raise claims for delayed payments nor for price variation orders.
38. Slow disbursement of funds would attract a commitment fee charged at 0.25% of the undisbursed amount. The Program Appraisal Report indicates that a commitment fee would accrue 60 days after signing of a loan agreement. Considering that the Program is already flagged in the African Development Bank's system due to slow funds disbursements, this raises the risk of the Program

eventually costing more than was initially intended. This would mean that the Program would not offer the intended value for money in the long run.

39. Furthermore, the Program risks incurring commitment fee charges for unutilised funds and for projects that will not be completed at the lapse of the final completion date. Given the magnitude of the Program, cost claims raised per project could push the Programs' implementation cost to high levels, thus affecting the value for money aspect of the Program.

Delayed Loan Repayments

40. Delays in project completion means that it will take longer than earlier planned for projects to earn revenue from provision of their intended services. This means that WSPs will not be in a position to remit monies for the on-lent loans repayment. Consequently, delayed loan repayments may attract penalties, resulting in increased cost for projects.
41. The Tana Water Works Development Agency as at 30 June, 2021 had arrears in loan repayments of Ksh.916 million, comprising of Ksh.543 million principal loan repayments and Ksh.373 million interest arrears. These loans were to be repaid from revenue proceeds of previous on-lent financed projects. Considering that the Tana Water Works Development Agency has been granted an additional Ksh.5,689,093,088 under KTSWSSP, this increases the loan burden and the probability of not repaying the loan on time.

Delayed Access to Water and Sanitation Services

42. Upon completion, KTSWSSP was expected to provide access to water and sanitation to more than 2.1 million and 1.3 million people, respectively. This was in a bid to help boost water and water borne sanitation coverage in order to propel the Country towards the realisation of the Kenya's National Development Plan Vision 2030.

II. Risks to the Sustainability of the Kenya Towns Sustainable Water Supply and Sanitation Program and Similar Programs

43. The audit identified risks that could hamper the sustainability of KTSWSSP and similar future interventions, as highlighted below: -

a) Inability of Water Service Providers to Meet Operation and Maintenance Costs

44. The goal of the water sector was that, by 2015 all WSPs should have been able to meet at the minimum, their operation and maintenance costs from internal revenues, and progressively move to full cost cover at 100% by 2030. The audit, however, revealed that on average, only 7 out of the 47 counties met their operation and maintenance costs. The inability to meet full operation costs was attributed to inadequate revenue generation, including low water production, billing by average

assessment where there were non-functional or no meters, high cost of power, and non-revenue water. As a result, most WSPs relied on county and MWSI subsidies to meet their operational costs.

b) High Levels of Non-Revenue Water

45. Levels of Non-Revenue Water (NRW) are defined as; under 20% as good, 20 to 25% as acceptable, and over 25% as not acceptable. By default, this makes 25% the minimum acceptable threshold for NRW. Audit evidence indicated that the sampled WSPs hardly met the minimum threshold on NRW. In addition, the 2020/2021 performance report for the Water Sector indicated that 14 out of the 47 counties lose more than 50% of the water they produce.
46. Vandalism, dilapidated water networks and illegal connections threaten the operations of the water companies. Illegal connections continue to cause high levels of NRW to Water Service Providers, denying them much-needed revenue. With an expanded capacity, the benefitting WSPs under the Program risk continuity of the high NRW levels. Should there be no remedial measures, the benefitting WSPs may experience a situation of high operating costs, low maintenance coupled with low revenue collection. In order to ensure optimal maintenance of new installations, water sector players need to curb extreme cases of NRW. High levels of Non-Revenue Water lead to inefficiencies in service delivery, including transferring the burden of costs to consumers through increased tariffs.

c) Need for Continuous Institutional Capacity Support to Water Service Providers

47. The Program had incorporated a support component that would assist WSPs to improve their operational capacity. This was through construction of laboratories, staff training, studies for future investments, business plan development, provision of equipment, machinery and vehicles, and preparatory studies for future investments.
48. Despite the rollout of capacity support initiative to some WSPs, these entities still require operational support to help tackle NRW and manage the new installations. In most cases, their needs surpassed the support being offered under the Program. Extra needs for institutional support identified included; additional vehicles, billing software upgrades, human resource, and accounting support. Providing continuous support would ensure WSPs are not overwhelmed by the expanded scope. This would also ensure the provision of quality water and sanitation services to communities.

d) Status of Tariffs and Licenses

49. Under the Program, all beneficiary towns were required to operate with an approved tariff that could support cost recovery. While Homabay and Eldoret water companies' tariffs were valid, others were operating on expired or extraordinary tariffs. These included; Mombasa, Malindi, Busia, Garissa, Kapsabet and Olkalou Water and Sanitation Companies².
50. One of the implications of operating with expired or extra ordinary tariffs is that a WSP is not able to recover the cost of providing the service. Besides generation of revenue, the tariff is also inclusive of the debt component emanating from new installations. Should there be continued delays in issuance of tariffs post completion of projects, there might be slowed remittance of the debt repayment. There is also a risk of the debt burden being shifted to MWSI and The National Treasury.

e) Rapid Urbanization and Infrastructure Development

51. The audit identified that ongoing road constructions and other essential infrastructure developments were a risk to the implementation of the Program and the operations of WSPs. The growth of rural towns threatens to outpace the laid down water and sewer systems. This threat is high, especially in counties that have not rolled out a conclusive physical plan. A case in point is the Malaba Project whereby there was limited information on the town's physical plan. Consequently, there have been cases where new county roads were constructed on top of already laid sewer infrastructure. Such occurrences present a risk to both future expansion drives or maintenance aspects that may emerge.
52. All the 3 clusters have had encounters where other government-initiated infrastructure development projects overlap, thus creating difficulties in progress of work. A frequent occurrence is the overlapping infrastructure between the water sector and roads sector infrastructure. Road construction, as well as water system infrastructure, requires the use of road wayleaves in some segments. However, the wayleaves remain a preserve of road authorities. Plans for roads and water development projects are therefore, not realigned to complement each other.
53. Consequently, there is a build and demolition cycle by both parties, as the water pipes damaged during road construction works must be repaired or re-installed. Where road excavations are done to lay pipes, restoration of the road surface must equally be done. Not only does the cycle lead to high cost of projects, but also leads to long service disruptions. Furthermore, the shared wayleaves may be exhausted, leaving no room for future expansion for both the water and sewer service lines. In this case, future water connections are restricted from the start. This presents a threat to future program linkages and the effective service delivery of the water and sanitation sector.

² The title "Water and Sanitation Company" is used interchangeably with "Water Service Provider" in this report.

f) Threats to Continuity of Water Supply from Water Sources

54. The audit also identified over-abstraction of water from the sources as another potential threat to domestic supply of water. For example, despite the Water Resource Authority permit system prioritising water for domestic use, the emergence of irregular irrigation schemes threatens the sustainability of water treatment plants and subsequently the optimal use of water borne sewer systems under construction.
55. For example, irrigation activities upstream had greatly reduced the amount of water that Olkalou WSP could tap downstream, which could be a setback for the on-going projects. As at the time of audit, the Water Service Provider could only abstract 32% of the 25,000m³ required per day during the dry season. During the rainy season, the WSP abstracted 68% of its daily water demand.

g) Limited Last Mile Connectivity Hinders the Optimal Use of the Existing Infrastructure

56. To ensure that the full objective of KTSWSSP is realised, there will be need for prioritization of last mile connection activities in areas where primary infrastructure has been laid. This is to ensure that the population targeted under the Program access water and sanitation services in a timely manner. Some of the previous projects undertaken took longer than intended to cover the target population, due to the limited levels of last mile connectivity. For example, the primary infrastructure for the Othaya Last Mile Project was laid in 2013 under the Small Towns Program which did not cater for last mile connectivity.
57. Similarly, under the Program, last mile connectivity will only be realised to a certain extent. For example, Gatundu Water Supply and Sewerage Project targets to serve a population of 160,000 people but only provides for 2,000 connections, meaning that the entire population will not be connected. This will require subsequent last mile infrastructure to be done as soon as possible to ensure total coverage of the remaining population. One of the reasons that may delay most of WSPs in achievement of the intended coverage is lack of the financial capability to expand their infrastructure. This means that they have to wait until there is an opportunity for a similar intervention, which may take time.

Conclusion

58. The Kenya Towns Sustainable Water Supply and Sanitation Program initiative was aimed at improving water services in 33 towns and sanitation services in 23 towns. Despite the impact of the COVID 19 pandemic, the Ministry of Water, Sanitation and Irrigation has managed to safeguard the continuity of the Program. To some extent, some projects under the Program have been completed as per the expected timelines and are offering water or sanitation services in the targeted towns which is commendable.

59. However, there are limitations that may hinder the full implementation of the Program, as detailed below:
- i. The National Treasury did not take into consideration program timelines during the processing of subsidiary loan agreements.
 - ii. The Ministry of Water, Sanitation and Irrigation, The National Treasury and the Water Works Development Agencies (WWDAs) did not realise to a great extent, the set timelines for processing Interim Payment Certificates, as well as processing relevant tax exemptions during the purchase of line items. The erratic nature of processing the exemptions cannot guarantee the predictability of outcomes. Thus, this creates a system where there is no uniformity in processing of tax exemptions across projects. Considering the Program time lapse, the responsible parties should have been versed with the standard documentation procedures, to minimise the back and forth delays in the processing.
 - iii. The Ministry of Water, Sanitation and Irrigation and WWDAs did not to a great extent provide access to land or wayleaves when needed, in a timely manner. This was a widespread occurrence across the Program. There is a greater need for the water sector to provide project sites in relation to initiated programs. This would also eventually minimise resources spent in procurement of project land sites.
 - iv. The Ministry of Water, Sanitation and Irrigation did not ensure the timely approval of statutory approvals. Further, beyond the approvals needed from other state departments, the Ministry of Water, Sanitation and Irrigation affiliated Semi-Autonomous Government Agencies did not provide approvals on time, especially with reference to abstraction licenses.
 - v. Various players in the Water Sector have not been performing their respective roles effectively in ensuring optimal realisation of projects gains.
 - vi. The Ministry of Water, Sanitation and Irrigation did not ensure the preparedness of stakeholders, in order to allow for efficient Program implementation.

Recommendations

60. In view of the findings and conclusions of the audit, the Auditor-General proposes the following recommendations:
1. The Ministry of Water, Sanitation and Irrigation (MWSI) should ensure that relevant stakeholders are well prepared to carry out their given roles in Programs, before any financing commitment is done.
 2. The National Treasury should ensure that there is due consideration for Programs' timings during preparation of loan agreements.

3. To ensure the timely processing of the master list and specific exemptions for the Kenya Towns Sustainable Water Supply and Sanitation Program (KTSWSSP) and similar programs, MWSI should;
 - a) Streamline the tax exemption process and reduce the steps and players involved in the process of validating documents. This would aid in reducing bureaucracy; and
 - b) Ensure that all stakeholders are sensitized on the documentation and processes of acquiring exemptions, in order to minimize errors and omissions.
4. To ensure the timely processing of payments for KTSWSSP and similar programs, the Ministry of Water, Sanitation and Irrigation should;
 - a) Avoid duplications in oversight procedures that form part of the payment processing. Moreover, the Ministry of Water, Sanitation and Irrigation, in consultation with The National Treasury should implement a simplified direct payment channel, between the implementer and the financier; and
 - b) Ensure that all stakeholders are well versed and updated on document requirements for payment processing.
5. To facilitate the timely acquisition of land and wayleaves for KTSWSSP and similar programs, the Ministry of Water, Sanitation and Irrigation should;
 - a) Map out all riparian land intended for future use and establish markers that prevent encroachment;
 - b) Acquire key project sites post the final design review of a project or acquire the key sites before commencement of any construction works;
 - c) Accommodate the budgetary needs raised in Resettlement Action Plans;
 - d) Carry out extensive civic education on potential Project Affected Persons in order to mitigate hostility and exorbitant claims that could potentially delay land acquisition; and
 - e) Develop a collaborative framework with road authorities on mutual sharing of road wayleaves.
6. To ensure the timely processing of other statutory requirements, MWSI should develop a collaborative understanding with state departments that repeatedly form part of key stakeholders in water projects. This would ensure a minimum turnaround time for processing of statutory requirements.

7. The Ministry of Water, Sanitation and Irrigation should roll out an extensive institutional and governance campaign that would strengthen WSPs. In addition, MWSI should take into consideration the institutional capability of WSPs when rolling out programs and projects, as a risk mitigation measure for sustainability purposes.
8. Based on funds availability, MWSI should focus on single major activities for implementation, rather than implementing multiple activities, which spread thinly on the ground, and therefore less impact and output.
9. In order to ensure the optimal use of the existing infrastructure, the Ministry of Water, Sanitation and Irrigation should prioritise last mile connectivity while planning for future investments.
10. To safeguard the sustainability of water catchment areas, the Ministry of Water, Sanitation and Irrigation in conjunction with the Water Resource Authority, should initiate extensive water catchment protection measures. This would ensure the continuity of water sources and quality service provision.
11. In view of emerging climate change compounded with growing water demands, it is necessary for the Ministry of Water, Sanitation and Irrigation to explore and invest in the satisfactory treatment and re-use of wastewater in order to minimize reliance on the limited available freshwaters. The re-use should not compromise human health, ecosystem and the general environmental biodiversity. The re-use should be in strict compliance with the established water quality standards, depending on the use of wastewater.
12. To minimize the Water Service Providers operational costs, the Ministry of Water, Sanitation and Irrigation should engage relevant stakeholders and develop policies that can reduce production costs at the Water Service Provider level. This may include zero rating or streamlining of levies paid to multiple agencies.

1.0 BACKGROUND TO THE AUDIT

Introduction

- 1.1 Water and Sanitation services are an important resource for life and a catalyst for economic growth and prosperity. Improved access, quality, availability and sustainability of water supply and waste water management services is crucial in catalysing commercial activities, driving economic growth, improving people's quality of life, as well as building resilience against climate variability and change.
- 1.2 The Country is experiencing rapid urbanization that is highly supporting Gross Domestic Product (GDP) growth, economic transformation, income and employment creation. Further, following the promulgation of the Constitution of Kenya in 2010, the 47 county governments are now responsible for devolved services, resulting in new developments in and around county headquarters. This has led to increased demand for water and sewerage services in urban areas at the county level. It is projected that by 2030, more than half of the people in Kenya will be living in towns and cities, seeking jobs, housing, infrastructure, and other services.³
- 1.3 The need for safe drinking water and sanitation in Kenya is only met at 70% and 32%, respectively. This shows that despite increased government investments in the sector, especially in the last 10 years, access to water and sanitation is still a challenge.⁴ This is partly due to rapid urbanization, population growth, and weak institutional capacity of the sector, as well as negative impacts of climate change.
- 1.4 The government has engaged in various programs and projects in order to realise improved water and sanitation services. The Kenya Towns Sustainable Water Supply and Sanitation Program (KTSWSSP)⁵ is one of such initiatives aimed at improving access, quality, availability, and sustainability of water supply and waste-water management services in Kenya. The Program comprises 48 projects, of which 35 are water and sewerage, while 13 are last mile connectivity projects. The water supply projects cover 33 towns while the waste water management projects cover 23 towns.
- 1.5 According to the Program Appraisal Report, 2016, access to water and water-borne sewerage services in these towns ranges from 10% to 55% and 40% or below, respectively.⁶ The towns selected were prioritized by the government in the Medium-Term Plan II, 2013-2017 as those with low water and sanitation coverage, and where the water and sanitation needs were not being addressed by any other

³ Program Appraisal Report, 2016, Pg. 1

⁴ Program Appraisal Report, 2016, Pg. 1

⁵ KTSWSSP is also referred to as "Program" in this report

⁶ Program Appraisal Report, 2016, Pg. vi

development partners.⁷ The Program's commencement date was January 2017 with completion date for implementation being June 2021. As at the time of audit, the Program had 12 ongoing studies that were aimed for future water and sanitation investments, in 12 towns. Details of the projects and studies for future investments are shown in [Appendix 1](#).

Motivation for the Audit

1.6 The following factors motivated the Auditor-General to carry out the audit: -

- i. Kenya is a signatory to the United Nations Charter on Sustainable Development Goals (SDGs) which makes her bound by the resolutions. SDG 6 aims to ensure the availability and sustainable management of water and sanitation for all. The Sustainable Development Goal 6 addresses issues relating to drinking water, sanitation and hygiene, as well as the quality and sustainability of water resources worldwide. It was important to assess whether the implementation of KTSWSSP by the Ministry of Water, Sanitation and Irrigation (MWSI) has resulted to improved access, quality, availability and sustainability of water supply and wastewater management services in the targeted towns.
- ii. Water resource is an enabler and a driving force towards achieving a stable economy, hence the need for its availability both in good quantity and quality. The Water Resource Authority Situation Report of July 2018 to August 2019 notes that the demand for water is projected to rise to 21,468 million cubic meters in the year 2030 against the available 26,634 million cubic meters.⁸ Although this seems to be sufficient water to meet the demand, this cannot be guaranteed, due to prevailing destructive human activities that negatively affect water resources and climate variability and hence the need to manage and conserve the resource. The audit was therefore necessary to assess whether the implementation of the Program has addressed this risk.
- iii. Most of the towns benefitting from the Program are grappling with old infrastructure that barely meets their water and sanitation needs, in both quality and quantity. Water and sanitation infrastructure in some of the towns targeted by the Program were either done in the 1970s or 1980s. As such, the current population matrix has overwhelmed the existing infrastructure. Consequently, occurrence of burst pipes, blocked sewer systems and lack of water or sanitation systems is a common occurrence.
- iv. Contaminated water and poor sanitation are linked to transmission of diseases such as cholera, diarrhoea, dysentery, hepatitis A, typhoid and polio.⁹ Absent, inadequate, or inappropriately managed water and sanitation services expose

⁷ Program Appraisal Report 2016, Pg. vi

⁸ Water Resources Situation Report, August 2019

⁹ WHO, <https://www.who.int/news-room/fact-sheets/detail/drinking-water>

individuals to preventable health risks. Successful implementation of this Program is therefore critical.

- v. The Program was estimated to cost Ksh.45.5 billion, approximately USD 451.66 million, at the then exchange rate. The audit was therefore, important to assess whether the Program delivered on its set objectives and that there was value for money realized from its implementation.
- vi. Sustainability of the intended outcomes of KTSWSSP and similar future investments by Water and Sanitation Companies¹⁰ is a critical factor towards the progressive realization of improved water and sanitation services in the country.

¹⁰ The title "Water and Sanitation Company" is used interchangeably with "Water Service Provider" in this report.

2.0 DESIGN OF THE AUDIT

Audit Objective

- 2.1 The objective of the audit was to assess whether the Ministry of Water, Sanitation and Irrigation has ensured that there are adequate measures to enable the timely completion and sustainability of the Kenya Towns Sustainable Water Supply and Sanitation Program (KTSWSSP). Specifically, the audit sought to assess:
- Whether the Ministry of Water, Sanitation and Irrigation ensured that the Program was implemented as per the implementation schedule;
 - Whether the Water Works Development Agencies (WWDAs) sought and obtained tax exemptions in time in order to minimize delays in Program implementation;
 - Whether the Water Works Development Agencies ensured that land and wayleaves for project construction were acquired on time;
 - Whether the Ministry of Water, Sanitation and Irrigation and WWDAs ensured timely access to public resources during project implementation;
 - Whether the Ministry of Water, Sanitation and Irrigation, WWDAs and The National Treasury ensured timely processing of contractors' payment certificates;
 - Whether the Water Works Development Agencies ensured implementation of the institutional development support for Water Service Providers as per the Program's implementation schedule;
 - Whether revenue collected by Water Service Providers cover their operation and maintenance costs; and
 - Whether the Ministry of Water, Sanitation and Irrigation and WWDAs have established measures to ensure the sustainability of water supply from water sources.

Scope of the Audit

- 2.2 The audit examined the operations of the Ministry of Water, Sanitation and Irrigation with regard to co-ordination of Program activities in the three implementing clusters. The team also examined the activities of WWDAs with regard to construction works in the 48 projects where the Program was implemented. To verify the projects' completion status, physical verification was carried out in 10 on-going projects in the following towns; Garissa, Olkalou, Busia, Homabay, Kilifi, Eldoret, Nandi, Kwale and Mombasa. The audit covered the period between January 2016 to July 2022.
- 2.3 Activities in 10 project beneficiary Water Service Providers in relation to provision of water and sanitation services, were also examined.

Methods of Gathering Audit Evidence

- 2.4 The audit was conducted in accordance with Performance Auditing Guidelines (ISSAI 3000) set by the International Organization of Supreme

Audit Institutions (INTOSAI). The audit also used policies and procedures established by the Office of the Auditor-General (OAG). These guidelines and policies fulfil the requirements of the International Standards on Auditing (ISA).

- 2.5 To obtain information on the mandate of MWSI, the Water Act, Cap 189 and the Ministry's Strategic Plan, 2018 to 2022, were reviewed. Other documents reviewed in order to obtain information with regard to the Program execution were the; Program Appraisal Report of 2016, Program Status Reports by MWSI, loan agreements and mission reports. Details of documents reviewed and the reasons for their review are shown in [Appendix 2](#).
- 2.6 To obtain information on the implementation of the Program, project coordinators were interviewed at MWSI, management at Water Works Development Agencies, project engineers, consultants and contractors in respective projects, as well as relevant officials at The National Treasury. The team also interviewed the management at the Water Services Regulatory Board (WASREB), the Water Resource Authority and beneficiary Water Service Providers. Details of officers interviewed and the reasons for the interviews are shown in [Appendix 3](#).
- 2.7 To ascertain the extent of projects completion status, the team conducted physical verification in 10 projects; 4 last mile connectivity projects and 6 water and sewerage projects.

Assessment Criteria

- 2.8 The audit assessed the implementation and sustainability of the Program by MWSI against criteria drawn from the statutory mandate and Program documents. Reference was also made to the recommended industry practices in relation to sustainability in the provision of water and sanitation services. Details on the audit criteria are provided in the findings chapter and is also listed in [Appendix 4](#).

3.0 DESCRIPTION OF THE AUDIT AREA

Statutory Mandate of the Ministry of Water, Sanitation and Irrigation

- 3.1 The mandate of the Ministry of Water, Sanitation and Irrigation (MWSI) is development and management of water resources, transboundary waters, water harvesting and storage and water services and sanitation.
- 3.2 The key functions of the Ministry of Water, Sanitation and Irrigation are:
- Water resource management policy;
 - Water catchment area conservation control and protection;
 - Water and sewerage services management policies;
 - Waste water treatment and disposal policy;
 - Water quality and pollution control;
 - Sanitation management; Management of public water schemes and community water projects;
 - Water harvesting and storage for domestic and industrial use;
 - Flood control management; and
 - Transboundary water policy.

Organization Structure of the Ministry of Water, Sanitation and Irrigation

- 3.3 The Ministry of Water, Sanitation and Irrigation has three directorates namely; Water and Sanitation, Irrigation and Shared Services. The Directorate of Water and Sanitation and the Directorate of Irrigation are in charge of the technical services. The Program falls under the Water and Sanitation Directorate which has four departments namely; National Water Resources, Transboundary Waters, Water Infrastructure Development and Department of Water, Sewerage and Sanitation Development.
- 3.4 The Directorate of Water and Sanitation provides policy guidance and strategies for water and sewerage services, donor coordination, planning and design reviews of national public water and sewerage works, oversights quality assurance and safety of hydraulic structures, maintains data and technical information on water supply and sewerage, provides supervision for Water Works Development Agencies (WWDAs), Water Services Regulatory Board and National Water Harvesting and Storage Authority, and coordinates and guides the water services sub-sector.
- 3.5 The Shared Services Directorate coordinates and provides support services to the technical departments to facilitate the realisation of the strategic objectives of MWSI. A comprehensive organization structure of MWSI is in [Appendix 5](#).

The Kenya Towns Sustainable Water Supply and Sanitation Program

- 3.6 This Program is one of the government initiatives aimed towards improving water and sanitation services in the Country.

Objective of the Program

- 3.7 The main objective of the Program is to improve the access, quality, availability and sustainability of water supply in 19 towns and wastewater management services in 17 towns. The Program aims at catalyzing commercial activities, driving economic growth, improving people's quality of life and building resilience against climate variability and change.

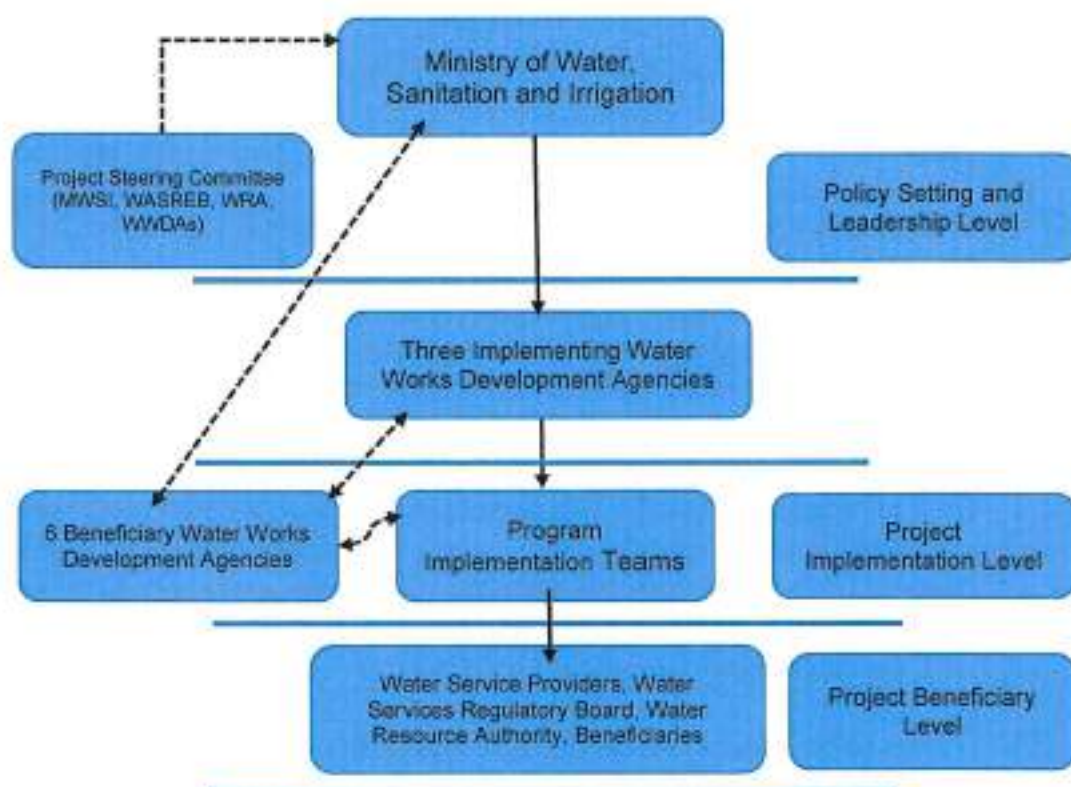
Program Design

- 3.8 The institutional structure of the Water Sector at the national level has MWSI overall coordinator of the sector. The Ministry of Water, Sanitation and Irrigation provides strategic policy direction and leadership to the sector. There are nine WWDAs whose mandate is to bring about efficiency, economy and sustainability in the provision of water and sewerage services in the Country. The Water Works Development Agencies are responsible for developing water supply and sanitation infrastructure within their agency areas.
- 3.9 In the Water Sector institutional architecture, is the Water Services Regulatory Board (WASREB), whose mandate is to oversee the implementation of policies and strategies relating to provision of water and sewerage services. The Board sets rules and enforces standards that guide the sector towards ensuring that consumers are protected and have access to efficient, affordable and sustainable services. The Board's mandate includes: issuance of licenses for the provision of water services; development of guidelines for fixing of tariffs for provision of water services; monitoring compliance with established standards for the design, construction, operation and maintenance of facilities for water services, among others.
- 3.10 The National Treasury (TNT) is the borrower on behalf of the Government of Kenya and MWSI is responsible for overall coordination of the Program. Based on the capacity assessments of WWDAs and the African Development Bank (AfDB) experience gained from implementing water and sanitation projects in the Country, the three WWDAs namely; Tana, Athi and Central Rift Valley (formerly Rift Valley) are designated as the lead implementing Agencies for the Program within their areas, and on behalf of the other six beneficiary WWDAs.
- 3.11 To streamline implementation arrangements, Athi WWDA leads the implementation of sub-projects under Athi, Tanathi and Coast WWDAs, while Tana WWDA leads sub-projects under Tana and Northern WWDAs. The Central Rift Valley WWDA leads implementation of sub-projects under Central Rift Valley, Lake Victoria North, Lake Victoria South and North Rift Valley WWDAs. The selection criteria for the three agencies was; previous donor engagement, organizational structure, and

availability of technical personnel. The lead and beneficiary relationship activities and roles are as shown in [Appendix 6](#).

- 3.12 The Chief Executive Officers of the designated WWDAs have the full responsibility for the successful implementation of the Program components under their jurisdiction. The Program forms part of the performance contracts of the executives and the staff involved in its implementation. Support to WASREB and the Water Resource Authority (WRA) is channeled through the Athi WWDA.
- 3.13 Each of the designated WWDAs were to establish a Project Implementation Team (PIT) led by a program coordinator assigned by the implementing WWDA, with some staff assigned from the other six beneficiary WWDAs. Each Project Implementation Team is composed of the following key qualified personnel; a program coordinator, water and sanitation engineer, procurement expert, social expert, an accountant, and an environmentalist. The curriculum vitae of the staff assigned to PITs are reviewed and approved by AfDB. The Project Implementation Team is a liaison between the contractors and WWDAs. This team has a role to ensure effective, efficient, economical and timely implementation of the projects. Detailed roles of PIT are as shown in [Appendix 7](#).
- 3.14 At the national level, a Steering Committee (SC) was to be established composed of representatives of MWSI, the 9 WWDAs and any other relevant key stakeholders, to provide Program oversight and coordinate the implementation. A Project Coordination Team (PCT) was also established to serve as link between the Steering Committee and PIT. Detailed roles of the Steering Committee and PCT are explained in [Appendix 8 and 9](#), respectively.
- 3.15 Regarding the flow of funds, and in line with existing systems in the Country, subsidiary loans on lending and grant transfer agreements were signed between The National Treasury and all WWDAs for the on-lending and transfer of the loan and grant proceeds to WWDAs for implementation of the Program. **Figure 1** shows a schematic presentation of the implementation arrangements.

Figure 1: Schematic Presentation of the Implementation Arrangements



Source: Adapted from the Program Technical Annexes, July 2016

Roles and Responsibilities of Key Program Implementors and Other Stakeholders

- 3.16 Implementation of KTSWSSP involves the engagement of various stakeholders with diverse roles and responsibilities. These stakeholders can be categorized into: -

I. Key Program Implementors

- 3.17 The Ministry of Water, Sanitation and Irrigation is responsible for the overall Program coordination between the various stakeholders. This includes periodical monitoring and evaluation, organising stakeholder meetings and facilitating processing of tax exemptions and payment certificates.
- 3.18 The Water Works Development Agencies oversee the day to day implementation of the projects within their areas of jurisdiction, which include project management and activities related to Resettlement of Affected Persons (RAP).
- 3.19 The Water Works Development Agencies engage qualified consultancy firms to review the initial design reports that were prepared by the themselves or other consultants with relation to the earmarked projects within their jurisdiction. This

enables WWDAs to identify any gaps and recommend amendments found necessary for constructability. The consultants submit reviewed documents to WWDAs prior to tendering for construction requirements. The consultant also assists WWDAs to tender for the works by conducting pre-tender site visits and providing responses to the bidders' queries during tendering, as well as evaluation.

- 3.20 The consultant acts as WWDA representative to carry out day to day supervision and management of construction works. On completion of construction works the consultant carries out joint inspections with WWDA and instructs the contractor accordingly regarding outstanding works and defects.
- 3.21 Initial water and sanitation needs that prompted the proposals for the on-going projects were submitted through the Water Service Providers from various stakeholders who have interest in the provision of water and sanitation services. On completion of these projects, WWDAs hand over the projects to the respective WSPs for operation and maintenance of the infrastructure within the set regulatory framework.
- 3.22 Provision of water and sanitation services is the mandate of the 47 County Governments, who are the owners of WSPs. The County Executive Committee representative gets an update of the project and coordinates WSP's operation at the county level.

ii. Other Stakeholders in the Program

- 3.23 The African Development Bank is the main financier of KTSWSSP and remits payments directly to the contractors and consultants, and also conducts appraisal and supervision missions. The overarching objective of the African Development Bank Group is to spur sustainable economic development and social progress in its regional member countries, thus contributing to poverty reduction.
- 3.24 The National Treasury strengthens financial and fiscal relations between the Government and AfDB. The National Treasury signed the financial agreements on behalf of the Government with AfDB. The National Treasury also provides the budget for the Program and approves the Master List and specific items for tax exemption.
- 3.25 Land required for the implementation of the projects is identified at the detailed design stage by consultants, in consultation with WWDA, Water Service Provider and the County Government. During the project implementation, the National Land Commission (NLC) is tasked with the role of carrying out valuation and acquisition of land for the Program, on behalf of WWDA.
- 3.26 The National Environment Management Authority ensures sustainable management of the environment through exercising general supervision and

coordination over matters relating to the environment. Their role is to approve Environmental and Social Impact Assessment reports for the Program.

- 3.27 In the Program, the Water Resources Authority is tasked with the responsibility of granting permits for water abstraction to WWDAs where new water intake works are constructed. The authority also ensures that Program operations are in line with the principles of catchment and water towers protection, as well as mainstreaming resilience to climate variability and change.
- 3.28 The Water Services Regulatory Board (WASREB) will issue licenses for new sewerage projects and also review and fix tariffs. The Board is to monitor whether projects are compliant with established standards of design, construction, operation and maintenance.
- 3.29 Where projects need to access road reserves or cross sections of the road, the Water Works Development Agencies require licenses from the various road authorities, that is, Kenya National Highways Authority, Kenya Urban Roads Authority and Kenya Rural Roads Authority.
- 3.30 Beneficiary communities for the water supply and sanitation projects include institutions, businesses and households, and will be required to pay bills for services rendered.

Program Targets

- 3.31 The Program was aimed to achieve: -

I. Improved Water and Sanitation Services

More than 2.1 million people were to have reliable and sustainable water supply services, while more than 1.3 million people were to be connected to waterborne sewerage systems by 2020.

II. Improved Service Efficiency and Sustainability

Decrease Non-Revenue Water to less than 30%, ensure that water supply is available 24 hours, and that operation and maintenance costs are covered at 150% by 2020.

III. Increased Employment Opportunities

Directly create 600 permanent jobs, at least 30% to be held by women and indirectly create 2,000 permanent and 10,000 temporary jobs, where more than 30% of beneficiaries are women, by 2020.

Program Components

- 3.32 The Program compliments with the projects or programs funded by the Government and development partners. The project key activities are broken down into three components;

Component 1: Water Supply and Sanitation Infrastructure

Construction of water supply infrastructure, including: Expansion into informal settlements; Construction and rehabilitation of sewerage infrastructure and ablution blocks; Last mile pipe connectivity support; and Design review and supervision of works consultancy.

Component 2: Institutional Development Support

The component involves: Development of business plans; Capacity assessment and training of Water Service Providers, women and youth; Construction of laboratories and provision of equipment; Support to WASREB and the Water Resources Management Authority; and Preparation of future investment projects.

Component 3: Program Management

The component involves: Conducting annual audits; managing operation costs which include staff salaries, office spaces, fuel, vehicle maintenance, staff travel expenses, steering committee meetings; and land compensation.

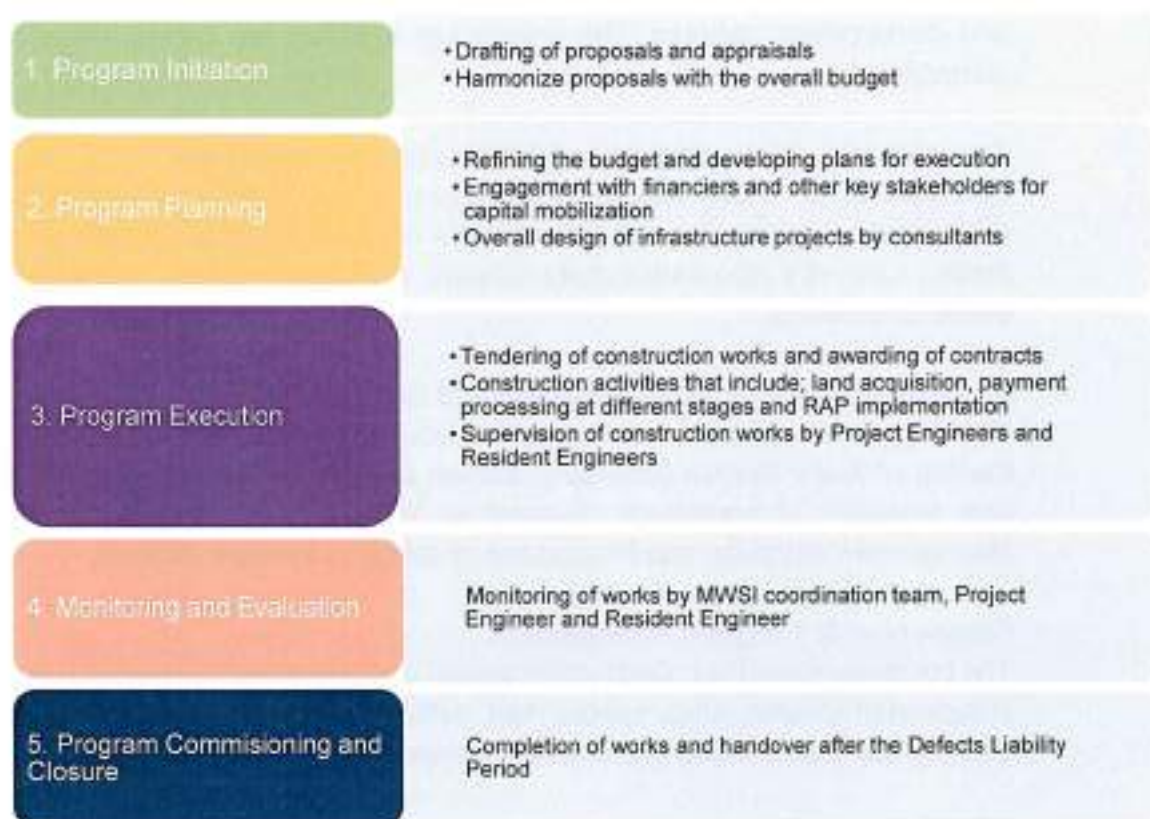
The Program Benefits

- 3.33 Improved reliability of water and sanitation services: Overall improvement of the public health situation in the beneficiary towns as a result of more reliable water supply and sanitation services; improved operation and maintenance capacity of WSPs; and Improved business environment for industries that rely on dependable water and sanitation services.

The Program's Cycle

- 3.34 The Program cycle has 5 stages that are intertwined and seamlessly connected to each other. The stages are: Program Initiation; Program Planning; Program Execution; Monitoring and Controlling; and Program Commissioning and Closure, as shown in **Figure 2**.

Figure 2: Summary of the Project Cycle for the Program



Source: OAG summary presentation of the Program's project cycle

3.35 The Program's project cycle steps are explained below: -

I. Program Initiation

Program initiation marks the first step in the program cycle, where different stakeholders are involved. These range from MWSI, non-governmental organisations, communities, administrators, elected leaders and development partners who have an interest in the provision of water services. Based on their needs, they develop water project proposals to their regional WWDAs. At this point, the proposals are analyzed for viability and long-term sustainability. Once appraisals are completed, a data base for all proposals is compiled and forwarded to MWSI by various water agencies. Proposals that are deemed viable are forwarded along with a draft budget request.

The Ministry of Water, Sanitation and Irrigation evaluates the viability of the proposed projects and harmonizes them with the overall budget. Proposals that require huge capital investments are forwarded to donor partners who appraise them internally. Depending on the donor's assessment and financial position, they advise MWSI through The National Treasury on whether they will avail funding for the proposal. Less capital-intensive proposals may be adopted by MWSI based on

allocation of funds by The National Treasury. Where donors approve funding for a project, relevant stakeholders organize meetings to develop terms of engagement meant to steer the project.

The Kenya Towns Sustainable Water Supply and Sanitation Program was initiated in a similar manner, driven by a deficit of water and waterborne services ranging from 10% to 55% and 0% to 40%, respectively. The Program was adopted by MWSI in partnership with AfDB to provide water and sanitation services to more than 50 towns in 2016.

II. Planning Phase

This phase involves budgeting and developing a plan for execution. At this stage, aspects of budgeting, financing and roles of stakeholders are finalized among The National Treasury, AfDB, Ministry of Water Sanitation and Irrigation and WWDAs. The Program funding has four windows; African Development Bank commercial loan, African Development Fund concessional loan, ADF grant and the Middle-Income Countries Technical Assistance Fund grant. The loans are earmarked for infrastructure works while the grants are meant for studies for future investments. The planning phase also caters for the overall design of infrastructure projects by consultants employed by the water agencies.

The consultants develop the scope of works and helps in the subsequent development of the tender document. Each implementing WWDA engages a consultant to design projects based on earmarked projects and sub-projects per cluster.

III. Execution

The execution phase entails the tendering process and construction of various infrastructure projects. The three implementing agencies prepare and advertise international tenders for the planned infrastructure projects. Prior to awarding of tenders, WWDAs engage the services of consultants who re-evaluate design specifications of the projects. These consultants also play a role in the award of tenders and later act as project supervisors. Once successful contractors have been identified, they agree on the terms of service and thereafter sign the contract. An award letter is issued and the construction works begin. The consultant, who is referred to as the Resident Engineer, liaises with the Project Engineer in overall project stewardship to completion.

IV. Monitoring and Evaluation

This phase involves supervision, monitoring and controlling of the ongoing projects. Supervision is carried out by consultants employed by WWDAs. They work with the contractors ensuring that they meet the outlined scope of work and design. The Ministry of Water, Sanitation and Irrigation officials as well as AfDB officials conduct periodical site visits to check on projects' progress.

Further to this, MWSI has two committees namely; the Project Steering and the Project Technical Committees, who engage WWDA's to check on projects progress. County governments and in some cases WSPs are involved in monitoring the progress. They are part of the stakeholders involved in the monthly site meetings together with the contractor, consultant and the respective WWDA.

V. Program Commissioning and Closure

This is the final stage, where completed works are inspected and handed over. Completed works are evaluated against specifications and tested to ensure conformity and full operations. If there are any leakages or defects found during inspection, the contractor is required to address and fix all the issues before commissioning. This is after the defects and liability period has lapsed. Thereafter, the contractor hands over the completed works to WWDA. At this point WWDA's and counties engage the services of WSPs, who are the dispensing agents that fulfil the end user needs.

Sources of Funding

- 3.36 The Program is projected to cost Ksh.45 billion or US Dollars 451.66 million, at the then exchange rate. The funding towards the Program constitutes; the African Development Bank loan and grants amounting to Ksh.39.48 billion and the Government of Kenya (GoK) counterpart contribution of Ksh.6.1 billion or US Dollars 60.87 million, at the then exchange rate.¹¹ **Table 1** shows the breakdown of the financing structure, while **Appendix 1** shows a list of all projects under the Program and the cost for each project.

Table 1: The Program's Financing Structure

Source	Amount in US Dollar (Millions)	Instrument
African Development Bank	381.191	Loan
African Development Fund	7.200	Loan
African Development Fund	0.720	Grant
Middle-Income Countries Technical Assistance Fund	1.680	Grant
Government of Kenya	60.870	Counterpart

Source: Program Appraisal Report, 2016

¹¹ Program Appraisal, 2016, Pg. vi.

4.0 FINDINGS OF THE AUDIT

- 4.1 Information obtained through review of Program documents, interviews and physical verification in sampled 10 projects and their respective Water Service Providers, revealed issues that could hinder realisation of the Program's objectives. These include delays in completion of projects and risks to sustainability of KTSWSSP and similar programs, as explained below: -

I. Delays in Completion of Projects

- 4.2 According to the Program Appraisal Report dated July 2016, KTSWSSP was to be implemented between 01 January, 2017 and 31 December, 2021. The completion date for implementation of the 48 projects was scheduled for June 2021, a period of 54 months or an equivalent of 4½ years, from the date of signing of the financing agreements. The closure date for disbursements for the Program was December, 2021
- 4.3 The Program's status report for April 2022, however, indicated that only 3 out of the 48 projects achieved the initial completion date of 31 December, 2021. These are Murang'a South, Murang'a Urban Water Supply Last Mile Connectivity Projects under the Tana WWDA and the Narok Sewerage Project under the Central Rift Valley WWDA.
- 4.4 Analysis of the projects' status report for 10 July, 2022 revealed that an additional 3 projects had been completed as at 10 July, 2022. These are; Isiolo Water and Sewerage Last Mile Project, Chepararia and Othaya Sewerage Projects, bringing the number of completed projects to 6 representing 13% of the total 48 projects. Out of the 6 completed projects, 4 are last mile connectivity projects, while 2 are sewerage projects.
- 4.5 Further analysis revealed that 16 representing 33% of the projects were at less than 50% completion. Out of these, 2 of the projects stalled at 20% while 2 had not commenced. These were; Changamwe Repooling Sewer Network and Mwala Mbiuni Water Supply Projects, and Kakamega Town Water Last Mile and Kapenguria Sewerage projects, respectively. A summary status of completion of the 48 projects as at 10 July, 2022 is as shown in **Table 2**.

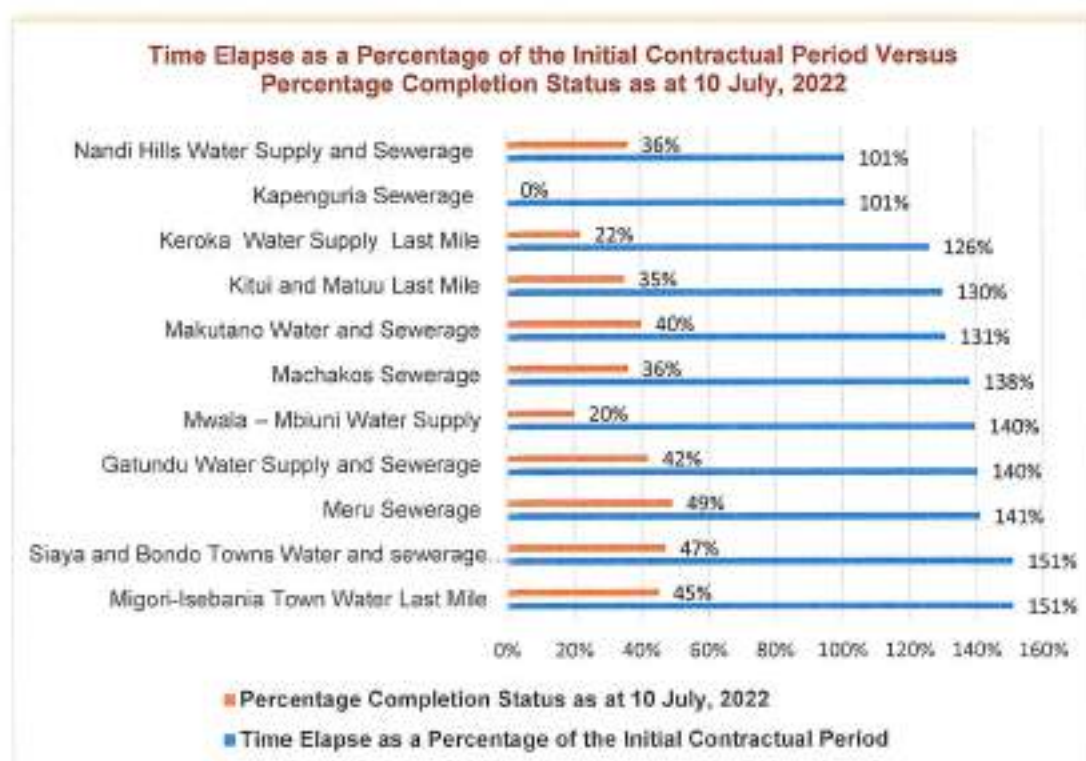
Table 2: Completion Status of the 48 Projects as at 10 July, 2022

Projects Completion Status as at 10 July, 2022	Number of Projects	% Projects at Various Completion Status
100% Complete	6	13%
Above 50% but less than 100%	26	54%
Less than 50%	16	33%
Total Projects	48	100%

Source: OAG analysis of projects' completion status as at 10 July, 2022

- 4.6 Further analysis of projects completion status as at 10 July, 2022 revealed that, most of the projects were significantly behind their contractual schedules. For example, 11 out of 16 projects that were below 50% completion had exhausted their initial contractual periods, as shown in **Figure 3**. **Appendix 10** shows time elapse as a percentage of the initial contractual period for the 48 projects, versus their percentage completion status.

Figure 3: Time Elapse as a Percentage of the Initial Contractual Period Versus Percentage Completion Status as at 10 July, 2022



Source: OAG analysis of projects' time elapsed versus percentage completion status

- 4.7 Further, interviews conducted with Project and Resident Engineers in 7 out of the 10 sampled projects, revealed that all the projects were behind their scheduled time, as shown in **Table 3**.

Table 3: Projects' Completion Status Versus Time Elapsed as at the Time of Audit

S/No.	Project	Percentage Completion Status	Percentage Project Time Elapsed
1	Changamwe Re-Pooling Sewer Network Project	20%	148%
2	Nandi Hills Water Supply and Sewerage Project	27%	73%
3	Malaba Water Supply Project	32%	65%
4	Eldoret Town Last Mile Connectivity	32%	81%
5	Olkalou Sewerage Project	58%	78%
6	Oyugis Water Supply and Sewerage Project	82%	97%
7	Garissa Water and Sewerage Last Mile Connectivity	83%	309%

Source: OAG analysis of projects' completion status versus time elapsed

- 4.8 Interviews and physical verification of projects also revealed that, overall completion status of projects was also affected by some of project's activities lagging behind. For example, in the Garissa water project, a 15-meter tower for elevating a 300m³ steel tank was complete as shown in **Figure 4**. The pipeline meant to take water to the tank was also substantially complete at 93%, awaiting testing. However, the 300m³ steel tank was yet to be placed. This is likely to cause delays in overall project completion, despite the fact that the project was at 83% completion.

Figure 4: The 15 Meter Tower Where a 300m³ Steel Tank Was to be Placed



Photos of the 15-meter-high tower at Ifin Girls School in Garissa taken on 27 January, 2022

- 4.9 Further, interviews and physical verification of the Oyugis and Kendu Bay Water Supply Projects also revealed that, though the projects were substantially complete, at 82%, some activities were still pending which could delay eventual completion of the project, as shown in **Table 4**.

Table 4: Table Showing Projects' Pending Activities as at the Time of Audit

Project	Location	Activity	Observation
Oyugis	Awach Kasipul	Intake for the project.	The works for the intake were on-going. The water had been diverted to allow for construction. However, the wier, the screen and mechanical works control were pending.
	Atemo	Construction of a conventional water treatment plant of capacity 12,300m ³ per day.	<ul style="list-style-type: none"> The water treatment plant was done to a great extent including the elevated 300m³ tank for back washing. The treatment plant control room was not yet complete. The pumps, motors and pipes were pending.
Kendu Bay	Kokwanyo	Construction of conventional water treatment works of capacity 5,700m ³ per day at Kokwanyo.	<ul style="list-style-type: none"> The works were at an advanced level. The electromechanical equipment was however still pending because of contractor's cash flow problems. The intake works had not commenced due to the land acquisition issue and a court case. The 200 meters of the raw water piping at the intake was still pending due to a court case. The pump for the backwash tank was yet to be procured due to contractor's cashflow issues.
	Ndiru Tank	Construction of 2,000m ³ tank.	<ul style="list-style-type: none"> Pipe fittings and valves were yet to be procured. 7 out of the 11 kilometres of the distribution pipes had been done, while 4 kilometres were pending due to the contractor's cash flow issues.

Source: OAG analysis of projects' pending activities

- 4.10 As a result of projects not meeting their initial contractual timelines, contractors had to request for time extensions through their respective WWDAs. [Appendix 11](#) shows that, the contractual time allocated for projects implementation from start date to end date ranged between 8 months to 3 years. Review of project documents revealed that 39 projects have had their completion dates extended beyond the original date of completion provided in the contract agreements. The time extended ranged between 1 month to 3 years 3 months. **Table 5** shows the number of extensions that the 39 projects have had after their initial end date.

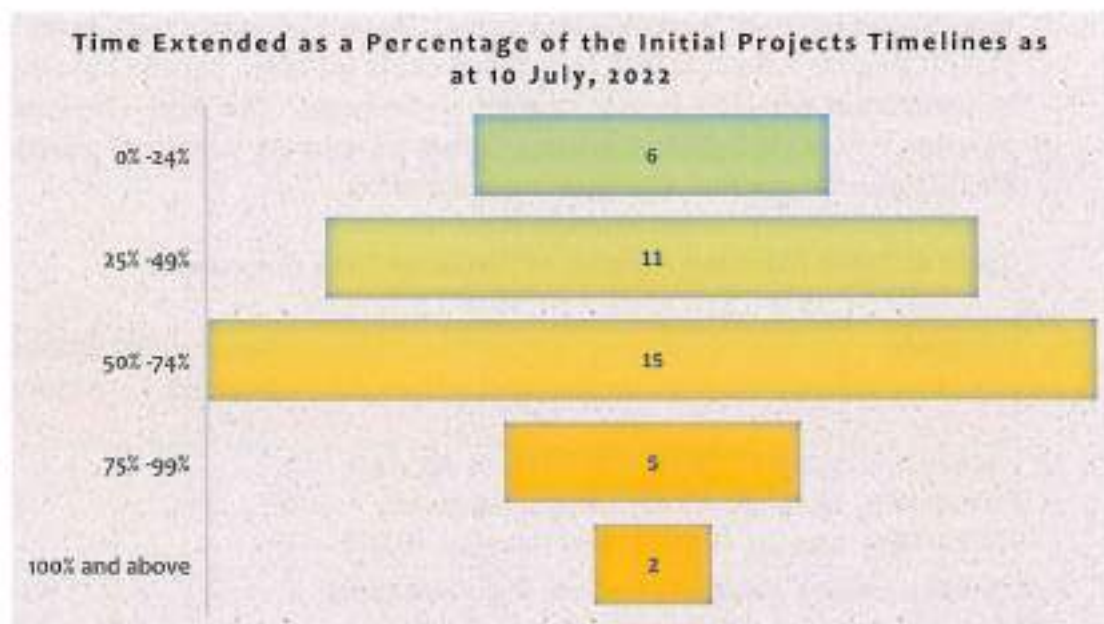
Table 5: Table Showing Number of Projects' Time Extensions

Projects	Number of Projects	Number of Extensions
Kiptogot - Kolongolo, Malaba, Kilgoris - Lolgorian, Nandi Hills, Murang'a South, Chuka, Machakos, Kendu Bay, Limuru, Gatundu and Kiambu - Ruaka.	11	1
Keroka, Eldoret, Kabarnet, Malindi, Migori-Isebania, Siaya-Bondo, Oyugis, Pemba, Olkalou, Mandera, Othaya, Chogoria Sewer, Meru, Chogoria Water, Malaba, Makutano, Ugunja-Ukwala-Sega and Isiolo.	18	2
Marsabit Sewerage, Marsabit Water, Machakos, Garisa, Kerugoya-Kutus water, Kerugoya-Kutus sewerage, Kikuyu, Mandera, Kipkaren-Eldoret, Kitui and Matuu.	10	3

Source: OAG analysis of number of projects' time extensions

- 4.11 **Figure 5** shows the percentage of time extended compared to initial projects' timelines, as at 10 July, 2022.

Figure 5: Time Extended as a Percentage of Initial Projects' Timelines as at 10 July, 2022



Source: OAG analysis of projects' time extension

4.12 Table 6 shows time extended in years for the 39 projects. This information is further elaborated in [Appendix 11](#).

Table 6: Time Extensions

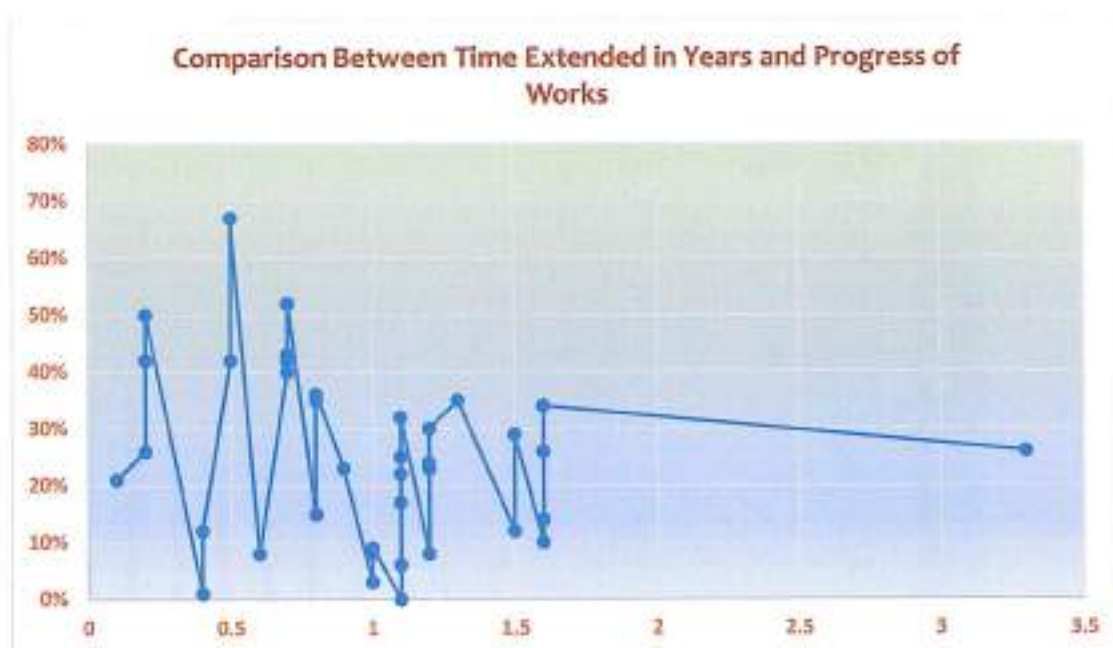
Range of Time Extended	Number of Projects
Less than 1 year	18
1 year to 2 years	20
Over 2 years	1
Total number of projects	39

Source: OAG analysis of projects' time extension

a) Extension of Projects' Time Versus Corresponding Works Progress

4.13 Analysis of time extensions and corresponding works in progress revealed that there was no obvious correlation between time extensions and progress in works, as illustrated in [Figure 6](#) and as elaborated in [Appendix 12](#).

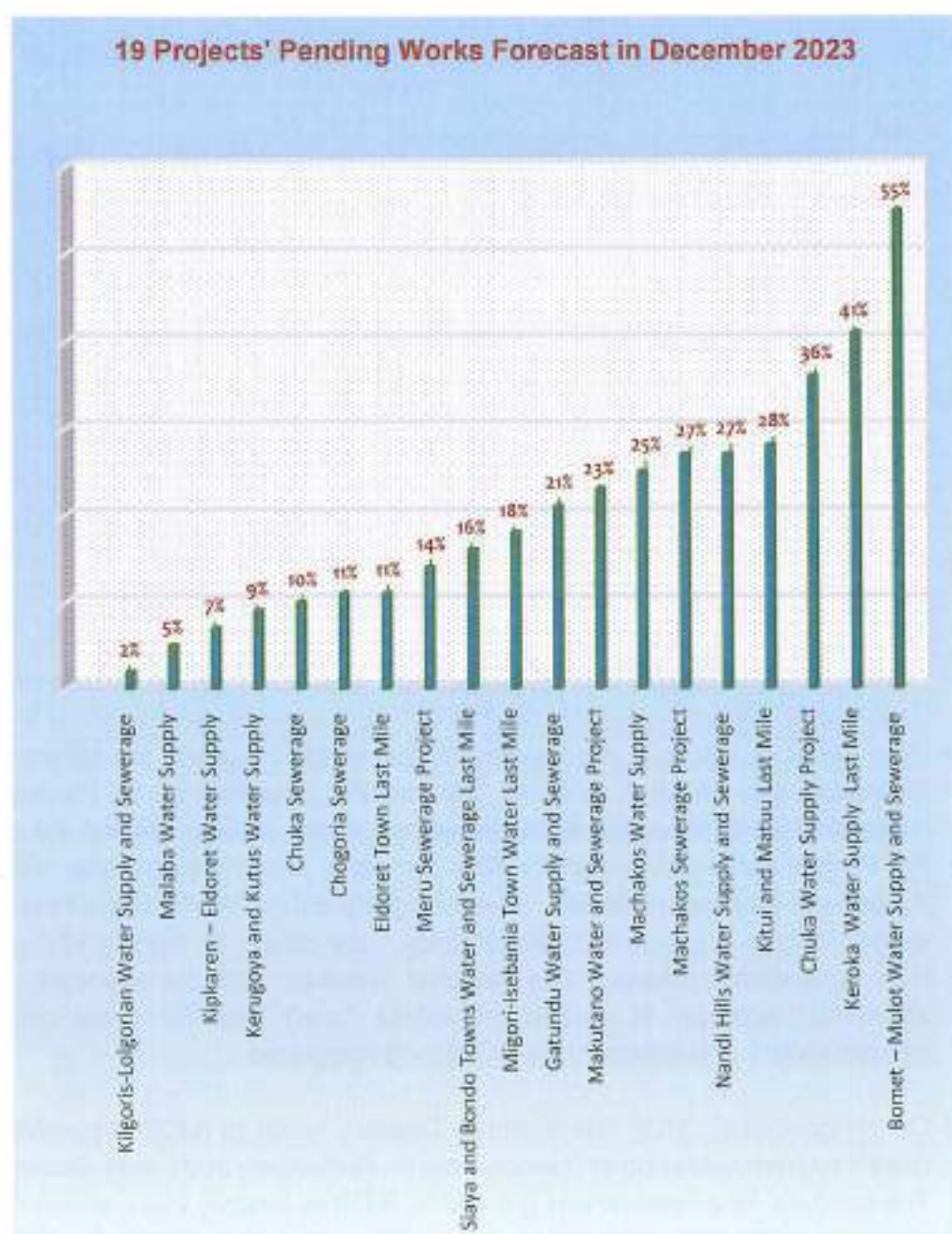
Figure 6: Comparison between Time Extended and Progress of Works



Source: OAG analysis of projects' time extension versus works progress

- 4.14 As a result of delays in the implementation of the Program, the Ministry of Water, Sanitation and Irrigation wrote to The National Treasury on 11 December, 2020, requesting for an extension of the Program's implementation period. As at that date, the Program was approximately 40% complete, about 4 years after the Financing Agreement had been effected. Issues highlighted by MWSI in the letter as having caused delays in program implementation were delays in: signing of the subsidiary loan agreements between The National Treasury and the agencies; master list approvals; approval of permits to access forest land for some projects; land compensation; and effects of the COVID-19 Pandemic.
- 4.15 On 29 December, 2020 The National Treasury wrote to AfDB requesting for a 'No Cost' Program extension of 2 years, from 31 December, 2021 to 31 December, 2023. The approval for extension was granted by AfDB in January 2021, where the projects' completion date was extended to June 2023 and the closure date for disbursements to December 2023.
- 4.16 Analysis done to forecast projects completion levels in December 2023, on the basis of their current works progress, revealed a probability of having 19 out of 38 projects not being completed by December 2023. The forecast for completion of the 38 projects is as shown in [Appendix 13](#). **Figure 7** indicates that 19 projects will still be having pending works ranging between 2% to 55%.

Figure 7: 19 Projects' Pending Works Forecast in December 2023



Source: OAG analysis on forecast for projects completion as at December 2023

- 4.17 Interviews and review of documents revealed that projects experienced delays during their commencement and thereafter during construction as indicated below: -

b) Delays in the Initial Stages of Commencement of Projects

- 4.18 The financing agreements were to be signed between: the Government of Kenya and the African Development Bank; The National Treasury; and the Program

implementing WWDAs. One of the conditions precedent to disbursement of loans and grants for the Program by AfDB was evidence of signing of subsidiary financing agreements, between The National Treasury and each of WWDAs. The agreements were to be signed and declared effective by AfDB by December 2016. Review of documents indicated that the financing agreement between the Government of Kenya and AfDB was signed and declared effective on 9 January, 2017.

- 4.19 Further review of documents from The National Treasury, Ministry of Water, Sanitation and Irrigation and WWDAs however indicated that the subsidiary loan agreements between TNT and the Program implementing WWDAs were signed on 29 September, 2017. This resulted to a delay of about 8 months, which negatively affected the timely commencement of other subsequent scheduled activities. Interviews held at The National Treasury revealed that, there were no clear timelines set by The National Treasury for the preparation and signing of KTSWSSP subsidiary loan agreements.

c) Delays in Awarding Contracts

- 4.20 After the signing of subsidiary loan agreements, WWDAs were to have the work contracts signed by August 2017. This was approximately 8 months after signing of the subsidiary loan agreements, which as earlier noted experienced delays.
- 4.21 Review of documents revealed that after the signing of subsidiary loan agreements on 29 September, 2017, WWDAs considerably delayed to award works contracts. Since awarding of works was not realised as initially planned, AfDB extended the timeline of having all civil works contractors on board to December 2018. This was a timeframe of about 1 year and 3 months, after the signing of the subsidiary loan agreements.
- 4.22 **Appendix 14** shows that it took WWDAs between 7 months to 4 years, to award works contracts, after the signing of the subsidiary agreements. Taking into consideration the time frame AfDB had provided, of about 1 year and 3 months, 21 projects took additional time, ranging from 4 months to over 2 years, as shown in **Appendix 15**.
- 4.23 **Table 7** shows the span of time, between the signing of the subsidiary agreements and award of works contracts for the 48 projects, details of which are shown in **Appendix 14**.

Table 7: Time Taken Between Signing of Subsidiary Loan Agreements to Awarding of Works Contracts

Time Taken Between Signing of the Subsidiary Loan Agreements and the Awarding of Works Contracts	Number of Projects	Percentage Number of Projects
About 1 year and 3 months	27	56%
About 1 year and 4 months to 2 years	6	13%
More than 2 years	15	31%
Total number of projects	48	100%

Source: OAG analysis on time taken between signing of subsidiary loan agreements and the awarding of works contracts

- 4.24 Analysis of project documents revealed the various reasons as to why the 21 projects took long to secure works contracts, as shown in **Table 8**. This is elaborated in [Appendix 16](#).

Table 8: Reasons for Delayed Award of Works Contracts

Causes for Delays	Number of Projects Affected
Last mile connectivity projects funded from savings realised, following completion of procurement processes for the main works components. Procurement process for these projects began in 2021.	10
Delays in procurement of works contracts. Some of the contracts were retendered due to non-responsiveness of bids where submitted bids either surpassed the budget lines or did not attract qualified contractors.	8
Redesigning of the Bomet Mulot Water Project due to change of intake site and the supply area. The scope of the project was adjusted to avoid duplication with Bosto Dam Project that was to be implemented by the National Water Harvesting and Storage Authority formerly the National Water Conservation and Pipeline Corporation.	1
Change of project site from previously proposed project site	1
Procurement of the Contractor was pegged on savings realized from other projects	1
Total number of projects	21

Source: OAG analysis of reasons for delayed awards of works contracts

4.25 Review of Program reports and correspondences also revealed that it took a long time to tender for last mile connectivity projects, since they were funded from savings realised, following completion of procurement processes for the main works components.

4.26 As a result of delays in awarding works contracts, project works could not commence as earlier planned in August 2017.

d) Delays in Commencement of Projects After Awarding of Contracts

4.27 Further, analysis done on time taken by contractors to commence projects after being awarded contracts indicated that, it took less than 2 months to commence works in 14 projects, representing 29% of the total projects. **Table 9**, however, indicates that majority of the projects, representing 54% took between 2 to 5 months to commence after award of works contracts. Further details of time taken to commence projects after award of works contracts are provided in **Appendix 17**.

Table 9: Time Taken to Commence Projects After Contract Signing

Approximate Time it Took for Works to Commence After Contract Award	Number of Projects	Percentage Number of Projects
Between 2 months to 5 months	26	54%
Less than 2 months	14	29%
More than 1 year	5	10%
6 months to 1 year	3	6%
Total number of projects	48	100%

Source: OAG analysis of time taken to commence projects after contract signing

4.28 A summarised analysis of the causes of delays in 25 out of 34 projects that took more than a month before commencement is as shown in **Table 10**. Delay in approval of master list, land acquisition and encroachment of way leaves, led to delayed commencement of 22 projects, representing 88% of these projects.

Table 10: Causes for Delayed Projects Commencement

Causes for Delays	Number of Projects Affected	Percentage of Projects Affected by the Various Causes
Delays in processing of master list	10	40%
Delays in processing of tax exemption; Land acquisition delays	6	24%
Encroachment of way leaves	6	24%
Court cases	2	8%
Project retendered due to non-performance of initial contractor	1	4%
Total projects	25	100%

Source: OAG analysis of causes for delayed projects commencement

- 4.29 Further, [Appendix 17](#) shows that court cases and retendering of projects due to non-performance of initial contractors caused the longest delays, ranging between 1 year 3 months to 2 years 2 months.
- 4.30 Interviews conducted with projects' resident engineers for Nandi Hills, Oyugis and Kendu Bay projects revealed that acquisition of project sites affected timely commencement of the projects. In all the 10 sampled projects, the issue of delayed approval of master list was prevalent.
- 4.31 As a result of the cumulative delays experienced after the signing of the Program's Financing agreement in January 2017, the earliest project commencement date was after a period of about 2 years, on 01 November, 2018. Additionally, 3 projects namely; Bomet Mulot Water Supply and Sewerage, Kakamega Town Water Distribution and Connection, and Kabarnet Water Distribution and Connection, commenced between 01 July, 2021 and 31 January, 2022 as shown in [Appendix 17](#). This was past the initial completion date for projects and closure date for disbursements, scheduled for June 2021 and December 2021, respectively.
- 4.32 Issues that affected timely completion of the projects are as detailed in the ensuing paragraphs. These were delays in: processing of tax exemptions; acquisition of project land; payments to the contractor; and inadequate capacity of contractors. Delays in processing of tax exemptions and land acquisition had been mentioned earlier in [Table 10](#), as having negatively affected the timely commencement of projects.

I. Delays in Processing of the Master List

- 4.33 The Program's Appraisal Report, 2016 indicates that KTSWSSP funds are tax exempt. The Water Works Development Agencies were to seek and obtain the necessary tax exemptions on time, in order to minimize delays in payments and hence program

implementation. Examples of items that are tax exempt under the Program include consumable goods, vehicles, equipment and tools that are critical for projects' commencement and continuation.

- 4.34 Information obtained through interviews and review of project documents in 7 out of the 10 sampled projects indicated that, it took about 2 to 11 months for master lists to be processed as shown in **Table 11**. The table also shows that as a result of the delay, approval for master lists was done 3 to 12 months into the construction period. This resulted in subsequent delays in the procurement of the required goods, equipment and services.

Table 11: Duration for Processing of the Master List

S/No.	Project	Project Commence ment Date	Date Contractor Made Application for the Master List Tax Exemption	Date When Approval Was Given	Time Taken in Proces sing in Months	Period Elapsed Between Project Commence ment and the Master List Approval in Months
1	Nandi Hills Water Supply and Sewerage Project	04/01/2021	29/03/2021	04/06/2021	2	5
2	Malindi Sewerage Project	14/06/2020	13/10/2020	01/03/2021	5	9
3	Eldoret Last Mile Connectivity Project	01/04/2021	23/02/2021	15/07/2021	5	3
4	Olkalou Sewerage Project	30/09/2020	14/09/2020	30/01/2021	6	4
5	Changamwe Repooling	14/01/2019	02/05/2019	29/01/2020	9	12
6	Oyugis Water Supply and Sewerage Project	01/04/2019	07/05/2019	03/03/2020	10	11
7	Kendu Bay Water and Sewerage Project	01/04/2019	25/03/2019	03/03/2020	11	11

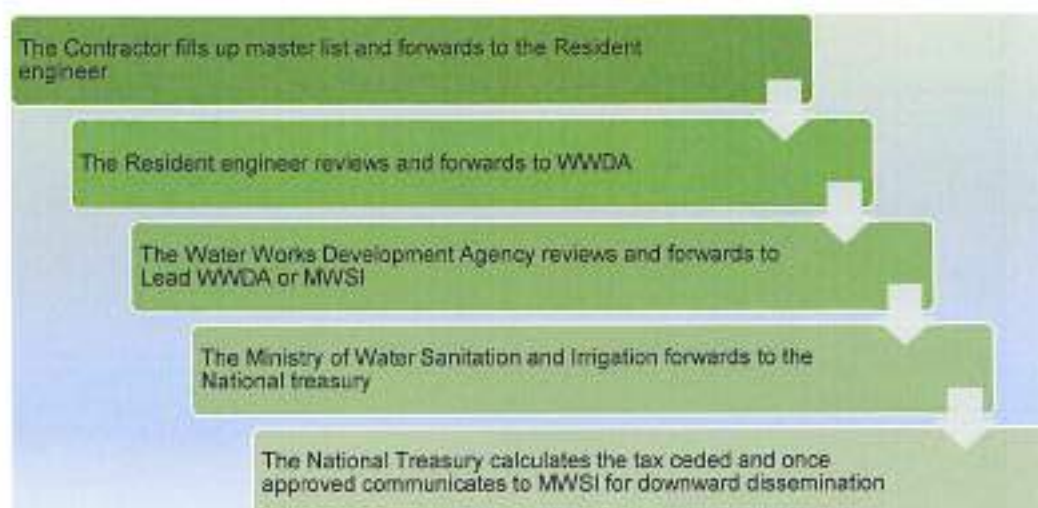
Source: OAG analysis of duration for processing the master list

- 4.35 Further analysis indicated that there was a time elapse of between 1 month to 17 months before contractors in 6 out of the 7 projects applied for the first specific tax exemption, as shown in **Appendix 18**. The analysis also revealed that it took between 1 to 4 months to process the first specific tax exemptions for the seven

projects. Cumulatively, it took between 6 months to 1 year and 3 months to process both the master lists and the initial specific exemptions for the 7 projects, as indicated in [Appendix 18](#).

- 4.36 Review of project documents indicated that as at July 2019, The National Treasury (TNT) had not approved a single master list application for tax exemptions. The main reason provided for this delay was as a result of administrative changes at TNT.
- 4.37 Besides the processing delays pointed out at TNT, interviews held with WWDA's identified the lengthy process for processing tax exemptions was identified as another cause for delays. Errors and omissions at any step prolonged time taken, as the responsible party at each level had to be re-engaged. This process is extraneous for specific exemption processing, given on average a project would raise about four specific exemption requests. Considering that each application may take 2 to 6 months, some construction aspects would have to be halted or necessitate partial implementation.
- 4.38 **Figure 8** illustrates the channel for processing the master list and specific exemptions, under KTSWSSP.

Figure 8: Master List and Specific Tax Exemption Basic Flow



Source: OAG illustration of tax exemption basic flow

- 4.39 Review of projects documents revealed that due to delayed master list approvals, contractors were unable to purchase the materials required under their contracts since they would have to bear the Value Added Tax (VAT) costs. Additionally, though some works contracts were signed in November 2018, review of project documents noted that no mobilization had taken place as at July 2019.

- 4.40 This situation may necessitate extension of time to cover elapsed time. Furthermore, there is a risk of contractors' claiming reimbursement for costs on idle time on various inputs for construction.

ii. Delays in Acquisition of Land for Project Implementation

- 4.41 The Program's Technical Annex notes that, the Program interventions in some of the sub-project areas would require land acquisition and/or restrictions of access to existing infrastructures for pipeline routes. This is consistent with GoK's provision for land acquisition and compensation under three legislative Acts namely, the Trust Land Act, Way Leaves Act (CAP 292) and the Land Acquisition Act (CAP 295). According to the construction contracts, one of the conditions precedent to commencement of works after contract signing was effective access to and possession of the site, given physically to the contractor by WWDA.
- 4.42 Interviews with the projects' engineers indicated that land for the projects is identified at feasibility design stage. However, the final decision is made after the consultant provides advice on the most appropriate site during the design review stage. The National Treasury only allocates funds for land acquisition when a project receive financing. Wayleaves are also an essential pathway for laying both water and sewer pipes and were also identified during the design review phase.
- 4.43 The audit revealed that there were delays in acquiring land and wayleaves as a result of delays in: Commencement of project sites acquisition process and subsequent delays during the process; Compensation of Project Affected Persons; Encroachment of Wayleaves or Public Land; and Delays in Approval of Request to Access or Relocate Public Resources.

a) Delays in Commencement of Project Sites Acquisition Process and Subsequent Delays During the Process

- 4.44 The National Land Commission is involved in valuation and payment of project land acquisition on behalf of WWDAs. Review of documents on project land acquisition for 11 out of 14 projects sites under KTSWSSP revealed that there were delays in commencing the site acquisition process. The review showed that, it took between 4 months to 3 years before WWDAs commenced the acquisition process for the various project identified sites with NLC. **Table 12** shows the different times taken, with more details provided in **Appendix 19**.

Table 12: Time Taken Between Project Commencement and Beginning of Process of Acquiring Projects Sites

Time Taken Between Project Commencement and Beginning of Process of Acquiring Projects Sites	Number of Projects
Less than 1 year	2
Between 1 to 2 years	5
More than 2 years	4

Source: *OAG analysis of time taken between project commencement and beginning of process of acquiring project sites*

- 4.45 The review further indicated that the project site acquisition process was still ongoing, except for 6 projects where the Advisory and Valuation reports had been completed and issued to WWDAs. Two (2) projects acquisition status were not provided for while the remaining 6 projects Advisory and Valuations reports had not been finalised, due to the challenges indicated in **Table 13**. The challenges included; prolonged validation of land details due to lack of proper documentation of processes during change of land ownership and resistance for re-settlement from Project Affected Persons.

Table 13: Challenges Facing Site Acquisition in 6 Projects

S/No.	Project Name	Challenges Identified as Facing the Process of Project Site Acquisition
1	Meru Sewerage Project	The National Land Commission had not received the project layout plan and current official title search certificate from WWDA.
2	Gatundu Water Supply and Sewerage Project	The National Land Commission had already prepared letters of awards and was awaiting facilitation for service of awards to the PAP by WWDA.
3	Machakos Water Supply Project	<ul style="list-style-type: none"> • Informal subdivisions and sales of land. • Lack of ownership documentation to ascertain the proprietorship. • Existence of squatters. • Hostility and denial of access to some land parcels either because Project Affected Persons had not agreed to compensation and eventual relocation or on land boundary dispute. • Complaints from Society members after issuance of Gazette Notice; with suspicion that money would be paid to the societies (Katheka-Kai & Katelembu) and not individual members.
4	Machakos Sewerage Project	<ul style="list-style-type: none"> • Informal subdivision and sales. • Lack of ownership documentation to ascertain the proprietorship. • Pending succession cases.
5	Mwala Water Supply and Sewerage Project	The ground inspection had partially been undertaken. The National Land Commission was awaiting gazettelement of the piece of land in order to carry out further inspections.
6	Makutano-Kenol Water Supply and Sewerage Project	The Delmonte Limited land lease had lapsed. This required renewal for NLC to continue with the process.

Source: OAG analysis of challenges facing site acquisition in 6 Projects

4.46 Further review of documents also indicated that, initial identified project sites for waste water treatment plants for Mandera and Kapenguria Sewerage Projects were facing land acquisition challenges. As a result, the respective WWDAs were seeking alternative project sites. The time lapse for these projects was 3.7 and 1.5 years, with

project completion status of 65% and 0%, respectively. The project time for the 2 projects had already ended.

- 4.47 Interview with the Nandi Hills Water and Sanitation Project Engineer revealed that, there was delay in acquiring land meant for construction of the; water treatment plant, elevated tank, laboratory, raw water pump house, and staff houses. The interview revealed that, even though the project's land had been identified at the Kenya Forest Service land at Makong'o, as shown in **Figure 9**, no works had commenced, for about 1 year since the project start date. The Rift Valley WWDA was yet to receive the authorization from the Cabinet Secretary, Ministry of Environment and Forestry to cut down trees due to an existing moratorium on all Government forests.

Figure 9: Site Identified for the Water Treatment Plant



Photo of the identified site for the water treatment plant at the Kenya Forest Service land at Makong'o, taken during project physical verification on 7 February, 2022

- 4.48 Interviews with the Project Engineer for Kendubay Project also revealed that the intake works had not commenced due to land acquisition issues. Additionally, 200 meters of the raw water piping at the intake was still pending due to a court case.
- 4.49 A report of the African Development Bank supervision mission carried out from 6 to 22 June, 2022 indicated that, there was great need to improve on early acquisition of project land. The report noted that delays in land acquisition leads to delayed implementation of projects, considering that land acquisition processes are lengthy.

b) Delayed Compensation of Project Affected Persons

- 4.50 Section 5:04 (ii) of the Financing Agreement requires the Government of Kenya to "Ensure that all Project Affected Population are compensated in accordance with the sub-project's Resettlement Action Plan (RAP), prior to commencement of any construction on affected parts of Project." In line with the AfDB policy, RAPs were to be prepared to define modalities for compensation for all Project-Affected Persons (PAPs). No physical execution of works should be carried out, on portions of land where owners have not been fully compensated.
- 4.51 Review of documents and interviews conducted during the audit revealed that land acquisition for Kendu Bay, Malaba and Oyugis projects delayed as a result of untimely compensation of land owners, where it took about 10 months before compensation was made.
- 4.52 Further, analysis for compensation status for the Athi Cluster as at March 2022, for 9 of its projects that required compensation for land, crops and structures revealed that, only 389 out of the 2,088, representing 19% of the total PAPs had been compensated as at the time of audit. The information is summarised in **Table 14** and further elaborated in [Appendix 20](#).

Table 14: Compensation of Project Affected Persons for Athi Cluster

Total Number of Projects	Impact	Average Number of Years Since Projects Commence ment	Total Estimated RAP (Ksh.)	Total Number of PAPs	Comp ensat ed PAPs	Actual Amount Disbursed (Ksh.)
9	Crop, Land and Structures	2	944,874,796	2,088	389	23,423,400
Percentage of the average proportion of estimated amount of RAP disbursed			2%			
Percentage of the average number of PAPs compensated during the period					19%	

Source: OAG analysis of compensation of PAPs for Athi Cluster

- 4.53 Considering that approximately 2 years of project time had elapsed for the 9 projects mentioned in **Table 14**, there is a risk of these projects facing further delays, if issues affecting land acquisition process are not handled expeditiously. **Table 15** shows that,

all projects had less than one year to their end date, meaning a greater proportion of the project time was already spent.

Table 15: Remaining Projects' Time

S/No.	Project Name	Current Project End Date	Remaining Project Time in Months as at the Date of PAPs Compensation Status
1	Mwala Cluster Water and Sewerage Project	05/08/2021	Stalled
2	Malindi - Watamu Town Lot 2A Works in CWSB Areas	25/08/2022	5.5
3	Gatundu Water and Sewerage Project	08/09/2022	6.0
4	Machakos Sewerage Project	28/09/2022	6.6
5	Kiambu and Ruaka Water and Sewerage Project	07/10/2022	6.9
6	Limuru Water and Sewerage Project	10/10/2022	7.0
7	Kikuyu Water and Sewerage Project	30/11/2022	8.7
8	Kitui-Matuu Last Mile Connectivity Project	31/12/2022	9.7
9	Machakos Water Supply Project	28/02/2023	11.7

Source: OAG analysis of remaining projects' time in months as at the date of the PAPs compensation status

4.54 Additionally, analysis of the Tana Cluster report on compensation of project affected persons as at the month of May 2022 revealed that, only 2,949 representing 42% out of a total of 7,059 PAPs had been compensated. The analysis also revealed that, under the Meru sewerage project, 24 kilometres of sewer line was still pending crop and trees compensation and implementation. Only 30% of the compensated land parcels had been worked on. The project was at 49% completion status as at 10 July, 2022.

4.55 The analysis also revealed that, works were on-going in 12 out of the 13 parcels of land and wayleaves, where full compensation had not been done. This is against Section 5:04 (ii) of the Program's Financing Agreement, that requires PAP compensation prior to commencement of any construction on affected parts of the project. Detailed analysis is as shown in [Appendix 21](#). Delays in land compensation was mainly attributed to inadequate counterpart funding.

- 4.56 According to the Program's Technical Annex, land compensation is to be fully funded by the government. Section 5:04 (i) of the Financing Agreement requires that, counterpart funds by the Government of Kenya be provided during the project implementation. However, review of program documents revealed that, counterpart funding remained a major challenge in the implementation of all the projects. The review showed that most of RAP reports were not appropriately implemented.
- 4.57 A report on project land acquisition dated 22 June, 2022 by NLC indicated that the Commission had not received funds for compensating affected persons for the 14 project sites that were being acquired on behalf of the Athi Cluster, as shown in [Appendix 20](#). Further analysis on status for PAP compensation for the Athi Cluster revealed that only 2% of the estimated funds for RAP had been disbursed, as shown in [Table 14](#).
- 4.58 Review of the program reports for November 2021 and June 2022 also indicated that implementation of the Program had been affected by inadequate government counterpart funding to cater for compensation costs under the Tana and Athi clusters. For example, review of documents indicated that Athi Cluster had an estimated balance for unsettled compensation amounting to Ksh.921,451,396 during the month of March 2022 as shown in [Appendix 20](#). Further analysis of records revealed that the cluster had received Ksh.100 million in counterpart funds during the period 2021/2022 against a requirement of Ksh.1.8 billion.
- 4.59 Failure to acquire identified projects' sites in good time does not only slow progress of work, but also results to increase in value of project sites due to factors like developments taking place within sites and their environs over time. For example, review of PAPs compensation report for the Tana Cluster revealed that the actual amount paid during acquisition of 5 out of its 16 project sites had increased by about 44% from the initial estimated cost, as shown in [Appendix 22](#).
- 4.60 [Appendix 22](#) shows that valuation for initial estimates was dated 31st March, 2018, which is about 4 years to projects implementation time. The reason provided for the increase in land value was improvements on land between the time of estimated valuation and the time of actual valuation.

c) Encroachment of Wayleaves and Public Land

- 4.61 Further, the audit established that delay in acquisition of projects' sites results in the identified sites being vulnerable to illegal activities that would require compensation during the project implementation phase. Interviews conducted with the staff from WWDAs established project implementation had experienced cases of encroachment of wayleaves and riparian land.
- 4.62 Interviews with Water Works Development Agencies staff indicated that it is a common occurrence for wayleave and riparian encroachment along water or sewer

line routes post the design phase. When projects take long to commence, there are chances of increased activities along water and sewer line routes, post the design phase. For example, construction of semi-permanent structures, thus creating the need for livelihood compensation. Owners of such structures eventually become eligible for compensation as long as activities took place within the time when the census and assessment of project affected persons took place.

- 4.63 Section 3.4.3 of the African Development Bank Involuntary Resettlement Policy provides for a third group of displaced persons who have no recognizable legal right on the land, that they are occupying. This allows for compensation for loss of livelihood activities, common property resources, structure and crops among others, provided that the affected persons occupied the project area prior to a cut-off date established by the borrower and acceptable to the Bank. **Figure 10** shows cases of encroachment of riparian land encountered during projects physical verification.

Figure 10: Cases of Encroachment of Riparian Land Encountered During Physical Verification

Picture Description: 1- Shows a car wash structure on riparian land in Kiambu-Ruaka blocking installation of sewer lines, where the owner had obtained court order restricting eviction. Pictures 2 and 3 shows riparian encroachment in Malaba project with pipes awaiting installation.



L-R:1-3

Source: *Photos showing encroachment of riparian land, taken during projects' physical verification*

- 4.64 Interview held with the Resident Engineer for the Changamwe Repooling Project revealed that though the cut-off date for PAPs eligibility was 03 June, 2016, changes had occurred over time within the project area, introducing more PAPs in form of

informal businesses along the wayleaves. As a result, the project team adopted an approach of consulting with PAPs, requesting them to give way for works to move on and then move back their structures. This was to avoid more PAPs taking advantage of the compensation payments, which could end up exceeding the allowed budget in the long run.

- 4.65 **Figure 11** shows examples of manholes at Changamwe Repooling Project, constructed alongside informal businesses occupying the road reserve. This does not only inconvenience smooth works progress but also poses potential health risk for the occupants during times of sewer blockages or any other forms of the system malfunctions.

Figure 11: Manholes Constructed Alongside Informal Business Structures



Source: Photo taken during project's physical verification on 24 February, 2022

d) Delays in Approval of Requests to Access or Relocate Public Resources

- 4.66 Interventions in some of the sub-project areas required access to existing infrastructures for pipeline routes. The Ministry of Water Sanitation and Irrigation in collaboration with WWDAs were required to facilitate timely access to these infrastructures, in order to ensure continued work progress. Physical verification carried out during the audit showed that during construction, contractors would excavate across roads to lay pipelines, required access to protected areas like forests and also needed to abstract water from natural water ways.

- 4.67 These activities required approval from relevant institutions such as; the Water Resource Authority for water abstraction approval and KeNHA, the Kenya Urban Roads Authority or KeRRA for excavation across roads, the Kenya Forest Services for forest access, the Kenya Power and Lighting Company (KPLC) as well as the National Environmental Management Authority (NEMA). The audit, however, established that considerable delays were experienced in some of the projects while obtaining approvals for existing infrastructures for pipeline routes.
- 4.68 Interviews in 8 out of the 10 sampled projects revealed that out of 26 approvals that were sought from the various institutions, 20 approvals had been given, while 6 were still pending. Analysis of information provided revealed that, it took more than one month for the institutions to provide access approvals for 17 out of the 20 projects, as shown in **Figure 12** and as detailed in **Appendix 23**. This shows that considerable time was taken in granting most of the access approvals. According to KeRRA, the Kenya National Highways Authority and KURA service charters, approval of road side developments should take thirty, twenty-one and fourteen days, respectively.

Figure 12: Period Taken to Process Access Approvals



Source: OAG analysis of period taken to process access approvals

- 4.69 Interviews conducted revealed that delay for road access approvals by the Kenya Rural Roads Authority, KURA and the Kenya Highways Authority were mostly attributed to failure by road authorities to provide clear direction on the process, delays in responding to requests made, as well as delays in raising invoices.
- 4.70 **Figure 13** shows that, it had taken about 1 year and 4 months for KPLC to relocate poles that were located within the Olkalou sewerage project works area, though

communication had already been made for the same. This posed threat to the work force, besides causing works delays within the location.

Figure 13: Polls Within the Project Work Area in Olkalou Sewerage Project



Photo taken during project's physical verification on 01 February, 2022

4.71 **Table 16** shows 6 approvals that were still pending as at the time of projects physical verification. The analysis shown in the table reveals effects of approval delays, where the Nandi Hills Water Supply and Sanitation Project was still at a very low percentage completion. On the other hand, though Kendubay and Oyugis projects were at an advanced completion stage, lack of approval for water abstraction affected progress at the intake works. Review of correspondences dated 06 and 09 September, 2021 from WRA revealed that delays in the 2 projects were being caused by non-compliance to requirements precedent to issuance of the permits. Continued delays would present a risk to final utilization despite projects being at an advanced completion stage.

Table 16: Pending Approvals as at the Time of Projects Physical Verification

S/No.	Project Name	Nature of Access Sought	Why Access Was Required	Responsible Party	Approximate Time Lapse as at the Time of Audit	Project Completion Status as at 10 July, 2022
1	Nandi Hills Water Project	Road Access	Laying of pipeline	KeRRA	21 days	36%
2	Nandi Hills Water Project	Road Access	Laying of pipeline	KeNHA	2½ months	36%
3	Nandi Hills Water Project	Land Access	Lifting of Moratorium to cut down trees under KFS	MoEF	1 year	36%
4	Nandi Hills Water Project	Water Abstraction Permit	Water abstraction	WRA	2 year	36%
5	Oyugis Water Project	Water Abstraction Permit	Water abstraction	WRA	More than 2 years	92%
6	Kendubay Water Project	Water Abstraction Permit	Water abstraction	WRA	More than 2 years	84%

Source: OAG analysis of pending approvals as at the time of project physical verification

iii. Contractors had Inadequate Capacity

- 4.72 Factors considered by WWDAs while awarding works contracts included; bidders' financial capacity, general and specific experience in the area of interest, as well as capacity to mobilise required personnel and equipment. Interviews conducted with WWDA staff and review of documents, however, revealed several cases of contractors unable to mobilize resources.
- 4.73 Interview with the Resident Engineer for the Changamwe Repooling Sewer Network project revealed that, as a result of the contractor's inability to mobilise, the project experienced slowed works progress and finally stalled at 20% completion. This is despite of the evaluation for contract award showing that the contractor was considered suitably qualified to undertake the works.

- 4.74 Physical verification conducted during the audit confirmed that there was no activity at the project site. The **Case Study Number 1**, provide details of circumstances under which the project stalled.

Case Study Number 1: The Stalled Changamwe Re-pooling Sewerage Project

a. The Project Timelines

The Project contract was signed on 30 October, 2018 between the Athi Water Works Development Agency (formerly the Athi Water Services Board) and Messrs Njuga Consolidated Company Limited. The original completion date for the Project was 14 June, 2020, meaning that the initial project time was 18 months. Approval for the tax exemption was given on 7 February, 2020, about 1 year and 3 months after contract signing.

b. Slow Rate of Work Progress

On falling behind schedule, the Contractor submitted a revised Programme of Works to the Athi WWDA on 22 February, 2019 where the employer gave an extension of contract time up to 14 January, 2021. This resulted to a total contract period of 25 months.

On 24 August, 2020 a notice of "Employers Claim on Slow Rate of Progress" was made to the Contractor. As at this time the project's progress was at 10% against a time elapse of 80%. Pursuant to sub clause 8.6 of the General Conditions for Contract, the Employer noted with concern that the actual rate of progress was too slow to complete the works within the stipulated time. The letter also noted that despite numerous deliberations in management meetings and the Contractor's commitment to put in place strategies to expedite the works, no substantial progress had been recorded on site.

In the letter, the Contractor was also required to submit a revised work programme and a report describing how the Contractor intended to expedite progress, recover lost time and mobilize as per contractual requirements.

On February 2022, the time lapsed was 37.85 months out of a contract period of 25 months. This represented a 151.4% time lapse against a progress of permanent works at 18.24%. This progress had remained static from August 2021 to February 2022, the time of audit.

c. Some of Issues that the Contractor had Raised

The Contractor had raised a claim for "Idle Time" due to delay in approval for tax exemption. However, the Employer noted that this delay was adequately compensated through an extension granted for a period of 213 days. The Contractor had also raised a claim for delayed payment, which WWDA termed as against the contractual agreement by noting that, "The Contract is expressly clear on the compensation in the event of delayed payments under clause 14.8 of the General Conditions of Contract; however, this Clause is not applicable. (refer to the Particular Conditions of Contract)." The Interim Payment Certificates numbers one (1) and 2 took 84 and 144 days, respectively. The Interim Payment Certificate number 3 was pending as at the time of audit, about 173 days.

d. Recalling of the Performance Guarantee

On 12 October, 2021 the Athi WWDA wrote to Equity Bank recalling the Performance Guarantee amounting to Ksh.20,448,329.50, which had been issued to WWDA on behalf of the Contractor. The Water Works Development Agency noted that this was as a result of the Contractor's failure to perform the contractual obligations, including failure to renew the performance guarantee within 28 days to expiry.

e. Litigation and Termination Notice by the Contractor

The Contractor issued his declaration of dispute letter to the WWDA on 6 September, 2021 and later initiated litigation in court. The Contractor also issued a notice to terminate the Contract on 03 November, 2021. The Contractor thereafter ceased all works on the site.

f. AfDB Supervision Missions Report for June 2022

Review of the Mission's report noted that the implementation of the Project was at 20% and that it was under termination. The project has a court case and hearing of the case for arbitration had been set for October 2022. The outcome of the case would determine the decision to be taken, depending on the remaining project time.

g. Effects of Abandoned Structures

Physical inspection carried out on the Project on 24 February, 2022 showed risks facing the incomplete manholes. The inspection showed that there was vandalism of steel used in the construction, as well as manholes being used as garbage pits, as shown in the **photos** below. This is likely to incur extra expenses in subsequent contracts and is also a hazard to the community around.



Source: Photo taken during project's physical verification on 24 February, 2022

- 4.75 Further review of project documents also revealed that 7 more projects were facing contractor mobilisation challenges as shown in **Table 17**. One of the projects had stalled, while the rest risk facing similar consequences considering their completion status versus the project time remaining.

Table 17: Other Projects Facing Challenges in Contractor Mobilisation

S/No.	Project	WWDA	Start Date	Approximate Project Time Remaining as at 10 July, 2022	Completion Status as at 10 July, 2022	Challenges Facing the Projects
1	Kakamega Town Water Distribution and Connections	Lake Victoria North	31/01/2022	6 months	Contractor mobilizing	The project was facing slow mobilization by the contractor.
2	Mwala - Mbiuni Water Supply Project	Tanathi	01/04/2019	Project time had lapsed by about 11 months as at the time of audit.	Stalled at 20%	The project had been terminated and revised bidding documents were to be submitted to AfDB by 29 July, 2022.
3	Keroka Water Supply Last Mile Connectivity Project	Lake Victoria South	04/01/2021	46 days	22%	The contractor was under performing due to tax litigation with the Kenya Revenue Authority.
4	Kitui and Matuu Last Mile Connectivity Project	Tanathi	29/07/2020	5 months	35%	There was inadequate mobilization by the contractor, hence a possibility of termination.
5	Meru Sewerage Project	Tana	02/01/2019	20 days	49%	The project was experiencing several challenges such as; low mobilization levels, inadequate resources and cashflow challenges by the contractor. The Tana WWDA had therefore issued a notice on liquidated damages.
6	Kipkaren – Eldoret Water Supply Project	Lake Victoria North	14/03/2019	79 days	56%	The project was facing inadequate mobilization and poor cash flows.
7	Mandera Water Supply Project	Northern	02/01/2019	20 days	72%	The project was experiencing several challenges such as; low mobilization levels, inadequate resources and cashflow challenges by the contractor. Remedial measures such as direct payment to suppliers and utilization of retention money was being explored.

Source: OAG analysis of other projects facing challenges in contractor mobilisation

iv. Delayed Payments to Contractors

4.76 According to AfDB Aide Memoire dated December 2018 and January 2019, timelines for processing of disbursement requests as agreed between AfDB Mission and the

executing agencies were that, each cluster processes invoices within 14 days from acceptance. The Ministry of Water, Sanitation and Irrigation reviews and processes the requests to The National Treasury within 21 days. The National Treasury reviews and submits request to the Bank within 10 days.

- 4.77 The General Conditions Clause 14.7.1(b) states that "the amount certified in the Interim Payment Certificate should be paid within 56 days after the Engineer receives the statement plus supporting documents ...from when the Project Engineer receives the Interim Payment Certificate and certifies it."
- 4.78 Interviews conducted in 7 out of the 10 sampled projects revealed that none of the Interim Payment Certificates had been processed within the stipulated 56 days. Analysis carried out on 33 IPCs from 6 projects revealed that, 24 IPCs had been paid while 9 were at different levels of processing as at the time of audit. **Table 18** shows the time taken for processing of 24 IPCs, from submission to WWDA to the time of payment which is also elaborated in [Appendix 24](#).

Table 18: Time Taken for Processing the Interim Payment Certificates

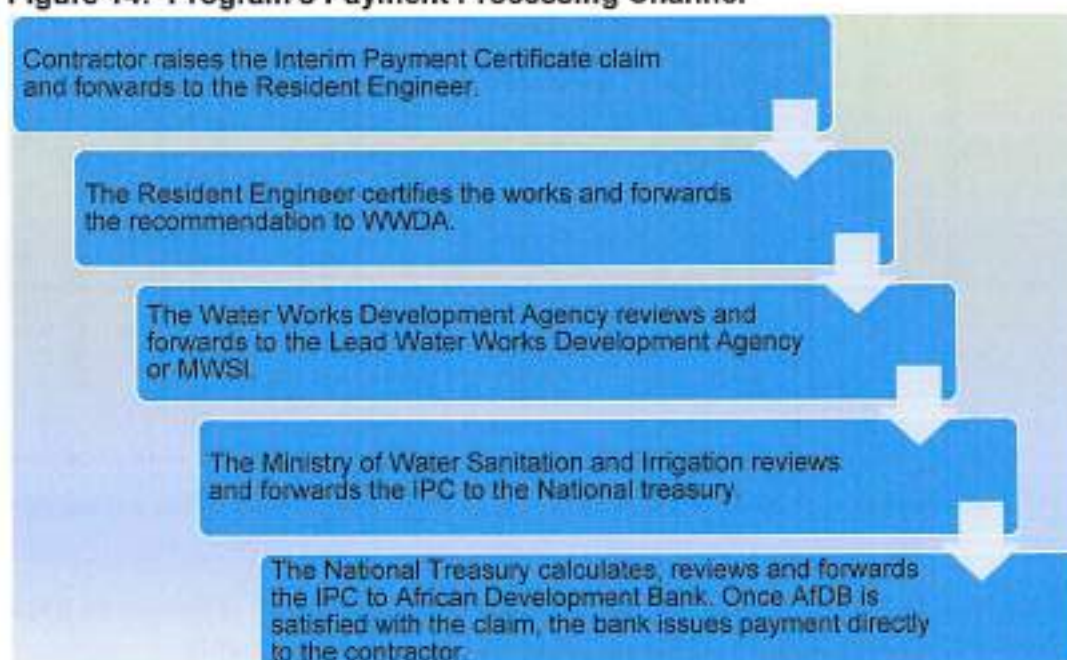
Delays Beyond the Stipulated Processing Period of 56 Days	Number of IPCs Processed
Less than 1 month	3
Between 1 month and 5 months	13
More than 5 months	8
Total Number of IPCs	24

Source: OAG analysis of time taken for processing the interim payment certificates

- 4.79 Further analysis also revealed that, while 2 out of the 9 pending IPCs were still within the stipulated processing time, the rest 7 were beyond the processing period of 56 days, ranging between 2 to 11 months. This information is elaborated in [Appendix 25](#).
- 4.80 Interviews with The National Treasury officers from the Resource Mobilisation Department noted that some of the factors affecting processing of IPCs under the Program include a new tax reform issued vide Treasury Circular No. 15 /2019, that requires proof of payment of Withholding Tax (WHT) to be part of documents attached while processing IPCs. Due to the fact that most of the contractors and consultants are not locals, they have to liaise with Kenya Revenue Authority (KRA) and their respective Line Ministries to generate WHT, which takes long.

- 4.81 Besides the requirement for Withholding Tax, both the African Development Bank and TNT have other requirements that need to be met for payment processing. This results to some documents expiring before completion of the process, which results in the process taking even longer. Documents like Advance Payment or Performance Guarantees may expire before finalization of processes. For example, processing of IPC 2 for Olkalou project which experienced a delay of 5 months was affected by expiry of advanced payment guarantee. Further, the interview revealed that claims received at The National Treasury especially after the closure of financial year would have to wait longer before settlement.
- 4.82 Review of Program documents revealed that, there were processing delays both at the project level and AfDB level. Some of the reasons attributed to delay at the project implementation level included lack of budgetary allocations and expired guarantees. Delays at AfDB level were due to; submission of wrongly filled disbursement forms, missing supporting documents mostly invoices from suppliers, consultants and contractors, invalid guarantees, and lack of contract and bank details on the letter head of the beneficiary bank for first payments under the contract.
- 4.83 Interviews conducted with Project Engineers also revealed that the long channel for payment processing also affected timely payments, considering that an error or omission at the tail end of processing would still require to be cascaded down to the relevant level for correction or inclusion. **Figure 14** shows the payment processing levels for IPCs.

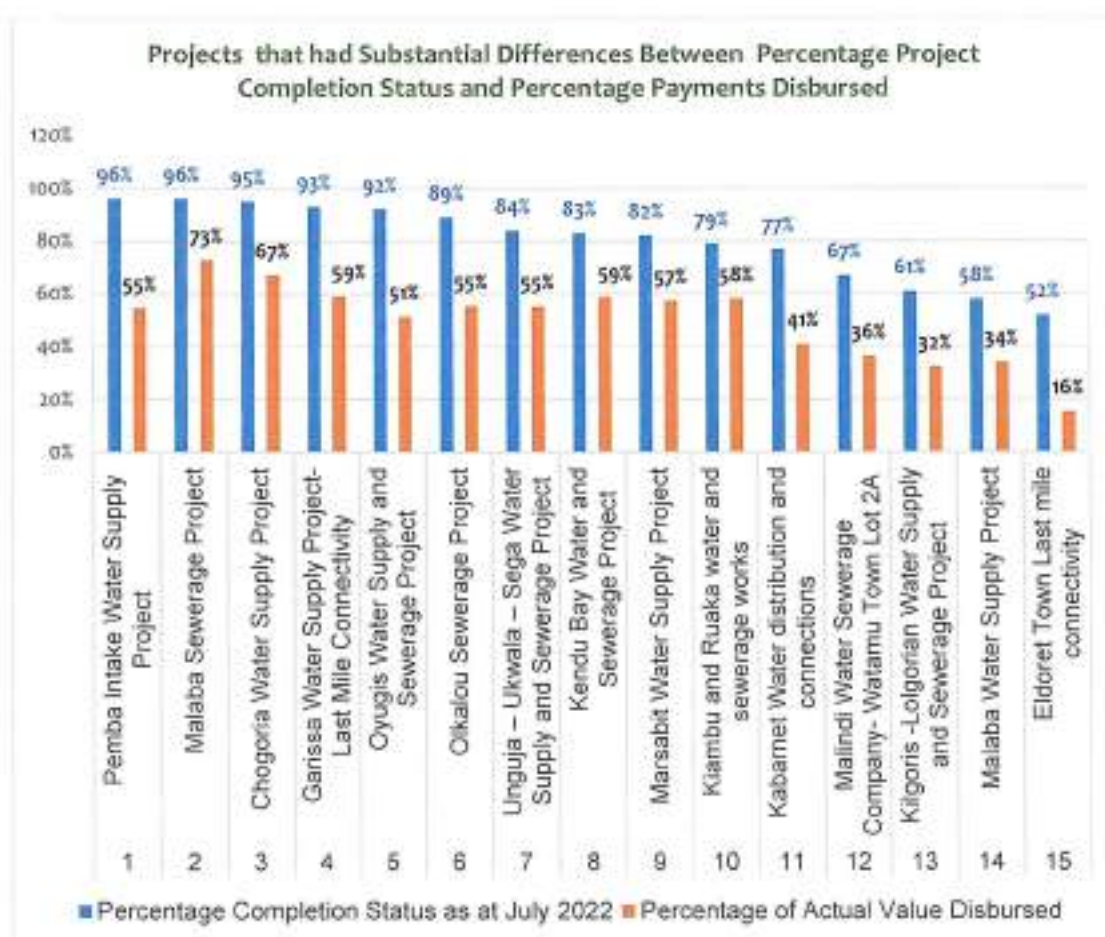
Figure 14: Program's Payment Processing Channel



Source: OAG illustration of the payment processing channel

- 4.84 Delayed disbursement of payments affects the contractors cash flow negatively and as such, could hinder their mobilization efforts as well as contractors raising notices of suspension or slowdown of works.
- 4.85 Further, the Program has been flagged in the Bank System due to slow disbursements, raising a risk of stoppage of disbursement by the Safeguards and Compliance Department. Review of the Program's status report for 10 July, 2022 revealed that, there were differences between projects physical progress and corresponding actual disbursements made. **Figure 15** shows examples of projects where there were substantial differences between project completion and payments disbursed to Contractors. More details are shown in [Appendix 26](#).

Figure 15: Projects that had Substantial Differences Between Percentage Completion Levels and Percentage Actual Disbursements, as Per the Program's Status Report for 10 July, 2022



Source: OAG analysis of projects which had substantial differences between percentage completion and percentage actual disbursements

- 4.86 Prevalence of prolonged delays emanating from the various factors discussed above poses a risk of some of projects not being completed, even with the revised Program

closing date of 31 December, 2023. This would lead to additional costs as well as delayed access to water and sanitation services in the targeted towns as discussed in the following paragraphs.

Effects of Delayed Projects' Implementation

a) Cost Escalation

- 4.87 One major effect of delayed implementation is the cost escalation of projects being implemented under Program. The audit established that both contractors and resident engineers raised or intended to raise claims in relation to delays emanating from coordination aspects of the program. The contracts however, neither allow contractors to raise claims for delayed payments nor for price variation orders.
- 4.88 Slow disbursement of funds would attract a commitment fee charged at 0.25% of the undisbursed amount. The Program Appraisal Report, 2016 indicates that, a commitment fee would accrue 60 days after signing of a loan agreement. Considering that the Program is already flagged in the bank's system due to slow funds disbursements, this raises the risk of the Program eventually costing more than was initially intended. This would mean that the Program would not offer the intended value for money in the long run.
- 4.89 On the other hand, resident engineers' claims emanate from extension of time beyond their original contractual obligations. For instance, document review indicated that the Resident Engineer under Kiambu-Ruaka project had raised a claim of Ksh.45,786,667 for the extension of the construction period by 12 months. Furthermore, the Program risks incurring commitment fee charges for unutilised funds and for projects that will not be completed at the lapse of the final completion date. Given the magnitude of the Program, cost claims raised per project could push the Program's implementation cost to high levels, thus affecting the value for money aspect of the Program.

b) Delayed Loan Repayments

- 4.90 Delays in project completion means that it will take longer than earlier planned for projects to earn revenue from provision of their intended services. This means that WSPs will not be in a position to remit monies for the on-lent loans repayments. Consequently, delayed loan repayments may attract penalties, resulting to increased cost for projects.
- 4.91 The Tana WWDA as at 30 June, 2021 had arrears in loan repayments of Ksh.916 million, comprising of Ksh.543 million principal loan repayments and Ksh.373 million interest arrears. These loans were to be repaid from revenue proceeds of previous on-lent financed projects. Considering that the Tana WWDA has been granted an additional Ksh.5,689,093,088 under KTSWSSP, this increases the loan burden and the probability of not repaying the loan on time.

c) Delayed Access to Water and Sanitation Service

61. Upon completion, KTSWSSP was aimed to provide access to water and sanitation to more than 2.1 million and 1.3 million people, respectively. This was meant, amongst other interventions being undertaken by the Government, to help boost water and water borne sanitation coverage in order to propel the Country towards the realisation of the Kenya's National Development Plan Vision 2030.
- 4.92 Interviews, review of project documents and physical verification of sampled projects revealed that the need for water and sanitation still persisted due to delays in completion of projects. **Tables 19 and 20** show how delays in project completion could continue affecting effective water and sanitation service delivery in 4 targeted towns, respectively. **Appendices 27 and 28** elaborates the status of water and sanitation services versus projects completion levels in these towns, as at the time of audit.

Table 19: Effects of Delayed Projects Completion on Water Service Delivery in Four Towns

S/No.	Project and the Benefiting Water Company	Project Completion Level Versus Service Delivery as at the Time of Audit
1	Nandi Hills Water Supply and Sewerage (Kapsabet Water and Sanitation Company)	The Project targeted about 52% of the towns unserved population. Although laying of distribution lines and construction of storage tanks was at an advanced completion status, overall works progress was at 26.53% versus a time lapse of 66.1%. The objective of serving the targeted population was likely to delay in that, the construction of the water intake and the water treatment plant had not commenced as at the time of audit. This was due to challenges facing acquisition of the project site.
2	Olkalou Water and Sewerage (Olkalou Water and Sanitation Company)	The Project targeted about 30% of the towns unserved population, with an aim to increase water coverage and improve water quality in order to minimise water borne diseases. The water treatment plant was substantially complete except that the dosing equipment and stirrers were at 0% as at the time of audit. There was therefore need to fast track completion of remaining project activities in order to realise the project's intended objective.
3	Garissa Water Supply Last Mile Connectivity (Garissa Water and Sanitation Company)	The Project targeted about 19% of the towns unserved population. The project was at 75% completion versus 309% time lapse. Due to the slow progress in works, it had taken long for intended users to access the project benefits. Further, the entire 19% targeted population may in the long run not be covered, considering that 2 of the boreholes under the project could not be operated due to their low water yields.
4	Malaba Water Supply Project (Busia Water and Sanitation Company)	The Project targeted 100% of the towns unserved population. Overall works progress was at 32.4% versus a time lapse of 60%. Site and wayleaves acquisition challenges facing construction of the new intake weir and laying of pipelines are likely to hinder timely project completion. This could consequently delay realisation of increased water production and distribution.

Source: OAG analysis of status of water coverage in 4 towns

Table 20: Effects of Delayed Projects Completion on Sanitation Service Delivery in Four Towns

S/No	Project/ Benefiting Water Company	Status of Project Completion and Service Delivery as at the Time of Audit
1	Olkalou Water and Sewerage (Olkalou Water and Sanitation Company)	There is need to fast track completion of the sewer project considering that the town do not have a water sewer borne system. Further, considering that KTSWSSP will only be able to connect 18% of the population, timely completion is necessary for ensuring timely modalities for connecting the remaining 82% of the population.
2	Eldoret Last Mile Connectivity (Eldoret Water and Sanitation Company)	With completion of the last mile sewer project, the water borne sewer coverage will approximately be 42% against water coverage of about 80%. There is need to expedite the project completion to enable efficient use of the existing infrastructure as well as enhance clean environment.
3	Malaba Water Supply Project (Busia Water and Sanitation Company)	Considering that there will be a water coverage of 100%, there is need to ensure completion of the sewer project. This will minimise pollution of the transboundary river. There will still be need to increase sewer connection coverage in order to reduce disposal of untreated waste water.
4	Changamwe Re-pooling Sewer Network Project (Mombasa)	Delays will be experienced in serving the targeted population. The underutilized system lifespan will continue diminishing. Eventually, the system may result being not to optimally utilised.

Source: OAG analysis of status of water borne sewer coverage in 4 towns

- 4.93 Tables 19 and 20 show that, there is need for timely completion of projects under the Program, since there is still need for further interventions to ensure coverage of growing population in the counties. Further, there is still a wide gap between water coverage and water borne sewer interventions in the towns. This leads to mismatch between fresh water abstracted and waste water treated and discharged back to the environment, considering that approximately seventy-five percent of water abstracted is discharged as wastewater.
- 4.94 Lack of equal measures to ensure that waste water is collected, contained, conveyed and satisfactorily treated to prescribed acceptable standards when being discharged negatively impacts on sanitation and environmental health. This also compromise the quality of freshwater resources.

II. Risks to Sustainability of the Kenya Towns Sustainable Water Supply and Sanitation Program and Similar Programs

- 4.95 Sustainability of the intended outcomes of KTSWSSP and similar future investments by MWSI is a critical factor towards progressive realization of improved water and sanitation services. Review of documents and interviews conducted with Project and Resident Engineers and the Water Service Providers (WSPs) showed risks that could hamper the sustainability of KTSWSSP and similar future interventions. These are;

a) Inability of Water Service Providers to Meet Operations and Maintenance Costs

- 4.96 The goal of the water sector was that, by 2015 all WSPs should have been able to meet at the minimum, their operation and maintenance costs from internal revenues and progressively move to full cost cover at 100% by 2030. This is meant to ensure that water companies meet their operations and maintenance costs, are able to service their debts and also renew their assets. At a cost coverage of 110% a utility can only guarantee its current level of service.
- 4.97 Review of the water sector reports for the period 2020/2021, indicated that on average, only 7 out of the 47 counties met their operation and maintenance costs. The inability to meet full operations cost was attributed to inadequate revenue generation including low water production, billing by average assessment where there were non-functional or no meters, high cost of power and non-revenue water. As a result, most WSPs relied on their respective counties and MWSI subsidies to meet their operational costs.
- 4.98 Cost components such as salaries and wages and cost of power are a challenge to WSPs. For instance, power bills consume more than half of the revenue realized for companies that rely on pumping. Interviews and document review showed that Garissa, Kapsabet-Nandi and Malindi incurred significant costs on pumping and required periodic subsidies. This poses a high risk of WSPs grinding to a halt or foregoing some maintenance aspects. Furthermore, this scenario deprives WSPs of the ability to carry out extensive connections independently.
- 4.99 Given that the sampled WSPs are benefiting from new or expanded scope of works, additional costs are inevitable. Continued reliance on subsidies by utilities to meet their primary costs is not a sustainable model for service provision.

b) High Levels of Non-Revenue Water

- 4.100 Review of water sectors reports revealed that, the levels of Non-Revenue Water are defined as; under 20% as good, 20 to 25% as acceptable and over 25% as not acceptable. By default, this makes 25% the minimum acceptable threshold

for NRW. Audit evidence indicated that, the sampled WSPs hardly met the minimum threshold on NRW. **Table 21** below shows NRW levels in 8 sampled WSPs within a period of 3 years. In addition, the 2020/2021 performance report for the water sector indicated that 14 out of the 47 counties lose more than 50% of the water they produce.

Table 21: Water Production, Billing and Non-Revenue Water

Year	Water and Sewerage Company	Total Water Produced in M ³	Total Billed Volume in M ³	% NRW
2019/2020	Eldoret	15,104,000	8,753,000	42
	Mombasa	12,114,000	5,834,000	52
	Malindi	6,239,000	4,787,000	23
	Garissa	6,716,000	3,796,000	43
	Homabay	1,107,000	527,000	52
	Busia	865,000	429,000	50
	Kapsabet-Nandi	1,093,000	670,000	39
	Olkalou	653,000	294,000	55
2018/2019	Water Service provider	Total water Produced in M ³	Total Billed Volume in M ³	% NRW
	Eldoret	15,123,000	8,679,000	43
	Mombasa	11,283,000	5,640,000	50
	Malindi	6,846,000	4,917,000	28
	Garissa	6,172,000	3,411,000	45
	Homabay	1,090,000	506,000	54
	Busia	1,207,000	125,000	90
	Kapsabet-Nandi	1,093,000	616,000	44
	Olkalou	438,000	269,000	39
2017/2018	Water Service provider	Total water Produced in M ³	Total Billed Volume in M ³	% NRW
	Eldoret	13,529,000	7,872,000	42
	Mombasa	11,206,000	5,822,000	48
	Malindi	6,761,000	4,584,000	32
	Garissa	6,696,000	3,683,000	45
	Homabay	1,501,000	501,000	67
	Busia	823,000	384,000	53
	Kapsabet-Nandi	1,081,000	573,000	47
	Olkalou	Information was not available	Information was not available	Information was not available

Source: OAG analysis of water production and billing

- 4.101 According to responses gathered from WSPs, vandalism, dilapidated water networks and illegal connections threaten the operations of the water companies. Illegal connections continue to cause high Non-Revenue Water to WSPs and thus, deny them much-needed revenue. With an expanded capacity, the benefitting WSPs under the Program risk continuity of the high NRW levels. Should there be no remedial measures, the benefitting WSPs may experience a situation of high operating costs, low maintenance coupled with low revenue collection.
- 4.102 Besides run-away, theft and spillages, aspects of commercial billing and collection contribute to low revenue realization from water produced and distributed. In order to ensure optimal maintenance of new installations, water sector players need to curb extreme cases of NRW. High NRW leads to inefficiencies in service delivery, including transferring the burden of costs to consumers through increased tariffs.

c) Need for Continuous Institutional Capacity Support to Water Service Providers

- 4.103 The Program had incorporated a support component that would assist WSPs to improve their operational capacity. According to the program appraisal report, capacity development of water service providers would be offered through the construction of laboratories, staff training, studies for future investments, business plan development, provision of equipment/machinery/vehicles and preparatory studies for future investments.
- 4.104 Despite the rollout of capacity support initiative to some WSPs, these entities still require operational support to help tackle NRW and manage the new installations. The sampled WSPs also reported that they require additional capacity support to cater for their operational gaps. In most cases their needs surpassed the support being offered under the Program. Extra needs for institutional support identified included; additional vehicles, billing software upgrades, human resource and accounting support. Providing continuous support would ensure WSPs are not overwhelmed by the expanded scope. This would also ensure the provision of quality water and sanitation services to communities.

d) Status of Tariffs and Licenses

Tariffs

- 4.105 According to the Program Appraisal Technical Annex, 2016 all beneficiary towns are required to operate with an approved tariff that can support cost recovery. Through tariffs, WSPs are able to generate funds that they need for operations and investment in preparation for future generations. Elements considered when setting up tariffs include affordability, equity, social aspect, financial sustainability

of the water company as well as cost for environmental conservation, since volumes abstracted *50cts goes to the Water Resource Authority.

- 4.106 Interview held with the staff from WASREB revealed status of 8 WSPs tariff status, as shown in **Table 22**. The water companies are beneficiaries of the on-going Program.

Table 22: Tariff Status for Eight Water Companies

S/No.	Water Service Provider	Tariff Status	Status of Renewal as at the Time of Audit	Implications of Tariff Status on Service Delivery
1	Homabay	Valid	Not applicable	None
2	Eldoret	Valid	Not applicable	None
3	Mombasa	Expired on 30 June, 2020	Was awaiting setting of the Coast Bulk water tariff which is a major determinant of the company's tariffs.	None recovery of full cost of providing service
4	Malindi	Expired on 30 June, 2020		None recovery of full cost of providing service
5	Busia	Expired in 2012	<ul style="list-style-type: none"> Was using expired tariff for defunct Western Water Company Company has never applied for tariff 	None recovery of full cost of providing service
6	Garissa	Expired on 25 April, 2012	<ul style="list-style-type: none"> Was operating on extra-ordinary tariff Had not applied 	None recovery of full cost of providing service
7	Kapsabet	Expired in April 2012	<ul style="list-style-type: none"> Was operating on extra-ordinary tariff Had not applied 	None recovery of full cost of providing service
8	Olkalou	Expired in April 2012	<ul style="list-style-type: none"> Was operating on extra-ordinary tariff Had not applied 	None recovery of full cost of providing service

Source: OAG analysis of tariff status for eight water companies

- 4.107 The Extra-ordinary tariff was set by WASREB in 2008 and was meant to provide seamless change over to the New Constitution. It was meant to cushion water companies for a period of one year to enable them apply for new tariffs. The implications of operating with an expired or an extra ordinary tariff is that WSP is not able to recover the cost of providing service. Besides generation of revenue, the tariff is also inclusive of the debt component emanating from the new installations. Should there be continued delays in issuance of tariffs post completion of projects, there might be slowed remittance of the debt repayment and a risk of the debt burden being shifted to MWSI and The National Treasury.

Licenses

- 4.108 Further, interviews with WASREB staff also revealed that out of the 8 water companies 4 had valid licenses while 4 were operating without a license as shown in **Table 23**.

Table 23: Status of Licensing for Eight Water Companies

S/No.	Water and Sewerage Company	License Status	Application or Renewal Status	Implication of License Status on Service Delivery
1	Homabay	Effective date was 01 September, 2021. Expiry date is 31 August, 2023. License had not been issued for failure to deposit Performance Guarantee.	-	The Water Service Provider was operating without a licence as at the time of audit.
2	Eldoret	Effective date was 20 May, 2019. Expiry date is 19 May, 2024. Licence valid for 5 years.	Licence is valid.	-
3	Mombasa	A two-year license was approved by the Board. However, has not been issued for failure to deposit a Performance Guarantee.		The Water Service Provider was operating without a licence as at the time of audit.
4	Malindi	Effective date was 01 September, 2021. Expiry date is 31 August, 2023.	Licence is valid	-
5	Busia	The Water Service Provider qualified for a 2 year Interim Licence. However, the Licence had not been approved as at the time of audit since the WASREB Board retired in February 2022.	Pending Board of Directors Approval	The Water Service Provider was operating without a licence as at the time of audit.
6	Garissa	The Water Service Provider made an incomplete application. The Water Services Regulatory Board requested a re-submission which had not been done as at the time of audit.		The Water Service Provider was operating without a licence as at the time of audit.
7	Kapsabet-Nandi	Effective date was 01 September, 2021. Expiry date is 31 August, 2023.	Licence is valid	-
8	Olkalou	Effective date was 01 September, 2021. Expiry date is 31 August, 2023.	Licence is valid	-

Source: OAG analysis of status of licensing for eight water companies

- 4.109 Below is a **Case Study** of the Narok Water and Sewerage Company, showing the status of its Tariff and Licensing and effects that lack of tariff and license had on the Company's operations.

Case Study No. 2

Narok Water and Sanitation Company – Beneficiary of Narok Sewerage Project

Delays in Renewal of Tariff and Lack of an Operating License

Tariff

Water Service Providers are supposed to apply for tariff 6 months before their expiry date. Delays in renewing tariffs has implications in that despite rising costs for water production, WSPs continue using expired tariffs that are lower and therefore end up making losses.

The Narok Water and Sewerage Company's tariff expired in 2014 and application for a new tariff was done on 16 November 2020, a period of 6 years. On 03 December, 2020 WASREB wrote to the Company, pointing out gaps they were to address which was brought about by inaccurate data. For tariff process to qualify for public participation, the time frame should not exceed 6 months. Since the Company delayed in submitting the requested data, the six months duration elapsed and WASREB requested for fresh application on 20 May, 2020.

On 7 July, 2021 data was availed and on 08 December, 2021 public participation took place. On 31 January 2022, the Company sent the report which WASREB reviewed and prepared a technical paper to the full board. However, as at April 2022, about 8 years the process has not been finalised since the board retired in February 2022.

License

The Licence for Narok Water and Sewerage Company was approved by the Regulatory Board on 01 September, 2021 and is valid up to 31 August, 2023. However, this license has not been issued by the Regulatory Board, since the company has not deposited Performance Guarantee of Ksh.1,592,885 in accordance with Section 88 (2) of the Water Act 2016 and Gazette Notice 12188 of 2018. The Regulatory Board has written several reminders to the company in vain, latest being on 06 May, 2022.

The projects was completed in November 2020 but the Company had to operate free of charge due to lack of an operating license. Status as at June 2021: Water Coverage and Sewerage Coverage were 34% and 0%, respectively; Tariff and License had expired.

Source: Interviews and review of documents on status of tariff and licensing for Narok Water and Sanitation Company

e) Rapid Urbanization and Infrastructure Development

- 4.110 The audit identified that ongoing road constructions and other essential infrastructure developments are a risk to the implementation of the Program and the operations of WSPs. The growth of rural towns threatens to outpace the laid down water and sewer systems. This threat is high especially in counties that have not rolled out a conclusive physical plan. A case in point is the Malaba Project whereby there was limited information on the town's physical plan. Consequently, there have been cases where new county roads were constructed on top of already laid sewer infrastructure. Such occurrences present a risk to both future expansion drives or maintenance aspects that may emerge.
- 4.111 In addition, all the 3 clusters have had encounters where other government-initiated infrastructure development projects overlap, thus creating difficulties in progress of work. A frequent occurrence is the overlapping infrastructure between the water sector and roads sector infrastructure. Road construction, as well as water system infrastructure, requires the use of road wayleaves in some segments. However, the wayleaves remain a preserve of road authorities. Plans for roads and water development are therefore, not realigned to complement each other.
- 4.112 Consequently, there is a build and demolition cycle by both parties, as the water pipes damaged during road construction works must be repaired or re-installed. Where road excavations are done to lay pipes, restoration of the road surface must equally be done. Not only does the cycle lead to high cost of projects, but also leads to long service disruptions. Furthermore, the shared wayleaves may be exhausted leaving no room for future expansion for both the water and sewer service lines. In this case, future water connections are restricted from the start. This presents a threat to future program linkages and the effective service delivery of the water and sanitation sector.

f) Threats to Continuity of Water Supply from Water Sources

- 4.113 According to the Program's Technical Annex, the Program was classified as Category II under AfDB's climate screening safeguards, indicating the program interventions may be vulnerable to climate risks. Adverse effects of climate change threaten the sources of water on which water treatment facilities rely on, especially in the arid areas like Isiolo. This means the design capacity of facilities risks being underutilized should the source volume decline. Consequently, all realized benefits might recede and fall short of the intended objectives.
- 4.114 The audit also identified over-abstraction of water from the sources as another potential threat to domestic supply of water. According to the Constitution of Kenya Article 43, every citizen has a right to clean and safe water in adequate quantities and as such, no one has exclusive rights to the water resource. This means that water as a resource is shareable within the community. The Water

Resource Authority water permit system, however, prioritizes water for domestic use, while priority for water for agricultural and industrial use follows, respectively.

- 4.115 Despite the Water Resource Authority permit system prioritising water for domestic use, the emergence of irregular irrigation schemes threatens the sustainability of water treatment plants and subsequently the optimal use of water borne sewer systems under construction. **Figure 16** shows irrigation activities upstream, that have greatly reduced the amount of water that Olkalou Water and Sewerage Company could tap downstream, which could be a setback for the on-going projects. As at the time of audit, the Company could only abstract 32% of the 25,000m³ required per day during the dry season. During the rainy season, the company abstracted 68% of its daily water demand.

Figure 16: Activities in Olkalou Catchment Area Including Uncontrolled Irrigation

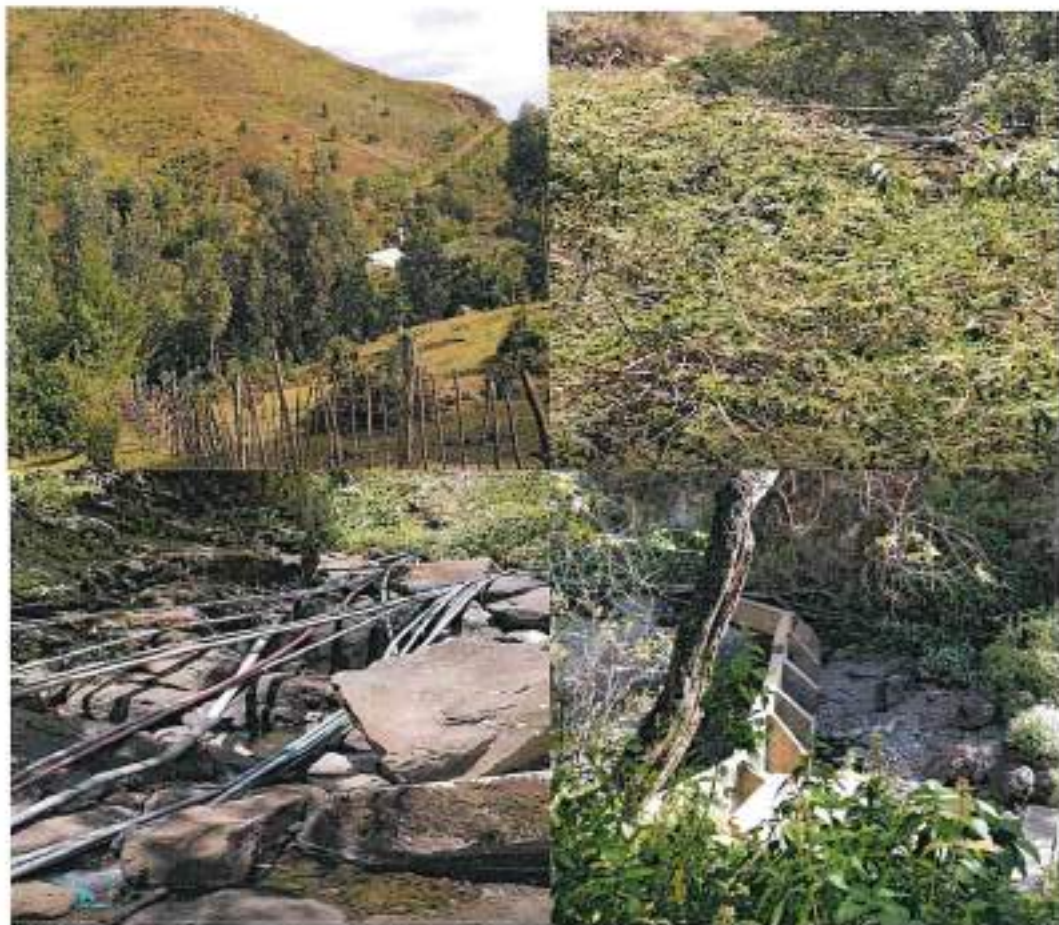


Photo of Olkalou Catchment Area taken on 01 February, 2022 during physical verification

- 4.116 There is therefore need to develop cross cutting measures that will safe guard the water sources in order to ensure continued water and sanitation services.

g) Limited Last Mile Connectivity Hindering Optimal Use of Existing Infrastructure

- 4.117 To ensure that the full objective of KTSWSSP is realised, there will be need for prioritization of last mile connection activities in areas where primary infrastructure has been laid. This is to ensure that the population targeted under the Program access water and sanitation services in a timely manner. Some of previous projects undertaken took longer than intended to cover the targeted population, due to the limited levels of last mile connectivity. For example, the primary infrastructure for the Othaya Last Mile Project was laid in 2013 under the Small Towns Program which did not cater for last mile connectivity.
- 4.118 Similarly, under the Program last mile connectivity will only be realised to a certain extent. For example, Gatundu Water Supply and Sewerage Project that targets to serve a population of 160,000 people but only allows for 2,000 connections, meaning that the entire population will not be connected. This will require subsequent last mile infrastructure to be done as soon as possible to ensure total coverage of the remaining population. One of the reasons that may delay most of WSPs in achievement of the intended coverage is lack of financial capability to expand their infrastructure. This means that they have to wait until there is an opportunity for a similar intervention, which may take time.

5.0 CONCLUSIONS

- 5.1 The Kenya Towns Sustainable Water Supply and Sanitation Program initiative was aimed at improving water and sanitation services in 33 and 23 towns, respectively. Despite the impact of the COVID 19 pandemic, the Ministry of Water Sanitation and Irrigation has managed to safeguard the continuity of the Program. To some extent, some projects under the Program have been completed as per the expected timelines and are offering water or sanitation services in the targeted towns.
- 5.2 In spite of the success in the completion of a few of the infrastructure projects, there are limitations that may hinder the full implementation of the Program, as detailed below: -
- i. The National Treasury did not take into consideration program timelines during the processing of subsidiary loan agreements.
 - ii. The Ministry of Water, Sanitation and Irrigation, The National Treasury and the Water Works Development Agencies (WWDAs) did not realise to a great extent, the set timelines for processing Interim Payment Certificates, as well as processing relevant tax exemptions during the purchase of line items. The erratic nature of processing the exemptions cannot guarantee the predictability of outcomes. Thus, this creates a system where there is no uniformity in processing of tax exemptions across projects. Considering the Program time lapse, the responsible parties should have been versed with the standard documentation procedures, to minimise the back and forth delays in the processing.
 - iii. The Ministry of Water, Sanitation and Irrigation and WWDAs did not to a great extent provide access to land or wayleaves when needed, in a timely manner. This was a widespread occurrence across the Program. There is a greater need for the water sector to provide project sites in relation to initiated programs. This would also eventually minimise resources spent in procurement of project land sites.
 - iv. The Ministry of Water, Sanitation and Irrigation did not ensure the timely approval of statutory approvals. Further, beyond the approvals needed from other state departments, the Ministry of Water, Sanitation and Irrigation affiliated Semi-Autonomous Government Agencies did not provide approvals on time, especially with reference to abstraction licenses.
 - v. Various players in the Water Sector have not been performing their respective roles effectively in ensuring optimal realisation of projects gains.
 - vi. The Ministry of Water, Sanitation and Irrigation did not ensure the preparedness of stakeholders, in order to allow for efficient Program implementation.

6.0 RECOMMENDATIONS

6.1 In view of the findings and conclusions of the audit, the Auditor-General proposes the following recommendations:

1. The Ministry of Water, Sanitation and Irrigation (MWSI) should ensure that relevant stakeholders are well prepared to carry out their given roles in Programs, before any financing commitment is done.
2. The National Treasury should ensure that there is due consideration for Programs' timings during preparation of loan agreements.
3. To ensure the timely processing of the master list and specific exemptions for the Kenya Towns Sustainable Water Supply and Sanitation Program (KTSWSSP) and similar programs, MWSI should;
 - a) Streamline the tax exemption process and reduce the steps and players involved in the process of validating documents. This would aid in reducing bureaucracy; and
 - b) Ensure that all stakeholders are sensitized on the documentation and processes of acquiring exemptions, in order to minimize errors and omissions.
4. To ensure the timely processing of payments for KTSWSSP and similar programs, the Ministry of Water, Sanitation and Irrigation should;
 - a) Avoid duplications in oversight procedures that form part of the payment processing. Moreover, the Ministry of Water, Sanitation and Irrigation, in consultation with The National Treasury should implement a simplified direct payment channel, between the implementer and the financier; and
 - b) Ensure that all stakeholders are well versed and updated on document requirements for payment processing.
5. To facilitate the timely acquisition of land and wayleaves for KTSWSSP and similar programs, the Ministry of Water, Sanitation and Irrigation should;
 - a) Map out all riparian land intended for future use and establish markers that prevent encroachment;
 - b) Acquire key project sites post the final design review of a project or acquire the key sites before commencement of any construction works;
 - c) Accommodate the budgetary needs raised in Resettlement Action Plans;

- d) Carry out extensive civic education on potential Project Affected Persons in order to mitigate hostility and exorbitant claims that could potentially delay land acquisition; and
 - e) Develop a collaborative framework with road authorities on mutual sharing of road wayleaves.
- 6. To ensure the timely processing of other statutory requirements, MWSI should develop a collaborative understanding with state departments that repeatedly form part of key stakeholders in water projects. This would ensure a minimum turnaround time for processing of statutory requirements.
- 7. The Ministry of Water, Sanitation and Irrigation should roll out an extensive institutional and governance campaign that would strengthen WSPs. In addition, MWSI should take into consideration the institutional capability of WSPs when rolling out programs and projects, as a risk mitigation measure for sustainability purposes.
- 8. Based on funds availability, MWSI should focus on single major activities for implementation, rather than implementing multiple activities, which spread thinly on the ground, and therefore less impact and output.
- 9. In order to ensure the optimal use of the existing infrastructure, the Ministry of Water, Sanitation and Irrigation should prioritise last mile connectivity while planning for future investments.
- 10. To safeguard the sustainability of water catchment areas, the Ministry of Water, Sanitation and Irrigation in conjunction with the Water Resource Authority, should initiate extensive water catchment protection measures. This would ensure the continuity of water sources and quality service provision.
- 11. In view of emerging climate change compounded with growing water demands, it is necessary for the Ministry of Water, Sanitation and Irrigation to explore and invest in the satisfactory treatment and re-use of wastewater in order to minimize reliance on the limited available freshwaters. The re-use should not compromise human health, ecosystem and the general environmental biodiversity. The re-use should be in strict compliance with the established water quality standards, depending on the use of wastewater.
- 12. To minimize the Water Service Providers operational costs, the Ministry of Water, Sanitation and Irrigation should engage relevant stakeholders and develop policies that can reduce production costs at the Water Service Provider level. This may include zero rating or streamlining of levies paid to multiple agencies.

7.0 APPENDICES

Appendix 1: Details of Projects and Studies for Future Investments

S/No.	Project Name	Water Works Development Agency	County	Population to be Served	Project Value (Ksh.)
1	Gatundu Water Supply and Sewerage Project	Athi	Kiambu	160,000	1,750,800,775.34
2	Kikuyu Water and Sewerage Project	Athi	Kiambu	45,500	635,993,481.75
3	Limuru Water and Sewerage Project	Athi	Kiambu	37,500	576,398,513.11
4	Kiambu and Ruaka Water and Sewerage Project	Athi	Kiambu	95,000	1,292,917,545.01
5	Makutano Water and Sewerage Project	Athi	Murang'a	70,000	689,651,517.67
6	Pemba Intake Water Supply Project	Coast	Kwale	800,000	286,801,675.00
7	Changamwe Re-Pooling Sewer Network Project	Coast	Mombasa	25,000	204,483,295.00
8	Malindi Water Sewerage Company- Watamu Town Lot 2A Works in CWSB Area	Coast	Kilifi	40,000	218,650,718.00
9	Machakos Water Supply Project	Tanathi	Machakos	200,000	1,068,364,819.70
10	Machakos Sewerage Project	Tanathi	Machakos	50,000	840,476,576.88
11	Mwala – Mbiuni Water Supply Project	Tanathi	Machakos	55,000	583,332,778.60
12	Kitui and Matuu Last Mile Connectivity Project	Tanathi	Kitui	45,000	1,016,789,603.14
13	Kerugoya and Kutus Water Supply Project	Tana	Kirinyaga	345,000	1,159,898,600.38
14	Kerugoya and Kutus Sewerage Project	Tana	Kirinyaga	38,000	500,139,446.00
15	Chuka Water Supply Project	Tana	Tharaka-Nithi	144,000	585,649,900.00

S/No.	Project Name	Water Works Development Agency	County	Population to be Served	Project Value (Ksh.)
16	Chuka Sewerage Project	Tana	Tharaka-Nithi	27,000	459,368,692.00
17	Chogoria Water Supply Project	Tana	Tharaka-Nithi	170,000	574,317,060.56
18	Chogoria Sewerage Project	Tana	Tharaka-Nithi	18,000	374,595,276.00
19	Meru Sewerage Project	Tana	Meru	97,000	874,506,524.37
20	Othaya Sewerage Project-Last Mile Connectivity	Tana	Nyeri	87,000	60,729,700.00
21	Murang'a South Water Supply Project-Last Mile Connectivity	Tana	Murang'a	30,000	26,853,325.00
22	Murang'a Urban Water Supply Project-Last Mile Connectivity	Tana	Murang'a	80,000	55,086,207.00
23	Mandera Water Supply Project	Northern	Mandera	400,000	1,420,147,043.00
24	Mandera Sewerage Project	Northern	Mandera	80,000	1,039,413,014.06
25	Marsabit Water Supply Project	Northern	Marsabit	37,000	722,685,029.91
26	Marsabit Sewerage Project	Northern	Marsabit	37,000	1,001,017,386.09
27	Garissa Water Supply Project-Last Mile Connectivity	Northern	Garissa	20,000	191,467,331.00
28	Isiolo Water Supply and Sewerage Project-Last Mile Connectivity	Northern	Isiolo	10,000	73,238,917.25
29	Narok Sewerage Project	Central Rift Valley	Narok	178,000	1,714,225,175.00
30	Olkalou Sewerage Project	Central Rift Valley	Nyandarua	20,000	589,937,192.00
31	Kabarnet Water Distribution and Connections	Central Rift Valley	Baringo	20,000	113,000,000.00
32	Kapenguria Sewerage Project	North Rift Valley	West Pokot	28,000	559,223,359.47
33	Chepararia Sewerage Project	North Rift Valley	West Pokot	13,000	374,511,254.25
34	Kiptogot – Kolongolo Water Supply Project	North Rift Valley	Trans Nzoia	80,000	1,200,043,073.25

S/No.	Project Name	Water Works Development Agency	County	Population to be Served	Project Value (Ksh.)
35	Eldoret Town Last Mile Connectivity	North Rift Valley	Uasin Gishu	50,000	434,656,157.98
36	Bomet – Mulot Water Supply and Sewerage Project	Lake Victoria South	Bomet	117,000	1,516,202,025.00
37	Kilgoris -Lolgorian Water Supply and Sewerage Project	Lake Victoria South	Narok	40,000	518,204,478.45
38	Nandi Hills Water Supply and Sewerage Project	Lake Victoria South	Nandi	27,000	374,511,254.25
39	Oyugis Water Supply and Sewerage Project	Lake Victoria South	Homa Bay	119,000	706,234,154.00
40	Kendu Bay Water and Sewerage Project	Lake Victoria South	Homa Bay	52,000	673,929,361.00
41	Unguja – Ukwala – Sega Water Supply and Sewerage Project	Lake Victoria South	Siaya	62,000	1,046,858,732.53
42	Migori-Isebania Town Water Supply Connectivity Project	Lake Victoria South	Migori	20,000	277,052,980.97
43	Siaya And Bondo Towns Water Supply Connectivity Project and Sewerage	Lake Victoria South	Siaya	30,000	265,312,016.02
44	Keroka Water Supply Last Mile Connectivity Project	Lake Victoria South	Nyamira/ Migori	20,000	114,309,996.15
45	Malaba Water Supply Project	Lake Victoria North	Bungoma/ Busia	200,000	686,615,424.00
46	Malaba Sewerage Project	Lake Victoria North	Bungoma/ Busia	33,000	306,956,340.41
47	Kipkaren – Eldoret Water Supply Project	Lake Victoria North	Uasin Gishu / Nandi	320,000	1,185,758,756.42
48	Kakamega Town Water Distribution and Connections	Lake Victoria North	Kakamega	30,000	129,633,440.22

S/No.	Project Name	Water Works Development Agency	County	Population to be Served	Project Value (Ksh.)
	Studies for Future Investments				
1	Studies for Bergei Dam Water Supply Project	Central Rift Valley	Baringo	To be determined	93,057,461.89
2	Studies for Amaya Dam Water Supply Project	Central Rift Valley	Baringo	To be determined	65,158,743.00
3	Eldama Ravine Sewerage Project	Central Rift Valley	Baringo	To be determined	34,803,556.00
4	Studies for Two Rivers Dam Water Supply Project	North Rift Valley	Uasin Gishu	To be determined	62,426,430.00
5	Studies for Kitale Sewerage Project	Lake Victoria North	Trans Nzoia	To be determined	45,833,641.00
6	Studies for Kapsabet, Busia, Nambale and Webuye Towns Sewerage Projects	North Rift Valley/Lake Victoria North	Uasin Gishu, Busia and Bungoma	To be determined	55,811,090.00
7	Studies for Mumias and Kimilili Towns Sewerage Project	Lake Victoria North	Kakamega/ Bungoma	To be determined	39,497,000.00
8	Studies for Oloolotikosh Kitengela-Kajiado Water Supply Project	Tanathi	Kajiado	To be determined	102,085,609.00
9	Studies for Mwanja-Miwongoni Dam	Tanathi	Machakos	To be determined	91,950,000.00
10	Studies for Ongata Rongai, Ngong And Mavoko Sewerages	Tanathi	Kajiado	To be determined	38,000,000.00
11	Studies for Nanyuki Sewerage Project	Tana	Laikipia	To be determined	38,000,000.00
12	Studies for Loyangalani Water and Sanitation Project	Tana	Marsabit	To be determined	32,000,000.00

Appendix 2: Documents Reviewed

Document	Information Needed from the Document
Program Appraisal and Technical Appendices for the Program	To obtain information on what the implementation of the Program entailed.
The African Development Bank Aide Memoires	To obtain information of projects' status and check on the impediments of projects implementation.
The Projects' monthly reports, quarterly reports and site meeting minutes	
Reports and Data from Water and Sanitation Companies	<p>To obtain information on the service levels of the existing systems and the intended output of the new infrastructure, that is, in relation to capacity and customers to be served.</p> <p>To find out challenges hindering effective and efficient service delivery.</p>
Correspondences on tax exemptions and master list approvals	To obtain information on the processes and timelines.
Correspondences and reports on tariffs	Obtain information on processes for licensing and issuance of tariffs to the WSPs. Find out status of license and tariffs for the sampled WSPs.

Appendix 3: List of Officers Interviewed

Stakeholder	Position of the Interviewee	Purpose of the Interview
Ministry of Water, Sanitation and Irrigation	The Water Secretary and the Program's desk projects' coordinator	<ul style="list-style-type: none"> To find out the Program's expected outputs and role of MWSI with regard to projects' implementation. Obtain information on impediments facing Program implementation.
Water Works Development Agency	Project Engineer	To ascertain status of project completion and challenges facing project implementation
	Resident Engineer	
Water Service Providers	Managing Directors and Technical Managers for WSPs	<ul style="list-style-type: none"> To establish their role with regard to the Program implementation. To find out their capacity needs towards realisation of the Program's objective. Find out the impediments facing projects' implementation.

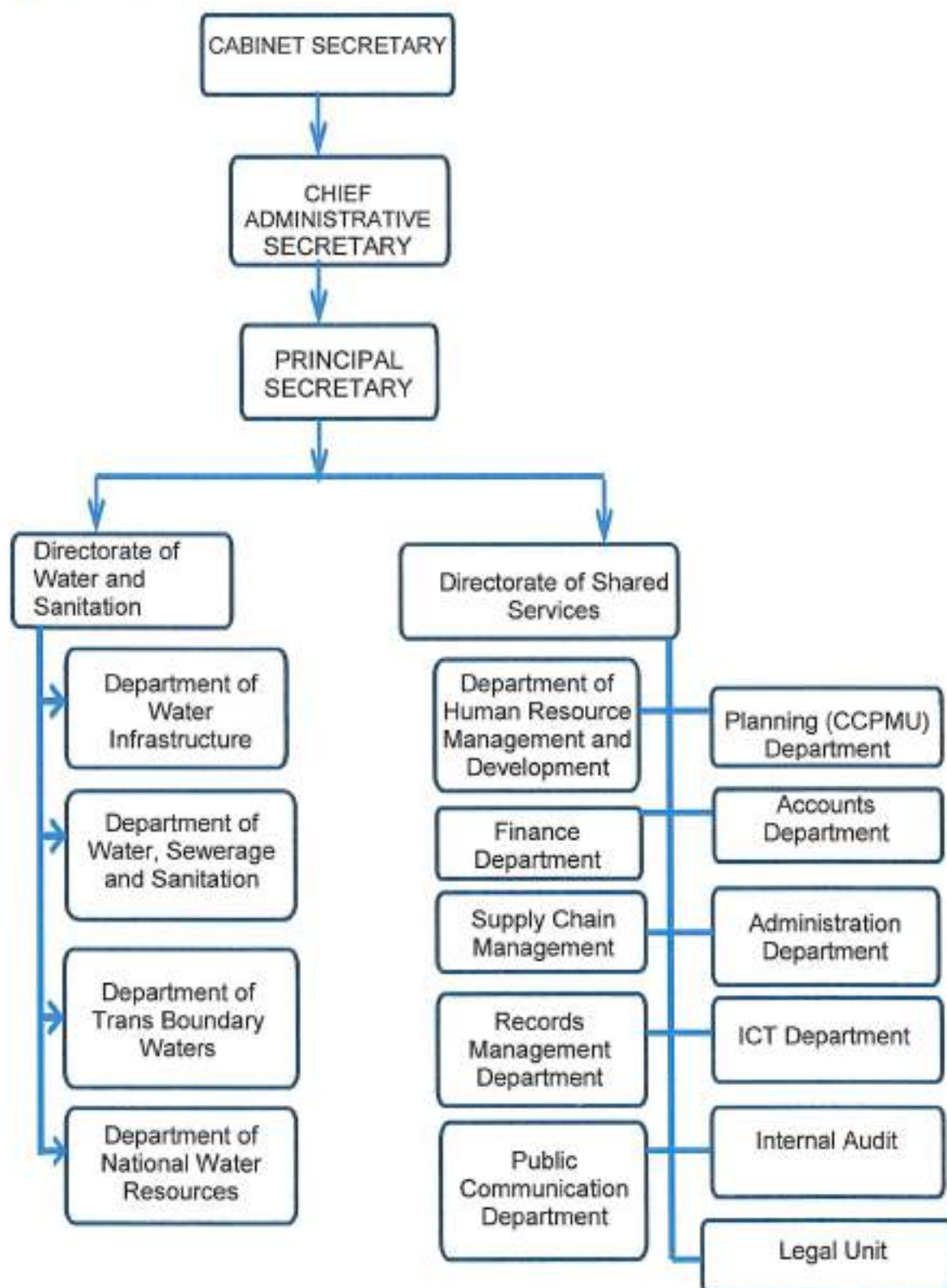
Appendix 4: Audit Criteria

Audit Sub-Objective	Audit Criteria	Source
To assess whether the Ministry of Water, Sanitation and Irrigation ensured implementation of the Program as per the implementation schedule.	<p>The Program was to be implemented between 01 January, 2017 and 31 December, 2021, 54 months or 4½ years, from the date of signing of the financing agreements. The completion date for projects implementation was June 2021, while the closure date for disbursements was December, 2021.</p> <p>The Ministry of Water, Sanitation and Irrigation is responsible for the overall program coordination between the various stakeholders. This includes periodical monitoring and controlling, organising stakeholder meetings and facilitating processing of tax exemptions and payment certificates.</p>	Program Appraisal Report July, 2016, Pg. 15
To assess whether WWDAs sought and obtained tax exemptions in time in order to minimize delays in program implementation.	The Program's funds are tax exempt and that the WWDAs should ensure that they seek and obtain the necessary tax exemptions in time, in order to minimize delays in payments and hence program implementation.	Program Appraisal Report July, 2016, Pg. 16
To assess whether WWDAs ensured that land and wayleaves for project construction were acquired on time.	According to the construction contracts, one of the conditions precedent to commencement of works after contract signing was effective access to and possession of the site, given physically to the contractor by the Water Works Development Agency.	Contract Agreements
To assess whether the Ministry of Water, Irrigation and Sanitation and WWDAs ensured timely access to public resources	According to the Program's technical annexes July 2016, interventions in some of the sub-project areas require land acquisition and/or restrictions of access to existing infrastructures for pipeline routes.	Program's technical annexes July 2016, Pg. 75

Audit Objective	Sub-	Audit Criteria	Source
during project implementation.			
To assess whether the Ministry of Water, Sanitation and Irrigation, WWDAs and The National Treasury ensured timely processing of contractors' payment certificates.		According to the AfDB mission report, timelines for processing of disbursement requests as agreed between the AfDB mission and the executing agencies were that each cluster processes invoices within 14 days from acceptance. The Ministry to review and process requests to The National Treasury within 21 days. National Treasury to review and submit requests to the Bank within 10 days.	AfDB Mission Report, December 2018 and January 2019, Pg 5
To assess whether WWDAs ensured implementation of the institutional development support for WSPs as per the Program's implementation schedule.		For financial and operational sustainability of the WSPs, the program will support the WSPs to build their capacities through training and provision of equipment to support credit control, billing and collection systems, reduction in and management of NRW, asset management and good governance.	The Program Appraisal Report 2016, Pg. 17-18
To assess whether revenue collected by the Water Service Providers cover their operations and maintenance costs.		<p>The Sector's benchmark is between 130% and 150%</p> <p>At over 150% O+M cost coverage, a utility is considered to have attained full cost recovery i.e., able to meet operations and maintenance costs, service debt and renew its assets.</p> <p>The goal of the water sector is that by 2015, all WSPs should have been able to meet at the minimum, their operation and maintenance costs from internal revenues and progressively move to full cost recovery by 2030.</p>	WASREB Impact Reports 2018-2019, Pg. 58
To assess whether the Ministry of Water, Sanitation		According to the Program's project appraisal, the Program was classified as Category II under ADB's climate screening	Program's Appraisal

Audit Objective	Sub-Audit Criteria	Source
and Irrigation and WWDAs have established measures of ensuring continuity of water supply from water sources.	<p>safeguards, indicating the program interventions may be vulnerable to climate risks.</p> <p>Program will include climate change adaptation support which entails local level climate change impact assessments and preparation of plans, and capacity building for the implementation of plans.</p> <p>Potential support includes development of management procedure for WSPs to cope with drought situation and riverbank and catchment protection.</p>	Report, 2016, Pg. 12

Appendix 5: Organisation Structure for the Ministry of Water, Sanitation and Irrigation



Appendix 6: Lead and Beneficiary Relationship

S/No.	Activity	Party Responsible
1.	Design and preparation of bidding documents for the projects	Lead and Beneficiary Agency shall prepare bidding documents and forward to the Lead Agency for onward submission to the bank. The Lead Agency shall consult with beneficiary agency before submitting final procurement documents to the bank for 'no objection'.
2.	Procurement of goods, works and services including evaluation and awards of tenders	The Lead Agency as an agent of beneficiary agency shall call for bids. The lead and beneficiary agencies will jointly undertake all procurement activities.
3.	Signing of contracts	The lead agency shall sign all contracts as an agent of beneficiary agencies being the last signatory.
4.	Preparation and certification of payment certificates	Lead and Beneficiary.
5.	Contract management	Lead and Beneficiary.
6.	Payment of certificates, financial management, financial reporting and fiduciary responsibility	Lead Agency.
7.	Risk for penalties for late payment	Shared between the beneficiary agencies.
8.	Payment of projects management, supervision and monitoring costs	Shared between the beneficiary agencies.
9.	Project progress reports	Lead agency through the program implementation team.
10.	General implementation management, coordination and monitoring of the projects	Beneficiary agencies through the projects' coordination team and the program implementation team.

Appendix 7: Roles of the Project Implementation Team

- i. Prepare the projects annual work program, budget and procurement plan and ensure the implementation and continuous updating of the same.
- ii. Ensure procurement of goods, works and services under the projects in accordance with African Development Bank (AfDB) Guidelines and the Government of Kenya Guidelines.
- iii. Ensure projects implementation is in accordance with AfDB and Government of Kenya guidelines.
- iv. General coordination of the projects, including monitoring overall projects implementation, reviewing and presenting projects progress reports and following up on various projects issues.
- v. Ensure the timely preparation of payment certificates for goods, works and services provided under the project and their submission to the respective WWDA for settlement.
- vi. Promptly reporting to the Program Steering Committee any issue that may adversely affect the implementation of the projects or result in delay of achievement of the projects milestones.
- vii. Inform the Water Works Development Agencies management of the progress of the projects and furnish the Chief Executive Officer to such an extent, in search form and detail as may be required from time to time.
- viii. Monitor and evaluate progress of the projects and prepare projects reports in accordance with the program appraisal report and on the basis of the indicators set forth in the program implementation plan.
- ix. Ensure compliance with the Anti-Corruption and Environmental and Social Safeguards Measures stipulated in the program appraisal report.
- x. Assist the project coordinator to prepare and participate in ADB missions.
- xi. Undertake any other duty that may be delegated to it.

Appendix 8: Roles of the Project Steering Committee

- i. Give direction on the implementation of the program as appropriate.
- ii. Give guidance to Project Coordination Team on the issues that they are unable to decide on conclusively.
- iii. Receive reports and give guidance on any issue that may adversely affect or cause delay in the implementation of the projects.
- iv. Resolve disputes.
- v. Receive progress reports from the Project Coordination Team.

Appendix 9: Roles of the Project Coordination Team

- i. To coordinate the discharge of the duties and responsibilities of the three WWDAs through an environment of mutual respect and consultation.
- ii. To monitor and oversee the smooth implementation of the project.
- iii. To establish, constitute and oversee the work of PIT.
- iv. To determine and give direction on any issues referred to it by PIT established under the Project Implementation Agreement.
- v. To determine and/or resolve any inter-agency conflicts that may arise during and after the implementation Period, including issues regarding compliance and performance.

Appendix 10: Time Elapse Versus Projects Completion Status

S/No.	Project Name	Water Works Development Agency	Actual Project Start Date	Time Lapse in Years from Project Start Date to 10 July, 2022	Initial Completion Project Time in Years	Time Elapse as a Percentage of the Initial Completion Project Time	Current Completion Status	Current Completion Status
1	Kakamega Town Water Distribution and Connections	Lake Victoria North	31/01/2022	0.4	1.0	44%	0%	Contractor mobilizing
2	Kapenguria Sewerage Project	North Rift Valley	04/01/2021	1.5	1.5	101%	0%	Change of Waste Water Treatment Plant site
3	Bomet – Mulot Water Supply and Sewerage Project	Lake Victoria South	03/01/2022	0.5	2.3	23%	8%	On-going
4	Changamwe Re-Pooling Sewer Network Project	Coast	14/12/2019	2.6	3.0	86%	20%	Stalled
5	Mwala – Mbiuni Water Supply Project	Tanathi	01/04/2019	3.3	2.3	140%	20%	Stalled
6	Keroka Water Supply Last Mile Connectivity Project	Lake Victoria South	04/01/2021	1.5	1.2	126%	22%	On-going
7	Chuka Water Supply Project	Tana	02/02/2021	1.4	2.0	72%	27%	On-going
8	Kitui and Matuu Last Mile Connectivity Project	Tanathi	29/07/2020	1.9	1.5	130%	35%	On-going

S/No.	Project Name	Water Works Development Agency	Actual Project Start Date	Time Lapse in Years from Project Start Date to 10 July, 2022	Initial Completion Project Time in Years	Time Elapse as a Percentage of the Initial Completion Project Time	Current Completion Status	Current Completion Status
9	Nandi Hills Water Supply and Sewerage Project	Lake Victoria South	04/01/2021	1.5	1.5	101%	36%	On-going
10	Machakos Sewerage Project	Tanathi	15/06/2020	2.1	1.5	138%	36%	On-going
11	Machakos Water Supply Project	Tanathi	08/03/2021	1.3	2.5	54%	38%	On-going
12	Makutano Water and Sewerage Project	Athi	09/10/2020	1.8	1.3	131%	40%	On-going
13	Gatundu Water Supply and Sewerage Project	Athi	08/02/2019	3.4	2.4	140%	42%	On-going
14	Migori-Isebania Town Water Supply Connectivity Project	Lake Victoria South	04/01/2021	1.5	1.0	151%	45%	On-going
15	Siaya and Bondo Towns Water Supply Connectivity Project And Sewerage	Lake Victoria South	04/01/2021	1.5	1.0	151%	47%	On-going
16	Meru Sewerage Project	Tana	02/01/2019	3.5	2.5	141%	49%	On-going
17	Chogoria Sewerage Project	Tana	02/01/2019	3.5	2.9	122%	52%	On-going
18	Eldoret Town Last	North Rift Valley	15/04/2021	1.2	1.0	124%	52%	On-going

S/No.	Project Name	Water Works Development Agency	Actual Project Start Date	Time Lapse in Years from Project Start Date to 10 July, 2022	Initial Completion Project Time in Years	Time Elapse as a Percentage of the Initial Completion Project Time	Current Completion Status	Current Completion Status
	Mile Connectivity							
19	Chuka Sewerage Project	Tana	02/01/2019	3.5	2.9	122%	53%	On-going
20	Kerugoya and Kutus Water Supply Project	Tana	01/11/2018	3.7	2.5	148%	54%	On-going
21	Kipkaren – Eldoret Water Supply Project	Lake Victoria North	14/03/2019	3.3	2.0	166%	56%	On-going
22	Malaba Water Supply Project	Lake Victoria North	11/01/2021	1.5	1.7	88%	58%	On-going
23	Kilgoris - Lolgorian Water Supply and Sewerage Project	Lake Victoria South	04/01/2021	1.5	1.5	101%	61%	On-going
24	Mandera Sewerage Project	Northern	01/11/2018	3.7	3.0	123%	65%	On-going
25	Malindi Water Sewerage Company- Watamu Town Lot 2A Works in CWSB Area	Coast	26/08/2020	1.9	1.5	121%	67%	On-going
26	Mandera Water Supply Project	Northern	30/01/2019	3.4	2.1	166%	72%	On-going
27	Kerugoya and Kutus Sewerage Project	Tana	01/11/2018	3.7	2.5	148%	73%	On-going

S/No.	Project Name	Water Works Development Agency	Actual Project Start Date	Time Lapse in Years from Project Start Date to 10 July, 2022	Initial Completion Project Time in Years	Time Elapse as a Percentage of the Initial Completion Project Time	Current Completion Status	Current Completion Status
28	Kabarnet Water Distribution and Connections	Central Rift Valley	01/07/2021	1.0	0.8	128%	77%	On-going
29	Kiambu and Ruaka Water and Sewerage Project	Athi	07/01/2019	3.5	2.5	140%	79%	On-going
30	Limuru Water and Sewerage Project	Athi	10/12/2019	2.6	1.8	145%	80%	On-going
31	Kikuyu Water and Sewerage Project	Athi	10/11/2018	3.7	2.5	147%	80%	On-going
32	Marsabit Sewerage Project	Northern	01/11/2018	3.7	1.6	233%	80%	On-going
33	Kiptogot – Kolongolo Water Supply Project	North Rift Valley	01/06/2019	3.1	3.1	101%	82%	On-going
34	Marsabit Water Supply Project	Northern	01/11/2018	3.7	1.7	222%	82%	On-going
35	Kendu Bay Water and Sewerage Project	Lake Victoria South	01/04/2019	3.3	2.5	131%	83%	On-going
36	Unguja – Ukwala – Sega Water Supply and Sewerage Project	Lake Victoria South	01/10/2019	2.8	1.5	185%	84%	On-going
37	Olkalou Sewerage Project	Central Rift Valley	30/09/2020	1.8	1.0	178%	89%	On-going

S/No.	Project Name	Water Works Development Agency	Actual Project Start Date	Time Lapse in Years from Project Start Date to 10 July, 2022	Initial Completion Project Time in Years	Time Elapse as a Percentage of the Initial Completion Project Time	Current Completion Status	Current Completion Status
38	Oyugis Water Supply and Sewerage Project	Lake Victoria South	01/04/2019	3.3	2.6	127%	92%	On-going
39	Garissa Water Supply Project-Last Mile Connectivity	Northern	29/11/2018	3.6	2.2	166%	93%	On-going
40	Chogoria Water Supply Project	Tana	02/01/2019	3.5	2.5	141%	95%	On-going
41	Pemba Intake Water Supply Project	Coast	13/12/2018	3.6	2.9	123%	96%	On-going
42	Malaba Sewerage Project	Lake Victoria North	01/05/2019	3.2	1.6	200%	96%	On-going
43	Murang'a Urban Water Supply Project-Last Mile Connectivity	Tana	06/09/2019	1.3	1.3	98%	100%	Complete
44	Murang'a South Water Supply Project-Last Mile Connectivity	Tana	06/09/2019	1.8	1.8	99%	100%	Complete
45	Narok Sewerage Project	Central Rift Valley	15/04/2019	1.7	1.7	100%	100%	Complete
46	Chepararia Sewerage Project	North Rift Valley	04/01/2021	1.5	1.5	101%	100%	Complete

S/No.	Project Name	Water Works Development Agency	Actual Project Start Date	Time Lapse in Years from Project Start Date to 10 July, 2022	Initial Completion Time in Years	Time Elapse as a Percentage of the Initial Completion Project Time	Current Completion Status	Current Completion Status
47	Isiolo Water Supply and Sewerage Project-Last Mile Connectivity	Northern	29/11/2018	3.6	2.3	160%	100%	Complete
48	Othaya Sewerage Project-Last Mile Connectivity	Tana	06/09/2019	2.8	1.6	182%	100%	Complete

Appendix 11: Extension of Time for Thirty-Nine Projects

S/No.	Project Name	Water Works Development Agency	Initial Start Date	Initial Project's Completion Dates	Initial Project Time in Years	1st Extension as at 19 August, 2021 Status in Years	2nd Extension as at 01 April, 2022 Status in Years	3rd Extension as at 10 July, 2022 Status in Years	Total Time Extended in Years	Number of Extensions
1	Kiptogot – Kolongolo Water Supply Project	North Rift Valley	01/06/2019	28/06/2022	3.1	0.0	0.0	0.1	0.1	1
2	Malaba Water Supply Project	Lake Victoria North	13/11/2020	13/07/2022	1.7	0.0	0.2	0.0	0.2	1
3	Kilgoris - Lolgorian Water Supply and Sewerage Project	Lake Victoria South	04/01/2021	05/07/2022	1.5	0.0	0.0	0.2	0.2	1
4	Nandi Hills Water Supply and Sewerage Project	Lake Victoria South	04/01/2021	05/07/2022	1.5	0.0	0.0	0.2	0.2	1
5	Keroka Water Supply Last Mile Connectivity Project	Lake Victoria South	04/01/2021	03/04/2022	1.2	0.0	0.0	0.4	0.4	2
6	Murang'a South Water Supply Project-Last Mile Connectivity	Tana	06/09/2019	04/07/2021	1.8	0.0	0.4	0.0	0.4	1
7	Eldoret Town Last Mile Connectivity	North Rift Valley	01/04/2021	01/04/2022	1.0	0.0	0.0	0.5	0.5	2
8	Kabarnet Water Distribution and Connections	Central Rift Valley	15/04/2021	15/01/2022	0.8	0.0	0.2	0.3	0.5	2
9	Chuka Sewerage Project	Tana	02/01/2019	17/11/2021	2.9	0.0	0.6	0.0	0.6	1
10	Malindi Water Sewerage Company- Watamu Town Lot 2A Works in CWSB Area	Coast	14/06/2020	30/12/2021	1.5	0.0	0.5	0.2	0.7	2

S/No.	Project Name	Water Works Development Agency	Initial Start Date	Initial Project's Completion Dates	Initial Project Time in Years	1st Extensions as at 19 August, 2021 Status in Years	2nd Extension as at 01 April, 2022 Status in Years	3rd Extension as at 10 July, 2022 Status in Years	Total Time Extended in Years	Number of Extensions
11	Migori-Isebania Town Water Supply Connectivity Project	Lake Victoria South	04/01/2021	05/01/2022	1.0	0.0	0.4	0.3	0.7	2
12	Siaya and Bondo Towns Water Supply Connectivity Project and Sewerage	Lake Victoria South	04/01/2021	05/01/2022	1.0	0.0	0.4	0.3	0.7	2
13	Oyugis Water Supply and Sewerage Project	Lake Victoria South	01/04/2019	01/11/2021	2.6	0.0	0.4	0.3	0.7	2
14	Pemba Intake Water Supply Project T	Coast	15/01/2019	15/12/2021	2.9	0.0	0.5	0.3	0.8	2
15	Olkalou Sewerage Project	Central Rift Valley	30/09/2020	30/09/2021	1.0	0.0	0.6	0.2	0.8	2
16	Machakos Sewerage Project	Tanathi	15/06/2020	14/12/2021	1.5	0.0	0.8	0.0	0.8	1
17	Mandera Sewerage Project	Northern	01/11/2018	01/11/2021	3.0	0.0	0.7	0.2	0.8	2
18	Kendu Bay Water and Sewerage Project	Lake Victoria South	01/04/2019	01/10/2021	2.5	0.0	0.9	0.0	0.9	1
19	Othaya Sewerage Project-Last Mile Connectivity	Tana	06/09/2019	28/03/2021	1.6	0.8	0.2	0.0	1.0	2
20	Chogoria Sewerage Project	Tana	02/01/2019	17/11/2021	2.9	0.0	0.6	0.4	1.0	2
21	Meru Sewerage Project	Tana	16/01/2019	16/07/2021	2.5	0.0	0.9	0.1	1.0	2
22	Limuru Water and Sewerage Project	Athi	10/12/2019	21/09/2021	1.8	0.0	1.1	0.0	1.1	1
23	Chogoria Water Supply Project	Tana	02/01/2019	02/07/2021	2.5	0.0	1.0	0.1	1.1	2

S/No.	Project Name	Water Works Development Agency	Initial Start Date	Initial Project's Completion Dates	Initial Project Time in Years	1st Extensions as at 19 August, 2021 Status in Years	2nd Extension as at 01 April, 2022 Status in Years	3rd Extension as at 10 July, 2022 Status in Years	Total Time Extended in Years	Number of Extensions
24	Marsabit Water Supply Project	Northern	01/11/2019	30/06/2021	1.7	0.3	0.5	0.3	1.1	3
25	Marsabit Sewerage Project	Northern	29/11/2019	30/06/2021	1.6	0.3	0.5	0.3	1.1	3
26	Malaba Sewerage Project	Lake Victoria North	04/11/2019	26/06/2021	1.6	0.0	0.8	0.3	1.1	2
27	Gatundu Water Supply and Sewerage Project	Athi	08/02/2019	16/07/2021	2.4	1.1	0.0	0.0	1.1	1
28	Makutano Water and Sewerage Project	Athi	09/10/2020	09/02/2022	1.3	0.0	0.2	1.0	1.2	2
29	Unguja – Ukwalu – Sega Water Supply and Sewerage Project	Lake Victoria South	23/09/2019	23/03/2021	1.5	0.8	0.4	0.0	1.2	2
30	Machakos Water Supply Project	Tanathi	03/06/2019	03/12/2021	2.5	0.4	0.1	0.8	1.2	3
31	Isiolo Water Supply and Sewerage Project-Last Mile Connectivity	Northern	29/11/2018	03/03/2021	2.3	0.8	0.4	0.0	1.2	2
32	Garissa Water Supply Project-Last Mile Connectivity	Northern	29/11/2018	31/01/2021	2.2	0.7	0.4	0.2	1.3	3
33	Kerugoya and Kutus Water Supply Project	Tana	01/11/2018	30/04/2021	2.5	0.7	0.5	0.3	1.5	3
34	Kerugoya and Kutus Sewerage Project	Tana	01/11/2018	30/04/2021	2.5	0.7	0.3	0.5	1.5	3
35	Kikuyu Water and Sewerage Project	Athi	12/11/2018	12/05/2021	2.5	0.6	0.5	0.4	1.6	3

S/No.	Project Name	Water Works Development Agency	Initial Start Date	Initial Project's Completion Dates	Initial Project Time in Years	1st Extension as at 19 August, 2021 Status in Years	2nd Extension as at 01 April, 2022 Status in Years	3rd Extension as at 10 July, 2022 Status in Years	Total Time Extended in Years	Number of Extensions
36	Mandera Water Supply Project	Northern	30/01/2019	26/02/2021	2.1	0.8	0.4	0.3	1.6	3
37	Kipkaren – Eldoret Water Supply Project	Lake Victoria North	14/03/2019	24/02/2021	2.0	0.6	0.7	0.3	1.6	3
38	Kitui and Matuu Last Mile Connectivity Project	Tanathi	29/11/2019	29/05/2021	1.5	0.3	0.7	0.6	1.6	3
39	Kiambu and Ruaka Water and Sewerage Works	Athi	07/01/2019	07/07/2021	2.5	0.0	3.3	0.0	3.3	1

Appendix 12: Comparison of Time Extended and Work Progress Made

S/No.	Project Name	Water Works Development Agency	Initial Project's Completion Dates	Percentage Completion as Provided in 19 August, 2021 Status Report	Percentage Completion Status as Provided in 10 July, 2022 Status Report	Total Time Extended During the Period in Years	Percentage Progress Achieved Within the Time Extended
1	Kiptogot – Kolongolo Water Supply Project	North Rift Valley	28/06/2022	61%	82%	0.1	21%
2	Malaba Water Supply Project	Lake Victoria North	13/07/2022	16%	58%	0.2	42%
3	Nandi Hills Water Supply and Sewerage Project	Lake Victoria South	05/07/2022	10%	36%	0.2	26%
4	Kilgoris - Lolgorian Water Supply and Sewerage Project	Lake Victoria South	05/07/2022	11%	61%	0.2	50%
5	Keroka Water Supply Last Mile Connectivity Project	Lake Victoria South	03/04/2022	10%	22%	0.4	12%
6	Murang'a South Water Supply Project-Last Mile Connectivity	Tana	04/07/2021	99%	100%	0.4	1%
7	Eldoret Town Last Mile Connectivity	North Rift Valley	01/04/2022	10%	52%	0.5	42%
8	Kabarnet Water Distribution and Connections	Central Rift Valley	15/01/2022	10%	77%	0.5	67%

S/No.	Project Name	Water Works Development Agency	Initial Project's Completion Dates	Percentage Completion as Provided in 19 August, 2021 Status Report	Percentage Completion Status as Provided in 10 July, 2022 Status Report	Total Time Extended During the Period in Years	Percentage Progress Achieved Within the Time Extended
9	Chuka Sewerage Project	Tana	17/11/2021	45%	53%	0.6	8%
10	Malindi Water Sewerage Company-Watamu Town Lot 2A Works in CWSB Area	Coast	30/12/2021	15%	67%	0.7	52%
11	Siaya And Bondo Towns Water Supply Connectivity Project and Sewerage	Lake Victoria South	05/01/2022	5%	47%	0.7	42%
12	Migori-Isebania Town Water Supply Connectivity Project	Lake Victoria South	05/01/2022	5%	45%	0.7	40%
13	Oyugis Water Supply and Sewerage Project	Lake Victoria South	01/11/2021	49%	92%	0.7	43%
14	Pemba Intake Water Supply Project	Coast	15/12/2021	60%	96%	0.8	36%
15	Olkalou Sewerage Project	Central Rift Valley	30/09/2021	53%	89%	0.8	36%
16	Machakos Sewerage Project	Tanathi	14/12/2021	21%	36%	0.8	15%
17	Mandera Sewerage Project	Northern	01/11/2021	30%	65%	0.8	35%

S/No.	Project Name	Water Works Development Agency	Initial Project's Completion Dates	Percentage Completion as Provided in 19 August, 2021 Status Report	Percentage Completion Status as Provided in 10 July, 2022 Status Report	Total Time Extended During the Period in Years	Percentage Progress Achieved Within the Time Extended
18	Kendu Bay Water and Sewerage Project	Lake Victoria South	01/10/2021	60%	83%	0.9	23%
19	Othaya Sewerage Project-Last Mile Connectivity	Tana	28/03/2021	92%	100%	1.0	8%
20	Chogoria Sewerage Project	Tana	17/11/2021	49%	52%	1.0	3%
21	Meru Sewerage Project	Tana	16/07/2021	40%	49%	1.0	9%
22	Limuru Water and Sewerage Project	Athi	21/09/2021	55%	80%	1.1	25%
23	Chogoria Water Supply Project	Tana	02/07/2021	63%	95%	1.1	32%
24	Marsabit Sewerage Project	Northern	30/06/2021	80%	80%	1.1	0%
25	Marsabit Water Supply Project	Northern	30/06/2021	60%	82%	1.1	22%
26	Malaba Sewerage Project	Lake Victoria North	26/06/2021	90%	96%	1.1	6%
27	Gatundu Water Supply and Sewerage Project	Athi	16/07/2021	25%	42%	1.1	17%
28	Makutano Water and Sewerage Project	Athi	09/02/2022	10%	40%	1.2	30%

S/No.	Project Name	Water Works Development Agency	Initial Project's Completion Dates	Percentage Completion as Provided in 19 August, 2021 Status Report	Percentage Completion Status as Provided in 10 July, 2022 Status Report	Total Time Extended During the Period in Years	Percentage Progress Achieved Within the Time Extended
29	Unguja – Ukwala – Sega Water Supply and Sewerage Project	Lake Victoria South	23/03/2021	60%	84%	1.2	24%
30	Machakos Water Supply Project	Tanathi	03/12/2021	15%	38%	1.2	23%
31	Isiolo Water Supply and Sewerage Project-Last Mile Connectivity	Northern	03/03/2021	92%	100%	1.2	8%
32	Garissa Water Supply Project-Last Mile Connectivity	Northern	31/01/2021	58%	93%	1.3	35%
33	Kerugoya and Kutus Sewerage Project	Tana	30/04/2021	61%	73%	1.5	12%
34	Kerugoya and Kutus Water Supply Project	Tana	30/04/2021	25%	54%	1.5	29%
35	Kikuyu Water and Sewerage Project	Athi	12/05/2021	54%	80%	1.6	26%
36	Mandera Water Supply Project	Northern	26/02/2021	58%	72%	1.6	14%
37	Kipkaren – Eldoret Water Supply Project	Lake Victoria North	24/02/2021	22%	56%	1.6	34%

S/No.	Project Name	Water Works Development Agency	Initial Project's Completion Dates	Percentage Completion as Provided in 19 August, 2021 Status Report	Percentage Completion Status as Provided in 10 July, 2022 Status Report	Total Time Extended During the Period in Years	Percentage Progress Achieved Within the Time Extended
38	Kitui and Matuu Last Mile Connectivity Project	Tanathi	29/05/2021	25%	35%	1.6	10%
39	Kiambu and Ruaka Water and Sewerage Works	Athi	07/07/2021	53%	79%	3.3	26%

Appendix 13: Projections for Completion of Projects in December 2023

Projection criteria: The average rate of change in work progress is 26%. As such the projected forecast is based on pending works minus yearly change. Pending works will be distributed along the yearly change and remaining months to ultimate completion month in December 2023.

S/No.	Project	Water Works Development Agency	A Completion Status as at 01 August, 2021	B Completion Status as at 30 July, 2022	C Rate of progress in a year (B minus A)	D Pending works to full completion as at 30 July, 2022	E 01 August, 2023 forecast on pending works (D minus 26%)	F December 2023 forecast on pending works (E minus Average progress for 5 Months which is 11%)
1	Kilgoris - Lolgorian Water Supply and Sewerage Project	Lake Victoria South	11%	61%	50%	39%	13%	2%
2	Malaba Water Supply Project	Lake Victoria North	16%	58%	42%	42%	16%	5%
3	Kipkaren – Eldoret Water Supply Project	Lake Victoria North	22%	56%	34%	44%	18%	7%
4	Kerugoya and Kufus Water Supply Project	Tana	25%	54%	29%	46%	20%	9%
5	Chuka Sewerage Project	Tana	45%	53%	8%	47%	21%	10%
6	Chogoria Sewerage Project	Tana	49%	52%	3%	48%	22%	11%
7	Eldoret Town Last Mile Connectivity	North Rift Valley	10%	52%	42%	48%	22%	11%
8	Meru Sewerage Project	Tana	40%	49%	9%	51%	25%	14%
9	Siaya and Bondo Towns Water Supply	Lake Victoria South	5%	47%	42%	53%	27%	16%

Projection criteria: The average rate of change in work progress is 26%. As such the projected forecast is based on pending works minus yearly change. Pending works will be distributed along the yearly change and remaining months to ultimate completion month in December 2023.

S/No.	Project	Water Works Development Agency	A	B	C	D	E	F
			Completion Status as at 01 August, 2021	Completion Status as at 30 July, 2022	Rate of progress in a year (B minus A)	Pending works to full completion as at 30 July, 2022	01 August, 2023 forecast on pending works (D minus 26%)	December 2023 forecast on pending works (E minus Average progress for 5 Months which is 11%)
	Connectivity Project and Sewerage							
10	Migori-Isebania Town Water Supply Connectivity Project	Lake Victoria South	5%	45%	40%	55%	29%	18%
11	Gatundu Water Supply and Sewerage Project	Athi	25%	42%	17%	58%	32%	21%
12	Makutano Water and Sewerage Project	Athi	10%	40%	30%	60%	34%	23%
13	Machakos Water Supply Project	Tanathi	15%	38%	23%	62%	36%	25%
14	Machakos Sewerage Project	Tanathi	21%	36%	15%	64%	38%	27%
15	Nandi Hills Water Supply and Sewerage Project	Lake Victoria South	10%	36%	26%	64%	38%	27%
16	Kitui and Matuu Last Mile Connectivity Project	Tanathi	25%	35%	10%	65%	39%	28%
17	Chuka Water Supply Project	Tana	10%	27%	17%	73%	47%	36%

Projection criteria: The average rate of change in work progress is 26%. As such the projected forecast is based on pending works minus yearly change. Pending works will be distributed along the yearly change and remaining months to ultimate completion month in December 2023.

S/No.	Project	Water Works Development Agency	A	B	C	D	E	F
			Completion Status as at 01 August, 2021	Completion Status as at 30 July, 2022	Rate of progress in a year (B minus A)	Pending works to full completion as at 30 July, 2022	01 August, 2023 forecast on pending works (D minus 26%)	December 2023 forecast on pending works (E minus Average progress for 5 Months which is 11%)
18	Keroka Water Supply Last Mile Connectivity Project	Lake Victoria South	10%	22%	12%	78%	52%	41%
19	Bomet – Mulot Water Supply and Sewerage Project	Lake Victoria South	0%	8%	8%	92%	66%	55%
20	Kikuyu Water and Sewerage Project	Athi	54%	80%	26%	20%	completed	completed
21	Limuru Water and Sewerage Project	Athi	55%	80%	25%	20%	completed	completed
22	Kiambu and Ruaka Water and Sewerage Works	Athi	53%	79%	26%	21%	completed	completed
23	Pemba Intake Water Supply Project	Coast	60%	96%	36%	4%	completed	completed
24	Malindi Water Sewerage Company- Watamu Town Lot 2A Works in CWSB Area	Coast	15%	67%	52%	33%	7%	completed
25	Kerugoya and Kutus Sewerage Project	Tana	61%	73%	12%	27%	1%	completed

Projection criteria: The average rate of change in work progress is 26%. As such the projected forecast is based on pending works minus yearly change. Pending works will be distributed along the yearly change and remaining months to ultimate completion month in December 2023.

S/No.	Project	Water Works Development Agency	A	B	C	D	E	F
			Completion Status as at 01 August, 2021	Completion Status as at 30 July, 2022	Rate of progress in a year (B minus A)	Pending works to full completion as at 30 July, 2022	01 August, 2023 forecast on pending works (D minus 26%)	December 2023 forecast on pending works (E minus Average progress for 5 Months which is 11%)
26	Chogoria Water Supply Project	Tana	63%	95%	32%	5%	completed	completed
27	Mandera Water Supply Project	Northern	58%	72%	14%	26%	2%	completed
28	Mandera Sewerage Project	Northern	30%	65%	35%	35%	9%	completed
29	Marsabit Water Supply Project	Northern	60%	82%	22%	18%	completed	completed
30	Marsabit Sewerage Project	Northern	80%	80%	0%	20%	completed	completed
31	Garissa Water Supply Project-Last Mile Connectivity	Northern	58%	93%	35%	7%	completed	completed
32	Olkalou Sewerage Project	Central Rift Valley	53%	89%	36%	11%	completed	completed
33	Kabarnet Water Distribution and Connections	Central Rift Valley	10%	77%	67%	23%	completed	completed
34	Kiptogot – Kolangolo Water Supply Project	North Rift Valley	61%	82%	21%	18%	completed	completed
35	Oyugis Water Supply and	Lake Victoria South	49%	92%	43%	8%	completed	completed

Projection criteria: The average rate of change in work progress is 26%. As such the projected forecast is based on pending works minus yearly change. Pending works will be distributed along the yearly change and remaining months to ultimate completion month in December 2023.

S/No.	Project	Water Works Development Agency	A	B	C	D	E	F
			Completion Status as at 01 August, 2021	Completion Status as at 30 July, 2022	Rate of progress in a year (B minus A)	Pending works to full completion as at 30 July, 2022	01 August, 2023 forecast on pending works (D minus 26%)	December 2023 forecast on pending works (E minus Average progress for 5 Months which is 11%)
	Sewerage Project							
36	Kendu Bay Water and Sewerage Project	Lake Victoria South	60%	83%	23%	17%	completed	completed
37	Unguja – Ukwala – Segwa Water Supply and Sewerage Project	Lake Victoria South	60%	84%	24%	16%	completed	completed
38	Malaba Sewerage Project	Lake Victoria North	60%	96%	6%	4%	completed	completed

Appendix 14: Time Between Signing of Subsidiary Loan Agreements and Award of Works Contracts

Time Taken Between Signing of Subsidiary Agreements and Works Contracts in Years					
S/No.	Project	Water Works Development Agency	Signing of Subsidiary Loan Agreements	Date Works Contract Was Signed	Number of Years
1	Kakamega Town Water Distribution and Connections	Lake Victoria North	29/09/2017	04/10/2021	4.0
2	Bomet-Mulot Water Supply and Sewerage Project	Lake Victoria South	29/09/2017	19/08/2021	3.9
3	Kabarnet Water Distribution and Connections	Central Rift Valley	29/09/2017	25/02/2021	3.4
4	Eldoret Town Last Mile Connectivity	North Rift Valley	29/09/2017	20/11/2020	3.2
5	Chuka Water Supply Project	Tana	29/09/2017	26/10/2020	3.1
6	Kapenguria Sewerage Project	North Rift Valley	29/09/2017	22/09/2020	3.0
7	Keroka Water Supply Last Mile Connectivity Project	Lake Victoria South	29/09/2017	17/09/2020	3.0
8	Siaya and Bondo Towns Water Supply Connectivity Project and Sewerage	Lake Victoria South	29/09/2017	11/09/2020	3.0
9	Kilgoris -Lolgorian Water Supply and Sewerage Project	Lake Victoria South	29/09/2017	30/07/2020	2.8
10	Nandi Hills Water Supply and Sewerage Project	Lake Victoria South	29/09/2017	28/07/2020	2.8
11	Migori-Isebania Town Water Supply Connectivity Project	Lake Victoria South	29/09/2017	29/07/2020	2.8
12	Makutano Water and Sewerage Project	Athi	29/09/2017	23/07/2020	2.8
13	Malindi - Watamu Town Lot 2A Works in CWSB Area	Coast	29/09/2017	03/07/2020	2.8

Time Taken Between Signing of Subsidiary Agreements and Works Contracts in Years					
S/No.	Project	Water Works Development Agency	Signing of Subsidiary Loan Agreements	Date Works Contract Was Signed	Number of Years
14	Olkalou Sewerage Project	Central Rift Valley	29/09/2017	15/05/2020	2.6
15	Chepararia Sewerage Project	North Rift Valley	29/09/2017	15/05/2020	2.6
16	Kitui And Matuu Last Mile Connectivity Project	Tanathi	29/09/2017	18/09/2019	2.0
17	Othaya Sewerage Project-Last Mile Connectivity	Tana	29/09/2017	09/08/2019	1.9
18	Murang'a South Water Supply Project-Last Mile Connectivity	Tana	29/09/2017	09/08/2019	1.9
19	Murang'a Urban Water Supply Project-Last Mile Connectivity	Tana	29/09/2017	09/08/2019	1.9
20	Unguja – Ukwala – Sega Water Supply and Sewerage Project	Lake Victoria South	29/09/2017	02/05/2019	1.6
21	Machakos Sewerage Project	Tanathi	29/09/2017	08/03/2019	1.4
22	Kendu Bay Water and Sewerage Project	Lake Victoria South	29/09/2017	28/01/2019	1.3
23	Mandera Water Supply Project	Northern	29/09/2017	03/01/2019	1.3
24	Narok Sewerage Project	Central Rift Valley	29/09/2017	20/12/2018	1.2
25	Malaba Water Supply Project	Lake Victoria North	29/09/2017	13/12/2018	1.2
26	Malaba Sewerage Project	Lake Victoria North	29/09/2017	13/12/2018	1.2
27	Kipkaren – Eldoret Water Supply Project	Lake Victoria North	29/09/2017	13/12/2018	1.2
28	Machakos Water Supply Project	Tanathi	29/09/2017	14/12/2018	1.2
29	Mwala – Mbiuni Water Supply Project	Tanathi	29/09/2017	14/12/2018	1.2

Time Taken Between Signing of Subsidiary Agreements and Works Contracts in Years					
S/No.	Project	Water Works Development Agency	Signing of Subsidiary Loan Agreements	Date Works Contract Was Signed	Number of Years
30	Meru Sewerage Project	Tana	29/09/2017	06/12/2018	1.2
31	Chuka Sewerage Project	Tana	29/09/2017	20/11/2018	1.1
32	Chogoria Water Supply Project	Tana	29/09/2017	20/11/2018	1.1
33	Chogoria Sewerage Project	Tana	29/09/2017	20/11/2018	1.1
34	Kiptogot – Kolongolo Water Supply Project	North Rift Valley	29/09/2017	15/11/2018	1.1
35	Pemba Intake Water Supply Project T	Coast	29/09/2017	31/10/2018	1.1
36	Gatundu Water Supply and Sewerage Project	Athi	29/09/2017	02/11/2018	1.1
37	Limuru Water and Sewerage Project	Athi	29/09/2017	30/10/2018	1.1
38	Kiambu and Ruaka Water and Sewerage Works	Athi	29/09/2017	30/10/2018	1.1
39	Changamwe Re-Pooling Sewer Network Project	Coast	29/09/2017	30/10/2018	1.1
40	Garissa Water Supply Project-Last Mile Connectivity	Northern	29/09/2017	26/10/2018	1.1
41	Isiolo Water Supply and Sewerage Project-Last Mile Connectivity	Northern	29/09/2017	26/10/2018	1.1
42	Kerugoya and Kutus Water Supply Project	Tana	29/09/2017	14/09/2018	1.0
43	Kerugoya and Kutus Sewerage Project	Tana	29/09/2017	14/09/2018	1.0
44	Kikuyu Water and Sewerage Project	Athi	29/09/2017	19/08/2018	0.9
45	Mandera Sewerage Project	Northern	29/09/2017	09/06/2018	0.7
46	Marsabit Water Project	Northern	29/09/2017	09/06/2018	0.7

Time Taken Between Signing of Subsidiary Agreements and Works Contracts in Years					
S/No.	Project	Water Works Development Agency	Signing of Subsidiary Loan Agreements	Date Works Contract Was Signed	Number of Years
47	Marsabit Sewerage Project	Northern	29/09/2017	09/06/2018	0.7
48	Oyugis Water Supply and Sewerage Project	Lake Victoria South	29/09/2017	09/06/2018	0.7

Appendix 15: Extra Time Taken to Awarding Works Contracts

S/No.	Project Name	Water Works Development Agency	Time Taken Between Signing of the Subsidiary Agreements and Works Contract in Years	Extra Time Taken Beyond the 1 year 3 Months Period to December 2018
1	Kakamega Town Water Distribution and Connections	Lake Victoria North	4	2.7
2	Bomet-Mulot Water Supply and Sewerage Project	Lake Victoria South	3.9	2.6
3	Kabarnet Water Distribution and Connections	Central Rift Valley	3.4	2.1
4	Eldoret Town Last Mile Connectivity	North Rift Valley	3.2	1.9
5	Chuka Water Supply Project	Tana	3.1	1.8
6	Kapenguria Sewerage Project	North Rift Valley	3	1.7
7	Keroka Water Supply Last Mile Connectivity Project	Lake Victoria South	3	1.7
8	Siaya and Bondo Towns Water Supply Connectivity Project and Sewerage	Lake Victoria South	3	1.7
9	Kilgoris -Lolgorian Water Supply and Sewerage Project	Lake Victoria South	2.8	1.5
10	Nandi Hills Water Supply and Sewerage Project	Lake Victoria South	2.8	1.5
11	Migori-Isebania Town Water Supply Connectivity Project	Lake Victoria South	2.8	1.5
12	Makutano Water and Sewerage Project	Athi	2.8	1.5
13	Malindi - Watamu Town Lot 2A Works in CWSB Area	Coast	2.8	1.5

S/No.	Project Name	Water Works Development Agency	Time Taken Between Signing of the Subsidiary Agreements and Works Contract in Years	Extra Time Taken Beyond the 1 year 3 Months Period to December 2018
14	Olkalou Sewerage Project	Central Rift Valley	2.6	1.3
15	Chepararia Sewerage Project	North Rift Valley	2.6	1.3
16	Kitui and Matuu Last Mile Connectivity Project	Tanathi	2	0.7
17	Othaya Sewerage Project-Last Mile Connectivity	Tana	1.9	0.6
18	Murang'a South Water Supply Project-Last Mile Connectivity	Tana	1.9	0.6
19	Murang'a Urban Water Supply Project-Last Mile Connectivity	Tana	1.9	0.6
20	Unguja – Ukwala – Segwa Water Supply and Sewerage Project	Lake Victoria South	1.6	0.3
21	Machakos Sewerage Project	Tanathi	1.4	0.1

Appendix 16: Challenges that Affected Timely Contracting for Projects Works

S/No.	Project Name	Water Works Development Agency	Time Taken Between Signing of the Subsidiary Agreements and Works Contract in Years	Challenges Faced
1	Kakamega Town Water Distribution and Connections	Lake Victoria North	4.0	Last Mile ¹²
2	Bomet-Mulot Water Supply and Sewerage Project	Lake Victoria South	3.9	Redesigning of the project due to change of intake site and the supply area. The scope of the project was adjusted to avoid duplication with Bosto Dam project that was to be implemented by National Water Conservation and Pipeline Corporation. The draft specific procurement notice and bidding document were to be submitted to the Bank by 15 November, 2019.
3	Kabarnet Water Distribution and Connections	Central Rift Valley	3.4	Last Mile
4	Eldoret Town Last Mile Connectivity	North Rift Valley	3.2	Last Mile
5	Chuka Water Supply Project	Tana	3.1	Project retendered due to non-responsiveness of bids.
6	Kapenguria Sewerage Project	North Rift Valley	3.0	Project retendered due to non-responsiveness of bids.

¹² Last mile connectivity projects were funded from savings realized, following completion of procurement processes for the main works components. Procurement process for these projects began in 2021.

S/No.	Project Name	Water Works Development Agency	Time Taken Between Signing of the Subsidiary Agreements and Works Contract in Years	Challenges Faced
7	Keroka Water Supply Last Mile Connectivity Project	Lake Victoria South	3.0	Last Mile
8	Siaya and Bondo Towns Water Supply Connectivity Project and Sewerage	Lake Victoria South	3.0	Last Mile
9	Kilgoris - Lolgorian Water Supply and Sewerage Project	Lake Victoria South	2.8	Project retendered due to non-responsiveness of bids.
10	Nandi Hills Water Supply and Sewerage Project	Lake Victoria South	2.8	Project retendered due to non-responsiveness of bids.
11	Migori-Isebania Town Water Supply Connectivity Project	Lake Victoria South	2.8	Last Mile
12	Makutano Water and Sewerage Project	Athi	2.8	Procurement of the Contractor was pegged on savings realised from other projects
13	Malindi - Watamu Town Lot 2A Works in CWSB Area	Coast	2.8	Change of site of project from previously proposed site

S/No.	Project Name	Water Works Development Agency	Time Taken Between Signing of the Subsidiary Agreements and Works Contract in Years	Challenges Faced
14	Olkalou Sewerage Project	Central Rift Valley	2.6	Project retendered due to non-responsiveness of bids.
15	Chepararia Sewerage Project	North Rift Valley	2.6	Project retendered due to non-responsiveness of bids.
16	Kitui and Matuu Last Mile Connectivity Project	Tanathi	2.0	Last Mile
17	Othaya Sewerage Project-Last Mile Connectivity	Tana	1.9	Last Mile
18	Murang'a South Water Supply Project-Last Mile Connectivity	Tana	1.9	Last Mile
19	Murang'a Urban Water Supply Project-Last Mile Connectivity	Tana	1.9	Last Mile
20	Unguja – Ukwala – Sega Water Supply and Sewerage Project	Lake Victoria South	1.6	Project retendered due to non-responsiveness of bids.
21	Machakos Sewerage Project	Tanathi	1.4	Project retendered due to non-responsiveness of bids.

Appendix 17: Time Taken to Commence Projects After Contract Signing

S/No.	Project Name	Water Works Development Agency	Date Works Contract Was Signed	Project Commence ment Date	Duration Between Contract Signing and Commencement of Project in Years	Causes for Delays in Commencement of Projects
1	Machakos Water Supply Project	Tanathi	14/12/2018	08/03/2021	2.2	Land court case
2	Malaba Water Supply Project	Lake Victoria North	13/12/2018	11/01/2021	2.1	Project retendered due to non-performance of initial contractor
3	Machakos Sewerage Project	Tanathi	08/03/2019	15/06/2020	1.3	Land court case
4	Changamwe Re-Pooling Sewer Network Project	Coast	30/10/2018	14/12/2019	1.1	Delay in approval of Master List
5	Limuru Water and Sewerage Project	Athi	30/10/2018	10/12/2019	1.1	Delay in approval of Master List
6	Kitui and Matuu Last Mile Connectivity Project	Tanathi	18/09/2019	29/07/2020	0.9	Delay in approval of Master List
7	Oyugis Water Supply and Sewerage Project	Lake Victoria South	09/06/2018	01/04/2019	0.8	Delay in Master List approval; Land acquisition delays
8	Chepararia Sewerage Project	North Rift Valley	15/05/2020	04/01/2021	0.6	Not Provided
9	Kiptogot – Kolongolo Water Supply Project	North Rift Valley	15/11/2018	01/06/2019	0.5	Delay in Master List approval; Land acquisition delays

S/No.	Project Name	Water Works Development Agency	Date Works Contract Was Signed	Project Commence ment Date	Duration Between Contract Signing and Commencement of Project in Years	Causes for Delays in Commencement of Projects
10	Malaba Sewerage Project	Lake Victoria North	13/12/2018	01/05/2019	0.4	Delay in Master List approval; Delay in acquisition of land for the Waste Water Treatment Plant
11	Migori-Isebania Town Water Supply Connectivity Project	Lake Victoria South	29/07/2020	04/01/2021	0.4	Encroachment of way leaves
12	Unguja – Ukwala – Segwa Water Supply and Sewerage Project	Lake Victoria South	02/05/2019	01/10/2019	0.4	Delay in Master List approval; Land acquisition challenges
13	Nandi Hills Water Supply and Sewerage Project	Lake Victoria South	28/07/2020	04/01/2021	0.4	Not provided
14	Kilgoris - Lolgorian Water Supply and Sewerage Project	Lake Victoria South	30/07/2020	04/01/2021	0.4	Not provided
15	Bomet-Mulot Water Supply and Sewerage Project	Lake Victoria South	19/08/2021	03/01/2022	0.4	Not provided
16	Eldoret Town Last Mile Connectivity	North Rift Valley	20/11/2020	15/04/2021	0.4	Encroachment of way leaves

S/No.	Project Name	Water Works Development Agency	Date Works Contract Was Signed	Project Commence ment Date	Duration Between Contract Signing and Commencement of Project in Years	Causes for Delays in Commencement of Projects
17	Olkalou Sewerage Project	Central Rift Valley	15/05/2020	30/09/2020	0.4	Not provided
18	Marsabit Sewerage Project	Northern	09/06/2018	01/11/2018	0.4	Delay in approval of Master List
19	Marsabit Water Project	Northern	09/06/2018	01/11/2018	0.4	Delay in approval of Master List
20	Mandera Sewerage Project	Northern	09/06/2018	01/11/2018	0.4	Delay in approval of Master List; Insecurity
21	Kakamega Town Water Distribution and Connections	Lake Victoria North	04/10/2021	31/01/2022	0.3	Encroachment of way leaves
22	Keroka Water Supply Last Mile Connectivity Project	Lake Victoria South	17/09/2020	04/01/2021	0.3	Encroachment of way leaves
23	Siaya and Bondo Towns Water Supply Connectivity Project and Sewerage	Lake Victoria South	11/09/2020	04/01/2021	0.3	Encroachment of way leaves
24	Kapenguria Sewerage Project	North Rift Valley	22/09/2020	04/01/2021	0.3	Not provided
25	Kabarnet Water Distribution and Connections	Central Rift Valley	25/02/2021	01/07/2021	0.3	Encroachment of way leaves
26	Narok Sewerage Project	Central Rift Valley	20/12/2018	15/04/2019	0.3	Not provided

S/No.	Project Name	Water Works Development Agency	Date Works Contract Was Signed	Project Commencement Date	Duration Between Contract Signing and Commencement of Project in Years	Causes for Delays in Commencement of Projects
27	Chuka Water Supply Project	Tana	26/10/2020	02/02/2021	0.3	Not provided
28	Mwala – Mbiuni Water Supply Project	Tanathi	14/12/2018	01/04/2019	0.3	Delay in approval of Master List
29	Gatundu Water Supply and Sewerage Project	Athi	02/11/2018	08/02/2019	0.3	Delay in approval of Master List
30	Kipkaren – Eldoret Water Supply Project	Lake Victoria North	13/12/2018	14/03/2019	0.2	Delay in Master List approval; Land acquisition challenges
31	Kendu Bay Water And Sewerage Project	Lake Victoria South	28/01/2019	01/04/2019	0.2	Delay in Master List approval; Dispute in land at the proposed intake
32	Makutano Water and Sewerage Project	Athi	23/07/2020	09/10/2020	0.2	Not provided
33	Kiambu and Ruaka Water and Sewerage Works	Athi	30/10/2018	07/01/2019	0.2	Delay in approval of Master List
34	Kikuyu Water and Sewerage Project	Athi	19/08/2018	10/11/2018	0.2	Delay in approval of Master List

S/No.	Project Name	Water Works Development Agency	Date Works Contract Was Signed	Project Commence ment Date	Duration Between Contract Signing and Commencement of Project in Years	Causes for Delays in Commencement of Projects
35	Isiolo Water Supply and Sewerage Project-Last Mile Connectivity	Northern	26/10/2018	29/11/2018	0.1	Not applicable
36	Garissa Water Supply Project-Last Mile Connectivity	Northern	26/10/2018	29/11/2018	0.1	Not applicable
37	Mandera Water Supply Project	Northern	03/01/2019	30/01/2019	0.1	Not applicable
38	Murang'a Urban Water Supply Project-Last Mile Connectivity	Tana	09/08/2019	06/09/2019	0.1	Not applicable
39	Murang'a South Water Supply Project-Last Mile Connectivity	Tana	09/08/2019	06/09/2019	0.1	Not applicable
40	Othaya Sewerage Project-Last Mile Connectivity	Tana	09/08/2019	06/09/2019	0.1	Not applicable
41	Meru Sewerage Project	Tana	06/12/2018	02/01/2019	0.1	Not applicable
42	Chogoria Sewerage Project	Tana	20/11/2018	02/01/2019	0.1	Not applicable

S/No.	Project Name	Water Works Development Agency	Date Works Contract Was Signed	Project Commencement Date	Duration Between Contract Signing and Commencement of Project in Years	Causes for Delays in Commencement of Projects
43	Chogoria Water Supply Project	Tana	20/11/2018	02/01/2019	0.1	Not applicable
44	Chuka Sewerage Project	Tana	20/11/2018	02/01/2019	0.1	Not applicable
45	Kerugoya And Kutus Sewerage Project	Tana	14/09/2018	01/11/2018	0.1	Not applicable
46	Kerugoya And Kutus Water Supply Project	Tana	14/09/2018	01/11/2018	0.1	Not applicable
47	Malindi Water Sewerage Company- Watamu Town Lot 2a Works in Cwsb Area	Coast	03/07/2020	26/08/2020	0.1	Not applicable
48	Pemba Intake Water Supply Project	Coast	31/10/2018	13/12/2018	0.1	Not applicable

Appendix 18: Time Taken for Processing Master List and Specific Exemptions

S/No.	Project	Master List Processing		Time Taken for Processing in Months	Days Between Master List Approval and Application of the Specific Exemption	First Specific Exemption		Time Taken for Processing in Months	Total Time for Processing the Master and Specific Exemptions
		Date Contractor Made Application for the Master List Tax Exemption	Date When Approval was Given			Date Contractor Made the First Application for Specific Tax Exemption	Date When Approval was Given to Contractor		
1	Kendu Bay Water and Sewerage Project	25/03/2019	03/03/2020	11	17	19/07/2021	04/11/2021	4	15
2	Changamwe Repooling	02/05/2019	29/01/2020	9	8	12/10/2020	06/11/2020	1	10
3	Oyugis Water Supply and Sewerage Project	07/05/2019	03/03/2020	10	4	06/07/2020	28/09/2020	3	13
4	Okalou Sewerage Project	14/09/2020	28/10/2020	6	3	25/01/2021	01/05/2021	3	9
5	Malindi Sewerage Project	13/10/2020	01/03/2021	5	1	12/04/2021	02/07/2021	3	8
6	Eldoret Last Mile Connectivity Project	23/02/2021	15/07/2021	5	1	03/08/2021	10/11/2021	3	8
7	Nandi Hills Water Supply and Sewerage Project	29/03/2021	10/06/2021	2	0	18/06/2021	07/10/2021	4	6

Appendix 19: Time Taken Between Project Commencement and Beginning of Process for Acquisition of the Project Site

S/No.	Project	Time Between Project Commencement and Acquisition of Project Site	Project Commencement Date	Date Request for Advisory Valuation on Market Values of the Identified Project Site Was Made	Time Taken Between Project Commencement and Acquisition of Project Site in Years	National Land Commission's Remarks as per Report Dated 30 April, 2022
1	Makutano-Kenol Water Supply and Sanitation Project	Athi WWDA	09/10/2020	16/02/2021	0.4	Compensation Funds not Yet Received from the WWDA
2	Chuka Water Supply Project	TWWDA	02/02/2021	01/09/2021	0.6	Compensation Funds not Yet Received from the WWDA
3	Machakos Water Supply Project	Athi WWDA	08/03/2021	28/02/2023	1.0	Compensation Funds not Yet Received from the WWDA
4	Mwala Water Supply and Sanitation Project	Athi WWDA	01/04/2019	20/04/2020	1.1	Compensation Funds not Yet Received from the WWDA
5	Mandera Water Supply Project	TWWDA	30/01/2019	24/02/2020	1.1	Compensation Funds not Yet Received from the WWDA
6	Mandera Sewerage Project	TWWDA	01/11/2018	24/02/2020	1.3	Compensation Funds not Yet Received from the WWDA
7	Gatundu Water Supply and Sewerage Project	Athi WWDA	08/02/2019	04/09/2020	1.6	Compensation Funds not Yet Received from the WWDA
8	Chuka Sewerage Project	TWWDA	02/01/2019	28/01/2021	2.1	Compensation Funds not Yet Received from the WWDA
9	Chogoria Water Supply Project	TWWDA	02/01/2019	01/09/2021	2.7	Compensation Funds not Yet Received from the WWDA
10	Marsabit Sewerage Project	TWWDA	01/11/2018	01/09/2021	2.8	Compensation Funds not Yet Received from the WWDA
11	Meru Sewerage Project	TWWDA	02/01/2019	27/01/2022	3.1	Compensation Funds not Yet Received from the WWDA

Appendix 20: Percentage Disbursement and Compensation for Athi Cluster

S/No.	Project	Impact	Project Start Date	Date of Status	Number of Years Since Project Commencement	Estimated RAP (Ksh.)	Total Project Affected Persons	Compensated Project Affected Persons	Amount Disbursed (Ksh.)
1	Machakos Water Supply Project	Crop and land	08/03/2021	10/03/2022	1	315,630,295	46	NIL	NIL
2	Malindi-Watamu	Crop and structures	26/08/2020	10/03/2022	2	4,377,935	76	NIL	NIL
3	Kitui-Matuu	Crop, land and structures	29/07/2020	10/03/2022	2	5,044,000	1	NIL	NIL
4	Machakos Sewerage Project	Crop and land	15/06/2020	10/03/2022	2	21,920,840	12	NIL	NIL
5	Mwala Cluster Water and Sewerage Project	Crop and land	01/04/2019	10/03/2022	3	55,781,825	136	NIL	NIL
6	Gatundu Water and Sewerage Project	Crop and land	08/02/2019	10/03/2022	3	469,869,457	790	51	14,543,902
7	Kiambu - Ruaka	Crop, land and structures	07/01/2019	10/03/2022	3	45,617,894	651	338	8,879,498
8	Kikuyu Water and Sewerage Project	Crop and land	10/11/2018	10/03/2022	3	22,982,550	370	NIL	NIL
9	Limuru Water and Sewerage Project	Crop and land	10/11/2018	10/03/2022	3	3,450,000	1	NIL	NIL
Total						944,874,796	2,083	389	23,423,400
Balance Not Disbursed						Kshs.921,451,396			
Average Period					2				
Average Percentage Proportion of Estimated Amount of RAP Disbursed						2%			
Percentage Average Number of Project Affected Persons Compensated During the Period							19%		

Appendix 21: Compensation of Project Affected Persons in the Tana Cluster

S/No.	Project Name	Impact on Land, Crops and Structure	Land requirement (Acreage)	Total Number of Project Affected Persons	Compensated Project Affected Persons	Percentage of Project Affected Persons Compensated	Remarks
1	Marsabit Water Supply Project	Land		230	0	0%	Works ongoing on the entire land and wayleaves.
2	Garissa Sewerage Project	Land	Last mile connectivity	600	0	0%	Works ongoing on the entire land and wayleaves.
3	Isiolo Water Supply Project	Land	Last mile connectivity	40	0	0%	Works ongoing on the entire land and wayleaves.
4	Chuka Water Supply	Land, Crops and Structures	1.6 HA	150	60	40%	Works ongoing on the entire land and wayleaves.
5	Meru Sewerage Project	Land, Crops and Structures	17.01 HA	5,000	2,000	40%	24 km of sewer line were still pending crop/trees compensation and implementation. Only 30% of the compensated land parcels have been worked on. 35 land parcels pending NLC land valuation for compensation.

S/No.	Project Name	Impact on Land, Crops and Structure	Land requirement (Acreage)	Total Number of Project Affected Persons	Compensated Project Affected Persons	Percentage of Project Affected Persons Compensated	Remarks
6	Chogoria Sewerage Project	Land, Crops and Structures	32.8 HA	70	40	57%	Works ongoing on the entire land and wayleaves.
7	Chogoria Water Supply Project	Land, Crops and Structures	11.72 HA	40	28	70%	Works ongoing on the entire land and wayleaves.
8	Chuka Sewerage Project	Land, Crops and Structures	11.6 HA	100	76	76%	Works ongoing on the entire land and wayleaves.
9	Kerugoya Water Supply Project	Land, Crops and Structures	0.08 HA	35	28	80%	Works ongoing on the entire land and wayleaves.
10	Marsabit Sewerage Project	Land	Not provided	120	100	83%	Works ongoing on the entire land and wayleaves.
11	Mandera Sewerage Project	Land	93.551 HA	170	150	88%	Works ongoing on the entire land and wayleaves.
12	Mandera Water Supply Project	Land	10.94 HA	225	201	89%	Works ongoing on the entire land and wayleaves.
13	Kerugoya Kutus Sewerage Project	Land, Crops and Structures	9.8 HA	279	266	95%	Works ongoing on the entire land and wayleaves.
14	Meru Water Supply Project	Land, Crops and Structures	-	-	-		Works ongoing on the entire land and wayleaves.

S/No.	Project Name	Impact on Land, Crops and Structure	Land requirement (Acreage)	Total Number of Project Affected Persons	Compensated Project Affected Persons	Percentage of Project Affected Persons Compensated	Remarks
15	Garissa Water Supply Project	Land	-	-	-		Works ongoing on the entire land and wayleaves.
16	Isiolo Sewerage Project	Land	-	-	-		Works ongoing on the entire land and wayleaves.
				7,059	2,949		
Percentage for Project Affected Persons Compensated					42%		

Appendix 22: Extra Costs and Savings on Projects Land under Tana Cluster

S/No.	Project Name	Impact Land, Crops and Structure	Estimated RAP/ Compensation Budget (Ksh.)	Valuation Date for Estimated Cost	Land requirement (Acreage)	Amount Disbursed (Ksh.)	Increase/ Decrease in Cost	Increase or Decrease in Cost in Percentage
1	Marsabit Sewerage Project	Land	89,000,000	31 March, 2018	Not provided	98,403,350	9,403,350	11%
2	Chogoria Sewerage Project	Land, Crops and Structures	69,000,000	31 March, 2018	32.8 HA	103,726,156	34,726,156	50%
3	Mandera Water Supply Project	Land	80,000,000	31 March, 2018	10.94 HA	119,922,162	39,922,162	50%
4	Chuka Sewerage Project	Land, Crops and Structures	67,000,000	31 March, 2018	11.6 HA	111,543,949	44,543,949	66%
5	Meru Sewerage Project	Land, Crops and Structures	63,000,000	31 March, 2018	17.01 HA	223,314,784	160,314,784	254%
Totals			368,000,000			656,910,401	288,910,401	
Percentage increase from initial estimated cost								44%
6	Kerugoya Kutus Sewerage Project	Land, Crops and Structures	76,000,000	31st March, 2018	9.8 HA	35,349,133		
7	Kerugoya Water Supply Project	Land, Crops and Structures	62,000,000	31st March, 2018	0.08 HA	10,479,350		
Totals			138,000,000			45,828,483	(92,171,517)	
Total savings from the initial estimated cost								67%

Appendix 23: Time Taken to Process Access Requests

S/No.	Project Name	Nature of Access Sought	Why Access was or is Required	Responsible Institution	Date Access Request Was Made by the Water Works Development Agency	Date When Approval Was Given	Time Taken in Days or Months	Reasons for the Delay
1	Changamwe Re-pooling Sewer Network Project	Road	Sewer pipe being laid within the road reserve	KURA	25/01/2019	31/01/2019	6 days	Not applicable
2	Eldoret Town Last mile connectivity	Road Reserve	Sewer Construction wayleave	KURA	17/09/2021	30/09/2021	13 days	Not applicable
3	Changamwe Re-pooling Sewer Network Project	Road	Sewer pipe being laid within the road reserve	County	01/02/2019	20/02/2019	19 days	Not applicable
4	Eldoret Town Last Mile Connectivity	Road Reserve	Sewer Construction wayleave	KenHA	15/09/2021	26/10/2021	1.3	Not provided
5	Changamwe Re-pooling Sewer Network Project	KPRL way leave	Sewer pipe being laid on the wayleave	Kenya Petroleum Refineries Limited	16/08/2019	26/09/2019	1.3	Not provided
6	Eldoret Town Last Mile Connectivity	Railway Reserve	Sewer Construction wayleave	Kenya Railways	13/09/2021	25/10/2021	1.4	Not provided
7	Eldoret Town Last Mile Connectivity	River Riparian	Sewer Construction wayleave	WRA	17/09/2021	11/11/2021	1.8	Not provided
8	Changamwe Re-pooling Sewer Network Project	Road	Sewer pipe being laid within the road reserve	KenHA	01/03/2019	21/05/2019	2.7	Not provided
9	Malaba Water and Sewerage Project	Roads and Railways	Sewer or Water pipelines crossing roads and railway	KenHA and Kenya Railways			3.0	Delay in responding to request letters by the responsible institutions. Additionally, the Railway Fees charged was too high and beyond what had been

S/No.	Project Name	Nature of Access Sought	Why Access was or is Required	Responsible Institution	Date Access Request Was Made by the Water Works Development Agency	Date When Approval Was Given	Time Taken in Days or Months	Reasons for the Delay
								provided within the project's Bill of Quantities.
10	Malindi Water Sewerage Company- Watamu Town Lot 2a Works in Cwsb Area	Request to lay water distribution pipelines along KURA road reserves	Wayleave access to pipeline	KURA	07/10/2020	12/01/2021	3.2	Delays in obtaining the approvals from KURRA.
11	Olkalou Sewerage Project	Road	Wayleave for sewer line and road crossing	KERRA	06/08/2021	12/11/2021	3.2	Not provided.
12	Nandi Hills Water Supply and Sewerage Project	Relocation of Electricity line	Running over the position of 200m3 tank	KPLC	13/07/2021	06/11/2021	3.8	Delayed payment of relocation fees by the Contractor.
13	Olkalou Water and Sewerage Project	Road	For wayleaves and road crossing	KENHA	03/12/2020	19/05/2021	5.5	There was delay in issuance of the road access approval. Confirmation letter was also not issued.
14	Nandi Hills Water Supply and Sewerage Project	Land Access	Special Use License for Construction of Treatment plant and associated infrastructure	KFS	14/11/2020	10/05/2021	5.8	Delayed issuance of License by NEMA.
15	Malindi Water Sewerage Company- Watamu Town Lot 2a Works in Cwsb Area	Request to lay pipeline along and across SABASA BA-	Wayleave access to pipeline	KeNHA	26/10/2020	05/05/2021	6.3	Delays in obtaining the approval from KeNHA.

S/No.	Project Name	Nature of Access Sought	Why Access was or is Required	Responsible Institution	Date Access Request Was Made by the Water Works Development Agency	Date When Approval Was Given	Time Taken in Days or Months	Reasons for the Delay
		MALINDI Road (A7)						
16	Kendu Bay Water and Sewerage Project	Road Access	Pipeline Construction along and across public roads	KeRRA	20/01/2020	06/08/2020	6.5	Delayed approval by the KeRRA.
17	Oyugis Water Supply and Sewerage Project	Road Access	Pipeline Construction along and across public roads	County	20/01/2020	07/08/2020	6.6	Delays by the County in giving approval.
18	Oyugis Water Supply and Sewerage Project	Forest Access	Tank Construction	KFS	19/06/2019	13/03/2020	8.8	Delays in approval by KFS.
19	Kendu Bay Water and Sewerage Project	Road Access	Pipeline Construction along and across public roads	KeNHA	08/03/2021	10/12/2021	9.1	Delays of approval by KeNHA.
20	Oyugis Water Supply and Sewerage Project	Road Access	Pipeline Construction along and across public roads	KeNHA	16/04/2020	15/04/2021	12.0	Delays and lack of clear direction by KeNHA. Ultimate approval was given by the road supervising consultant.

Appendix 24: Time Taken to Process Interim Payment Certificates

S/No.	Project	Water Works Development Agency	Number of IPCs Raised	Amount Requested (Ksh. or USD)	Date the Consultant Forwarded the IPC to the WWDA	Date and the Duration Taken for the Contractor to Receive Payment	Time Taken to Process Payment	Delays Beyond the Stipulated Processing Period of 56 Days (Days)	Delays Beyond the Stipulated Processing Period of 56 Days (Months)
1	Pemba Intake Water Supply Project	Coast	IPC 1	USD 455,992.15	21/11/2018	05/02/2019	76	20	0.7
2	Pemba Intake Water Supply Project	Coast	IPC 1	11,472,067.00	21/11/2018	13/02/2019	84	28	0.9
3	Changamwe Re-pooling Sewer Network Project	Coast	IPC 1	40,896,569	22/11/2018	14/02/2019	84	28	0.9
4	Malindi Water Sewerage Company-Watamu Town Lot 2a Works in Cwsb Area	Coast	IPC 2	23,506,878.74	27/05/2021	06/09/2021	102	46	1.5
5	Pemba Intake Water Supply Project	Coast	IPC 3	USD 447,435.52	21/10/2020	18/02/2021	120	64	2.1
6	Olkalou Sewerage Project	Central Rift Valley	IPC 1	117,987,438.40	25/6/2020	28/10/2020	125	69	2.3
7	Pemba Intake Water Supply Project	Coast	IPC 3	11,256,795.30	21/10/2020	25/02/2021	127	71	2.3

S/No.	Project	Water Works Development Agency	Number of IPCs Raised	Amount Requested (Ksh. or USD)	Date the Consultant Forwarded the IPC to the WWDA	Date and the Duration Taken for the Contractor to Receive Payment	Time Taken to Process Payment	Delays Beyond the Stipulated Processing Period of 56 Days (Days)	Delays Beyond the Stipulated Processing Period of 56 Days (Months)
8	Malindi Water Sewerage Company- Watamu Town Lot 2a Works in Cwsb Area		IPC 1	32,797,607.00	08/08/2020	16/12/2020	130	74	2.4
9	Olkalou Sewerage Project		IPC 3	64,998,292.32	31/5/2021	18/10/2021	140	84	2.8
10	Kendu Bay Water and Sewerage Project		IPC 5	37,699,847.69	22/04/2021	10/09/2021	141	85	2.8
11	Kendu Bay Water and Sewerage Project		IPC 1	116,194,717.40	04/03/2019	25/07/2019	143	87	2.9
12	Malindi Water Sewerage Company- Watamu Town Lot 2a Works in Cwsb Area		IPC 3	23,154,757.65	14/09/2021	04/02/2022	143	87	2.9
13	Pemba Intake Water Supply Project		IPC 4	USD 144,616.85	03/05/2021	29/09/2021	149	93	3.1
14	Pemba Intake Water Supply Project		IPC 4	3,638,339.58	03/05/2021	04/10/2021	154	98	3.2

S/No.	Project	Water Works Development Agency	Number of IPCs Raised	Amount Requested (Ksh. or USD)	Date the Consultant Forwarded the IPC to the WWDA	Date and the Duration Taken for the Contractor to Receive Payment	Time Taken to Process Payment	Delays Beyond the Stipulated Processing Period of 56 Days (Days)	Delays Beyond the Stipulated Processing Period of 56 Days (Months)
15	Changamwe Re-pooling Sewer Network Project		IPC 2	31,919,601.95	05/03/2019	24/08/2019	172	116	3.8
16	Kendu Bay Water and Sewerage Project		IPC 3	50,317,804.06	20/08/2020	19/02/2021	183	127	4.2
17	Kendu Bay Water and Sewerage Project		IPC 4	53,081,645.62	05/02/2021	10/09/2021	217	161	5.3
18	Oyugis Water Supply and Sewerage Project		IPC 1	121,764,509	04/03/2019	14/10/2019	224	168	5.5
19	Olkalou Sewerage Project		IPC 2	47,413,937.21	02/02/2021	20/9/2021	230	174	5.7
20	Oyugis Water Supply and Sewerage Project		IPC 2	26,365,937.92	20/02/2020	08/10/2020	231	175	5.8
21	Kendu Bay Water and Sewerage Project		IPC 2	29,071,393.16	19/02/2020	16/10/2020	240	184	6.0
22	Eldoret Town Last Mile Connectivity		IPC 1	35,689,195.72	03/01/2021	31/08/2021	240	184	6.0
23	Pemba Intake Water Supply Project		IPC 2	USD 175,876.79	29/10/2019	29/09/2020	336	280	9.2

S/No.	Project	Water Works Development Agency	Number of IPCs Raised	Amount Requested (Ksh. or USD)	Date the Consultant Forwarded the IPC to the WWDA	Date and the Duration Taken for the Contractor to Receive Payment	Time Taken to Process Payment	Delays Beyond the Stipulated Processing Period of 56 Days (Days)	Delays Beyond the Stipulated Processing Period of 56 Days (Months)
24	Pemba Intake Water Supply Project		IPC 2	4,424,791.75	29/10/2019	02/10/2020	339	283	9.3

Appendix 25: Pending Interim Payment Certificates

Pending Interim Payment Certificates as at the Time of Audit						
S/No.	Project Name	Water Works Development Agency	Interim Payment Certificate Number	Amount requested	Date the Consultant forwarded the IPC to the WWDA	Time Beyond the Stipulated Processing Period in Months as at the Time of Audit
1	Eldoret Town Last Mile Connectivity	North Rift Valley	IPC 2	31,187,210.90	30/11/2021	2.2
2	Kendu Bay Water and Sewerage Project	Lake Victoria South	IPC 6	40,142,899.65	03/12/2021	2.5
3	Nandi Hills Water Supply and Sewerage Project	Lake Victoria South	IPC 3	21,488,256.00	11/11/2021	2.9
4	Olkalou Water and Sewerage Project	Central Rift Valley	IPC 4	77,083,984.57	08/10/2021	3.8
5	Malaba Water and Sewerage Project	Lake Victoria North	IPC 2	62,164,740.06	01/09/2021	5.4
6	Nandi Hills Water Supply and Sewerage Project	Lake Victoria South	IPC 2	7,604,256.40	20/08/2021	5.7
7	Changamwe Re-pooling Sewer Network Project	Athi	IPC 3	16,264,398.23	08/03/2021	11.6
8	Olkalou Water and Sewerage Project	Central Rift Valley	IPC 5	18,896,772.89	22/12/2021	Period was still within the processing time
9	Malaba Water and Sewerage Project	Lake Victoria North	IPC 3	41,198,833.78	21/12/2021	Period was still within the processing time

Appendix 26: Project Completion Status Versus Amount Disbursed as Per the Program's Status Report for 10 July, 2022

S/No.	Project Name	Project Value	Actual Value Disbursed (Ksh.)	Completion Status as at July 2022	Disbursements
1	Pemba Intake Water Supply Project	286,801,675.00	156,414,099.74	96%	55%
2	Malaba Sewerage Project	306,956,340.41	223,428,967.01	96%	73%
3	Chogoria Water Supply Project	574,317,060.56	385,007,579.49	95%	67%
4	Garissa Water Supply Project-Last Mile Connectivity	191,467,331.00	113,263,667.32	93%	59%
5	Oyugis Water Supply and Sewerage Project	706,234,154.00	361,533,787.27	92%	51%
6	Olkalou Sewerage Project	589,937,192.00	326,380,425.39	89%	55%
7	Unguja – Ukwala – Sega Water Supply and Sewerage Project	1,214,356,130.00	670,578,360.51	84%	55%
8	Kendu Bay Water and Sewerage Project	673,929,361.00	394,971,751.63	83%	59%
9	Marsabit Water Supply Project	722,685,029.91	414,335,156.69	82%	57%
10	Kiambu and Ruaka Water and Sewerage Works	1,292,917,545.01	750,596,405.09	79%	58%
11	Kabarnet Water Distribution and Connections	113,331,422.00	46,413,714.91	77%	41%
12	Malindi Water Sewerage Company- Watamu Town Lot 2A Works in CWSB Area	218,650,718.00	79,459,244.09	67%	36%
13	Kilgoris -Lolgorian Water Supply and Sewerage Project	518,204,478.45	167,315,885.00	61%	32%
14	Malaba Water Supply Project	686,615,424.00	234,230,958.67	58%	34%
15	Eldoret Town Last Mile Connectivity	434,656,157.98	67,387,717.00	52%	16%

Appendix 27: Status of Water Coverage in Four Towns

S/No.	Project and the Benefiting Water Company	Population in the County	County Population Within the WSP Service Area	Population Served	Population Not Served	Population to be Served Under the KTSWSSP	Population Not Covered Under the Program	Need for the Project	Summary of Project Scope	Project Status as at the Time of Audit
1	Nandi Hills Water Supply and Sewerage (Kapsabet Water and Sanitation Company)	698,988	79,747 (9%)	27,911 (35%)	51,836 (65%)	27,000 (52%)	24,836 (13%)	The project was aimed at enhancing existing water infrastructure and also construct new water supply system.	Improvement of existing water infrastructure; Construction of a new intake and treatment plant at MoKong' River; Construction of storage reservoirs of capacity 1,000m ³ at Kosoiyo Secondary, 500m ³ near Bears Club and 200m ³ at Get Barak tank; Construction of 24.5 km transmission and distribution lines and the rising main; and Supply and installation of low-lift and high-lift pumps.	<ul style="list-style-type: none"> Overall works progress as at the time of audit was 26.53% Versus a time lapse of 66.1% About 17 km of the transmission lines had been done. Construction of the intake and the water treatment plant had not commenced due to challenges in acquiring project site.
2	Olkalou Water and Sewerage (Olkalou Water and Sanitation Company)	642,491	113,642 (18%)	47,730 (42%)	65,912 (59%)	20,000 (30%)	45,912 (28%)	Water was just chlorinated without undergoing treatment and as a result, there were waterborne diseases amongst members of	<ul style="list-style-type: none"> Construction of a conventional water treatment plant 2,000 m³ per day Laying a distribution main 10 km. Rehabilitation works for the existing 18 km Malewa transmission. 	<ul style="list-style-type: none"> Completion was at 82% against 97% of the project time. The distribution line was also at about 95% completion except for the installation of valves. The water treatment plant was substantially complete, except that the dosing equipment and stirrers were at 0%. Rehabilitation of the existing works was at procurement level.

S/No.	Project and the Benefiting Water Company	Population in the County	County Population Within the WSP Service Area	Population Served	Population Not Served	Unserviced Population to be Served Under the KTSWSSP	Population Not Covered Under the Program	Need for the Project	Summary of Project Scope	Project Status as at the Time of Audit
3	Garissa Water Supply Last Mile Connectivity (Garissa Water and Sanitation Company)	863,182	140,567 (76%)	106,846 (76%)	33,741 (24%)	20,000 (19%)	13,741 (5%)	<p>the community. There was need to improve the water quality.</p> <p>The water supply system whose design capacity is 20,000m³ per day, had an initial design period of up to the year 2020. This was exceeded in the year 2015 due to extension of customer coverage beyond the</p>	<p>Additional large diameter boreholes four in number; Reservoir reinforced tank of 1000m³; Booster station; Ifin and Abattoir elevated tanks; Repair of College tanks; Repair of Norad Tanks; Installation of Bulk Meters; Connectivity of Liboi Tank; Rehabilitation of Borehole 3 and 4 at Ziwani; Raw water main repair; and Plumbing of Direct Current - Huduma water tank.</p>	<ul style="list-style-type: none"> The project was at 75% completion versus 309% time lapse. Pipeline intended to take water to Kismayu and Ifin Girls had been completed apart from testing. Four boreholes have been drilled. Only 2 had been developed since the other 2 had a low yield of and therefore operation would not be cost effective Four of the tanks meant for storage were yet to be rehabilitated. Due to prolonged time lapse for this rehabilitation, it was found more economical to replace all the tanks. A proposal on this had been done.

S/No.	Project and the Benefiting Water Company	Population in the County	County Population Within the WSP Service Area	Population Served	Population Not Served	Unserviced Population to be Served Under the KTSWSP	Population Not Covered Under the Program	Need for the Project	Summary of Project Scope	Project Status as at the Time of Audit
								initially planned area and faster population growth rate than anticipated. There was therefore need for investment in water production.		
4	Msalaba Water Supply Project (Busia Water and Sanitation Company)	908,655	314,855 (47%)	147,982 (47%)	166,873 (53%)	200,000 (100%)	Nil	The existing water system produces less than 50% of the demand.	<ul style="list-style-type: none"> Construction of a gravity water intake upstream, 11km from the existing water treatment works. Gravity main pipeline 13.2 km to deliver design flow of 13,620m³ per day New Horizontal treatment plant of 6,000m³ per day complete with all associated works. Rehabilitation of existing treatment works in order to improve the delivery capacity to 2,150m³ per day 	<ul style="list-style-type: none"> Overall project time lapse was 60% with 32.4% completion. New intake weir on river Malakisi was awaiting site acquisition. 5 out of the 10 pipelines were at 0% completion due to challenges in wayleave acquisition and right to access to pipeline routes in community land. Location of the 7 proposed water kiosks were yet to be identified.

S/No.	Project and the Benefiting Water Company	Population in the County	County Population Within the WSP Service Area	Population Served	Population Not Served	Population to be Served Under the KTSWSSP	Population Not Covered Under the Program	Need for the Project	Summary of Project Scope	Project Status as at the Time of Audit
									<ul style="list-style-type: none"> • Rehabilitation of existing pipelines • Rehabilitation of Water Storage Tanks at Koteko hills, Kocholia, Kokare, Angurai and Mwaru Hills • Construction of new storage masonry tanks at Amagoro 225m³ and Kimaeti 150m³. • Construction of 7 Community Water points. 	

Appendix 28: Extent of Water Borne Sewer Coverage in Four Towns

S/No.	Project/Benefiting Water Company	Population in the County	County Population Within the WSP Service Area	Population Served by Borne Sewer System	Population to be Served Under the KTSWS SP	Population Not Covered Under the Program	Need for the Project	Summary of Project Scope	Project Status at the Time of Audit
1	Oikalous Water and Sewerage (Oikalous Water and Sanitation Company)	642,491	113,642 (18%)	0%	20,000 (18%) or 500 connections	93,642 (82%)	The town has not had any water borne sewer system.	The project will develop sewerage treatment plant; and lay sewerage collection network to manage wastewater coming from the town.	58% completion
2	Eldoret Last Mile Connectivity (Eldoret Water and Sanitation Company)	863,182	140,587 (76%)	39,364 (28%)	50,000 (36%)	51,223 (36%)	The Water Company had made a request to the Lake Victoria North WWDA requesting for extension of sewer lines under the last mile connectivity project. This was due to the fact that the sewer coverage stood at less than 30%, while the water coverage was high. More over the company had idle	Works being undertaken involve; 45.857Km sewer lines ranging from 200mm to 370mm diameter, 1.346Km of rehabilitation works in Langas and Huruma; Electro mechanic works and repairs at Boundary and Quarry Waste Water Treatment Plants.	Project was at 32% against a time lapse of more than 70%.

S/No.	Project/Benefiting Water Company	Population in the County	County Population Within the WSP Service Area	Population Served by Water Borne Sewer System	Population to be Served Under the KTSWS SP	Population Not Covered Under the Program	Need for the Project	Summary of Project Scope	Project Status at the Time of Audit
3	Malaba Water Supply Project (Busia Water and Sanitation Company)	908,655	314,855 (47%)	0%	33,000 (11%)	Nil	<p>capacity on the two waste water treatment plants.</p> <p>The town does not have a sewerage system resulting to pollution of the transboundary river passing through the town.</p>	<p>Excavation and installation a total of 27.9 km of High-density polyethylene sewer pipe lines with diameters ranging from 200mm to 600mm;</p> <p>Construction of preliminary treatment system consisting of inlet chamber, screens chamber, grit chamber, sillage channel with Parshall flume and distribution chamber;</p> <p>Installation of 527 prefabricated concrete manholes;</p> <p>Construction of 12 waste stabilization ponds with a capacity to treat up to 4,000 m³/day of wastewater. The ponds consist of 3 anaerobic ponds, 3 facultative ponds and 6 maturation ponds;</p> <p>Construction of 5 ablation blocks</p>	Project was at 58% completion.

S/No.	Project/Benefiting Water Company	Population in the County	County Population Within the WSP Service Area	Population Served by Borne Sewer System	Population to be Served Under the KTSWS SP	Population Not Covered Under the Program	Need for the Project	Summary of Project Scope	Project Status at the Time of Audit
4	Changamwe Re-pooling Sewer Network Project (Mombasa)	1,235,229	100%	54%	40,000 (3%)		The stalled project was aimed to improve the collection, treatment and disposal of wastewater in Mombasa City in Changamwe Area where existing treatment plant is underutilized due to the limited secondary sewers.	<ul style="list-style-type: none"> Rehabilitation of approximately 800m of trunk mains Rehabilitation of approximately 9km secondary sewer network Extension of secondary sewer network- approximately 6 km Construction of approximately 316 No. manholes 	<ul style="list-style-type: none"> Project stalled at 20% 3,212 meters out of 15,613 meters of sewer pipes laid 78 Manholes out of the 316 manholes constructed up to various stages

Appendix 29: Ministry of Water, Sanitation and Irrigation Management Comments on Audit Report

Audit Findings	Ministry of Water, Sanitation and Irrigation Response	Auditors' Comments
<p>The 2 major audit findings with regard to the implementation of the Program are delays in completion of projects, and risks to sustainability of the Kenya Towns Sustainable Water Supply and Sanitation Program, and similar programs as explained in the audit report.</p>	<p>During the Exit Meeting held on 03 November, 2023, the representatives from the Ministry of Water, Sanitation and Irrigation and the Water Works Development Agencies noted that the audit findings were factual, based on evidence and balanced.</p> <p>While acknowledging the draft report sent for Management Response, the Ministry of Water, Sanitation and Irrigation also proposed amendments on some of the audit findings and conclusions.</p>	<p>The proposed amendments were effected in the respective audit findings.</p>
Audit Conclusions	Ministry of Water, Sanitation and Irrigation Response	Auditors' Comments
<p>5.2 Preparedness of stakeholders was not given due consideration to allow for efficient Program commencement after committing for financing.</p>	<p>5.2 Consideration of continual preparedness of stakeholders was required to allow for efficient Program commencement after committing for financing.</p>	<p>The amendment was effected in the conclusion.</p>
<p>5.4 The Ministry of Water, Sanitation and Irrigation and WWDAs have not streamlined the processing Interim payment Certificates as well as the relevant tax exemption needed for purchase of line items. The erratic nature of processing the exemptions</p>	<p>5.4 Comments from the Ministry; The Ministry came up with a check list of all the requirements for payments and shared the same with all WWDAs for purposes of streamlining payments. Processing of tax exemptions is guided by The National Treasury Circular No. 9/2018 dated 18th October, 2018 which was shared by the Ministry with all WWDAs for</p>	<p>The conclusion remains but adjusted to clearly show that the Ministry of Water, Sanitation and Irrigation, The National Treasury and WWDAs</p>

cannot guarantee the predictability of outcome. Thus, this creates a system where there is no uniformity in processing of tax exemptions across the different projects.	purposes of cascading the same to the other stakeholders. This streamlined processing of taxes.	did not realise to a great extent the set timelines for processing Interim Payment Certificates, as well as processing relevant tax exemptions during purchase of line items.
5.5 The Ministry of Water, Sanitation and Irrigation and WWDAs have not been able to avail land or wayleave when needed or in a timely manner to a great extent.	5.5 The Ministry of Water, Sanitation and Irrigation and WWDAs have availed land and wayleave when needed, however sometimes not in a timely manner due to challenges like inadequate counterpart budget.	Conclusion remains but amended for clarity.
5.6 The MWSI did not ensure timely approval of statutory approvals. Beyond the approvals needed from other state departments, the Ministry's affiliated SAGAs did not provide approvals on time especially with reference to abstraction licences.	The MWSI followed up with respective Agencies to ensure timely approval of statutory approvals. However, there were delays in granting some of the approvals. Beyond the approvals needed from other state departments, the Ministry's affiliated SAGAs did not sometimes provide approvals on time especially with reference to abstraction licences.	Conclusion remains but amended for clarity.
Audit Recommendations		
The Ministry of Water, Sanitation and Irrigation noted that the recommendations provided in the audit report are balanced.		

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