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AUDITOR-GENERAL'S CITIZENS ACCOUNTABILITY AUDIT REPORT

ON IMPLEMENTATION OF GREEN
ZONES DEVELOPMENT SUPPORT
PROJECT PHASE II

KENYA FOREST SERVICE





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FOREWORD

I am pleased to present this Citizens Accountability Audit Report on the Implementation of the Green Zones Development Support Project Phase II, under the Kenya Forest Service. My Office carried out the audit under the mandate conferred on me by Article 229(4) and 229(6) of the Constitution of Kenya, 2010, to confirm whether or not public money has been applied lawfully and in an effective way. In addition, Section 36 of the Public Audit Act, 2015 requires the Auditor-General to examine the economy, efficiency and effectiveness with which public money has been expended.

Citizens' Accountability Audit is a proactive audit approach where citizens participate in the audit process, thereby enhancing accountability in governance and the use of public resources.

The Green Zones Development Support Project Phase II was implemented by the Kenya Forest Service, under the Ministry of Environment, Climate Change and Forestry. The Project objective was to enhance forest conservation and support rural livelihoods.

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 Chief of Staff and Head of Public Service, the Principal Secretary, The National Treasury and Economic Planning and, State Department for Forestry.


FCPA Nancy Gathungu, CBS
AUDITOR-GENERAL

8 May, 2026



ACKNOWLEDGEMENT

We acknowledge the valuable contributions of all stakeholders in the audit process. In particular, we extend our gratitude to the Civil Society Organizations who mobilized citizens across Embu, Murang'a, Kericho, Baringo, Machakos, and Meru Counties, as well as for their assistance in administering questionnaires during focus group discussions, and in validating the audit findings.

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LIST OF ACRONYMS

AfDB	African Development Bank
CFA	Community Forest Associations
EC	Ecosystem Conservator
GZSDP	Green Zones Support Development Project
IGA	Income Generating Activities
KFS	Kenya Forest Service
PFMP	Participatory Forest Management Plans
PSC	Project Steering Committee

DEFINITION OF TERMS

Term	Definition
Afforestation	The process of planting trees on land that was not previously forested to increase tree cover.
Biodegradable Tubes	Eco-friendly planting containers made from decomposable materials, used to reduce plastic waste in nurseries.
Community Forest Associations	Legally recognized groups formed by local communities to co-manage forests with the Kenya Forest Service.
Degraded Forest	Forest land whose productivity, biodiversity, or ecological function has been diminished due to human or natural factors.
Enrichment Planting	A forest restoration technique involving the planting of selected tree species in degraded forest areas to enhance recovery.
Forest Restoration	The process of rehabilitating deforested or degraded land to restore its ecological integrity and forest cover.
Grievance Redress Mechanism	A formal system established to receive, process, and resolve complaints from stakeholders or beneficiaries.
Income Generating Activities	Alternative livelihood initiatives supported by the project to reduce reliance on forest exploitation, for instance, poultry, beekeeping and macadamia.
Invasive Species	Non-native plants that spread aggressively, disrupting forest regeneration by outcompeting indigenous tree species.
Nursery Infrastructure	Physical facilities, tools, and water systems that support seedling production in forest or community-managed nurseries.
Participatory Forest Management Plan	A jointly developed agreement between Community Forest Associations and the Kenya Forest Service outlining roles, responsibilities, and forest use.
Plantation Establishment and Livelihood Improvement Scheme	A framework allowing communities to grow crops between tree rows in forest plantations to support livelihoods.
Reforestation Sites	Designated areas where tree planting and forest rehabilitation activities have been carried out under the project.
Seedling Survival Rate	A key performance indicator measuring the percentage of planted seedlings that remain alive over a given period.

EXECUTIVE SUMMARY

Introduction

1. Kenya continues to face persistent forest degradation and loss of biodiversity due to illegal logging, unsustainable land use, charcoal burning, and agricultural encroachment. These practices have threatened major water towers in Aberdare, Mau, and Mount Kenya, resulting in reduced water flows, declining soil fertility, and increased vulnerability to droughts and floods. The situation directly affects forest dependent communities who draw their livelihoods from forest resources for fuelwood, grazing, and small-scale farming. Limited livelihood alternatives, poverty, and weak enforcement of conservation laws further intensify the problem. The Green Zones Development Support Project Phase II (GZDSP-II) was therefore, initiated to address these environmental and socio-economic challenges.
2. The Green Zones Development Support Project Phase II (GZDSP-II) was a six (6) year initiative implemented from 2019 to 2025. The Project was implemented under the Ministry of Environment, Climate Change and Forestry, through the Kenya Forest Service (KFS). The Project was financed through a Kshs.5 billion loan from the African Development Bank (AfDB) and a Kshs.498 million counterpart contributions from the Government of Kenya.
3. The Project commenced on 17 July, 2019 and was to run for six (6) years, up to 30 June, 2025, but was extended by one(1) year to 30 June, 2026. The Project has three(3) components: forest conservation and livelihood support; sustainable value chain development; and project management and coordination for effective implementation and oversight.

Motivation of the Audit

4. The following factors motivated the Office to conduct the audit on the implementation of the Green Zones Development Support Project Phase II: -
 - i. Article 69(1)(a) of the Constitution of Kenya, 2010 requires the State to ensure sustainable exploitation, utilization, management, and conservation of the environment and natural resources, and to ensure the equitable sharing of benefits derived from the resources.

- ii. Pillar One of the Bottom-Up Economic Transformation Agenda (BETA) identifies Agricultural Transformation and Inclusive Growth as a key driver of sustainable economic development. The Green Zones Development Support Project Phase II directly supported this pillar by conserving forests and water towers critical for agriculture, enhancing soil and water conservation, promoting agroforestry, and building climate resilience among rural communities.
 - iii. Media reports on lifting the six (6) year logging moratorium, such as the East African Newspaper dated 8 July, 2023, whose article emphasized the potential negative implications to conservation efforts and environmental sustainability. These concerns reflected broader citizen fears that lifting the ban could reverse the gains realized in forest conservation.
5. Given the above factors, a Citizens Accountability Audit was undertaken to assess whether the Green Zones Development Support Project was delivering the intended forest conservation and livelihood outcomes, in line with constitutional principles, and national priorities under the Bottom-Up Economic Transformation Agenda (BETA).

Objective of the Audit

6. The main objective of the audit was to assess whether the Green Zones Development Support Project had contributed to the restoration of degraded forests and enhanced community livelihoods.
7. The specific objectives of the audit were:
- i. To assess the extent to which the Project had promoted sustainable restoration of degraded forest areas;
 - ii. To evaluate the effectiveness of seedling production, management, and utilization to support reforestation goals; and
 - iii. To examine the extent to which the Project had supported sustainable economic livelihoods and reduced dependency on forest resources for the communities.

Audit Scope

8. The audit focused on how the Kenya Forest Service implemented the Green Zones Development Support Project Phase II in the establishment and management of tree nurseries, the distribution, planting, and survival of seedlings, and the adequacy of nursery and water infrastructure. The audit examined the implementation of forest restoration and livelihood support initiatives, which included the Plantation Establishment and Livelihood Improvement Scheme (PELIS), income-generating activities, training and outreach offered to communities.
9. The audit purposively selected six (6) counties, namely Baringo, Kericho, Meru, Embu, Murang'a and Machakos, where the Project was implemented within the Mau, Mount Kenya, and Aberdare water towers. Within these counties, the audit covered thirteen (13) forest stations, selected income-generating activities, and beneficiary communities supported under the Project.
10. The audit covered four (4) financial years, 2020/2021 to 2023/2024. This period was selected as the initial phase of the Project in financial year 2019/2020 was significantly disrupted by the COVID-19 pandemic, which delayed field activities and restricted citizen participation. By the financial year 2020/2021, the Project had transitioned into an active phase, during which key outputs, including seedling production, afforestation activities, and livelihood initiatives, were rolled out.

Summary of Key Audit Findings

11. The summary of key audit findings is discussed below: -

A. Promoting Sustainable Restoration of Degraded Forest Areas

12. The Project recorded notable progress in the restoration of degraded forest areas during the financial years 2020/2021 to 2023/2024. A total of 3,403.57 hectares of degraded forest land were rehabilitated, against a cumulative target of 2,927 hectares, representing an overall achievement rate of 116.3%. Restoration activities were undertaken through reforestation, enrichment planting, and maintenance of regeneration sites across the sampled counties implementing the Project.
13. However, the following weaknesses were identified in the implementation of this objective: -

(i) Overgrown Tree Seedlings in Nurseries

14. The audit established that five (5) out of thirteen (13) sampled forest stations had seedlings which had outgrown the recommended size. The overgrowth resulted from erratic rainfall patterns, delayed planting schedules and the requirement for soil moisture to reach 30% in Embu, Machakos and Baringo. In addition, there were transport delays experienced in Kericho, which hindered timely movement of seedlings to planting sites. This resulted in the wastage of nursery resources, lowered efficiency in seedling production, and delays in achieving forest cover.

(ii) Invasive Species in Reforested Areas

15. Physical verification revealed that invasive plant species had spread widely across several reforested areas, significantly suppressing the growth and survival of indigenous trees. Although the Project had targeted the removal of 500 hectares of invasive species, monitoring reports indicated that infestations had expanded to approximately 5,000 hectares, with less than 10 per cent cleared by the time of the audit. The lack of a structured monitoring and control programme resulted to invasive plant species spreading unchecked, undermining forest recovery and the sustainability of restoration outcomes.
16. Further, the uncontrolled spread of invasive species hindered reforestation efforts by reducing seedling survival rates, and competing with indigenous trees for sunlight, water and nutrients.

(iii) Inadequate Fencing of Forest Areas

17. The audit established that only Muumandu, Iveti Forest Stations in Machakos, Meru Station (Kibaranyaki Beat) and Ruthumbi Station had installed fencing in selected regeneration sites. All the other sampled stations relied on forest scouts as the primary protection mechanism. Physical verification revealed that the lack of fencing left regenerated sites unprotected. Further, forest sites were exposed to grazing, trampling, and encroachment, which damaged young trees and reduced the rate of seedling survival.

B. Promoting Seedling Production, Management, and Utilization

18. The Project achieved significant progress in improving seedling production systems through the adoption of innovative water management practices, such as introduction of sprinkler irrigation and borehole water systems. These interventions

provided a more reliable water supply, reduced drought-related losses, and supported higher seedling production capacity at the forest stations. However, the following challenges were identified: -

(i) Inadequate Water Supply for Tree Nurseries

19. Physical verification revealed that tree nurseries in nine (9) out of thirteen (13) sampled forest stations had persistent water shortages that negatively affected seedling production. This was caused by lack of sustainable water infrastructure and reliance on seasonal water sources, ageing pumping equipment and manual watering methods.
20. Inadequate water supply led to reduced participation by community members in nursery operations, particularly in counties where tree nurseries served as an income-generating activity.

(ii) Seedling Distribution and Tracking Challenges

21. The audit established that while the Project utilized the KFS online seedling tracking system to capture production and distribution data across forest stations, it did not comprehensively track seedlings that were not distributed through the system. In Baringo, Embu, Kericho, Machakos, Meru, and Murang'a counties, distribution records for seedlings supplied to citizens, schools, and community groups were maintained manually through seedling books and delivery registers.
22. The absence of a reliable tracking mechanism and follow up framework undermined accountability for distributed seedlings, hindered performance verification, and weakened the Project's ability to measure long-term reforestation success and community engagement outcomes.

C. Supporting Sustainable Economic Livelihoods and Reducing Dependency on Forest Resources

23. Review of workplans, project records and interviews with community members in the sampled counties revealed that the Plantation Establishment and Livelihood Improvement Scheme (PELIS) enabled farmers to cultivate food crops alongside tree seedlings, boosting food security and household incomes. In addition, the Project supported capacity-building programs, exchange visits, establishment of Farmer Field Schools, and targeted training in beekeeping, macadamia processing, dairy farming, trout fish farming, and agroforestry. Further, value

addition in honey production in Machakos and Meru were strengthened, which resulted to improved community livelihood.

24. However, the audit revealed the following challenges under this component: -

(i) Weak Sustainability of Income-Generating Activities

25. The Audit Team held focus group discussions with ten (10) Income-Generating Activities (IGAs) across nine (9) forest stations. The audit established that most IGAs were not functioning sustainably, as some had collapsed, while others remained active, but achieved minimal progress.

26. The sustainability challenges were as a result of lack of post-establishment follow-up on operations and maintenance of the activities. Other factors included limited access to market linkage for their produce, and inadequate training on business management. High operational costs and the absence of clear ownership structures also weakened group cohesion and financial viability. This hindered the full realization of the Project objectives.

(ii) Slow Promotion of Renewable Energy Technologies

27. Review of the project work plans and physical verification established that there was limited promotion and adoption of renewable energy technologies. Only three (3) out of the nine (9) sampled counties had implemented isolated renewable energy interventions. Physical verification established that a solar water heater valued at Kshs.1.2 million at Kiunyu Girls' Secondary School in Murang'a, and a biogas digester for a dairy farmer in Londiani, Kericho valued at Kshs.1 million had been installed. Further, solar lamps had been distributed to groups in Yatta, Machakos.

28. The slow uptake of renewable energy technologies was due to exclusion from county workplans, limited community sensitization, and lack of budget allocation by the Kenya Forest Service. As a result, communities in the sampled counties continued to rely on non-renewable sources of energy, including firewood and charcoal, which undermined conservation and climate resilience objectives.

(iii) Delayed Implementation of County Transition Implementation Plans

29. Review of project documentation established that implementation of Transition Implementation Plans (TIPs) was delayed in five (5) out of the six (6) sampled counties. The objective of TIPS was to devolve some forest functions to the

counties. The audit established that only Embu County had fully implemented its Transition Implementation Plans. In Baringo, Meru, and Kericho counties, the Transition Implementation Plans had been approved, but had not been operationalized. Key transition requirements such as establishing county forestry units, deploying extension staff and integrating forestry functions into County Integrated Development Plans had not been conducted. Further, the Transition Implementation Plans for Murang'a and Machakos counties had not been approved.

30. The delays were attributed to lack of trained forestry personnel to assume devolved responsibilities, poor coordination between both levels of government and insufficient county-level planning. As a result, community ownership and long-term sustainability of conservation gains under the Project were not achieved.

Conclusion

31. The Green Zones Development Support Project Phase II contributed to forest restoration and improvement of community livelihoods. However, implementation and sustainability challenges limited the overall extent of the results achieved.
32. The Project supported forest restoration through afforestation, enrichment planting and maintenance of the regeneration sites in sampled forest stations. These interventions contributed to the rehabilitation of degraded areas. However, challenges such as overgrown nurseries and invasive species reduced the effectiveness and sustainability of the restoration efforts.
33. The Project supported seedling production to enhance the supply of planting materials for rehabilitation activities. However, constraints related to water access, nursery infrastructure and operational capacity affected seedling production and utilization, limiting consistent support to restoration activities.
34. The Project supported alternative livelihood activities, including crop cultivation, beekeeping, trout fish farming, macadamia processing and dairy farming, which contributed to improved food security and household incomes. However, operational constraints and post project continuity limited the full realization of long-term benefits.

Recommendations

35. In view of the findings and conclusion of the audit, the Auditor-General proposes the following recommendations for implementation by the Kenya Forest Service: -

Restoration of Degraded Forest Areas

- i. Put in place a structured programme for identifying, documenting, and managing invasive plant species within reforested areas to safeguard indigenous vegetation recovery; and
- ii. Enhance essential infrastructure, including forest access roads, nursery facilities, ranger stations, and utility services to improve operational efficiency and support forest restoration efforts.

Improving Seedling Production and Distribution

- i. Secure adequate water sources and supply systems for tree nurseries in order to support consistent seedling production throughout the year; and
- ii. Expand and fully utilize its seedling tracking system to cover all distribution channels and ensure accurate reporting on planting and survival outcomes.

Supporting Sustainable Livelihoods and Reduce Forest Dependency

- i. Reinforce support to community income-generating groups by ensuring Income Generating Activities are anchored on viable production systems and enhance market linkages for their produce; and
- ii. Integrate renewable energy activities within project planning frameworks to promote alternatives to firewood, and reduce reliance on forest resources.

1.0 BACKGROUND OF THE AUDIT

Introduction

- 1.1. Kenya continues to face persistent challenges of forest degradation, environmental decline, and loss of biodiversity. This is as a result of illegal logging, unsustainable land use practices, charcoal burning, and agricultural encroachment. These activities have continued to undermine the ecological stability of major water towers, such as the Aberdare, Mau, and Mount Kenya, leading to reduced water availability, declining soil fertility, and increased vulnerability to climate change impacts, including droughts, floods, and erratic rainfall. This situation has directly affected rural communities whose livelihoods depend heavily on forest resources for fuelwood, grazing and small-scale farming. High poverty levels, limited livelihood alternatives and weak enforcement of forest conservation laws have further exacerbated the problem. The Green Zones Development Support Project Phase II (GZDSP-II), herein referred to as the Project, was therefore, initiated to address these environmental and socio-economic challenges.
- 1.2. The Green Zones Development Support Project Phase II (GZDSP-II) is a six (6) year initiative implemented from 2019 to 2025. The Project is being implemented under the Ministry of Environment, Climate Change and Forestry, through the Kenya Forest Service. The Project is financed through a loan amounting to Kshs.5 billion from the African Development Bank (AfDB) and counterpart contribution from the Government of Kenya (GoK) amounting to Kshs.498 million.
- 1.3. The Project is being implemented across fifteen (15) Counties, namely Embu, Meru, Machakos, Tharaka Nithi, Nyeri, Murang'a, Kirinyaga, Kiambu, Nyandarua, Nakuru, Baringo, Kericho, Bomet, Nyamira, and Kisii. Implementation of the Project commenced on 17 July, 2019, and was initially scheduled to be completed on 30 June, 2025. However, the Project period has been extended by one (1) year to 30 June, 2026, in order to allow completion of ongoing activities.
- 1.4. The overall objective of the Project is to enhance forest conservation and improve community livelihoods for sustainable forest management in Kenya. It seeks to strengthen climate change resilience and promote inclusive value chains for key

products such as timber, bamboo, and food crops, in order to boost household incomes. The Project had three (3) components: forest conservation and livelihood support; sustainable value chain development; and project management and coordination to ensure effective implementation and oversight.

Motivation of the Audit

- 1.5. The following factors motivated the Office to conduct the audit on the implementation of the Green Zones Development Support Project Phase II;
 - i. Article 69(1)(a) of the Constitution of Kenya, 2010 requires the State to ensure the sustainable exploitation, utilization, management, and conservation of the environment and natural resources, and to ensure the equitable sharing of benefits derived from the resources.
 - ii. Pillar One of the Bottom-Up Economic Transformation Agenda (BETA) identifies Agricultural Transformation and Inclusive Growth as a key driver of sustainable economic development. The Green Zones Development Support Project Phase II directly supported this pillar by conserving forests and water towers critical for agriculture, enhancing soil and water conservation, promoting agroforestry, and building climate resilience among rural communities
 - iii. Media reports on lifting the six (6) year logging moratorium, such as the East African Newspaper dated 8 July, 2023, whose article emphasized the potential negative implications to conservation efforts and environmental sustainability. These concerns reflected broader citizen fears that lifting the ban could reverse the gains realized in forest conservation.
- 1.6. Given the above factors, a Citizen Accountability Audit was undertaken due to concerns on whether the Green Zones Development Support Project was delivering intended forest conservation and livelihood outcomes in line with constitutional principles, and national priorities under the Bottom-Up Economic Transformation Agenda (BETA). These considerations, together with citizen concerns on the use of public resources and impact of climate change at community level, motivated the audit to assess project performance and implementation from a citizen perspective.

2.0 DESIGN OF THE AUDIT

Audit Objective

- 2.1. The main objective of the audit was to assess whether the Green Zones Development Support Project (GZDSP) Phase II has contributed to the restoration of degraded forests and enhanced community livelihoods.
- 2.2. The specific objectives of the audit were:
 - i. To assess the extent to which the Project has promoted sustainable restoration of degraded forest areas;
 - ii. To evaluate the effectiveness of seedling production, management and utilization to support reforestation goals; and
 - iii. To examine the extent to which the Project has supported sustainable economic livelihoods and reduced dependency on forest resources for the communities.

Audit Scope

- 2.3. The audit focused on how the Kenya Forest Service implemented the Green Zones Development Support Project Phase II in the establishment and management of tree nurseries, the distribution, planting, and survival of seedlings, and the adequacy of nursery and water infrastructure. The audit also examined the implementation of forest restoration and livelihood support initiatives, including the Plantation Establishment and Livelihood Improvement Scheme (PELIS), the support provided to income-generating activities and the extent of training and outreach offered to communities.
- 2.4. The audit purposively selected six (6) counties, namely, Baringo, Kericho, Meru, Embu, Murang'a and Machakos, where the Project was implemented within the Mau, Mount Kenya, and Aberdare water towers. Within these counties, the audit covered thirteen (13) forest stations, selected income generating activities, and beneficiary communities supported under the Project.
- 2.5. The audit covered four (4) financial years, 2020/2021 to 2023/2024. This period was selected because the initial phase of the Project in the financial year 2019/2020 had been significantly disrupted by the COVID-19 pandemic, which delayed field activities and restricted citizen participation. By the financial year 2020/2021 the Project had transitioned into an active phase, during which key outputs such as seedling production, reforestation activities, and livelihood

initiatives were rolled out. The audit was conducted from February 2025 to April 2026. The draft report was validated by stakeholders in May 2025.

Methodology of the Audit

- 2.6. The audit was conducted in accordance with the Performance Audit Standard, ISSAI 3000, issued by the International Organization of Supreme Audit Institutions. The Standard requires that the audit is planned and performed to obtain sufficient and appropriate audit evidence. The Standard also requires that the audit should provide a reasonable basis for the findings, conclusion, and recommendations, based on the audit objectives.

Methods Used to Gather Audit Evidence

- 2.7. The following methods were used to gather audit evidence: -

a) Document Review

- 2.8. To understand how the Project was implemented, the audit team reviewed key planning, financial, contractual, and monitoring documents. These included the Project Implementation Manual, county work plans and progress reports, monitoring and evaluation reports, field inspection and verification reports, and Participatory Forest Management Plans. A detailed list of all the documents reviewed is in **Appendix 1**.

b) Physical Verification

- 2.9. The audit team carried out physical verification of tree nurseries, regeneration sites, and supporting infrastructure in thirteen (13) forest stations in the six (6) sampled counties. The audit team also verified six (6) income-generating activities (IGAs), namely, beekeeping and trout fish farming in Meru, potato bulking and goat keeping in Baringo, solar lamp distribution in Machakos, and a solar water heater installation in Murang'a, as outlined in **Appendix 2**.
- 2.10. The audit further inspected invasive species control sites in four (4) counties, Machakos, Meru, Murang'a, and Embu, where Lantana camara, Mauritius thorn, and invasive ferns were identified as major threats to regeneration efforts.

c) Interviews

- 2.11. The audit team held interviews with County Forest Conservators (CFCs), Community Forest Associations, casuals, beneficiaries and the Project Coordinator. **Appendix 3** details all the interviews held by the audit team and their purpose.

d) Focus Group Discussions

- 2.12. Focus group discussions (FDGs) were conducted with one hundred and eighty (180) beneficiaries of the Project from six (6) Counties; Baringo, Kericho, Meru, Embu, Murang'a, and Machakos. The FDGs provided information from beneficiaries and helped the audit team confirm and supplement audit evidence obtained from documents and field visits. The focus group discussions provided valuable insights from beneficiaries and enabled the audit team to confirm and enrich evidence gathered from documents and field visits. They offered a deeper understanding of the Project's practical outcomes, including livelihood improvements, adoption of renewable energy, post-planting care practices, and community participation in project activities.

e) Engagement with Civil Society Organizations

- 2.13. The audit was undertaken in partnership with Civil Society Organizations (CSOs) as representatives of citizens. The CSOs supported key audit activities, including mobilizing beneficiaries for focus group discussions, facilitating community access, and helping validate local-level information on project implementation. Participating CSOs were actively engaged in environmental and climate-change initiatives within their respective Counties. Participating CSOs are listed in **Appendix 4**.

Sampling Technique

- 2.14. The audit sampled six (6) out of fifteen (15) counties, where the Green Zones Development Support Project Phase II was implemented. The selection of the Counties followed a purposive sampling technique, designed to represent the Project's diverse ecological, geographical, and socio-economic contexts. The Counties selected were Baringo, Kericho, Meru, Embu, Murang'a, and Machakos. The sampled counties covered the three (3) major water towers,

namely Mau, Mount Kenya, Aberdare and one (1) key water catchment area. This approach enabled the audit to assess implementation under different climatic and forest management conditions.

- 2.15. Further, the audit team selected thirteen (13) forest stations out of the thirty-four (34) stations located in the six (6) sampled counties. All the thirty-four (34) stations were part of the Green Zones Development Support Project Phase II, although the level of implementation varied across counties. The thirteen (13) stations were purposively selected based on their level of activity and the presence of project-supported interventions such as nurseries, regeneration plots, renewable energy installations, or other infrastructure.
- 2.16. In addition, the audit sampled ten (10) out of the fourteen (14) Income-Generating Activities (IGAs) which were implemented across the six (6) counties. The IGAs were selected in consultation with the Kenya Forest Service and Community Forest Associations (CFAs) to ensure that they represented a diverse range of interventions, including beekeeping, goat rearing, trout fish farming, potato bulking, dairy farming, and poultry projects. The sampled activities ensured that the audit findings reflected the different ecological contexts and the variety of livelihood activities supported under the Project.

Assessment Criteria

- 2.17. The assessment criteria for the audit were derived from the Project Implementation Manual and the Kenya Forest Act, 2016. Other criteria were drawn from the Kenya Forest Technical Orders of 1996, The Gazette Notices No. 2334 banning polythene bags, Tree Nursery Training Manual for Operators KEFRI, 2017 and relevant best practices in project management. The detailed assessment criteria are listed in **Appendix 5**.

3.0 DESCRIPTION OF THE AUDIT AREA

Green Zones Development Support Project Phase II

- 3.1 The Green Zones Development Support Project Phase II (GZDSP-II) was designed as a continuation and scale-up of the achievements realized under the first Green Zones Development Support Project (GZDSP-I), implemented between 2006 and 2014. According to the GZDSP-I Completion Reports, the earlier phase rehabilitated approximately 309,000 hectares of degraded forest and supported about 375,912 households through livelihood enhancement, community forestry, and conservation activities.
- 3.2 The positive outcomes from Phase I, particularly the effectiveness of community participation, the economic value of diversified livelihoods, and the need for stronger ecosystem restoration mechanisms, informed the design of GZDSP-II. GZDSP Phase II therefore, was expected to expand the scope of interventions by strengthening seedling production systems, enhancing conservation infrastructure, and scaling up community livelihood support to consolidate and extend the environmental and socio-economic gains achieved under GZDSP-I.

Project Components

- 3.3 The Project was implemented through three (3) components: -
- i. Forest Conservation and Livelihood Support for Climate Change Resilience;
 - ii. Sustainable and Inclusive Value Chain Development; and
 - iii. Project Management and Coordination
- 3.4 The audit mainly focused on Component 1: Forest and livelihood support for climate change resilience, as it represented the principal operational pillar of the project and carried the largest share of activities aimed which aimed at restoring degraded forest ecosystems and improving community livelihoods.
- 3.5 Component I aimed at conserving and restoring forest areas. It had four (4) outputs, as follows:
- (i) Rehabilitation of degraded forest areas;
 - (ii) Bamboo production for conservation and commercialization;
 - (iii) Development and rehabilitation of forest infrastructure; and
 - (iv) Community capacities and livelihoods improvement.

3.6 The targets included protecting 300,000 hectares, planting trees on 10,250 hectares, creating bamboo plantations, and rehabilitating river and hill areas. Infrastructure improvements included forest roads, bridges, ranger camps, and renewable energy sources. Community benefits included income-generating activities, eco-tourism support, and forestry training.

Key Stakeholders in the Implementation of the Project

A. Ministry of Environment, Climate Change, and Forestry

- 3.7 The Ministry of Environment, Climate Change and Forestry was charged with the mandate to oversee the management and protection of the environment, mitigation and adaptation to climate change, and forestry conservation and management. The Ministry aimed to ensure a healthy and sustainable environment.
- 3.8 The Ministry was the oversight authority for the Green Zones Development Support Project Phase II, implemented under the State Department for Forestry, through the Kenya Forest Service.

B. Kenya Forest Service

- 3.9 The Kenya Forest Service (KFS) is a semi-autonomous government agency established under Section 7 and Section 8 of the Forest Conservation and Management Act, 2016, under the Ministry of Environment, Climate Change and Forestry.
- 3.10 As the lead implementing agency, KFS is responsible for the implementation of the Green Zones Development Support Project Phase II. Through its Project Management Unit (PMU), KFS coordinated and managed the Project's daily operations.

C. Beneficiaries and Communities

- 3.11 The Green Zones Development Project engaged key community-based beneficiaries, notably the community forest associations (CFAs), which played a vital role in forest governance and conservation. These were grassroots organizations formed by communities living adjacent to forest areas. The associations worked closely with KFS to promote sustainable forest management and equitable sharing of forest benefits.

Project Implementation Framework

3.12 The implementation of the Green Zones Development Support Project Phase II followed a structured, multi-level framework designed to ensure effective coordination between national, county, and community actors. The process emphasized participatory planning, alignment with government systems, and results-based management to achieve project objectives.

- i. **The Project Steering Committee (PSC):** Was to provide overall policy direction and oversight. Chaired by the Principal Secretary, State Department for Forestry. The PSC reviewed and approved annual work plans and budgets, monitored implementation progress, and addressed emerging policy and coordination issues. The National Project Coordinator served as Secretary to the Committee and ensured decisions were implemented through the Project Management Unit.
- ii. **The Project Management Unit (PMU):** Based at the Kenya Forest Service Headquarters, the unit was responsible for the day-to-day management and coordination of activities. This unit handled planning, budgeting, procurement, disbursement, reporting, and monitoring. It was built on the structure established under GZDSP I and was strengthened with technical officers, including an agronomist, monitoring and evaluation officer, environmental specialist, and gender and community mobilization officer. The PMU ensured project activities were implemented on time, within budget, and in compliance with AfDB and GoK guidelines.
- iii. **County Project Coordination Committee (CPCC):** At the county and sub-county levels, project activities were implemented through the Office of the County Forest Conservator (CFC), who served as the focal point for coordinating all interventions. To strengthen oversight and ensure coherent delivery of activities, a County Project Coordination Committee (CPCC) was established in each County. Headed by the Regional Forest Conservator, the CPCC provided strategic leadership by reviewing and endorsing the County Work Plans and budgets, guiding implementation, and monitoring progress against set targets. The Committee served as a multi-sectoral platform that enabled coordination between the Kenya Forest Service, county governments, and community representatives.

- iv. **Forest Station Managers:** They working under the County Forest Conservator and were based at forest stations within the respective counties. They were responsible for the operational execution of project activities. They supervised nursery establishment, seedling production and distribution, reforestation, and maintenance activities, and provided technical guidance to CFAs and other local groups involved in project-supported initiatives. The Forest Station Managers reported directly to the County Forest Conservator to ensure effective coordination, performance tracking, and accountability.
 - v. **At the community level,** implementation was anchored on participatory approaches involving CFAs, self-help groups, and local community structures. Communities participated in nursery establishment, planting and tending for seedlings, and management of income-generating activities such as beekeeping, fruit production, and macadamia farming. The use of the Plantation Establishment and Livelihood Improvement Scheme (PELIS) enabled communities to cultivate crops alongside tree planting, thereby integrating forest restoration with livelihood improvement.
- 3.13 The framework also included close collaboration between the Kenya Forest Service, County Governments, and development partners to ensure effective resource utilization and sustainability of interventions.

Figure 1: Project Organization Structure



Source: Project Implementation Manual-2023

Funding of the Project

- 3.14 The Project was financed through a loan amounting to Kshs.5 billion from the African Development Bank (AfDB) and counterpart contribution from the Government of Kenya (GoK) amounting to Kshs.498 million. The total project allocation amounted to Kshs.5,498,250,000.
- 3.15 As of 30 June, 2023 cumulative disbursements totaled Kshs.2,516,645,705, representing approximately 45.8% of the total budget. Of this, Kshs.1,088,286,665 (43.2%) was released directly to the fifteen (15) implementing counties and the Roads Unit, while Kshs.1,428,359,040 (56.8%) was utilized at the national level through the Kenya Forest Service Project Management Unit (PMU) for centralized procurements and cross-county technical services. The detailed annual disbursements are shown in **Table 1**.

Table 1: Disbursements to the Project

Financial Year	County and Roads Unit Disbursements (Kshs.)	National Level (PMU) (Kshs.)	Total Disbursements (Kshs.)
2020/2021	351,819,400	439,748,562	791,567,962
2021/2022	356,447,032	458,529,777	814,976,809
2022/2023	380,020,233	530,080,701	910,100,934
Total	1,088,286,665	1,428,359,040	2,516,645,705

Source: GZDSP II Audited Financial Statements and County Approved Work Plans

4.0 AUDIT FINDINGS

A. Promoting Sustainable Restoration of Degraded Forest Areas

4.1 During the financial years 2020/2021 to 2023/2024, a total of 3,403.57 hectares of degraded forest land were rehabilitated, against a cumulative target of 2,927 hectares, representing an overall achievement rate of 116.3%. Restoration activities were undertaken through reforestation, enrichment planting, and maintenance of regeneration sites across the counties implementing the projects. In addition, measures such as grazing control, establishment of firebreaks, deployment of forest scouts, and community-based protection of young plantations were implemented to safeguard the restored areas, contributing to improved forest cover and enhanced ecological resilience within the project sites.

4.2 However, the audit noted the following weaknesses in the implementation of the objective of promoting sustainable restoration of degraded forests: -

i. Overgrown Tree Seedlings in Nurseries

4.3 According to the Kenya Forest Technical Order No. PEDD-003, dated 31 May, 2018, the optimal size for transplanting seedlings is 30 cm in height, and seedlings exceeding 40 cm should not be used for planting, as they may have reduced survival rates and poor field performance. Effective nursery management requires timely transplantation of seedlings to ensure optimal growth, minimize wastage, and maximize resource use. Best practice also recommends transplanting seedlings at the right maturity stage to prevent overgrowth, which can affect viability and increase costs.

4.4 The audit established that in five (5) out of the thirteen (13) sampled forest stations, there were seedlings that had outgrown the recommended planting size. The overgrowth was mainly attributed to erratic and delayed rainfall, which disrupted scheduled planting activities. In Embu, Machakos and Baringo stations, planting was delayed because soil moisture levels remained below the minimum threshold required for field establishment. Interviews with station managers indicated that planting was undertaken when soil moisture reached at least 30 percent, while levels below this threshold were considered inadequate for successful transplanting. Further, weather conditions and inadequate transport logistics hindered timely delivery of seedlings from nurseries to planting sites. **Table 2** summarizes the reasons for overgrown tree seedlings in nurseries.

Table 2: Summary of Reasons for Overgrown Tree Seedlings in Nurseries

County	Forest Station	Reason for Overgrown Tree Seedlings
Embu	Njukiini East	Erratic weather conditions - Soil moisture buildup below 30%
Kericho	Kerisoi	Transport challenges and erratic weather conditions
Murang'a	Kiambicho	Awaiting the onset of long rains
Machakos	Muumando	Erratic weather conditions - Soil moisture buildup below 30%
Baringo	Narasha	Erratic weather conditions - Soil moisture buildup below 30%

Source: OAG-Kenya analysis, interviews, feedback per county

- 4.5 The holding of seedlings beyond their optimal size resulted in wastage of nursery space, labour and inputs, while also reducing efficiency by limiting the production of new seedlings. Further, delays in transplanting seedling slowed the establishment of forest cover, constraining efforts to reverse forest degradation.

ii. Low Survival Rates of Planted Seedlings

- 4.6 The Kenya Forest Service Technical Order No. PEDD-003 (31 May, 2018) sets the seedling survival rate as a key indicator of plantation performance per county. A survival rate of 75% or higher indicates successful establishment, while a rate below 75% signified poor establishment and required replanting or replacement of dead seedlings.
- 4.7 The audit established that survival rates in the sampled counties averaged 55% to 71%, with none of the counties attaining the recommended 75%. Physical verification in Kiambicho in Muranga, Meru Station in Kibaranyaki Beat, and Muumandoin Machakos revealed that the planted seedlings were wilting and had stunted growth. Further, review of county monitoring and evaluation reports and interviews with County Forest Conservators in Kericho and Embu confirmed that survival rates were particularly low in areas where post planting care was inadequate. The follow up care which included mulching, weeding, replanting, and protection from grazing animals was not carried out consistently.
- 4.8 Without proper care and follow up, seedlings were left vulnerable to harsh weather, competition from weeds, and damage by animals, leading to poor growth and high mortality. **Table 3** shows the average survival rates of seedlings, against the rehabilitated hectares per county, as at June 2024.

Table 3: Average Seedling Survival Rate Per County

County	Total Hectares Rehabilitated	Target Survival Rate (%)	Average Survival Rate (%)
Machakos	58	75	69
Murang'a	87.2	75	55
Embu	118	75	71
Meru	126.35	75	74
Kericho	143.5	75	65
Baringo	140.3	75	70

Source: OAG-Kenya analysis of average survival rates reports per county as at 2024

- 4.9 The low survival rates of the planted seedlings were further attributed to inadequate training on proper planting techniques. Community members lacked knowledge on correct seedling spacing, particularly under the Plantation Establishment and Livelihood Improvement Scheme (PELIS), a gap linked to insufficient technical staffing to provide regular guidance. In addition, seedlings failed to survive due to prolonged dry seasons and insufficient rains in arid and semi-arid areas, such as Baringo and Machakos.
- 4.10 Consequently, the low seedling survival rates slowed the establishment of forest cover and hindered the achievement of planned rehabilitation targets, including climate related mitigation efforts.

iii. Inadequate Infrastructure in Forest Stations

- 4.11 The Project Implementation Manual (PIM), Activity 3.3.3 as outlined in Annex XXXXIII, assigned the Forest Superintendent responsibility for the improvement and maintenance of forest roads and related infrastructure: The PIM required forest roads remain accessible throughout the year, and that essential infrastructure, including staff housing, offices, and nursery facilities were adequately maintained to support efficient operations and effective service delivery.
- 4.12 Physical verification of thirteen (13) forest stations and interviews with ten (10) forestry station managers and six (6) nursery managers, revealed widespread infrastructure deficiencies across most of the forest stations and regeneration sites. The Audit Team directly observed impassable access roads, absence of ranger housing and offices, lack of electricity and internet connectivity. In addition, weak nursery infrastructure due to lack of fencing, missing potting shades, and

exposure of seedlings to damage by animals. **Table 4** below summarizes the key infrastructure gaps observed.

Table 4: Key Infrastructure Gaps Per County

County	Forest Station	Key Infrastructure Gaps
Machakos	Muumandu Forest Station	No station office or ranger housing, nursery lacks secure storage facilities, no potting shade
	Iveti Forest Station	No potting shade, water storage facilities
Murang'a	Kiambicho Forest Station	Access road impassable during rains, No electricity connection
	Gatare Forest Station	Poor road network
Embu	Irangi Forest Station Njuki-ini station	Poor access roads limiting movement of seedlings and staff
Meru	Meru Station Kibaranayaki Beat	Poor access road, some parts only accessible on foot
	Kithirune Beat	Poor access road conditions
Kericho	Londiani Forest Station	Nursery lacks protective structures
	Keriso Forest Station	Office has no electricity; nursery lacks potting shade
	CFC Office – Kericho	No internet connectivity for reporting and digital tracking
Baringo	Narasha and Sabatia	Poor road network, Lack of electricity in stations

Source: OAG-Kenya analysis of key infrastructure gaps per county

- 4.13 Interviews with the Forestry officers revealed that infrastructure challenges persisted since the project's interventions focused on selected priority roads and facilities, leaving other sections of the forest road network and stations infrastructure without rehabilitation. Most forest access roads and buildings remained under routine KFS operations without dedicated funding for maintenance. The sampled counties had no structured maintenance plans, and the existing budget allocations were insufficient to address deteriorating roads, dilapidated staff housing, and aging nursery infrastructure. Additionally, delays in procurement and limited technical staffing at the station level further contributed to slow repairs and inconsistent upkeep of critical infrastructure across forest stations.
- 4.14 The poor road network delayed seedling distribution and raised transport costs, particularly during rainy seasons when accessibility was disrupted. On the other hand, lack of rangers housing and offices exposed staff to safety risks and reduced operational efficiency. In addition, weak nursery infrastructure compromised seedling storage and survival, while lack of electricity and internet hindered

administration and communication. Subsequently, inadequate infrastructure reduced reforestation efforts and slowed the restoration of degraded forests.

(iv) Invasive Species in Reforested Areas

- 4.15 The Project Implementation Manual Activity 3.1.2 required that invasive species in forest areas be managed through active community participation, including identification, control, and long-term management.
- 4.16 Site inspections in Meru, Kiambicho and Irangi forest stations established the widespread presence of invasive species in the three (3) sampled counties.
- 4.17 Project Monitoring and Evaluation Reports on Invasive Species, together with supporting invasive species assessment reports documented infestations of *Lantana camara*, *Caesalpinia decapetala* (Mauritius thorn), and invasive ferns in Meru, Murang'a, and Embu Counties. The reports indicated that infestations had expanded to approximately 5,000 hectares across the affected counties, against a project removal target of 500 hectares. As at the time of the audit, only 449 hectares had been cleared, representing less than 9% of the invaded area.
- 4.18 The spread of invasive species was primarily attributed to the absence of a structured monitoring and early-control program. Reviewed reports confirmed that there were no systematic mechanisms in place for identifying, documenting, and managing invasive plants in reforested sites, allowing infestations to expand unchecked.
- 4.19 The uncontrolled spread of invasive species hindered reforestation efforts by reducing seedling survival rates and competing with indigenous trees for sunlight, water, and nutrients. This directly affected the Project's goal of achieving sustainable forest restoration and long-term ecosystem recovery.

(v) Inadequate Fencing of the Forest Areas

- 4.20 The Project Implementation Manual Activity 3.3.1 required fencing of rehabilitated forest areas as a protection measure. Fencing was intended to prevent livestock grazing, human encroachment, and wildlife invasion, in order to safeguard natural regeneration and ensure the sustainability of reforestation activities.
- 4.21 Physical verification established that only four (4) out of thirteen (13) forest stations had installed fencing in selected regeneration sites. In contrast, all the other nine (9) sampled stations relied on forest scouts as the primary protection mechanism. Site visits to Kiambicho and Gatara (Murang'a), Maji Mazuri and Narasha

(Baringo), and Londiani and Keriso (Kericho) confirmed that the absence of physical barriers had left regenerated sites exposed, with visible signs of livestock intrusion, trampling, and human encroachment.

- 4.22 Further, focus group discussions in Murang'a and Baringo highlighted the recurring challenges of using forest scouts as the primary protection mechanism, with reports of livestock grazing on newly planted areas. Despite their efforts, forest scouts faced logistical challenges and lacked the necessary enforcement capacity to fully protect reforestation sites. **Table 5** summarizes observations on fencing across the six (6) sampled counties.

Table 5 :Observations on Fencing Challenges

County	Forest Stations	Protection Method / Key Issues
Machakos	Muumandu, Iveti Station	Fenced regeneration areas
Meru	Meru station and Ruthumbi station	Fenced regeneration areas
Murang'a	Kiambicho, Gatare	No fencing in both stations, reliance on forest scouts
Embu	Irangi, Njuki-ini	No fencing
Kericho	Londiani, Keriso	No fencing in either station; Illegal grazing persists despite deployment of forest scouts
Baringo	Narasha, Maji Mazuri	No fencing across all stations; Frequent seedling damage from grazing livestock

Source: OAG-Kenya analysis of Protection Method per county reports

- 4.23 The main reason as to why fencing was not implemented in these counties was because Activity 3.3.1 on fencing of rehabilitation areas under the Project Implementation Manual was not translated into the county work plans. As a result, protection activities were limited to the use of forest scouts.
- 4.24 The lack of adequate fencing exposed rehabilitation sites to grazing, trampling, and encroachment, which damaged young trees and reduced seedling survival. This undermined the effectiveness of reforestation efforts and limited the long-term sustainability of the restored forest areas.

(v) Use of Low-Quality Biodegradable Planting Tubes in Reforestation

- 4.25 Gazette Notices No. 2334(28 February, 2017) and 2356 (14 March, 2017) by the Ministry of Environment and Natural Resources banned the use, manufacture, and importation of plastic bags. Biodegradable planting tubes were thus introduced as an eco-friendly alternative for raising seedlings in reforestation efforts.

4.26 Physical verification established that the biodegradable planting tubes used in reforestation sites across the sampled forest stations exhibited significant weaknesses. Many tubes would tear within three (3) months of use. They also retained less water compared to polythene bags. Interviews with nursery managers at Machakos Forest Station and Meru Forest Station confirmed that the tubes disintegrated too quickly, were not durable, and failed to adequately protect seedling roots. As a result, seedlings planted in these tubes recorded low survival and growth. **Table 6** summarizes county-specific challenges with biodegradable tubes.

Table 6: County Specific Challenges with Biodegradable Tubes

County	Forest Stations Verified	Challenges with Biodegradable Tubes
Machakos	Machakos Forest Station, Muumandu	Tubes degraded too quickly, leaving seedlings exposed, poor water retention led to drying of root zones.
Murang'a	Kiambicho, Gatara	Tubes disintegrated within 3 months, no standard quality control; inconsistent tube strength.
Embu	Irangi, Njuki-ini East	Some tubes failed to decompose fully, affecting soil conditions, tubes tore prematurely during transplanting.
Meru	Meru Forest Station – Kibaranyaki Beat, Kithirune Beat & Ruthumbi forest station	Inconsistent tube thickness and durability hence early collapse exposed seedling roots.
Kericho	Londiani, Keriso	Weak structure caused tubes to collapse before root establishment, low water retention contributed to moisture stress.
Baringo	Narasha, Sabatia, Maji Mazuri	Poor water retention and rapid breakdown hindered seedling establishment.

Source: OAG-Kenya analysis of challenges with biodegradable tubes per county

4.27 The primary cause of ineffective biodegradable tubes was mainly attributed to inadequate assessment of their suitability before large scale use in reforestation activities.

4.28 The premature degradation of biodegradable planting tubes led to increased seedling mortality rates in several reforestation sites. The early breakdown of the tubes exposed young seedlings to harsh environmental conditions, reducing survival rates and hindering the Project's objective of achieving sustainable forest restoration.

B. Promoting Seedling Production, Management, and Utilization

4.29 The Project made significant progress in improving seedling production systems, through the adoption of innovative water management practices, such as introduction of sprinkler irrigation and borehole water systems. These interventions provided a reliable water supply, reduced drought-related losses, and supported

higher seedling production capacity. However, the audit revealed the following challenges under this objective: -

i. Inadequate Water Supply for Tree Nurseries

- 4.30 The Project Implementation Manual Activity 3.2.1 required the establishment of adequate and reliable water supply systems in tree nurseries, including boreholes, water reservoirs, and irrigation facilities, to ensure healthy seedling growth and consistent production for reforestation efforts.
- 4.31 Physical verification and interviews established that inadequate and unreliable water supply was a widespread challenge across the sampled forest stations. Out of the thirteen (13) forest stations sampled during the audit, nine (9) were found to be experiencing inadequate water supply.
- 4.32 Field observations and interviews with nursery managers indicated that most affected nurseries lacked sustainable water infrastructure and instead relied on seasonal water sources, aging pumping equipment and manual watering methods. These challenges constrained routine nursery operations, particularly during dry periods. **Table 7** summarizes the water supply challenges observed in the affected forest stations.

Table 7: Water Supply Challenges Affecting Tree Nurseries

County	Forest Stations Affected	Water Supply Challenges Observed
Baringo	Maji Mazuri, Narasha, Sabatia	Recurrent water shortages due to drought conditions and absence of dedicated irrigation systems.
Kericho	Londiani, Kerisoi	Irregular water supply caused by frequent breakdowns of aging water pumps.
Murang'a	Kiambicho, Gatara	Dependence on old diesel-powered pumps that could not be adequately maintained or replaced.
Embu	Irangi, Njuki-ini East	Reliance on seasonal rivers and manual watering methods, with no permanent water infrastructure.
Machakos	Muumandu, Machakos	Seasonal water shortages and dependence on manual watering due to lack of boreholes or reservoirs.

Source: OAG-Kenya analysis of water supply challenges

- 4.33 Inadequate water supply led to reduced participation by community members in nursery operations, particularly in counties where tree nurseries served as an income generating activity. Interviews with community forestry associations revealed that declining seedling survival rates discouraged farmers and tree growers from actively engaging in the program, affecting both economic benefits

and community-led conservation efforts. Water scarcity directly thus undermined the efficiency of seedling production and management, restricting the project's ability to maintain a consistent supply of viable planting stock for reforestation efforts.

ii. Challenges in Seedling Distribution and Tracking

- 4.34 Section 7 of the Tree Nursery Training Manual for Operators issued by the Kenya Forestry Research Institute in 2017 required tree nurseries to maintain accurate records on seedling production, distribution, and survival. Moreover, the Kenya Forest Service plantation establishment and seedling distribution procedures required seedling issuance records, beneficiary details, planting returns, and follow-up survival monitoring to facilitate accountability and performance assessment.
- 4.35 Review of nursery registers established that while the Project utilized the KFS online seedling tracking system to capture production and distribution data across forest stations, it did not comprehensively track seedlings distributed outside KFS facilities. In Baringo, Embu, Kericho, Machakos, Meru, and Murang'a Counties, distribution records for seedlings supplied to citizens, schools, and community groups were maintained manually through seedling books and delivery registers. These records were often incomplete and lacked details on species type, quantities planted, and follow-up survival results.
- 4.36 Interviews with forestry officers across the six (6) sampled counties revealed that post nursery distribution, there was no systematic process to track the progress of the seedlings. This made it difficult to assess the overall impact of reforestation efforts. As a result, the Project was unable to reconcile distributed seedlings with reforestation outcomes, leading to inconsistencies in reported planting figures.
- 4.37 The observed gaps were attributed to the absence of an integrated digital system capable of tracking off-station seedling distribution, inadequate training of nursery staff on data management, and limited resources to support post-planting monitoring.
- 4.38 The absence of a reliable tracking mechanism or follow up framework reduced accountability for distributed seedlings which hindered performance verification, and weakened the Project's ability to measure long-term reforestation success and community engagement outcomes.

iii. Weaknesses in the Grievance Redress Mechanism

- 4.39 Annex XXXV of the Project Implementation Manual required proper recording and resolution of grievances for accountability and transparency. The mechanism was designed to enhance beneficiary participation in project implementation by documenting, addressing, and tracking grievances related to activities such as nursery management, seedling distribution, and community livelihood support.
- 4.40 Review of grievance registers established that nursery operations and seedling distribution was inconsistent across the forest stations reviewed. Out of the thirteen (13) sampled forest stations, nine (9) were found to have gaps in the use and maintenance of grievance registers. The gaps included registers with no recorded entries despite ongoing project activities, registers that were not consistently updated, and cases where no active grievance registers were in use. **Table 8** summarizes the specific conditions observed at the affected forest stations.

Table 8: Grievance Registers at Forest Stations with Identified Gaps

County	Forest Station	Condition Observed
Baringo	Maji Mazuri	Grievance register had no recorded entries for the year 2023, despite ongoing project activities.
	Sabatia	Grievance register was present but not consistently updated, with several entries missing key information.
Kericho	Londiani	Grievance register was present but not consistently updated, with incomplete entries.
	Kerisoi	No active grievance register was in use; complaints were received verbally and not formally recorded.
Machakos	Muumandu	No active grievance register was in use; complaints were received verbally and not formally recorded.
Meru	Meru Forest Station	Grievance register was in place but not consistently updated, with missing details in several entries.
Murang'a	Kiambicho	Grievance register was in place but not consistently updated, with incomplete entries.
	Gatare	Grievance register was in place but not consistently updated, with incomplete entries.
Embu	Irangi	Grievance register had no recorded entries for the year 2023, despite ongoing project activities.

Source: OAG-Kenya Analysis of Grievance Registers

- 4.41 The weaknesses in grievance management were attributed to inadequate staff training on grievance redress mechanism procedures, lack of clear reporting channels between forest stations, counties and limited community sensitization on grievance reporting. In the sampled forest stations, grievance handling was not

integrated into routine project management, leading to underreporting and poor documentation.

- 4.42 The weak implementation of the grievance redress mechanism hindered timely reporting and resolution of operational challenges such as water shortages, delayed input supplies, and seedling losses. This affected seedling production and utilization by limiting feedback, reducing accountability in nursery operations, and lowering community participation in reforestation activities.

iv. Non-Provision of Personal Protective Equipment for Casual Workers

- 4.43 The Project Implementation Manual Annex XXXXVII, on Health and Safety Management Plan, required that the Green Zone Development Support Project Phase II was to implement various provisions outlined in Section 6 of the Occupational Safety and Health Act, 2007. This was in order to minimize workplace hazards and ensure a safe working environment, including provision of personal protective equipment.
- 4.44 Site visits to forest stations and nurseries¹ revealed that casual workers were carrying out nursery tasks and field activities without gloves, safety boots, or protective clothing. Workers interviewed confirmed that personal protective equipment (PPE) had not been issued. Review of annual work plans and budget summaries showed that procurement of personal protective equipment was not included as a planned activity in Baringo, Kericho, Embu, Machakos, and Murang'a Counties.
- 4.45 The lack of personal protective equipment was attributed to the non-prioritization of worker safety within the annual county work plans. Most project funds were directed toward seedling production, afforestation, and livelihood support.
- 4.46 The lack of proper protection increased the risk of minor injuries and discomfort among workers, leading to slower work pace and higher absenteeism, which disrupted seedling preparation, transplanting, and reforestation maintenance schedules.

¹ Baringo (Maji Mazuri, Sabatia, Narasha), Kericho (Londiani, Kerisoi), Embu (Irangi, Njuki-ini east), Machakos (Muumandu Machakos station), and Murang'a (Kiambicho, Gatare).

C. Supporting Sustainable Economic Livelihood and Reducing Dependency on Forest Resources for the Communities

- 4.47 Review of the Project workplans and interviews with beneficiaries established that the Project promoted alternative livelihoods for the adjacent forest communities through employment creation, income-generating activities, and the implementation of the Plantation Establishment and Livelihood Improvement Scheme (PELIS). Across the six (6) sampled counties, community members benefited from approximately 40,000 man-days of work, with women accounting for about 45% of the workforce, mainly in nursery operations and seedling production.
- 4.48 In addition, the Project supported diverse, income-generating activities such as goat farming, beekeeping, macadamia processing, poultry production, and agroforestry, which helped diversify household incomes and reduce reliance on forest resources. Community members were trained in sustainable forestry, agribusiness, and value addition through workshops, exchange visits, and Farmer Field Schools (FFS). The interventions contributed to improved livelihoods and gradual reduction in forest dependency, although implementation varied across counties, limiting the overall impact of the interventions.
- 4.49 However, despite these achievements, the audit revealed some gaps that affected the sustainability of livelihood interventions: -

(i) Weak Sustainability of Income-Generating Activities

- 4.50 Activity 3.4.1 of the Project Implementation Manual required the Project to support community-based income-generating activities (IGAs) in order to improve livelihoods and reduce dependence on forest resources. The activities were to be designed with sustainability plans, market access strategies, and technical support mechanisms, to ensure long-term income stability for beneficiary groups
- 4.51 The Audit Team held focus group discussions with ten (10) IGAs distributed across Gatere, Ruthumbi, Meru, Iveti, Narasha, Koibatek, Keriso, Londiani, and Njuki-ini East forest stations. From the discussions, it was noted that most IGAs linked to these forest stations were not functioning sustainably, as some had collapsed, others remained active but were commercially constrained, while others showed minimal progression. **Table 9** summarizes the status of the income generating activities.

Table 9: Status of Income Generating Activities

County	Forest Station	Type of IGA	Status During Audit
Murang'a	Gatare	Poultry (Kinyona Domestic Fuelwood Self Help Group)	Collapsed; high feed costs; project site withdrawn
Meru	Ruthumbi	Kithira Trout fish farming	Active; high fish-feed costs, no cold storage, no formal market
	Meru Forest Station	Community Apiary with 77 bee hives	Active but weakened by fence vandalism; hives vandalized by elephants
Machakos	Iveti	Kibauni bee keeping	Active low production
Baringo	Narasha	Narasha CFA Dairy goat (goat-in-trust model)	Slow reproduction cycle; limited beneficiary reach
	Koibatek	Koibatek CFA Potato bulking	Harvested and sold; group transitioning to solo farming
Kericho	Kerisoi	Kerisoi Umbrella Station Community Forest Association Potato bulking	Harvested and sold; members transitioning to solo farming
	Londiani	Londiani CFA - 4 Dairy cows	Functional but limited; limited beneficiary reach
Embu	Njuki-ini East	Macadamia and fruit farming	Low productivity; limited value addition and market linkage

Source: OAG-Kenya Analysis of Income Generating Activities

- 4.52 The sustainability challenges of IGAs arose from insufficient post-establishment follow up on operations and maintenance of the activities. Once the IGAs became functional, there was limited incorporation of market linkage strategies by the Project and inadequate training on business management. Further, high operational costs and the absence of clear ownership structures weakened long-term group cohesion and financial viability.
- 4.53 Despite significant inputs, many IGAs generated low and short-lived incomes and therefore, they did not become reliable alternatives to forest-based earnings. This limited the ability to reduce dependency on forest resources.

(ii) Slow Promotion of Renewable Energy Technologies

- 4.54 Activity 3.4.9 of the Project Implementation Manual required the Project to identify, assess and support communities and institutions with appropriate renewable energy technologies in order to reduce dependency on forest resources. This requirement applied across all participating counties. Each county was therefore, expected to plan for and implement at least one (1) renewable energy initiative as part of its annual work plans.

- 4.55 Scrutiny of County Annual Work Plans revealed that there was limited promotion and adoption of renewable energy technologies. Only three (3) Counties, Murang'a, Machakos, and Kericho had implemented isolated renewable energy interventions. Physical verification established that a solar water heater valued at Kshs.1.2 million at Kiunyu Girls' Secondary School in Murang'a, and a biogas digester for a dairy farmer in Londiani, Kericho valued at Kshs.1 million had been installed. Further, solar lamps had been distributed to groups in Yatta, Machakos.
- 4.56 Focus Group Discussions (FGDs) across all the six (6) sampled counties revealed that most households and community groups had limited awareness of available renewable energy options and lacked information on project support. Participants also reported that renewable energy topics were not included in community trainings or sensitization forums. High upfront installation costs were consistently cited by beneficiaries as a barrier to adoption without external support.
- 4.57 The slow promotion of renewable energy technologies was due to exclusion from county work plans, inadequate community sensitization on available technologies, and the absence of dedicated budget allocations within the Project's annual resource planning.
- 4.58 The limited promotion of renewable energy technologies weakened the Project's capacity to offer sustainable energy alternatives. As a result, continued dependence on firewood and charcoal increased pressure on forests and constrained progress toward sustainable livelihoods and reduced forest dependency.

(iii) Expired Participatory Forest Management Plans

- 4.59 Section 47(1) to (6) of the Forest Conservation and Management Act, 2016 required that every public forest be managed through an approved management plan developed by the Kenya Forest Service (KFS) in consultation with stakeholders. The Project Implementation Manual (PIM) further emphasized that valid Participatory Forest Management Plans (PFMPs) were essential for guiding sustainable forest management, benefit sharing, and implementation of community livelihood activities under the Project.
- 4.60 Review of PFMP registers, and Community Forest Associations (CFAs) records in the sampled forest stations established that five (5) out of the sixteen (16) PFMPs reviewed across sampled forest stations had expired.

This limited the ability of CFAs to implement project-supported livelihood activities. PFMPs that had expired at the time of audit are summarized in **Table 10**.

Table 10: Expired Participatory Forest Management Plans

County	Forest Station	CFA	Year PFMP Expired
Baringo	Narasha Forest Station	Narasha	2021
	Koibatek Forest Station	Kiptuget	2022
Kericho	Londiani Forest Station	Londiani	2022
Murang'a	Kiambicho Forest Station	Kiambicho	2023
	Gatare Forest Station	Gatare	2022

Source: OAG–Kenya analysis of PFMP registers and CFA records

- 4.61 During focus group discussions in Narasha, Londiani, Kiambicho, and Gatare, Community Forest Association officials confirmed that the expiry of Participatory Forest Management Plans prevented approval of new livelihood initiatives by the Kenya Forest Service. These included Plantation Establishment and Livelihood Improvement Scheme allocations, beekeeping, fruit tree planting, and ecotourism activities. Without valid plans, CFAs were unable to formally engage KFS or access project support. This resulted to delayed livelihood activities intended to enhance household incomes and reduce dependency on forest resources.
- 4.62 The expiry of PFMPs was attributed to inadequate financial and technical capacity within the affected CFAs to undertake timely plan reviews. Most CFAs relied almost entirely on member registration fees to support their routine operations. However, members contributions were irregular and insufficient to finance PFMP renewal activities, which required facilitation for stakeholder consultations, technical drafting, and validation meetings. In Narasha and Gatare Forest Stations, there were delays in renewing CFA registration certificates following leadership transitions. This further delayed the PFMP revision process as newly elected officials could not formally engage KFS or initiate renewal activities until their registration documents were updated. As a result, community participation declined, and planned livelihood initiatives were delayed.

(iv) Weak Market Linkages and Limited Value Addition

- 4.63 Activity 3.8.1 of the Project Implementation Manual required facilitation of market linkages and value addition for community forest products to enhance profitability and sustainability of IGAs. This included promoting aggregation centers, market contracts, and cooperative marketing.

- 4.64 Review of IGA files and the county work plans, interviews with beneficiary groups and CFA leaders established that there were weak market linkages and limited value addition across the sampled IGAs. While production activities were supported, market linkage and value addition interventions were weak. **Table 11** summarizes the specific market linkage and value addition gaps identified across the Counties.

Table 11:Market Linkage and Value Addition Gaps

County	Income Generating Activity	Market Linkage and Value Addition Gap Identified
Meru	Bee keeping and trout farming	Reliance on informal, small-scale sales with no structured buyer contracts or organized markets.
Baringo	Potato bulking	Absence of cold storage and aggregation centres, resulting in post-harvest losses.
Embu	Macadamia and fruit production	Limited product marketing due to absence of cooperative marketing arrangements.
Machakos	Bee keeping	Limited product marketing due to absence of cooperative marketing arrangements.

Source: OAG-Kenya analysis of market linkage and value addition gaps

- 4.65 The reviewed county work plans and reports contained no evidence of established value addition facilities or market partnerships.
- 4.66 The absence of a marketing strategy within the county work plans, weak collaboration between KFS and county trade departments, and inadequate budget allocations for value chain development hindered effective market integration.
- 4.67 The lack of structured markets and value addition limited income growth, discouraged enterprise continuity, and reduced the Project's ability to provide viable alternatives to forest exploitation.

(v) Delayed Implementation of County Transition Implementation Plans

- 4.68 Activity 3.9.4 of the Project Implementation Manual required the development and implementation of Transition Implementation Plans (TIPs) to operationalize the devolution of forestry functions through capacity building, technical assistance, and structured coordination between the Kenya Forest Service (KFS) and county governments. This requirement aligned with Kenya Gazette Supplement No. 137 of 2013 (Legal Notice No. 137), which devolved key forestry functions to counties,

including forestry extension services and management of forests previously under local authorities.

4.69 Review of TIPs registers, established that implementation of transition implementation plans was delayed or incomplete in five (5) of the six (6) sampled counties. The audit established that only Embu County had fully implemented its TIPs, which had been signed on 12 October, 2017. Further, the County had established a county forestry unit, and an active forestry extension staff performing devolved functions.

4.70 In Baringo, Meru, and Kericho counties, although TIPs had been signed, document review revealed that the counties had not operationalized key transition requirements such as forming county forestry units, deploying extension officers, or integrating devolved forestry functions into County Integrated Development Plans (CIDPs). Further, the Transition Implementation Plans for Murang'a and Machakos Counties had not been approved and discussions with KFS had not progressed to formal agreements. **Table 12** summarizes the approval status of Transition Implementation Plans, as of the time of audit.

Table 12: Status of Transition Implementation Plans

County	TIP Signing Date/ Status	Status of TIP Implementation
Baringo	31 October, 2018	Did not achieve the intended transfer of responsibilities
Meru	08 March, 2018	Did not achieve the intended transfer of responsibilities
Kericho	24 August, 2018	Did not achieve the intended transfer of responsibilities
Murang'a	Not signed as planned	Implementation was still in progress; ongoing collaboration with the County Government
Machakos	Not signed as planned	Implementation was a work in progress; ongoing collaboration with the County Government.
Embu	12 October, 2017	TIP formalized and implemented

Source: OAG-Kenya analysis of TIPS documents

4.71 Focus group discussions attributed these delays to lack of trained forestry personnel to assume devolved responsibilities. Review of County Integrated Development Plans (CIDPs) confirmed that most counties had not integrated devolved forestry functions into their planning frameworks, resulting in the absence of structured transition actions. Interviews with county forest conservators further indicated that counties had not established the required forestry units or

extension services envisaged under the Transition Implementation Plans. Additionally, review of County Project Coordination Committee meeting minutes indicated weak coordination between KFS and county governments, with transition guidelines not being consistently applied and mandates between the two levels of government remaining unclear.

- 4.72 The incomplete implementation of Transition Implementation Plans constrained the ability of counties to manage forestry and livelihood programs independently. This hindered community-driven initiatives such as reforestation, income-generating projects, and extension services, weakening progress toward the Project's goal of creating sustainable livelihoods and reducing dependency on forest resources. Consequently, community ownership and long-term sustainability of conservation gains under the Project were not achieved.

5.0 CONCLUSION

- 5.1 The Green Zones Development Support Project Phase II contributed to forest restoration and improvement of community livelihoods. However, implementation and sustainability challenges limited the overall extent of the results achieved.
- 5.2 The Project supported forest restoration through afforestation, enrichment planting and maintenance of the regeneration sites in sampled forest stations. These interventions contributed to the rehabilitation of degraded areas. However, challenges such as overgrown nurseries and invasive species reduced the effectiveness and sustainability of the restoration efforts.
- 5.3 The Project supported seedling production to enhance the supply of planting materials for rehabilitation activities. However, constraints related to water access, nursery infrastructure and operational capacity affected seedling production and utilization, limiting consistent support to restoration activities.
- 5.4 The Project supported alternative livelihood activities including crop cultivation, beekeeping, trout fish farming, macadamia processing and dairy farming which contributed to improved food security and household incomes in sampled areas. However, operational constraints, and post project continuity limited the full realization of long-term benefits.

6.0 RECOMMENDATIONS

- 6.1 In view of the findings and conclusion of the audit, the Auditor-General proposes the following recommendations for implementation by the Kenya Forest Service:-

Restoration of Degraded Forest Areas

- i. Strengthen post-planting care practices across all regeneration sites to improve seedling survival and ensure attainment of restoration targets;
- ii. Ensure that all active rehabilitation sites are adequately secured through appropriate protection measures to prevent livestock intrusion, trampling, and unauthorized access;
- iii. Put in place a structured programme for identifying, documenting, and managing invasive plant species within reforested areas to safeguard indigenous vegetation recovery; and
- iv. Enhance essential infrastructure, including forest access roads, nursery facilities, ranger stations, and utility services, to improve operational efficiency and support forest restoration efforts.

Improving Seedling Production and Distribution

- i. Secure adequate water sources and supply systems for tree nurseries in order to support consistent seedling production throughout the year;
- ii. Expand and fully utilize its seedling tracking system to cover all distribution channels and ensure accurate reporting on planting and survival outcomes; and
- iii. Ensure that all forest stations maintain complete and routinely updated grievance registers and follow a standardized reporting process to address operational concerns raised by beneficiaries.

Supporting Sustainable Livelihoods and Reduce Forest Dependency

- i. Reinforce support to community income-generating groups by ensuring income generating activities are anchored on viable production systems, clearly defined group roles, and structured enterprise management arrangements.
- ii. Facilitate stronger connections between community producers and formal markets, and support the development of value-addition initiatives to improve the commercial viability of forest-compatible enterprises.
- iii. Integrate renewable energy activities within project planning frameworks to promote alternatives to firewood and reduce reliance on forest resources; and

- iv. Support Community Forest Associations in updating their Participatory Forest Management Plans on schedule. This will ensure continuity in forest resource management and access to livelihood opportunities linked to approved Participatory Forest Management Plans.

7.0 APPENDICES

Appendix 1: Document Reviewed

Document	Purpose of Review
Project Implementation Manual (PIM)	To assess the legal mandate, project structure, and specific activities/outputs required under GZDSP-II.
Project Appraisal Document (AfDB)	To evaluate project design, performance targets, and financing framework.
County Work Plans and Progress Reports	To assess the implementation status of project activities across the sampled Counties.
Monitoring & Evaluation Reports	To verify progress on forest rehabilitation, seedling production, and income-generating activities.
Participatory Forest Management Plans (PFMPs)	To assess agreements between KFS and Community Forest Associations on forest use and management.
Transition Implementation Plans (TIPs)	To confirm the status of devolved forestry functions to counties.
Invasive Species Management Reports	To verify the extent and impact of invasive species in rehabilitated areas.
Seedling Production and Distribution Records	To establish production volumes, distribution trends, and survival monitoring.
Training Reports and Farmer Field School (FFS) Curriculum	To confirm the scope and content of community training and capacity building activities.
Financial Statements (2022/23 Audited Accounts)	To verify project funding flows, County disbursements, and expenditures.
Grievance Registers (per county stations)	To evaluate the functionality of grievance redress mechanisms.
Minutes of Project Steering Committee (PSC) and County Project Implementation Teams	To understand deliberations, approvals, and decisions affecting implementation

Appendix 2. List of Sampled Forest Stations and Activities

County	Forest Station(s) Sampled	Income Generating Activities (IGAs)	Renewable Energy Technologies
Baringo	Koibatek	Potato bulking	-
	Narasha	Dairy goat farming	
	Maji Mazuri	-	-
Kericho	Londiani,	Dairy farming	Biogas digester (Londiani)
	Kerisoi	Potato seed bulking	-
Meru	Meru station	Bee Keeping,	-
	Ruthumbi	Trout fish farming	-
Embu	Njuki-ini East	Macadamia processing Fruit orchards	-
	Irangi	-	-
Murang'a	Gatare	Poultry farming (Kinyona CFA)	Solar water heater (Kiunyu Girls' Secondary School)
	Kiambicho		
Machakos	Iveti	Beekeeping	Solar lamps (Yatta groups)
	Muumando	-	-

Appendix 3 List Officers Interviewed

Designation	Purpose of the Interview
Project Coordinator	To confirm the roles and responsibilities of the County Forest Conservators, ecosystem conservators in the conservation of gazetted forests in Kenya funded by the Green Zones Support Development Project Phase II.
Monitoring and Evaluation officer	To establish how Monitoring and Evaluation was done for the Project.
County Forest Conservators	To gather more information the roles and responsibilities of the sub county foresters.
Community Forest Associations	To gather information on conservation of forests.
Focussed Group Discussions	To assess the project's impact to the community.
Casual Employees	To obtain information on the implementation of the project's day to day activities at the field level, including nursery operations, seedling production, planting, and maintenance practices, as well as challenges encountered during execution.

Appendix 4: Civil Society Organizations Involved in the Audit

County	Civil Society Organization
Kericho	Social Economic Empowerment Women Organization
Embu	Megabridge Foundation
Meru	Pamoja Action Initiative
Muranga	Sauti ya Wamama, Vijana na Watoto-Africa
Machakos	Solution for Nature and Enterprise Program
Baringo	Langas Community Development Organization

Appendix 5: Assessment Criteria

Source	Specific Audit Criteria
Kenya Forest Technical Order No. PEDD-003 dated 31 May, 2018	Technical Order No. PEDD-003, the optimal size for transplanting seedlings is 30 cm in height, and seedlings exceeding 40 cm should not be used for planting, as they may have reduced survival rates and poor field performance.
	Technical Order No. PEDD-003, sets the seedling survival rate as a key indicator of plantation performance.
	Technical Order No. PEDD-003, requires that forest station managers prepare seed beds, sow seeds, prick out ready seedlings, and attend to them until they are plantable. This standard sets out the importance of maintaining nurseries to ensure a steady supply of quality seedlings for afforestation and rehabilitation programs.
The Gazette Notices No. 2334 (28th February 2017) and 2356 (14th March 2017)-The Environmental Management and Co-Ordination Act, (Cap. 389)	Gazette Notice No. 2334 of 28 February, 2017, issued under the Environmental Management and Co-ordination Act (Cap. 387), states the ban on the use, manufacture and importation of plastic bags used for commercial and household packaging under the Environmental Management and Co-ordination Act (Cap. 387), covering both carrier bags with handles and flat bags without handles.
	Gazette Notice No. 2356 of 14 March, 2017 issued under the Environmental Management and Co-ordination Act (Cap. 387), formally enforced the ban, it is notified to the public that the Cabinet Secretary for Environment and Natural Resources has, with effect from six months from the date of this notice, banned the use, manufacture and importation of all plastic bags used for commercial and household packaging.
Tree Nursery Training Manual for Operators KEFRI, 2017	Section 7 of Tree Nursery training manual requires nurseries to maintain proper records through seedling books, nursery delivery registers, and weekly reports, capturing seedling requests, quantities produced, quantities distributed to citizens, schools, and institutions, seedlings sold or issued out, and survival after planting.
Forest Conservation and Management Act, 2016	Section 47(1) to (6) requires that every public forest be managed through an approved management plan developed by the Kenya Forest Service (KFS) in consultation with stakeholders.
Kenya Forestry Research Institute (2021). Nursery Inspectors Training Manual	Best practice requires seedlings to be transplanted or dispatched at the recommended growth stage, as prolonged nursery retention may result in overgrown stock characterized by root coiling, poor root systems, and reduced field survival.
Kenya Forest Service plantation establishment and seedling distribution procedures	Best practice requires seedling issuance records, beneficiary details, planting returns, and follow-up survival monitoring to facilitate accountability and performance assessment.
The Project Implementation Manual (PIM)	Activity 3.2.1 requires the establishment of adequate and reliable water supply systems in tree nurseries, including boreholes, water reservoirs, and irrigation facilities, to ensure healthy seedling growth and consistent production for reforestation efforts.

Source	Specific Audit Criteria
	Activity 3.3.1 requires fencing of rehabilitated forest areas as a protection measure.
	Activity 3.4.1 requires that the Project support community-based Income-Generating Activities (IGAs) to improve livelihoods and reduce dependence on forest resources.
	Activity 3.4.9 requires that the Project identify, assess and support communities and institutions with appropriate renewable energy technologies to reduce dependency on forest resources.
	Activity 3.8.1 Required facilitation of market linkages and value addition for community forest products to enhance profitability and sustainability of IGAs. This included promoting aggregation centers, market contracts, and cooperative marketing.
	Activity 3.9.4 requires the development and implementation of Transition Implementation Plans (TIPs) to operationalize devolution of forestry functions through capacity building, technical assistance, and structured coordination between the Kenya Forest Service (KFS) and County Government.
	Annex XXXXV requires proper recording and resolution of grievances for accountability and transparency.
	Annex XXXXVII requires the Green Zone Development Support Project Phase II was to implement various provisions outlined in Section 6 of the Occupational Safety and Health Act, 2007, to minimize workplace hazards and ensure a safe working environment.

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