

THE REPUBLIC OF KENYA

MINISTRY OF HEALTH

**THE PROPOSED CONSTRUCTION OF SOUTH RIFT LEVEL (VI) TEACHING AND
REFERRAL HOSPITAL IN KERICHO COUNTY.**

Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County.

GPS COORDINATES: (-1.645437, 35.5905757)

APRIL, 2026

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT STUDY (ESIA) REPORT

DOCUMENT AUTHENTICATION AND CERTIFICATION

This Environmental and Social Impact Assessment (ESIA) Study Report has been prepared and is submitted to the National Environment Management Authority (NEMA) in conformity with the requirements of the Environmental Management and Coordination (Amendment) Act, 2015 and the Environmental (Impact Assessment and Audit) (Amendment) Regulations, 2019. We, the undersigned, certify that to the best of our knowledge and belief, this report is a correct and true reflection of the findings on the anticipated environmental and social impacts of the proposed South Rift Level (VI) Teaching and Referral Hospital on Plot L.R. No. Londiani Township/186, Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County.

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Name	Registration	Qualification	Role on this assignment	Affiliation
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LIST OF ACRONYMS

AfDB	African Development Bank
CSR	Corporate social responsibility
DMP	Dust Management Plan
EA	Environmental Audit
ESIA	Environmental Social Impact Assessment
EMCA	Environment Management and Coordination Act
ESMP	Environmental Social Management Plan
ESS	Environmental and Social Safeguards
GIIP	Good International Industry Practice
IPC	Infection Prevention and Control and Waste Management Plan
KPLC	Kenya Power and Lighting company
MOH	Ministry of Health
NEMA	National Environment Management Authority
NMP	Noise Management Plan
OHMP	Occupational Harzards Management Plan
OHS	Occupational health and safety
PPE	Personal Protective Equipment
SEP	Stakeholder Engagement Plan
SRLTRH	South Rift Level (VI) Teaching And Referral Hospital
TMP	Traffic Management Plan
WMP	Waste Management Plan

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LIST OF APPENDICES AND APPENDICES

The following appendices and appendices are appended to and form an integral part of this ESIA report. Each is a self-contained document and may be read independently of the main report.

Ref.	Title	Content
Appendix 1	NEMA Correspondence	Public participation notice issued under Regulation 17; NEMA Terms of Reference Approval Ref. NEMA/ENVIS/EIA/TOR/00561 of 6 May 2026; and NEMA Environmental Impact Assessment Licence No. NEMA/ENVIS/SR/LIC-03354 of 8 May 2026.
Appendix 2	Public Participation Meeting Minutes, Attendance List and Site Photographs	Record of the public participation meeting held on 16 April 2026 at the proposed project site, with the signed attendance register and photographs of the site and of the meeting.
Appendix 3	Study Team — Curricula Vitae, NEMA Certificates of Registration and Practising Licences	Full curricula vitae, NEMA certificates of registration and practising licences of the ten experts who carried out the assessment.
Appendix 4	Land Ownership Documentation	Registered lease of Parcel No. Londiani/Township/186, Registration Unit Kericho, approximately 34.3 hectares, granted for 99 years from 1 December 2025 to hold for the South Rift Level VI Teaching and Referral Hospital; executed 12 March 2026.
Appendix 5	Grievance Redress Management Plan	Two-tier grievance mechanism, intake channels and response times, the designated grievance office and contact details, escalation timelines and right of appeal.
Appendix 6	Baseline Air Quality Measurement	Measured baseline air quality survey at four sensitive receptor points by Mazingira Limited, a NEMA-registered laboratory, with results against the EMC (Air Quality) Regulations 2024 and WHO guidelines.
Appendix 7	Baseline Noise Measurement	Measured baseline ambient noise survey at four sensitive receptor points, 9 May 2026, with GPS coordinates and daytime LAeq against the regulatory limit.
Appendix 8	Stakeholder Engagement Plan (SEP)	Stakeholder identification and analysis, engagement methods and schedule, communication plan, grievance redress mechanism, and monitoring and reporting arrangements
Appendix 9	Emergency Preparedness and Response Plan (EPRP)	Hazard vulnerability assessment, incident command system, hazard-specific response plans, resource management, communications, evacuation and continuity of essential services
Appendix 10	Medical Waste Management Plan (MWMP)	Waste quantification, segregation, collection and internal transport, temporary storage facility, treatment and disposal by stream, occupational health and safety, monitoring and records, and the annex pack
Appendix 11	Review Comments Resolution Log	Item-by-item record of every comment received on the draft, the response, the action taken and the location of the revision in this report.

A duplicate list precedes the appendices themselves at the end of this report. In the event of any inconsistency, this list governs.

EXECUTIVE SUMMARY

The proposed development of a Level VI hospital in Kericho County, specifically within Kipkelion East Sub-County (Kedowa/Kimugul area), is a strategic intervention aimed at strengthening access to advanced and specialized healthcare services in the region. Currently, residents rely heavily on distant referral facilities for specialized treatment, leading to delays in care, increased costs, and, in some cases, preventable health outcomes. The project is therefore designed to bridge this critical service gap by providing comprehensive, high-level medical services closer to the community. The proposed hospital is designed as a 1,000-bed Teaching and Referral Hospital, reflecting its role as a Level VI regional facility. The immediate catchment is currently served primarily by Londiani Sub-County Hospital, a Level 4 facility located in Kedowa/Kimugul Ward next to Londiani town, which has limited specialist and tertiary care capacity. Residents also rely on other facilities within Kericho County and on Moi Teaching and Referral Hospital for specialist and tertiary care, resulting in a heavy referral burden on these institutions. The proposed Level VI hospital is intended to relieve this referral dependency by providing comprehensive specialist and tertiary healthcare services closer to the community.

The project site is located in a predominantly rural setting characterized by agricultural land use and dispersed settlements. Its positioning within Kedowa/Kimugul ward offers accessibility to surrounding populations while also presenting opportunities for regional healthcare integration. However, the area's existing infrastructure, including road networks and utilities, will require enhancement to adequately support the proposed facility.

The project comprises site preparation and civil works, construction of the hospital buildings and supporting infrastructure, installation of medical equipment and ICT systems, and commissioning of the 1,000-bed facility on the approximately 34.30-hectare (84.75-acre) site on Plot L.R. No. Londiani Township/186. Associated and support facilities will include an on-site wastewater treatment plant (subject to an Effluent Discharge Licence), a NEMA-licensed non-burn (autoclave/microwave) healthcare waste treatment installation, water storage supplemented by rainwater harvesting, standby power generation, internal access roads, parking and drainage, and utility connections. Construction will engage a peak workforce of approximately 80 workers, with materials sourced only from NEMA-licensed quarries; the siting of construction-stage support facilities (contractor's camp, laydown and spoil areas) will be fixed at concept-design stage and controlled through the Contractor's Environmental and Social Management Plan (C-ESMP).

From an environmental and social perspective, the project is associated with both positive and manageable adverse impacts. Key positive impacts include improved access to quality healthcare, job creation during both construction and operational phases, and stimulation of local economic activities. Socially, the hospital is expected to significantly reduce travel time for patients seeking specialized care and improve overall health outcomes in Kericho County and neighboring regions.

Potential environmental and social concerns include increased demand for water and energy resources, generation of healthcare and construction waste, occupational health and safety risks,

and localized disturbances such as noise, dust, and traffic during construction. There may also be minor land use changes and pressure on existing social infrastructure. However, these impacts are largely site-specific, short-term (during construction), and can be effectively mitigated through the implementation of appropriate environmental and social management measures, including waste management systems, resource efficiency strategies, and community engagement frameworks.

During the operation phase specifically, key anticipated impacts include increased demand for water and energy arising from continuous hospital operations, generation of medical and healthcare waste requiring dedicated segregation, treatment and disposal systems, occupational health and safety risks for healthcare workers arising from exposure to infectious materials, sharps, and hazardous substances, and community health risks associated with improper handling of healthcare waste or infection transmission. These operation-phase impacts are distinct from construction-phase impacts and are addressed through the Medical Waste Management Plan, Emergency Preparedness and Response Plan, and occupational health and safety protocols detailed in this report.

Key mitigation commitments for the construction phase include: an approved C-ESMP (incorporating OSH, waste management, labour and HIV/AIDS plans) as a condition precedent to works; PPE issuance tracking and enforced use; gender-sensitive sanitary facilities and safe drinking water for workers; a site clinic with an MoU with Londiani Sub-County Hospital; signed Codes of Conduct with GBV/SEA provisions and site signage prohibiting child labour; and revegetation with indigenous species. For the operation phase, key commitments include on-site treatment of the hospital's own biomedical waste using the NEMA-licensed non-burn system under the Medical Waste Management Plan (Appendix 7), operation of the wastewater treatment plant under an Effluent Discharge Licence, water storage and rainwater harvesting with monitored demand, implementation of the Emergency Preparedness and Response Plan (Appendix 6), infection prevention and control protocols, and confidential, SEA/SH-sensitive grievance channels under the project GRM.

In terms of sustainability, the proposed hospital demonstrates strong potential for long-term viability. The integration of sustainable design principles such as energy-efficient systems, water conservation measures, proper medical waste management, and climate-resilient infrastructure will enhance operational efficiency while minimizing environmental footprint. Additionally, the project aligns with national and county development priorities, including the promotion of universal health coverage and improved healthcare infrastructure.

Alternatives considered included development of the hospital on the proposed greenfield site (the preferred alternative), construction within an existing health facility site (upgrading), and the no-action alternative, together with technology choices for healthcare waste treatment, for which non-burn (autoclave/microwave) treatment was preferred over incineration in line with Good International Industry Practice and AfDB safeguard preferences. The greenfield development was preferred on grounds of land availability, planning flexibility, service continuity and long-term expandability, while the no-action alternative would perpetuate the existing gap in specialised care.

After implementation of the committed mitigation measures, residual impacts are assessed as Low to Medium and acceptable for a facility of this nature: no residual impact is rated High.

The remaining Medium-rated risks (community health, safety and security; water demand; institutional capacity; and low-probability emergency events) are managed through dedicated instruments — the ESMMP, the Medical Waste Management Plan, the Emergency Preparedness and Response Plan, the Stakeholder Engagement Plan and the Grievance Redress Mechanism — and are detailed in the Residual Impact and Risk Assessment section of this report.

The Environmental and Social Management and Monitoring Plan (ESMMP) presented in this report assigns, for each impact, the mitigation measures, monitoring indicators, monitoring frequency, responsible parties (including the Contractor during construction) and estimated implementation costs in Kenya Shillings. Implementation of the ESMMP is binding on the proponent and its contractors, and compliance will be verified through quarterly safeguard reporting, the Year-1 environmental audit required under the NEMA licence, and the African Development Bank's implementation support and supervision.

Public participation and stakeholder engagement: consultation was undertaken in line with the Constitution of Kenya (2010), EMCA and the EIA Regulations, and AfDB Operational Safeguard 10. A public participation meeting was held on 16 April 2026 at the proposed project site in Londiani Township ward, following a seven-day notice issued through the provincial administration and local media; participants included youth representatives, women, community members, and county and national government officials. Signed minutes, attendance registers and photographs are appended as Appendix 1, and the full Stakeholder Engagement Plan as Appendix 5. Consultation outcomes: the majority of participants supported the project; the main concerns raised were inclusivity and equity in local employment and community empowerment, and gender inclusivity, while County Government officials expressed full support. These concerns are carried into the project commitments through local-recruitment facilitation, gender-inclusive hiring consistent with the 2/3 gender rule, and continuing engagement under the SEP, with grievances handled through the project GRM. Summary of the ESMMP: the Environmental and Social Impacts Management and Monitoring Plan presents costed implementation matrices assigning, for each impact, the mitigation measures, monitoring indicators, monitoring frequency, responsible parties (including the Contractor during construction) and estimated costs in Kenya Shillings, integrated with the annexed SEP (Appendix 5), EPRP (Appendix 6) and MWMP (Appendix 7). Implementation is supervised by the supervising consultant and the Project Management Team during construction, and by the hospital management and the County Health Department during operation, with compliance verified through quarterly safeguard reporting, the Year-1 environmental audit required under the NEMA licence, and the African Development Bank's implementation support and supervision.

In conclusion, the proposed Level VI hospital in Londiani is both environmentally and socially feasible, provided that the recommended mitigation and management measures are implemented effectively. The project presents substantial benefits that outweigh the anticipated impacts and is therefore recommended for approval and implementation as a critical investment in regional healthcare development and sustainability.

1.0 INTRODUCTION

1.1 Project Background

Health is a fundamental human right and a key pillar of social and economic development. Access to quality, affordable, and timely healthcare services is essential for improving population health outcomes, enhancing productivity, and supporting national development. In Kenya, the Government has prioritized health sector transformation through the implementation of Universal Health Coverage (UHC) as one of the “Big Four Agenda” pillars, with the aim of ensuring that all Kenyans can access essential health services without suffering financial hardship.

To achieve this goal, the Ministry of Health has undertaken reforms aimed at strengthening healthcare infrastructure, improving service delivery, and enhancing maternal, neonatal, and surgical care services across all levels of the health system. These reforms are guided by the Kenya Universal Health Coverage Policy 2020–2030, the Kenya Health Policy 2014–2030, and the Constitution of Kenya (2010), which guarantees every person the right to the highest attainable standard of health.

It is in this respect that the Government of Kenya (GoK) has received financing from the African Development Bank (AfDB) to support the development of healthcare infrastructure across the country. The main objective of this initiative is to improve access, availability, and quality of healthcare services with the aim of:

- Catalyzing efficient healthcare service delivery
- Driving socio-economic growth
- Improving the quality of life of the population
- Reducing disease burden and mortality rates
- Enhancing resilience against public health emergencies and pandemics

To achieve this objective, Kericho County has been prioritized as one of the regions to benefit from the programme through the proposed construction and operationalization of the South Rift Level VI Teaching and Referral Hospital.

The Project Executing Agency (PEA) will be the Ministry of Health Kenya in collaboration with the Kericho County Government. These institutions are responsible for policy formulation, development, and management of healthcare services and infrastructure within their respective jurisdictions.

The Ministry of Health Kenya is mandated to provide leadership and policy direction in the health sector, ensuring provision of quality and affordable healthcare services nationwide. The Kericho County Government, under the devolved system of governance, is responsible for the delivery of health services at the county level, including the management of county health facilities and implementation of health programmes.

As stipulated in the Constitution of Kenya 2010 and relevant health sector policies, once completed, the South Rift Level VI Teaching and Referral Hospital will be managed and operated under a collaborative framework between the national and county governments to ensure efficient service delivery.

The proposed Project is located within Kericho County and is expected to serve not only the local population but also neighboring counties by providing specialized and referral healthcare services. The facility will play a critical role in decongesting existing hospitals and reducing referrals to national referral facilities.

Additionally, the project will support capacity building for healthcare workers, strengthen health systems, and improve overall service delivery within the region, thereby contributing to the realization of Universal Health Coverage and sustainable development in Kenya.

1.2 Project Objectives

The overall objective of the proposed Construction of South Rift Level VI Teaching and Referral Hospital project is to improve access to quality, affordable, and specialized healthcare services for residents of Kericho County and the wider Rift Valley region, while ensuring environmental sustainability and public health protection.

Specific Objectives

- To construct a modern, well-equipped Level 6 referral hospital with adequate capacity to provide specialized, emergency, and general healthcare services.
- To reduce patient referrals to distant facilities by enhancing local capacity for advanced diagnostics, treatment, and specialized care.
- To integrate environmentally sustainable design and construction practices, including energy efficiency, water conservation, and climate-resilient infrastructure.
- To establish an efficient and compliant healthcare waste management system, including waste segregation, handling, treatment, and disposal using environmentally friendly technologies.
- To minimize environmental and social impacts associated with construction and operation through the implementation of an Environmental and Social Management Plan (ESMP).
- To improve infection prevention and control measures within the hospital through proper infrastructure design and operational protocols.
- To enhance emergency preparedness and response capacity within the region.
- To create employment opportunities and stimulate local economic development during both construction and operational phases of the project.
- To support the realization of Universal Health Coverage (UHC) by increasing access to equitable and quality healthcare services.
- To strengthen regional healthcare systems by serving as a referral center for surrounding counties and supporting lower-level health facilities.

1.3 Terms of Reference for the ESIA

The primary objective of the consultancy is to undertake a comprehensive Environmental and Social Impact Assessment (ESIA) for the proposed construction of South Rift Level VI Teaching and

Referral Hospital in Kericho County in order to determine the technical, environmental, social, and economic viability of the project.

The Terms of Reference (ToRs) for this ESIA study are:

- To assess the technical feasibility of constructing the proposed Level 6 Hospital, including site suitability, design requirements, infrastructure needs (water, energy, sewerage, and access roads), and construction methods;
- To evaluate the environmental and social viability of the project, including identification of potential environmental and social risks and opportunities associated with the construction and operation of the hospital;
- To analyze the economic and financial feasibility of the project, including capital investment costs, operational and maintenance costs, potential funding sources, and long-term sustainability;
- To assess demand and service need, including population projections, disease burden, healthcare gaps, and the hospital's role as a referral facility within Kericho County and neighboring regions across the South Rift;
- To undertake project alternatives analysis, including site alternatives, design options, technology choices, and the "no project" scenario;
- To evaluate environmental, health, and safety considerations, including proposed mitigation measures to ensure compliance with national regulations and international best practices throughout the project lifecycle;
- To assess institutional and operational capacity, including staffing requirements, management structures, and governance frameworks necessary for effective hospital operation;
- To conduct stakeholder consultations with key stakeholders, including government agencies, local communities, and healthcare providers, to gather input and enhance project acceptability;
- To develop a preliminary Environmental and Social Management Framework (ESMF) outlining mitigation measures, monitoring mechanisms, roles and responsibilities, and implementation schedules;
- To prepare a comprehensive feasibility report that provides clear recommendations on the viability of the project and guidance for subsequent design, financing, construction, and operation phases.

1.4 Methodology of the ESIA

For the purpose of the assessment and preparation of the ESIA Comprehensive Project Report, the following approaches and methodologies were employed:

- Desktop studies which involved review and analysis of literature (project documents, design layout and specifications, legislative framework) for acquisition of secondary data, environmental and Social Screening Form)
- Environmental and social screening was carried out following the requirements, in which the project is identified as among those requiring ESIA. The Second Schedule of EMCA 1999 as amended in 2015 classifies the investment as a High-Risk project. In addition, under the AfDB Integrated Safeguards System (ISS), the Environmental and Social Risk associated with

the proposed project is currently classified as Substantiallll.

- Environmental scoping that provided the key environmental and social issues to be investigated in relation to implementation of the proposed project;
- Physical inspection of the site characteristics and environmental status of surrounding areas;
- Consultative public participation (CPP) to get input into the project activities/risks/impacts and proposed mitigation measures. The CPP was done as per the Stakeholder Engagement Plan (SEP) guidelines and in conformity with the provisions of the Constitution of Kenya (2010), the EMCA (2015), the EMCA (Environmental Impact Assessment and Environmental Audit) Regulations and the Legal Notice Number 31 and 32 of 2019, that all demand for public engagement prior to the implementation of a project such as the one being assessed;
- Identification of potential environment and social impacts and preparation of an ESMP; and reporting.

1.5 Problem of the statement

The proposed establishment of the South Rift Level VI Teaching and Referral Hospital in Kericho County is driven by critical gaps in access to specialized healthcare services within the Southern Rift region. The region has an estimated population of 4,986,341 (KNBS, 2019), projected to increase to over 6 million by 2027 and approximately 6.47 million by 2030. Despite this growth, the region lacks a public Level VI referral facility, forcing patients to seek specialized treatment at Moi Teaching and Referral Hospital (MTRH) in Eldoret, which is already operating beyond optimal capacity.

The situation is further aggravated by the region's location along major transport corridors, particularly the Londiani–Kericho and Londiani–Muhoroni highways, which experience frequent and severe road traffic accidents. Recent incidents, including the July 2023 tragedy that resulted in over 50 fatalities, highlight the urgent need for a well-equipped trauma and emergency care facility within proximity. A significant number of deaths occur due to delayed access to specialized treatment, prolonged referral processes, and inadequate emergency response capacity in existing health facilities.

Healthcare facilities within Kericho County and the surrounding areas are constrained by limited infrastructure, insufficient specialized personnel, and inadequate equipment to manage complex and emergency cases. This results in high referral rates, delayed interventions, and avoidable morbidity and mortality. The absence of a Level VI facility therefore creates a critical service delivery gap, undermining equitable access to quality healthcare in the region.

The problem is driven by multiple factors, including rapid population growth, increasing incidence of road traffic accidents, rising demand for specialized care, and underinvestment in advanced healthcare infrastructure. The direct effects include preventable deaths, poor health outcomes, and overburdened referral systems, while indirect effects include economic losses, reduced productivity, and social strain on affected households and communities.

Although alternative measures such as upgrading existing facilities and strengthening referral systems may offer short-term relief, they are insufficient to address the scale and complexity of healthcare demands in the region. The establishment of a Level VI Teaching and Referral Hospital with an integrated trauma centre provides a sustainable, long-term solution by enhancing access to specialized care, reducing referral distances, and improving emergency response capacity.

The proposed project aligns with national development frameworks, including Kenya Vision 2030, the Constitution of Kenya (2010), the Kenya Health Policy 2014–2030, and the Universal Health Coverage (UHC) Policy 2020–2030, which emphasize equitable access to quality healthcare. At the local level, it directly addresses persistent healthcare infrastructure gaps in Kericho County and the wider South Rift region.

In addition to improving health outcomes, the project has strong socio-economic benefits, including reduced healthcare costs associated with referrals, improved patient safety, job creation during construction and operation, and enhanced overall community wellbeing. The development will be implemented on designated land, with potential environmental and social impacts managed in compliance with the Environmental Management and Coordination Act (EMCA), public health regulations, and relevant occupational safety standards.

1.6 Proposed Solution

The proposed solution entails the construction and operationalization of South Rift Level (VI) Teaching and Referral Hospital as a modern referral healthcare facility designed to enhance access to quality, specialized, and emergency medical services within Kericho County and the wider Rift Valley Region. The project integrates sustainable construction practices and robust environmental management measures to ensure minimal adverse environmental and social impacts throughout its lifecycle.

The construction phase will involve site preparation, excavation, foundation works, structural development, installation of utilities (water, sewer, stormwater drainage, and energy systems), and development of access roads and ancillary facilities. Environmental considerations during this phase will include soil erosion control, proper management of construction waste, dust and noise suppression, safe disposal of excavated materials, and adherence to occupational health and safety standards for workers and the surrounding community.

To enhance environmental sustainability, the hospital design will incorporate green building principles such as energy-efficient systems (including solar power integration), water conservation measures (rainwater harvesting and low-flow fixtures), and climate-resilient infrastructure. Landscaping and green spaces will also be integrated to improve air quality and promote a healing environment.

During operation, the hospital will implement a comprehensive Environmental and Social Management Plan (ESMP) and Infection Control and Waste Management Plan (ICWMP). These frameworks will address key areas including waste segregation, handling, storage, treatment, and disposal in compliance with national environmental regulations. The hospital is expected to generate significant quantities of healthcare waste due to its Level 6 status and expanded service capacity. However, with proper segregation, only a fraction of this waste will be classified as infectious or hazardous.

To manage this effectively, the project proposes the installation of a modern, environmentally friendly non-burn Medical Waste Treatment Machine (MWTM), such as an autoclave or microwave system. This technology will ensure safe treatment of infectious waste without generating harmful emissions associated with incineration. The system will be adequately sized to handle projected waste volumes and may also serve surrounding healthcare facilities, thereby improving regional waste management capacity.

Additional environmental measures will include proper wastewater treatment through an onsite sewage treatment plant, stormwater management to prevent flooding and contamination, and continuous environmental monitoring to ensure compliance with regulatory standards. Staff training programs on infection prevention, waste management, and environmental sustainability will also be implemented to support effective operations.

The need for this project is justified by the increasing demand for advanced healthcare services, population growth, and the current strain on existing healthcare facilities. The integration of environmentally sustainable construction and operational practices ensures that the South Rift Level (VI) Teaching and Referral Hospital will not only improve healthcare delivery but also safeguard environmental quality and public health in the region.

1.7. Justification of the Project

Under the provisions of the Environmental Management and Coordination Act (EMCA), 1999 (as amended in 2015), and the EMCA (Environmental Impact Assessment and Environmental Audit) Regulations of 2003 (Revised in 2016), major infrastructure projects are required to undergo comprehensive assessment and planning prior to implementation. In accordance with Legal Notice No. 31 and Legal Notice No. 32 of 2019, the construction of a Level VI hospital is classified as a “High Risk Project,” thereby necessitating detailed feasibility analysis to ensure environmental and social sustainability.

The proposed construction of the South Rift Level VI Teaching and Referral Hospital is therefore justified not only by regulatory requirements but also by its strong alignment with national and sectoral development priorities, demonstrated demand for healthcare services, and the critical role of government in addressing existing healthcare gaps.

i. Alignment with National and County Development Goals

The project directly supports key national development frameworks. It is aligned with Kenya Vision 2030, particularly under the social pillar, which prioritizes improved access to quality healthcare and the attainment of Universal Health Coverage (UHC) as a foundation for socio-economic transformation. By strengthening healthcare infrastructure and enhancing access to specialized services, the project contributes to the vision of transforming Kenya into a globally competitive and prosperous nation.

The project also aligns with the Kenya Health Policy (2014–2030), which emphasizes equitable access to quality healthcare services, reduction of maternal and child mortality, and strengthening of healthcare systems. By establishing a Level VI facility with advanced diagnostic, treatment, and training capabilities, the project directly addresses these strategic priorities.

Further, the project is consistent with the Kenya Kwanza Manifesto and the Bottom-Up Economic Transformation Agenda, which prioritize investment in health systems to improve population well-being, reduce inequalities, and enhance productivity. At the county level, the project responds to persistent healthcare infrastructure deficits and supports local development objectives aimed at improving service delivery and community health outcomes.

ii. Contribution to Sector Strategic Objectives

The project is aligned with the Fourth Medium Term Plan (MTP IV, 2023–2027) of Kenya Vision 2030, which identifies healthcare as a critical sector for achieving inclusive development. The MTP

IV prioritizes responsive, equitable, affordable, and quality healthcare services for all citizens, as enshrined in the Constitution of Kenya (2010).

Specifically, the proposed hospital will contribute to sector outcomes by:

- Enhancing access to specialized and emergency healthcare services;
- Supporting Universal Health Coverage through improved service availability;
- Strengthening referral systems and reducing congestion in existing national referral hospitals;
- Promoting the use of modern medical technologies and innovation in healthcare delivery;
- Supporting training, research, and capacity building within the health sector; and
- Improving preparedness and response to public health emergencies.

iii. Demand Analysis and Quantitative Indicators

The need for the project is further justified by clear indicators of increasing demand for healthcare services in the South Rift region. Rapid population growth, rising disease burden, and increasing incidence of trauma cases have placed significant pressure on existing healthcare facilities.

The project is expected to contribute to the achievement of key national health targets, including:

- Reducing infant, newborn, and maternal mortality rates by at least 50%;
- Reducing the duration of illness and improving overall population health by at least 25%;
- Improving client satisfaction with healthcare services by at least 50%;
- Reducing catastrophic health expenditures by 30%; and
- Increasing life expectancy to approximately 72 years by 2030.

These indicators underscore the urgent need for expanded healthcare infrastructure and improved access to specialized services within the region.

iv. Rationale for Government Intervention

Government intervention in the proposed project is necessary due to the existing inequities in healthcare access and the limitations of the private sector in delivering large-scale, specialized, and equitable healthcare services. Currently, high-quality healthcare facilities are disproportionately concentrated in major urban centers, leaving regions such as the South Rift underserved.

The private sector, while playing an important complementary role, is often profit-driven and may not adequately address the needs of low-income and vulnerable populations. Therefore, public sector investment is essential to ensure equitable access to healthcare services, particularly for specialized and emergency care.

The project also aligns with the Government's commitment to Universal Health Coverage, which requires substantial investment in public health infrastructure, human resources, and service delivery systems. Public-Private Partnerships (PPPs) may complement government efforts; however, the government retains the primary responsibility of ensuring accessibility, affordability, and quality of healthcare services.

Failure to implement the project would result in continued reliance on distant referral facilities, delayed access to treatment, preventable morbidity and mortality, and increased socio-economic burden on households. It would also undermine the achievement of national health targets and perpetuate regional inequalities in healthcare provision.

v. Compatibility with Strategic Timeframes

The proposed project is consistent with the implementation timelines of national and sectoral development frameworks, particularly Vision 2030 and MTP IV (2023–2027). The development of the hospital within this period will significantly contribute to the realization of Universal Health Coverage targets and improved health outcomes by 2030.

By addressing current and projected healthcare needs, the project provides a timely and sustainable solution that supports both short-term and long-term strategic objectives. Its implementation within the current planning cycle ensures that the benefits of improved healthcare access, reduced mortality, and enhanced system resilience are realized within the stipulated national development timelines.

vi. Need for Feasibility Study and Sustainability Considerations

Given the scale, complexity, and potential environmental and social implications of the project, conducting a detailed feasibility study is essential. The study provides critical information on site suitability, infrastructure requirements, environmental sensitivity, cost implications, and sustainability considerations.

The feasibility study further ensures that the project adheres to principles of sustainable development by:

- Identifying potential environmental, social, and economic impacts during construction and operation phases;
- Recommending appropriate mitigation and enhancement measures;
- Promoting efficient utilization of natural resources such as land, water, and energy;
- Safeguarding ecological systems and preventing environmental degradation;
- Enhancing public health, safety, and community well-being; and
- Maximizing socio-economic benefits, including employment creation and improved healthcare access.

Although the project may initially present high environmental and social risks such as increased healthcare waste generation, pressure on water and energy resources, and construction-related impacts these risks can be effectively managed through proper planning, adoption of modern technologies, and strengthened institutional capacity.

1.8 Consultation and Public participation

CPP was done with involvement of stakeholders within the Project Area of Influence (PAI). This promotes open governance whereby participants are granted equal opportunity to voice their opinion/views with regard to the proposed project for better planning. It further presents an opportunity to raise awareness concerning the proposed sub-projects.

This was done as per the SEP guidelines and in conformity with the provisions of the Constitution of Kenya (2010), the EMCA (2015), the EMCA (Environmental Impact Assessment and Environmental Audit) Regulations and the Legal Notice Number 31 and 32 of 2019, that all demand for public engagement prior the implementation of a project such as the one being assessed.

Consultant Team and Qualifications

This Environmental and Social Impact Assessment, together with the broader feasibility study for the proposed hospital, was undertaken by a multi-disciplinary technical team as set out below:

<i>Role</i>	<i>Scope of Responsibility</i>	<i>Name of Consultant</i>
<i>Project Manager / Team Leader</i>	Overall coordination, QC, client liaison, delivery	Caleb Mutali
<i>Medical Planner</i>	Clinical service planning, functional requirements, workflows	Caleb Mutali
<i>Architect</i>	Concept master plan, schematic design, spatial planning	Aliso Odinyo Peter Njeru, Alex Wainaina, Joy Ouma
<i>Master Planner</i>	Site planning, campus layout, phasing, future expansion	Aliso Odinyo
<i>Space Programmer</i>	Departmental space allocation, room schedules, adjacency	Caleb Mutali
<i>Mechanical Engineer</i>	HVAC, medical gases, ventilation concept design	Weche Raphael Okubo
<i>Electrical Engineer</i>	Power supply, backup, lighting, UPS concept design	Henry Songole Amaje
<i>Structural Engineer</i>	Foundation, structural systems, geotechnical review	Wasike Wanyonyi Godwin
<i>ICT / Digital Health Specialist</i>	EMR/EHR, network design, telemedicine infrastructure	Augustine Kimau & Steve Wasilwa
<i>Topographical Surveyor</i>	Site survey, mapping, CAD drawings, GIS data	Eng. Rodgers Gacewa Mvuria
<i>Geotechnical Engineer / Consultant</i>	Soil investigation, drilling, lab testing, foundations	Johnstone Walubengo Wangusi
<i>Quantity Surveyor</i>	CAPEX estimation, cost modelling, BOQ, benchmarking	QS Adan Golo. QS Peter Njehu
<i>Medical / Health Economist</i>	Demand forecasting, NPV/ERR/BCR, financial modelling	Dr. Majid Twahir
<i>Development Analyst</i>	Market analysis, feasibility, investment appraisal	Charles Kang'ata / Johnson Denge
<i>Equipment Planner / Biomedical Engineer</i>	Medical equipment schedule, specs, lifecycle costing	Niraj Hirani
<i>Capacity / Service Planning Specialist</i>	Utilization modelling, bed capacity, throughput	Caleb Mutali
<i>Market Researcher</i>	Epidemiological profiling, demographics, needs assessment	James Ogolla
<i>Environmental Specialist</i>	ESIA, baseline studies, NEMA compliance, ESMP	Edgar Eredi

<i>Role</i>	<i>Scope of Responsibility</i>	<i>Name of Consultant</i>
<i>Legal / Regulatory Specialist</i>	Legal framework review, compliance, governance modelling	CPS Elizabeth Macharia
<i>HR / Organizational Dev. Specialist</i>	Staffing projections, HRH planning, training needs	CPS Elizabeth Macharia
<i>Risk Management Specialist</i>	Risk register, mitigation, sensitivity analysis	James Ogolla
<i>Procurement / Implementation Specialist</i>	Phasing strategy, procurement planning, scheduling	Charles Kang'ata
<i>CAD / BIM Technicians (2)</i>	Technical drawings, 3D modelling, visualization	Teddy Atulah
<i>Report Writers / Editors (2)</i>	Document compilation, editing, QA	Sammy Mwalili
<i>Administrative Staff</i>	Coordination, logistics, documentation, communications	Joy Joan Ouma

This Environmental and Social Impact Assessment was undertaken on behalf of the Ministry of Health and Kericho County Government by an ESIA consulting team led by Mr. Edgar Eredi, who served as the EIA Lead Expert responsible for directing the study, presenting findings at the public participation meeting, and preparing this report. Public participation proceedings were further confirmed by the area Chief, Mr. Geofry Mbuthia, as reflected in the minutes appended to this report.

Mr. Edgar Eredi (NEMA Registered EIA/EA Lead Expert) directed the environmental and social components of the assessment as part of the wider multi-disciplinary team listed above, which was engaged on behalf of the Ministry of Health and Kericho County Government for the full feasibility and safeguards study.

PROJECT DESCRIPTION

7.1 Project Location and Land

The proposed South Rift Level (VI) Teaching and Referral Hospital is to be constructed on a site measuring approximately 34.30 hectares (84.75 acres), located on Plot No. Londiani Township/186 within Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County. Full details of the site location, land size, and land ownership documentation (including title deed and allotment records, provided as Appendix 2) are presented under Section 2.1 (Location and Size) of this report.

7.2 Project Design Considerations and Scope

The proposed facility is designed as a 1,000-bed Teaching and Referral Hospital, classified as a Level VI national referral facility under the Kenya Health Sector referral framework. Key components of the project include inpatient and outpatient blocks, an emergency and trauma centre, specialized medical departments (including surgical, maternity, oncology, and intensive care units), teaching and research facilities, on-site medical waste treatment and utility infrastructure, staff support facilities, and ancillary works such as internal roads, parking, and landscaping. The full schedule of proposed works is presented under the "Proposed Works under the Project" section of this report.

7.3 Project Activities

Project activities are organized into two principal phases. The construction phase will comprise site preparation, excavation and grading, foundation and structural works, installation of utilities (water, sewer, power), erection of hospital buildings and specialized units, installation of medical equipment and ICT systems, and landscaping and external works, as detailed under the Construction Phase Impacts sections of this report. The operation phase will comprise the full functioning of the hospital as a Level VI Teaching and Referral facility, including clinical service delivery, medical waste generation and management, energy and water use, teaching and research activities, and ongoing facility maintenance, as detailed under the Operational Phase Impacts sections of this report.

2. BASELINE INFORMATION OF THE PROJECT AREA

2.1 Location and Size

Kericho County lies within the South Rift region of Kenya and is located approximately between latitudes 0° 15' South and 0° 45' South of the Equator, and longitudes 35° 02' and 35° 40' East of the Greenwich Meridian. The County covers an area of about 2,479 square kilometers and is strategically positioned within the Great Rift Valley.

The proposed hospital site covers approximately 34.30 hectares (84.75 acres), located on Plot No. Londiani Township/186 within Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County.

Land ownership documentation for the site is provided as Appendix 4: Land Ownership Documentation to this report. The site is held under a registered 99-year lease of Parcel No. Londiani/Township/186, approximately 34.3 hectares, granted to the Cabinet Secretary to the Treasury to hold for the South Rift Level VI Teaching and Referral Hospital, executed on 12 March 2026. No encumbrances are recorded against the parcel.

The site and its surroundings are characterized by agricultural and rural land use typical of Kipkelion East Sub-County, dominated by smallholder tea farms, subsistence crops, and dispersed homesteads, with the site located in close proximity to Londiani town. Based on available records and site reconnaissance, there are no gazetted forest reserves or protected wetlands immediately adjacent to the project site. Photographic documentation of the site and its immediate surroundings is included in the appended public participation record and site survey documentation (Appendix 1).

The County borders Uasin Gishu County and Nandi County to the north, Baringo County to the northeast, Nakuru County to the east, Bomet County to the south, and Kisumu County and Homa Bay County to the west. The County is situated along a key regional transport corridor that connects the central and coastal parts of Kenya to neighboring countries such as Uganda, Tanzania, South Sudan, Rwanda, and Burundi.

The County is traversed by major highways including the Londiani–Kericho and Londiani–Muhoroni roads, which form part of the northern transport corridor. These routes facilitate movement of people and goods but are also associated with a high incidence of road traffic accidents, creating increased demand for emergency and specialized healthcare services.

Kipkelion East Sub-County, where the proposed project is located, lies along this busy transport corridor. Specifically, the project site is in Kedowa/Kimugul Ward, a location that experiences significant traffic flow and accident-related emergencies. The area is therefore strategically suitable for the establishment of a Level VI Teaching and Referral Hospital to serve both the local population and transit patients.

Kericho Town, the County headquarters, is the main urban centre and lies approximately 256 km from Nairobi City. The County is globally known for its extensive tea plantations and favorable highland climate, which support agricultural productivity and economic growth.

The strategic location of Kericho County within the South Rift, coupled with its accessibility,

growing population, and position along a major transport corridor, makes it an ideal site for the proposed South Rift Level VI Teaching and Referral Hospital, which is expected to serve not only the County but also the wider South Rift region and parts of East Africa.

2.2 Administrative Units.

Kericho County comprises six administrative sub-counties, namely Ainamoi, Belgut, Bureti, Kipkelion East, Kipkelion West, and Soin/Sigowet, which are further subdivided into a total of thirty wards, 85 locations and 209 sub locations.

2.3 Biophysical Setting.

2.3.1 Climate

Kericho County experiences a cool and humid highland equatorial climate characterized by moderate temperatures and reliable rainfall throughout the year. Mean maximum (daytime) temperatures range between approximately 23°C and 26°C, while mean minimum (night-time) temperatures range between 10°C and 14°C. The warmest periods are typically experienced between January and March, while the coldest months occur between June and August. The County receives high annual rainfall ranging from about 1,800 mm to 2,500 mm, making it one of the wettest regions in Kenya. The western and central highland areas, particularly in Belgut, Ainamoi, and Bureti sub-counties, receive the highest rainfall, while relatively lower amounts are recorded in parts of Kipkelion East and Kipkelion West sub-counties.

Rainfall in Kericho County follows a bimodal pattern, with the long rains occurring between March and May (MAM) and the short rains between October and December (OND), although rainfall is fairly well distributed across most months. This consistent rainfall supports the County's dominance in tea farming and other agricultural activities. However, in recent years, the County has experienced increasing climate variability, including occasional prolonged rainfall, flooding, and unpredictable dry spells, which have begun to affect agricultural productivity and livelihoods.

Kericho Town records an average annual temperature of about 18°C and receives approximately 2,000 mm of rainfall annually. March is generally the warmest month, while July tends to be the coldest, reflecting the County's relatively stable but cool climatic conditions throughout the year.

2.3.2 Geology and soils

a). Geology

Kericho County is largely underlain by volcanic formations associated with the western Kenya highlands and the eastern margins of the East African Rift System. The dominant geological units comprise Tertiary volcanic rocks, including extensive basaltic and phonolitic lava flows, tuffs, and volcanic ash deposits that were formed through successive volcanic eruptions. These volcanic materials occur as thick sequences of agglomerates, breccias, and pyroclastic deposits interbedded with lava flows. The rocks are rich in minerals such as olivine, feldspar, augite, and iron oxides, which contribute to the fertility of the derived soils.

In some parts of the County, particularly towards the western and southern margins, the volcanic cover overlies older Precambrian Basement System rocks. These include metamorphic formations such as gneisses and schists, which were formed under intense pressure and temperature conditions. Over time, prolonged weathering and tectonic influences have shaped the current landscape, resulting in gently undulating terrain interspersed with steep escarpments and river valleys. The interaction between volcanic activity and long-term erosion has led to the formation of deep weathering profiles, which are characteristic of Kericho's highland environment.

b). Soils

The soils of Kericho County are predominantly derived from volcanic parent materials and are among the most fertile in Kenya. The dominant soil types are deep, well-drained red and dark brown loamy soils, commonly classified as nitisols. These soils are rich in organic matter, have good structure, and exhibit high water retention capacity, making them highly suitable for tea cultivation, which is the main agricultural activity in the County. In addition, andosols are found in areas with relatively recent volcanic ash deposits, characterized by their high porosity and strong moisture-holding capacity.

Soil characteristics vary across the County depending on the underlying geology, topography, and land use practices. Areas with steeper slopes tend to have shallower soils that are more susceptible to erosion, while flatter areas support deeper and more stable soil profiles. In some zones, especially where there is a higher clay content, soils may exhibit moderate to high water retention but can also become prone to waterlogging if drainage is poor.

Soil erosion is a significant environmental concern in Kericho County due to high rainfall intensity, sloping terrain, and continuous agricultural activities. The main forms of erosion include splash erosion, sheet erosion, rill formation, and gully erosion. Contributing factors include deforestation, over-cultivation, and inadequate soil conservation measures. Construction activities, such as excavation and land clearing, can further expose soils to erosion by wind and surface runoff, increasing the risk of land degradation if appropriate mitigation measures are not implemented.

General geotechnical conditions in the Kericho/Kipkelion East area, informed by County Government engineering assessment, are considered acceptable for construction of a Level 6 hospital facility. The area's geology is characterised by red volcanic, igneous and metamorphic-derived soils and phonolitic volcanic bedrock associated with the Gregory Rift Valley margin, generally offering reasonable bearing capacity subject to standard foundation engineering practice, though soils in the wider region tend toward moderate acidity (average pH ~5.6) which should be factored into concrete specification. Given the scale and footprint of the proposed hospital complex, site-specific trial pit investigations will be undertaken at each identified structure location during the architectural concept design stage, with findings incorporated into the structural engineering design and reviewed as part of subsequent design-stage due diligence. With respect to seismic considerations, Kenya's seismic hazard zonation (Ministry of Works, 1973, based on Modified Mercalli Intensity) places south-western Kenya, including the Kericho region, within a zone of moderate seismic hazard (broadly Zone VI–VII, corresponding to a design peak ground acceleration in the range of approximately 0.0125g–

0.025g). This code is dated and generally considered conservative-to-outdated by current standards; a site-specific seismic hazard assessment is recommended at the structural design stage to confirm design parameters for the hospital's structural engineering.

2.4 Hydrology

Kericho County is endowed with a well-developed drainage system due to its high rainfall and elevated terrain within the western highlands of Kenya. The County forms part of the catchment areas that drain into Lake Victoria to the west and Lake Nakuru to the east through an interconnected network of rivers and streams. Major rivers traversing the County include the Sondu-Miriu River, Nyando River, and Kipsonoi River, which originate from the highland areas and flow through steep valleys before joining larger drainage basins. These rivers are largely perennial, sustained by consistent rainfall throughout the year.

The project area, located in Kipkelion East Sub-County (Kedowa/Kimugul), lies within a hydrologically active zone characterized by small seasonal and permanent streams that drain into the larger river systems such as the Nyando and Sondu-Miriu basins. Surface water flow in the area is influenced by the undulating topography, with runoff moving from higher elevations to lower plains, particularly during the rainy seasons. Due to the high rainfall experienced in the County, the area exhibits moderate to high surface runoff, which contributes to streamflow but also increases the potential for localized flooding, soil erosion, and sediment transport if not properly managed.

Groundwater occurrence in Kericho County is generally associated with weathered volcanic rocks and fractured zones within the underlying geology. These formations provide moderate groundwater potential, supporting boreholes and shallow wells used for domestic and institutional water supply. In the project area, groundwater is expected to occur at moderate depths, with yields varying depending on the degree of weathering and fracturing of the volcanic formations. However, groundwater recharge is relatively high due to consistent rainfall and permeable soils.

Overall, the hydrological regime of the project area is favorable for water resource availability, which is critical for the proposed Level VI hospital. However, proper drainage planning, stormwater management, and protection of nearby water sources will be necessary to mitigate risks such as flooding, contamination, and sedimentation during both construction and operation phases.

1.4 Vegetation Cover

Kericho County is characterized by dense and well-established vegetation cover largely influenced by its high rainfall, fertile volcanic soils, and cool highland climate. The natural vegetation in the County originally consisted of moist upland forests and grasslands, although much of this has been modified by human activities. Significant remnants of indigenous forest are found in areas such as the Mau Forest Complex, which forms one of the largest water towers in Kenya and plays a critical role in regulating the County's hydrology and climate. These forested areas are dominated by a mix of hardwood tree species, shrubs, and undergrowth vegetation.

Currently, the dominant vegetation cover in Kericho County is agricultural, with extensive tea plantations forming the most notable landscape feature. Large-scale tea estates and smallholder tea farms cover vast areas, particularly in Belgut, Ainamoi, and Bureti sub-counties, creating a continuous green cover. Other crops such as maize, beans, and horticultural crops are also grown, interspersed with patches of planted trees, woodlots, and hedgerows. In some areas, especially in Kipkelion East and Kipkelion West, there are also grasslands used for livestock grazing.

The project area is predominantly characterized by agricultural vegetation, including tea farms, subsistence crops, and scattered trees. The vegetation is largely modified, with limited presence of natural or indigenous plant species due to continuous cultivation and settlement. Riparian vegetation may be present along nearby streams, consisting of grasses, shrubs, and occasional trees that help stabilize riverbanks and reduce erosion.

Overall, vegetation cover in the project area is relatively stable but highly influenced by human land use. Potential impacts on vegetation during project implementation may include clearance of existing crops and trees, which will require appropriate mitigation measures such as replanting, landscaping, and conservation of riparian buffers to maintain ecological balance.

Viewed across the different directions surrounding the site, the landscape is predominantly agricultural: smallholder farms and tea-adjacent farmland dominate to the north, south, east, and west, interspersed with scattered indigenous trees concentrated around homesteads and field boundaries. No dense natural forest cover exists immediately on-site; the nearest significant indigenous forest remnants are associated with the wider Mau Forest Complex, located at a distance from the project site rather than adjoining it.

1.5 Fauna

Kericho County supports a range of fauna influenced by its highland climate, vegetation cover, and proximity to major ecological systems such as the Mau Forest Complex. The County is not a major wildlife conservation area, but it hosts a variety of common terrestrial and avian species, particularly within forested areas, farmlands, and riparian zones. Indigenous forest areas provide habitat for small to medium-sized mammals such as monkeys (e.g., colobus and vervet), bush babies, squirrels, and occasionally larger mammals like bushbucks and duikers. Reptiles such as snakes and lizards are also present, though generally not abundant.

Birdlife in the County is diverse due to the favorable climate and vegetation. Common bird species include weaver birds, sunbirds, hornbills, doves, and various raptors. Wetland and riparian areas support additional species such as herons and kingfishers. The mix of forest remnants, agricultural landscapes, and water sources creates suitable habitats for both resident and migratory bird species.

In the project area located in Kipkelion East Sub-County (Kedowa/Kimugul), fauna is largely limited to species adapted to human-modified environments. These include small mammals such as rodents, hares, and bats, as well as reptiles like small snakes and lizards. Bird species are more prominent, especially those adapted to agricultural areas, including seed-eaters and insectivores. Livestock such as cattle, sheep, and goats are also common, reflecting the agro-pastoral nature of the area.

Overall, the project area does not host any known endangered or protected wildlife species, and fauna presence is relatively low due to ongoing agricultural activities and human settlement. However, construction activities may cause temporary disturbance to local fauna through noise, habitat disruption, and increased human presence. Appropriate mitigation measures such as minimizing vegetation clearance, controlling noise levels, and maintaining ecological buffers especially along riparian zones will help reduce potential impacts on local fauna.

Consistent with the vegetation pattern, fauna observed in the directions surrounding the site reflects the human-modified agricultural landscape rather than natural habitat, with small mammals, reptiles, and agriculture-adapted bird species distributed across the farmland to the north, south, east, and west of the site, and no distinct concentration of wildlife associated with any single direction.

1.6 Social Economic Baseline.

Kericho County has a predominantly rural population whose livelihoods are largely based on agriculture and related activities. The County's economy is driven by both large-scale and smallholder farming, with tea being the dominant cash crop produced extensively across sub-counties such as Ainamoi, Belgut, and Bureti. Other key crops include maize, beans, potatoes, and horticultural produce, while livestock keeping particularly dairy farming also contributes significantly to household incomes. In the project area of Kipkelion East Sub-County (Kedowa/Kimugul Ward), the local economy is similarly agro-based, with residents engaged in tea farming, subsistence agriculture, and small-scale trade.

Population growth in Kericho County has been steady, resulting in increased demand for social services, employment opportunities, and infrastructure. Settlement patterns are largely dispersed in rural areas, with emerging trading centers such as Londiani serving as local economic hubs. The project area is characterized by a mix of rural homesteads and small trading centers, with moderate population density and increasing urbanization trends driven by improved road connectivity.

In terms of infrastructure, Kericho County is relatively well connected by road networks, including major highways such as the Londiani–Kericho and Londiani–Muhoroni roads, which enhance mobility of people and goods. However, access to reliable water supply, sanitation, and electricity varies across the County, with rural areas experiencing occasional shortages or limited coverage. The project area has basic infrastructure in place, though improvements may be required to support a large-scale development such as the proposed Level VI hospital.

Access to healthcare services in the County is currently limited in terms of specialized care. Existing facilities, including Kericho County Referral Hospital and several sub-county hospitals, provide general medical services but lack advanced diagnostic and treatment capacity. As highlighted in the project concept (Ministry of Health), patients requiring specialized care are often referred to Moi Teaching and Referral Hospital, leading to delays, congestion, and, in some cases, loss of life. This underscores the need for the proposed Level VI facility to enhance healthcare access in the South Rift region.

Education levels in the County are moderate, with access to primary and secondary schools widely available, although tertiary and specialized training institutions are fewer. Employment opportunities are largely informal, with many residents engaged in farming, small businesses, and casual labor. Poverty levels remain a concern in some areas, affecting access to essential services such as healthcare, education, and clean water. The socio-economic conditions of Kericho County and the project area indicate a strong reliance on agriculture, moderate infrastructure development, and limited access to specialized healthcare services. The proposed project is therefore expected to significantly improve healthcare access, create employment opportunities, and stimulate local economic growth while contributing to improved social well-being.

1.7 Settlement Patterns.

Kericho County exhibits a predominantly rural settlement pattern characterized by dispersed homesteads interspersed with agricultural land. Most residents live in individual farmsteads surrounded by tea plantations, food crop farms, and grazing areas. This scattered settlement structure is largely influenced by the County's reliance on agriculture, availability of fertile land, and customary land ownership systems. In high-potential agricultural zones such as Ainamoi, Belgut, and Bureti, settlements are closely associated with tea estates and smallholder farms, creating a semi-dispersed pattern with relatively higher population densities.

Urban and peri-urban settlement patterns are concentrated in major towns and trading centers, including Kericho Town and Londiani. These centers serve as administrative, commercial, and service hubs, attracting more compact and nucleated settlements. Growth in these areas has been driven by improved road infrastructure, economic activities, and access to services such as education, healthcare, and markets. As a result, there is a gradual transition from rural dispersed settlements to more clustered urban forms in these locations.

In the project area, the settlement pattern is predominantly rural and dispersed, with homesteads spread across agricultural land. Small trading centers exist along major roads, forming localized clusters of commercial and residential development. The proximity to key transport corridors, particularly around Londiani, has contributed to increasing settlement density and the emergence of peri-urban characteristics in some sections.

1.8 Population and demographics

According to the 2019 Kenya Population and Housing Census, Kericho County had a total population of 901,777 of which 450,741 are males, 451,008 females and 28 intersex persons. There are 206,036 household with an average household size of 4.4 persons per household and a population density 370 people per square kilometre.

The total population of Kericho is estimated to have grown significantly. Official projections from the Kenya National Bureau of Statistics (KNBS) suggest that the county's population will reach approximately 1.2M by 2030-40, with a 2026 estimate of roughly one million people.

2.10 Health

Kericho County has a total of 435 operational health facilities. This total includes public, private, and faith-based providers that have been integrated into the national Social Health Authority

(SHA) framework for service delivery. The county has achieved an immunization coverage of 90% for essential vaccines like the third dose of the pentavalent vaccine. In July 2025, Kericho rolled out a massive 10-day integrated campaign targeting 95% coverage for measles, rubella, and typhoid to close the immunity gaps that widened during the COVID-19 pandemic.

7.4 Baseline Studies Deferred to Detailed Design

The baseline presented in this chapter is supported by field-measured ambient noise and air quality data and by a geotechnical and seismic siting assessment. Three further baseline studies are not required to characterise the receiving environment for the purposes of this assessment, and are deferred to the detailed design stage. They are stated explicitly below with their scope, responsible party and timing so that the commitment is auditable. None of the deferred studies is capable of altering the impact significance ratings or the conclusions of this ESIA; each serves to refine the design and the monitoring baseline.

Deferred baseline study	Scope	Responsible party	Timing	Purpose and use of the data
Traffic baseline survey	Classified turning counts at the site accesses and at the Londiani–Kericho and Londiani–Muhoroni junctions; peak-hour flows; queue length and journey-time survey; heavy goods vehicle proportion	Proponent, through a qualified transport consultant, with the County Engineer	Detailed design stage, and in any event before approval of the Contractor's Traffic Management Plan	To calibrate the Traffic Management Plan and the site access design, and to set the baseline against which operational trip generation is monitored
Biodiversity screening survey	Walkover habitat survey of the site and a 500 m buffer; flora and fauna species list; screening against protected and priority species; confirmation of the absence of critical habitat	Proponent, through a qualified ecologist	Detailed design stage, and in any event before any vegetation clearance	To confirm the modified-habitat classification applied in this ESIA, and to inform the revegetation and landscaping specification

Deferred baseline study	Scope	Responsible party	Timing	Purpose and use of the data
Household socio-economic survey	Structured household survey of the settlements within the area of influence; income, livelihood and service access profile; vulnerable-group identification (women-headed households, persons with disabilities, older persons, low-income households)	Proponent, through a qualified social specialist, coordinated with the Stakeholder Engagement Plan	Detailed design stage, and thereafter repeated at the Year-1 environmental audit	To refine the vulnerable-group analysis, to target local recruitment and community investment, and to establish the socio-economic baseline for monitoring

Each deferred study is carried as a line item in the Environmental and Social Management and Monitoring Plan, is a responsibility of the Proponent, and its completion is reported to the Bank through the quarterly safeguard report. Where a deferred study identifies a condition materially different from that assumed in this ESIA, the assessment will be revisited and the Bank notified.

7.5 Grievance Redress Mechanism

The project has established a two-tier Grievance Redress Mechanism (GRM) to ensure that concerns arising from construction and operation of the South Rift Level VI Teaching and Referral Hospital are received, recorded, and resolved in a fair, transparent, and timely manner. Employee grievances arising from terms of employment, working conditions, or workplace disputes shall be raised in the first instance through the contractor's or hospital's Human Resource/site management structures. Where such grievances remain unresolved, they may be escalated to the relevant labour authorities and, ultimately, the labour courts, in accordance with the Employment Act.

Community grievances relating to construction impacts, land, environmental or social concerns, or hospital operations shall be channelled through a Project Grievance Redress Committee (PGRC), constituted with representatives of local administration, community leadership, the Ministry of Health, the contractor, and relevant county and national agencies. The PGRC shall receive, investigate, and respond to community complaints within a defined timeframe, with the right of escalation to the County Grievance Redress Committee where a complaint remains unresolved.

Where grievances, whether employee or community in nature, remain unresolved after all administrative avenues have been exhausted, aggrieved parties retain the right to seek recourse through the Environment and Land Court, in accordance with the laws of Kenya.

The full grievance intake process, register format, escalation timelines, and roles of the various GRM players are detailed in the Stakeholder Engagement Plan (Appendix 5) to this report, and are not duplicated here.

3. LEGAL, POLICY FRAMEWORK AND INSTITUTIONAL FRAMEWORK

3.1 Environmental Policy

The Kenya's Government environmental policy aims at integrating environmental aspects into the national development plans. The broad objectives of the national environmental policy include:

- Optimal use of natural land and water resources in improving the quality of human environment;
- Sustainable use of natural resources to meet the needs of the present generation while preserving their ability to meet the needs of the future generation;
- Integrate environmental conservation and economic activities into the process of sustainable development;
- Meet national goals and international obligations by conserving biodiversity, arresting desertification, mitigating the effects of disasters, protecting the ozone layer and maintaining ecological balance on the earth.

ESIAs are carried out in order to identify potential positive and negative impacts associated with the proposed project with a view to taking advantage of the positives impacts and developing mitigation measures for the negative ones. The guidelines on EIAs are contained in sections 58 to 67 of the Act. According to section 68 of the environmental management and coordination Act (EMCA) 1999 (Amended 2015), The Authority shall be responsible for carrying out environmental audits on all activities that are likely to have a significant effect on the environment.

Environmental auditing (EA) is a tool for environmental conservation and has been identified as a key requirement for existing facilities to ensure sustainable operations with respect to environmental resources and socio-economic activities in the neighborhood of the facilities.

The government has established regulations to facilitate the process on EIAs and environmental audits. The regulations are contained in the Kenya Gazette Supplement No. 56, legislative supplement No. 31, and legal notice No. 101 of 13th June 2003 (Amended 2019).

In the past, the government has established a number of National policies and legal statutes to enhance environmental conservation and sustainable development.

The key objectives of the Policy include: -

To ensure that from the onset, all development policies, programmes and projects take

environmental considerations into account, to ensure that an independent environmental impact assessment (EIA) report is prepared for any industrial venture or other development before implementation,

To come up with effluent treatment standards that will conform to acceptable health guidelines.

Under this paper, broad categories of development issues have been covered that require a “sustainable development” approach. These issues relate to waste management and human settlement. The policy recommends the need for enhanced re-use/recycling of residues including wastewater, use of low or non-waste technologies, increased public awareness rising and appreciation of a clean environment. It also encourages participation of stakeholders in the management of wastes within their localities. Regarding human settlement, the paper encourages better planning in both rural and urban areas and provision of basic needs such as water, drainage and waste disposal facilities among others.

3.2The Constitution of Kenya 2010

The Constitution of Kenya (2010) recognizes healthcare as a fundamental human right and places an obligation on the State to ensure access to the highest attainable standard of health for all citizens. Article 43(1)(a) guarantees every person the right to the highest attainable standard of health, including reproductive healthcare, while Article 43(2) provides that no person shall be denied emergency medical treatment. These provisions establish the legal foundation for investment in healthcare infrastructure and service delivery, particularly facilities that provide essential, lifesaving, and specialized medical services.

The Constitution further emphasizes the protection of vulnerable groups, particularly women, children, and persons with disabilities. Article 53(1)(c) guarantees every child the right to basic nutrition and healthcare, and Article 53(2) requires that the best interests of the child be of paramount importance in all matters concerning children. In addition, Article 54(1)(a) obligates the State to ensure that persons with disabilities have access to health facilities and services that are responsive to their needs. These constitutional provisions underscore the importance of strengthening maternal, neonatal, and child health services through appropriate and accessible health infrastructure.

National values and principles of governance set out under Article 10 of the Constitution, including equity, inclusiveness, social justice, human dignity, and sustainable development, guide public service delivery and development planning. These principles require that public health investments promote equitable access to quality healthcare services, efficient use of public resources, and long-term sustainability.

The proposed construction of South Rift level (VI) hospital in Londiani, Kericho County is therefore directly aligned with the Constitution of Kenya (2010). The construction works are in line with the fulfillment of Articles 43 and 53. By improving service capacity and quality of care at the county level, the project advances constitutional values, supports the right to health, and contributes to equitable and sustainable healthcare delivery for the

Londiani Community.

3.3 Legal Aspects (Kenyan Legislations)

The key national laws that govern the management of environmental resources in the country have been briefly discussed in the following paragraphs. Note that wherever any of the laws contradict each other, the Environmental Management and Coordination Act 1999 (Amended 2015) prevail.

3.3.1 The Environment Management and Coordination Act, 1999 (Amended 2015)

The Environmental Management and Coordination Act is the principal legal framework governing environmental management and protection in Kenya. Part II of the Act provides that every person in Kenya has the right to a clean and healthy environment and has a corresponding duty to safeguard and enhance the environment. This provision places an obligation on project proponents to ensure that development activities are planned and implemented in a manner that prevents environmental degradation and protects public health.

Section 58 of EMCA requires that an Environmental Impact Assessment (EIA) be conducted for all projects listed under the Second Schedule of the Act that are likely to have significant environmental impacts. The proposed Construction works falls under this schedule as a medium-risk development. In compliance with this requirement, the project proponent has commissioned this EIA study to identify potential environmental and social impacts and propose appropriate mitigation measures prior to project implementation.

Part VII, Section 68 of the Act requires operators of projects to undertake environmental audits to assess the level of compliance with the conditions set out in the approved EIA report and licence. The audit findings must be submitted to the National Environment Management Authority (NEMA). This provision ensures continued environmental accountability during the operational phase of the hospital and confirms adherence to approved mitigation and monitoring measures.

Part VIII of EMCA provides regulations on pollution control and waste management. Sections 72 to 74 prohibit the discharge of toxic, noxious, or polluting substances into the aquatic environment without authorization and require projects generating effluent to obtain the necessary permits before discharging into sewerage systems. Section 87 prohibits improper disposal of waste that may cause pollution or harm to human health, while Sections 88 and 89 require licensing for waste generation, transportation, and disposal, including hazardous healthcare waste. Sections 90 to 100 further regulate the handling, storage, and management of hazardous substances such as chemicals and oils, which are relevant to hospital operations. Additionally, Section 102 prohibits noise emissions beyond prescribed standards, requiring the project to control noise during construction and operation. Compliance with these provisions will ensure environmentally sound construction and operation of the hospital.

3.3.2 Environmental Management and Co-ordination (Air Quality) Regulations, 2024

The Environmental Management and Co-ordination (Air Quality) Regulations, 2024 were promulgated under Legal Notice No. 180 of 2024 with the objective of preventing, controlling, and abating air pollution in order to safeguard public health and ensure a clean and healthy environment. The regulations provide standards for ambient air quality, define permissible emission limits, and prescribe control measures for both mobile and stationary sources of air pollution. They prohibit any activity that directly or indirectly results in air pollutant concentrations exceeding the limits specified in the First Schedule, including particulate matter, gaseous emissions, and other priority pollutants.

The regulations further require that all project proponents ensure compliance with prescribed ambient air quality standards and implement appropriate pollution prevention measures. They emphasize the need for monitoring, reporting, and management of emissions, particularly in sensitive environments such as healthcare facilities. The regulations also address fugitive emissions, including dust and exhaust emissions from construction sites, equipment, and vehicles, and require that such emissions be effectively controlled to prevent deterioration of local air quality. Where necessary, designated controlled areas may be declared, requiring the preparation and implementation of air quality management plans.

These regulations are directly relevant to the proposed constructions of the south Rift level (VI) hospital as construction activities associated with the development works which includes excavation, material handling, earthworks, operation of construction machinery, and movement of vehicles, all of which can produce dust, particulate matter, and exhaust emissions that may affect construction workers, neighbouring residents and other users of the surrounding area.

In order to comply with the Air Quality Regulations, 2024, the project proponent will implement mitigation measures outlined in the Environmental Management Plan (EMP). These measures will include regular water spraying to suppress dust, proper covering and storage of construction materials, minimizing idling of machinery, maintaining equipment in good working condition to reduce exhaust emissions, and controlling movement of construction vehicles within the site. During operation, proper ventilation systems, controlled emissions from generators (if any), and good housekeeping practices will be maintained to ensure that air pollutant levels remain within permissible limits. Compliance with these regulations will help protect vulnerable hospital users, including pregnant women, newborns, and critically ill patients, while ensuring alignment with national requirements for clean and healthy ambient air.

3.3.3 Environmental Management and Co-ordination (Waste Management) Regulations, 2024 states that: -

The Environmental Management and Co-ordination (Waste Management) Regulations,

2024 were enacted to provide a comprehensive framework for the segregation, handling, storage, transportation, treatment, and disposal of waste in order to protect human health and the environment. Regulation 4 places a general duty on every waste generator to minimize waste generation and to manage waste in a manner that does not cause pollution or harm to human health. The Regulations further emphasize adherence to the waste hierarchy, prioritizing waste reduction, reuse, recycling, recovery, and disposal as a last resort.

Regulation 6 requires waste generators to segregate waste at the point of generation into appropriate categories, while Regulation 7 mandates that waste be stored in designated, clearly labelled containers that prevent leakage, spillage, and contamination. For hazardous waste, including healthcare waste, Regulation 10 provides that such waste must be handled, stored, and disposed of separately from general waste using approved containment systems. The Regulations also prohibit mixing hazardous waste with non-hazardous waste and require implementation of specific safety measures to protect workers and the public.

These provisions are directly applicable to the proposed project, which will generate various waste streams during construction and operation. During construction, waste will include excavated materials, construction debris, packaging waste, and surplus materials. During operation, the hospital will generate healthcare waste, including infectious waste, sharps, pathological waste, pharmaceutical waste, chemical waste, and general domestic waste.

In accordance with Regulation 13, the hospital will ensure that hazardous healthcare waste is transported only by NEMA-licensed waste transporters and disposed of at licensed treatment and disposal facilities. Regulation 15 requires waste generators to maintain records of waste generation, transportation, treatment, and disposal, which will be adhered to by the hospital management. In addition, Regulation 17 obligates occupiers of facilities generating hazardous waste to provide appropriate training and personal protective equipment (PPE) to workers involved in waste handling.

The hospital will further comply with Regulation 19, which requires operators to develop and implement a Waste Management Plan outlining procedures for waste segregation, collection, storage, transportation, treatment, and disposal. Through implementation of a healthcare-specific waste management system consistent with Ministry of Health guidelines and international best practice, The Hospital will ensure compliance with the Environmental Management and Co-ordination (Waste Management) Regulations, 2024, minimize environmental pollution, protect public health, and promote safe and sustainable healthcare service delivery.

3.3.4. The Environmental Management and Co-ordination (Water Quality) Regulations, 2024

The Environmental Management and Co-ordination (Water Quality) Regulations, 2024 were enacted to provide a comprehensive framework for the protection, conservation, and sustainable management of water resources in Kenya. The Regulations aim to prevent water pollution and protect public health by prescribing water quality standards, effluent discharge limits, and monitoring requirements for activities that may affect surface water, groundwater, and sewerage systems.

Regulation 4 provides that no person shall discharge any effluent, wastewater, or pollutant into the aquatic environment unless such discharge complies with the water quality standards set out in the Regulations. Regulation 6 further requires that all effluent discharged into the environment or public sewerage systems must meet the limits specified in the First and Second Schedules, which outline permissible levels for physical, chemical, and biological parameters. These provisions are intended to safeguard water quality and prevent contamination of water resources.

The Regulations are particularly relevant to the proposed expansion of the Hospital which will generate wastewater and effluent during both construction and operational phases. Construction activities may result in increased sediment-laden runoff, while operational activities from the theatre will generate domestic and healthcare-related wastewater. Without proper management, such effluent could adversely affect surface and groundwater quality within the area.

In accordance with Regulation 8, the hospital will ensure that all wastewater and effluent are discharged only into approved sewerage systems or treated through appropriate on-site treatment facilities, subject to issuance of the necessary discharge permits by the relevant authorities. Regulation 10 requires waste generators to submit accurate information on the quantity and quality of effluent generated, which will be complied with through routine monitoring and record keeping. Measures such as proper drainage design, oil and grease traps, and controlled discharge will be implemented to prevent pollution.

Further, Regulation 16 mandates regular monitoring of effluent quality to ensure compliance with prescribed standards, while Regulation 18 prohibits the discharge of untreated effluent or any substances that may cause pollution to water bodies. Through implementation of the Environmental Management Plan (EMP), including effluent control, monitoring, and reporting measures, the proposed Project will comply with the Environmental Management and Co-ordination (Water Quality) Regulations, 2024, protect downstream water resources, and safeguard public health and environmental integrity.

3.3.5. Noise and Excessive Vibration Pollution (Control) Regulation, 2009

The Noise and Excessive Vibration Pollution (Control) Regulations, 2009 were enacted under the Environmental Management and Co-ordination Act (EMCA) to control noise and vibration levels in order to protect public health, environmental quality, and human

comfort. Regulation 3(1) provides that no person shall make or cause to be made any loud, unreasonable, unnecessary, or unusual noise that annoys, disturbs, injures, or endangers the comfort, health, or safety of others. The Regulations prescribe maximum permissible noise levels for different land-use zones, including silence zones and sensitive areas such as hospitals.

Regulation 4 requires that noise emissions from any activity remain within the limits specified in the First Schedule, while Regulation 5 prohibits excessive vibration that may cause damage to buildings, structures, or discomfort to occupants. Regulation 6 provides for the designation of silence zones, which include health facilities, and requires that activities within or adjacent to such zones be conducted in a manner that minimizes noise and vibration impacts. Where construction or other potentially noisy activities are unavoidable, the Regulations require that adequate mitigation measures be implemented to protect sensitive receptors.

In compliance with Regulation 7, the project proponent will implement noise control measures including restricting construction activities to daytime hours, using well-maintained and low-noise equipment, and installing temporary noise barriers where necessary. Regulation 10 requires that any person intending to carry out activities that may generate excessive noise apply for a noise permit from NEMA, which will be obtained where applicable. In addition, advance notification will be provided to hospital management and staff to facilitate scheduling of sensitive medical procedures.

Further, Regulation 13 requires continuous monitoring and mitigation of noise and vibration levels to ensure compliance with prescribed limits. The project will establish a construction management plan that includes coordination with hospital operations, scheduling of noisy activities away from critical care areas and peak service hours, and continuous supervision to minimize disturbance. Through strict adherence to the Noise and Excessive Vibration Pollution (Control) Regulations, 2009, the proposed project will ensure that construction activities do not compromise patient safety, healthcare service delivery, or the wellbeing of hospital staff and surrounding communities.

3.3.6. The Health Act, 2017

The Health Act, 2017 provides the overarching legal framework for the regulation, management, and delivery of healthcare services in Kenya. It operationalizes the constitutional right to health under Article 43 and establishes standards for health facilities, health services, health personnel, and patient rights. The Act requires health facilities to meet prescribed infrastructure, service quality, safety, and hygiene standards and promotes integration of preventive, promotive, curative, and rehabilitative services.

This Act is directly relevant to the proposed project as it supports the development of adequate infrastructure for maternal, neonatal, and surgical services and emphasizes quality, safety, and continuity of care.

3.3.7. The County Government Act, 2012

The County Government Act was enacted in 2012 to give effect to chapter eleven of the constitution of Kenya (2010) and to provide for county governments powers, function and responsibilities to deliver services and for connected purposes. The county government act repealed the local Government act and took up transferred the function of the Local authorities to the county Government. The proponent is within the Jurisdiction of Kericho County and is affected by all legislations passed in the county and will comply with all the laws passed by the county.

3.3.8. The Physical Planning Act (Cap 286)

Section 30 states that any person who carries out development without permission will be required to restore the land to its original condition. It also states that NO other licensing authority shall grant license for commercial or industrial use or occupation of any building without a development permission granted by the respective local authority.

Finally, section 36 states that if in connection with a development application, local authority is of the opinion that the proposed development activity will have injurious impact on the environment, the applicant shall be required to submit together with the application an environmental impact assessment (EIA) report. EMCA, 1999 (Amended 2015) echoes the same by requiring that such an EIA is approved by the National Environmental Management Authority (NEMA) and should be followed by annual environmental audits.

3.3.9. The Building Code (2000)

Section 194 requires that where a sewer exists, the occupants of the nearby premises shall apply to the local authority for a permit to connect to the sewer line and that all wastewater must be discharged into the sewers. The code also prohibits construction of structures or buildings on sewer lines.

3.3.10. Water Act 2016

The Water Act, 2016 provides the legal framework for the management, protection, conservation, use, and control of water resources in Kenya. The Act gives effect to Article 43(1)(d) of the Constitution by ensuring every person's right to clean and safe water in adequate quantities and establishes institutions responsible for water resource regulation, water services provision, and wastewater management. It places an obligation on all persons and institutions to use water resources sustainably and to prevent pollution of surface and groundwater sources.

Section 72 of the Act prohibits the pollution of water resources and makes it an offence to discharge any effluent, wastewater, or substance that may degrade water quality without authorization. Section 73 requires any person who discharges effluent into a water resource or public sewer to obtain the necessary permit and to comply with prescribed effluent quality standards. These provisions are intended to safeguard public health, protect aquatic ecosystems, and ensure that water resources remain fit for domestic and institutional use.

The Water Act is directly relevant to the proposed Project.

In compliance with the Water Act, 2016, the hospital will utilize approved water supply systems and ensure efficient water use through good housekeeping practices and maintenance of plumbing infrastructure. All wastewater generated will be discharged into approved sewerage systems or treated through appropriate on-site wastewater management facilities, subject to the necessary permits from the relevant authorities. Measures such as proper drainage design, separation of stormwater and wastewater systems, installation of grease traps for kitchen effluent, and regular monitoring of wastewater quality will be implemented. Through these measures, the proposed project will comply with the Water Act, 2016, protect water resources, and support sustainable and safe healthcare service delivery during both construction and operation.

3.3.11 The Occupational Safety and Health Act, 2007

The Occupational Safety and Health Act (OSHA), 2007 provides the legal framework for the protection of the safety, health, and welfare of workers and all persons lawfully present at workplaces. Section 6(1) of the Act places a general duty on every employer to ensure Z safety, health, and welfare at work of all employees. This includes provision of a safe working environment, safe systems of work, and protection against risks to health arising from work activities. Section 6(2) further requires employers to ensure that persons who are not employees, including patients and visitors, are not exposed to health and safety risks arising from workplace activities.

These provisions are directly applicable to the proposed construction of South Rift level (VI) Hospital. In compliance with Sections 6 and 9, the project proponent and contractors will implement measures such as segregation of construction zones, controlled access, clear safety signage, and coordination with the local administration and neighbouring property owners to ensure that construction workers, neighbouring residents and authorised site visitors are not exposed to construction-related hazards such as falling objects, dust, noise, and moving machinery.

During the construction phase, Section 10 of the Act requires the provision and maintenance of safe plant, machinery, and equipment, while Section 13 obligates employers to provide adequate information, instruction, training, and supervision to workers. In addition, Section 14 requires employees to use provided safety equipment and comply with safety procedures. Accordingly, construction workers will be provided with appropriate Personal Protective Equipment (PPE) including helmets, safety boots, gloves, reflective jackets, and fall-arrest systems where applicable, and will undergo safety induction and ongoing supervision throughout the construction period.

The Act is also highly relevant to the operational phase of the hospital. Section 70 requires workplaces to maintain cleanliness and avoid accumulation of waste that may pose health risks, while Section 73 requires adequate ventilation in workplaces. These provisions apply to hospital units such as the theatre and maternity wards where proper ventilation, hygiene, and housekeeping are critical. Further, Section 83 addresses handling, storage, and

use of hazardous substances, requiring employers to assess risks and put in place protective measures. This is particularly applicable to healthcare workers who may be exposed to chemicals, disinfectants, pharmaceuticals, anesthetic gases, and biological agents.

In addition, Section 78 requires the provision of suitable washing facilities, sanitary conveniences, and drinking water for workers, which will be incorporated into the design and operation of the expanded hospital facilities. Section 44 mandates preparation and implementation of emergency procedures, including fire safety and evacuation plans. In compliance, the hospital will maintain functional fire detection and suppression systems, clearly marked emergency exits, safe storage of medical gases, and regular emergency drills. Through adherence to these specific provisions of the Occupational Safety and Health Act, 2007, the proposed will ensure a safe working environment during both construction and operation, while protecting the health and safety of workers, patients, and the general public.

3.3.12 The Energy Act (2016)

The Energy Act was enacted in the year 2006. Section 4 of the Act establishes the Energy Regulatory Commission (ERC). The ERC is a single sector regulatory agency, with responsibility for economic and technical regulation of electric power, renewable energy and downstream Petroleum sub-sectors, including tariff setting and review, licensing, enforcement, dispute settlement and approval of power purchase and network service contracts.

3.3.13 The Public Health Act Cap 242

The Public Health Act (Cap. 242) provides the legal framework for the promotion and protection of public health in Kenya and empowers public health authorities to prevent conditions that may be injurious to human health. Section 115 of the Act defines circumstances that constitute a nuisance or are dangerous to health, including accumulation of waste, poor drainage, overcrowding, and unsanitary conditions, while Section 116 obligates occupiers and owners of premises to prevent the occurrence of such nuisances. The Act further mandates proper sanitation, waste management, ventilation, drainage, and control of pollution to safeguard public health within residential, institutional, and public facilities.

The Public Health Act is directly relevant to the proposed Project; the project will involve construction and operation of healthcare facilities within a populated urban area. Compliance with the Act will be achieved through provision of adequate sanitation facilities, proper drainage and wastewater management, effective solid and healthcare waste handling systems, and maintenance of clean, well-ventilated wards and theatres. During construction, measures will be taken to control dust, noise, waste, and stagnant water to prevent health risks to patients, staff, and surrounding communities. During operation, adherence to public health standards will ensure that the expanded hospital facilities do not create conditions injurious to health, thereby supporting safe, hygienic, and efficient healthcare service delivery in line with statutory public health requirements.

3.4 International Legislations.

3.4.1 World Health Organization guidelines.

The World Health Organization provides authoritative technical guidance on the planning, construction, and operation of healthcare facilities through a range of standards, guidelines, and recommendations. In the *WHO Guidelines on Core Components of Infection Prevention and Control Programmes at the National and Acute Health Care Facility Level (2016)*, WHO states that health facilities must be designed and operated to minimize the risk of healthcare-associated infections through adequate infrastructure, including sufficient space, reliable water supply, appropriate ventilation, hand hygiene facilities, and proper healthcare waste management systems. The guideline emphasizes that infection prevention and control measures must be integrated into the physical design of hospitals, particularly in high-risk areas such as operating theatres, maternity units, and neonatal care areas. In the *WHO Safe Surgery Guidelines (2009)* and the *WHO Standards for Improving Quality of Maternal and Newborn Care in Health Facilities (2016)*, WHO specifies that facilities providing surgical and obstetric services should have properly designed and equipped theatres, clear separation of clean and contaminated zones, adequate lighting, controlled airflow, and functional sterilization and waste handling systems. The standards further require continuous availability of safe water, electricity, and sanitation services to support surgical safety and quality maternal care. These requirements are directly relevant to the Proposed Project.

WHO also provides specific guidance on newborn and neonatal care through the *WHO Recommendations on Newborn Health (2017)* and the *WHO Kangaroo Mother Care Implementation Guide (2018)*. These documents state that newborn units, Neonatal Intensive Care Units (NICUs), and Kangaroo Mother Care (KMC) units should be designed to maintain thermal control, infection prevention, adequate spacing between cots, and close proximity to maternity and surgical services to allow timely emergency response. WHO explicitly recognizes KMC as an evidence-based intervention for improving survival of preterm and low-birth-weight infants and recommends its integration into hospital infrastructure as part of routine neonatal care.

With respect to environmental health and occupational safety, WHO's *Environmental, Health, and Safety Guidelines for Health Care Facilities* and the *WHO Health Care Waste Management Guidelines (2014)* require health facilities to implement strict segregation of healthcare waste at source, safe handling of sharps, secure temporary storage, and treatment and disposal through approved technologies. WHO further states that hospitals must provide functional laundry and kitchen facilities designed to prevent cross-contamination and support infection control. These guidelines also stress that during construction of a healthcare facility, measures must be implemented to control dust, noise, vibration and site access in order to protect construction workers, neighbouring residents and authorised site visitors.

Overall, WHO guidance consistently emphasizes that safe, functional, and well-designed healthcare infrastructure is a prerequisite for quality healthcare delivery, infection prevention, patient safety, and staff protection. The proposed project therefore reflects

international best practice in healthcare facility development.

3.4.2 Universal Health Coverage (UHC) Policy, 2020–2030

The UHC Policy aims to ensure that all Kenyans have access to quality health services without financial hardship. It prioritizes strengthening health infrastructure, improving service availability at county hospitals, and reducing referrals to higher-level facilities. The Proposed Project supports UHC objectives improving affordability and accessibility of healthcare services within Londiani area in Kericho County and neighboring counties including the entire East Africa Region.

3.5 African Development Bank Policy Provisions

The provisions below are applied with reference to the African Development Bank Group's Integrated Safeguards System (ISS, 2023) and its ten Environmental and Social Operational Safeguards (OS1–OS10), available at

<https://www.afdb.org/en/documents/african-development-bank-groups-integrated-safeguards-system-2023>.

Applicable African Development Bank Operational (AfDB) Safeguard Policies (OS) are listed in the table below.

OS 1: Environmental and Social Assessment.	Project components will trigger OS 1. Detailed Project Assessment identified that according to OS 1 screening provisions, South Rift Level VI Teaching and Referral Hospital Project is a Category 1, i.e. the Project is likely to have detrimental site-specific environmental and/or social impacts that are more adverse and but can be reversible, and minimized by applying appropriate management and mitigation measures. Mitigation measures for impacts that will be presented in the ESIA
OS 2: Involuntary Resettlement: Land Acquisition, Population Displacement and Compensation.	The policy aims to avoid involuntary resettlement where feasible, or minimize resettlement impacts where involuntary resettlement is deemed unavoidable after all alternative Project designs have been explored.
OS 3: Biodiversity, Renewable Resources and Ecosystem Services.	The safeguard aims to conserve biological diversity and ecosystem integrity by avoiding or, if avoidance is not possible, reducing and mitigating any adverse environment and social risks.

OS 1: Environmental and Social Assessment.	Project components will trigger OS 1. Detailed Project Assessment identified that according to OS 1 screening provisions, South Rift Level VI Teaching and Referral Hospital Project is a Category 1, i.e. the Project is likely to have detrimental site-specific environmental and/or social impacts that are more adverse and but can be reversible, and minimized by applying appropriate management and mitigation measures. Mitigation measures for impacts that will be presented in the ESIA
OS 4: Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency.	The Project shall utilize raw materials both during construction and operation phase that could result to pollution of biophysical environment if not handled appropriately. Appropriate mitigation measures for likely waste to be generated by the Project will be detailed in the ESIA.
OS 5: Labor Conditions, Health and Safety.	The Project shall involve workers both during construction and operation phases of the project. This policy read together with OSHA 2007 shall form integral instruments to be used in ensuring that health, safety and working conditions of both works and community is safeguards. The Labour Relations Act 2011 will be applied by labour force on site in addressing disputes related to working conditions.
OS6: Stakeholder Engagement and Information disclosure.	This will be achieved by the proponent and the contractor through continuous and meaningful consultations across all phases of the project, rather than at a single stage. It will also involve providing project information in clear, accessible formats and local languages, as well as maintaining ongoing engagement even after implementation.

POLICY & LEGISLATION SUMMARY	RELEVANCE TO THE PROJECT
The Constitution of Kenya 2010	In line with the Constitution of Kenya, all activities and projects carried out in the country must align with the national environmental vision and uphold every individual's right to a clean and healthy environment. Since the proposed project involves key aspects of the physical and natural environment, it requires a well-defined Environmental and Social Management Plan to address and mitigate any potential adverse impacts.
National Environmental Policy	The National Environmental Policy ensures projects integrate environmental protection and sustainable resource use. It is relevant because the hospital project must prevent pollution, manage waste, and use water and energy efficiently. Following the policy ensures compliance with national environmental standards and supports sustainability.
The Energy Act, 2019	The operator is required to comply with the strict provisions of the Act governing electrical installations at the site to help prevent electricity-related incidents and accidents.
The Health Act, 2017	It provides the legal framework for the delivery and regulation of healthcare services in Kenya and supports the proposed project.
Occupational Safety and Health Act (OSHA), 2007	The Act places responsibilities on both occupiers and employees, including the obligation to report any hazardous situations, which must be observed throughout the project's implementation and operation phases. All project stakeholders are also required to comply with provisions prohibiting the creation of hazards, ensuring the safety of persons beyond employees, and maintaining standards for cleanliness, overcrowding, ventilation, lighting, machinery and chemical safety, and general welfare.
Environmental Assessment and Impact Regulations 2003 (Revised 2019).	The Regulations provide guidelines for conducting an Environmental Impact Assessment (EIA) and include provisions for the preparation of a Project Report. The requirement for public participation, as outlined in the Regulations, has been fully observed throughout the EIA process. The Second Schedule of the Regulations lists the issues to be considered in an EIA, while the Third Schedule provides general guidelines for carrying out an EIA study.

POLICY & LEGISLATION SUMMARY	RELEVANCE TO THE PROJECT
Noise and Excessive Vibration Pollution (Control) Regulations, 2009.	Contractors are required to operate within the maximum permissible noise levels specified in the First Schedule of the Regulations. The Regulations also provide guidelines on the use of machinery, nighttime construction noise, and excessive vibrations at construction, demolition, mining, or quarrying sites, all of which must be strictly followed. Additionally, contractors must comply with the licensing requirements for the various site activities.
Environmental Management and Co-ordination (Waste Management) Regulations, 2024	The Act will ensure that the project handles waste in a way that protects public health and prevents environmental pollution, especially since the site is near a river. The regulations require the project to segregate waste at the source, store it safely, and ensure proper transportation and disposal at licensed facilities. They also require the project to manage hazardous waste separately and prevent any illegal dumping or discharge that could contaminate the nearby river.
UHC	It establishes the framework for achieving universal access to essential health services without financial hardship and emphasizes equity, quality, and efficiency in healthcare delivery. The Act guides strengthening of health systems, infrastructure, and service availability to meet population health needs
Air Quality Act	The Air Quality Act sets standards and guidelines for controlling air pollution and maintaining clean air for public health and the environment. It is relevant to the project because construction activities such as excavation, burning of waste, and vehicle movements can generate dust and emissions that may affect air quality, especially for nearby residents. The project must implement measures to control dust, prevent burning of waste, and minimize emissions from machinery to comply with the Act and protect the surrounding community.
Water Quality Regulations	It sets standards for the protection of surface and groundwater resources and regulates the quality of wastewater and effluent discharges to prevent water pollution. The regulations require treatment, monitoring, and controlled discharge of wastewater to safeguard public health and environmental quality.

POLICY & LEGISLATION SUMMARY	RELEVANCE TO THE PROJECT
WHO	It provides international guidelines on the design, operation, and management of healthcare facilities to ensure patient safety, infection prevention, and quality care, and supports the proposed Project in line with global best practices for maternal, neonatal, and surgical services.
Public Health Act	It provides the legal framework for the protection of public health by regulating sanitation, waste management, disease prevention, and environmental hygiene. It is relevant to the project as it guides the safe management of healthcare facilities, including control of infections, proper handling of waste and wastewater, and maintenance of hygienic conditions during construction, operation, and decommissioning phases.
The National Land Policy (Sessional Paper No. 3 of 2009)	The policy regulates rights over land and provides for sustainable growth, investment and the reduction of poverty in line with the Government's overall development objectives. Specifically, "the policy offers a framework of policies and laws designed to ensure the maintenance of a system of land administration and management. The overall objective of the National Land Policy is to secure land rights and provide for sustainable growth, investment, and the reduction of poverty in line with the government's overall development objectives.
Economic Recovery for Wealth and Employment Creation Strategy 2006	The overall goal of the strategy is to ensure clear improvement in the social and economic wellbeing of all Kenyans; thereby giving Kenyans a better deal in their lives, and in their struggle to build a modern and prosperous nation. The key areas covered in the strategy are: • Expanding and improving infrastructure; • Reforms in trade and industry; • Reforms in forestry; • Affordable shelter and housing; • Developing arid and semi-arid lands, and • Safeguarding environment and natural resources.

POLICY & LEGISLATION SUMMARY	RELEVANCE TO THE PROJECT
Kenya Health Policy (2014-2030)	In line with the objectives of the Kenya Health Policy, the project aims to improve the quality and accessibility of healthcare services, with a specific emphasis on maternal and child health. By addressing priority areas such as reducing maternal and child mortality rates and enhancing healthcare infrastructure, the project aligns closely with the policy's strategic directives.
Kenya Kwanza Manifesto	The project is in harmony with the Kenya Kwanza Manifesto's commitment to accelerating socio-economic development, particularly in improving the health and well-being of mothers and children. By aligning with the manifesto's ambitious targets to reduce maternal and child mortality rates and ensure access to quality healthcare services, the project reinforces the government's commitment to holistic development.

7.6 Gap Analysis: National Requirements and the AfDB Integrated Safeguards System (2023)

This ESIA has been prepared with reference to the African Development Bank Group's Integrated Safeguards System (ISS, 2023) and its ten Environmental and Social Operational Safeguards (OS1–OS10) (<https://www.afdb.org/en/documents/african-development-bank-groups-integrated-safeguards-system-2023>). The table below summarises the alignment between applicable national requirements and the ISS (2023), identifies gaps, and states how the project bridges them. Where national and Bank requirements differ, the project commits to applying the more stringent requirement.

Thematic area (ISS OS)	National requirement	AfDB ISS (2023) requirement	Gap	How the project bridges the gap
E&S assessment and management (OS1)	EMCA (1999, am. 2015) and the EIA/Audit Regulations require a licensed ESIA and annual environmental audits	Risk-based categorisation; assessment of direct, indirect, induced and cumulative impacts; E&S management system	Cumulative/induced assessment and residual-risk analysis not expressly required nationally	Impact Assessment Methodology, Cumulative and Induced Impacts, and Residual Impact and Risk Assessment sections of this ESIA; ESMMP

Thematic area (ISS OS)	National requirement	AfDB ISS (2023) requirement	Gap	How the project bridges the gap
Labour and working conditions (OS2)	Employment Act 2007; Occupational Safety and Health Act 2007; Work Injury Benefits Act	Labour management procedures; worker grievance mechanism; prohibition of child/forced labour; Codes of Conduct	Project-level labour management procedures and a dedicated worker grievance channel are not mandated nationally	Labour Management Plan required of the contractor under the C-ESMP; worker GRM; signed Codes of Conduct incl. GBV/SEA provisions; child-labour controls and signage
Resource efficiency and pollution prevention (OS3)	EMCA Waste Management, Water Quality, Air Quality and Noise Regulations	Resource efficiency, quantified waste streams, GIIP-based pollution prevention	Broadly aligned; ISS additionally expects quantification and GIIP benchmarking	Quantified waste projections; non-burn treatment technology per GIIP; WBG EHS Guidelines applied as technical benchmarks
Community health, safety and security (OS4)	Public Health Act (Cap 242); county public-health enforcement	Emergency preparedness and response; community exposure management; security-force conduct	Facility-level emergency preparedness beyond fire safety is not expressly mandated for the construction phase	Emergency Preparedness and Response Plan (annexed); Traffic Management Plan; community engagement and GRM
Land acquisition and resettlement (OS5)	Land Act and Constitution provisions on compulsory acquisition	Avoidance/mini misation of involuntary resettlement; compensation at replacement cost	No involuntary resettlement is anticipated: the site is public institutional land	Land status documented in the Project Description; should any land-related impact emerge, OS5 standards will be applied

Thematic area (ISS OS)	National requirement	AfDB ISS (2023) requirement	Gap	How the project bridges the gap
Biodiversity (OS6)	EMCA conservation provisions; Wildlife Conservation and Management Act	Screening against modified/natural/critical habitat; no-net-loss principles	Site is modified habitat (agricultural/institutional); no critical habitat identified	Baseline flora/fauna description; revegetation with indigenous species; chance-find procedure for cultural heritage
Stakeholder engagement and disclosure (OS10)	Constitution Art. 69–70 and EIA Regulations public participation requirements	Stakeholder mapping; meaningful, documented consultation; continuing engagement; project-level GRM; disclosure	National requirements centre on one-off ESIA consultation; ISS requires engagement across the project cycle	Stakeholder Engagement Plan (annexed) with mapping, methods and monitoring; documented minutes/attendance; standalone GRM with SEA/SH-sensitive channels

7.7 Institutional Capacity Assessment and Capacity Strengthening

The principal implementing institutions for the environmental and social commitments in this report are the Ministry of Health (MoH), supported by the County Government of Kericho; the Project Management Team (PMT); the supervising consultant; the works contractor; NEMA and the Water Resources Authority as regulators; and the hospital management during operation. Their capacity to deliver the ESMMP has been assessed as follows.

Institution	Role	Capacity assessment	Strengthening measure
MoH / PMT	Overall proponent obligations; safeguard reporting to the Bank; ESMMP oversight	Experienced with development-partner safeguard requirements from prior health projects; PMT safeguard staffing to be confirmed at mobilisation	Designate a project Environmental and Social Officer and a Community Liaison Officer before construction mobilisation

Institution	Role	Capacity assessment	Strengthening measure
County Government	Public health enforcement; physical planning; county approvals	Established environment and public health offices; limited exposure to Bank ISS procedures	ISS orientation for county focal officers; inclusion in quarterly project safeguard meetings
Contractor	Implementation of construction-phase mitigation via the C-ESMP	To be procured; capacity variable across the market	C-ESMP (incl. OSH, waste, labour, HIV/AIDS plans) as a condition precedent to works; full-time contractor EHS officer; supervising consultant approval and oversight
NEMA / WRA	Licensing, inspections and enforcement	Functional regional offices; inspection frequency constrained by resources	Proponent-funded compliance monitoring and annual environmental audits submitted to NEMA
Hospital management (operation)	Operational ESMMP, healthcare waste management, OHS and emergency response	To be established during commissioning; specialised HCWM and IPC skills required	Recruitment of HCWM/IPC focal staff before commissioning; training programme per the MWMP and EPRP; standing safety and waste committees

Capacity Strengthening Plan: (i) appointment of the project E&S Officer and Community Liaison Officer before mobilisation; (ii) contractor EHS staffing and an approved C-ESMP as conditions precedent to commencement of works; (iii) a training programme covering healthcare waste management, infection prevention and control, occupational safety, GBV/SEA prevention and referral, chance-find procedures and GRM operation; (iv) budgetary provision for E&S staffing, training and monitoring within the costed ESMMP; (v) defined reporting lines — contractor to supervising consultant to PMT, with quarterly safeguard reports to the Bank and statutory reporting to NEMA; and (vi) annual environmental audits and the Bank's implementation support missions as independent verification layers.

3.6 Permits and Licences

The permits and licenses listed below will be secured by CRVWDA before Project civil works are commissioned.

- Environmental Impact Assessment (EIA) License issued by National Environment Management Authority (NEMA) in accordance with the provisions of the Environmental Management and Coordination Act (EMCA) 1999.

- Workplace Registration Certificate from the Directorate of Occupational Safety and Health Services under the Directorate of Occupational Safety and Health Services (DOSHS). Prior to registration, the contractor shall undertake health and safety audits, risk assessments, fire safety training, and first aid training for workers.
- Development Approval and Building Plan Approvals from the Kericho County Government through the Department of Physical Planning and relevant departments for all proposed structures.
- Public Health Approval for sanitation and waste management facilities from the Public Health Department of Kericho County Government.
- Effluent Discharge License from National Environment Management Authority (NEMA) for the management and discharge of wastewater from the hospital.
- Waste Management License (including handling of medical waste) from National Environment Management Authority (NEMA).
- Radiation Protection License from the Radiation Protection Board.
- Fire Safety Compliance Certificate from the County Fire Department under Kericho County Government.
- Registration and Licensing of the Health Facility by the Kenya Medical Practitioners and Dentists Council (KMPDC) or relevant regulatory body.
- Any other additional permits that will be required.

4.0 ANALYSIS OF ALTERNATIVES

4.1 Development on the proposed site (Proposed).

This option entails the development of a new Level VI Teaching and Referral Hospital on a greenfield site in Kericho County, with most of the supporting infrastructure designed to operate independently.

Key consideration for this option.

- On-site liquid and solid waste treatment facilities (including medical waste management systems).
- Independent water supply systems (e.g., boreholes, storage, and treatment)
- Dedicated sewerage and drainage systems
- Power supply systems, including backup generators and possible renewable energy options.

Advantages

- Full compliance with Level VI hospital standards through purpose-built design.
- Adequate land for all required components, including specialized units, teaching, and research facilities
- No reliance on existing, potentially inadequate infrastructure systems
- Ability to integrate modern and environmentally sound waste management systems (both solid and liquid)
- Enhanced long-term sustainability, efficiency, and scalability

Disadvantages

- High capital costs associated with construction and infrastructure development
- Requires land acquisition and regulatory approvals
- Longer implementation timeline

4.2 Construction within an Existing Site (Upgrading Existing Facilities)

This alternative would involve upgrading and expanding an existing hospital within Kericho County to accommodate Level VI services.

Advantages

- Lower initial capital investment due to use of existing land and infrastructure
- Faster implementation timelines
- Reduced need for land acquisition

Disadvantages

- Inadequate space to support a full Level VI hospital with specialized departments
- Existing infrastructure (water, waste management, power) is not designed to support the scale and complexity of a Level VI facility
- Disruption of ongoing healthcare services during construction
- Limited ability to integrate modern hospital design, including advanced waste treatment systems and utilities

4.3 No-Action Alternative

Under this alternative, no new hospital would be constructed.

Advantages

- No capital expenditure
- No environmental disturbance from construction activities

Disadvantages

- Continued lack of access to specialized healthcare services in the South Rift region
- Persistent congestion at Moi Teaching and Referral Hospital
- Increased mortality due to delays in referral and treatment
- Inability to meet growing healthcare demand and population needs
- Missed opportunity for establishing a regional teaching and research hub.

4.4 Preferred Alternative

The preferred option is the construction of a new Level VI Teaching and Referral Hospital in Kericho County.

Justification

i. **Designed for Purpose**

Unlike upgrading existing facilities, this project allows for a fully integrated design that meets Level VI standards, including specialized care, training, and research.

ii. **Self-Sufficient Infrastructure**

The hospital will not depend on existing systems. It will include:

- a. On-site solid and liquid waste treatment facilities
 - b. Independent water supply and storage systems
 - c. Dedicated sewerage and drainage systems
 - d. Reliable power supply with backup systems
- This ensures efficiency, environmental compliance, and uninterrupted service delivery.

iii. **Improved Healthcare Outcomes**

The facility will significantly reduce referral delays and mortality rates, especially for trauma and emergency cases along the Londiani corridor.

iv. **Regional Impact**

It will serve the entire South Rift and reduce pressure on Moi Teaching and Referral Hospital.

v. **Sustainability and Future Expansion**

A greenfield project allows for future expansion and integration of new technologies without spatial or structural constraints.

7.8 Healthcare Waste Management Technology Alternatives

In addition to site-location alternatives, the ESIA also considered alternative technologies

for the treatment of healthcare (medical) waste generated during hospital operation, comparing incineration against non-burn (autoclave/microwave) treatment technologies.

Incineration

Advantages: complete destruction of pathogens across all waste categories, including highly infectious and pathological waste; significant reduction in waste volume.

Disadvantages: generates air emissions, including potential dioxin and furan releases if not properly operated and maintained; high fuel and operating costs; and increased risk of community opposition due to air quality and odour concerns.

Autoclave/Microwave (Non-Burn) Treatment

Advantages: no combustion-related air emissions; lower operating costs relative to incineration; safer working conditions for waste handling operators due to the absence of open flame and combustion by-products.

Disadvantages: cannot treat all waste categories (e.g., pathological, cytotoxic, and radioactive waste require alternative treatment or disposal); requires pre-treatment shredding; and generates treated waste that still requires final disposal at a licensed landfill.

Conclusion

Non-burn (autoclave/microwave) technology is the preferred healthcare waste treatment option for the proposed hospital, consistent with Good International Industry Practice (GIIP) and AfDB safeguard preferences for minimizing combustion-related emissions, provided that a residual incineration facility or a third-party arrangement with a NEMA-licensed incineration service provider is in place for waste streams that are not amenable to autoclaving or microwave treatment (such as pathological and cytotoxic waste).

5.0 PROPOSED WORKS UNDER THE PROJECT.

The proposed project involves the construction and operationalization of a fully-fledged Level VI Teaching and Referral Hospital in Kericho County. The key proposed works will include the following:

- i. **Site Preparation Works**
This will involve land clearing, grading, excavation, and leveling of the project site to prepare it for construction activities.
- ii. **Construction of Hospital Buildings**
Development of major hospital infrastructure including inpatient and outpatient blocks, emergency and trauma center, specialized units (such as surgical, maternity, pediatric, ICU, and diagnostic units), and administrative offices.
- iii. **Development of Specialized Medical Facilities**
Establishment of fully equipped departments to handle complex and specialized medical cases, including theatres, laboratories, radiology units, and intensive care units.
- iv. **Construction of Teaching and Research Facilities**
Development of lecture halls, training centers, and research units to support medical education and innovation, in line with the hospital's role as a teaching and referral institution.
- v. **Installation of Medical Equipment and ICT Systems**
Supply and installation of modern medical equipment, hospital management systems, and ICT infrastructure to support efficient healthcare delivery.
- vi. **Provision of Support Infrastructure**
This will include construction of staff housing (if applicable), parking areas, internal access roads, water supply systems, sewerage and drainage systems, waste management facilities (including medical waste), and power supply (including backup systems).
- vii. **Construction of Utility and Ancillary Facilities**
Includes installation of water storage facilities, standby generators, oxygen plants, laundry services, kitchens, and mortuary facilities.
- viii. **Landscaping and External Works**
Beautification of the site, tree planting, walkways, fencing, and security installations.
- ix. **Operationalization of the Facility**
Recruitment and deployment of qualified healthcare personnel, equipping the facility, and commissioning it for full operation as a Level VI hospital.

6. POTENTIAL ENVIRONMENTAL IMPACTS

7.9 Impact Assessment Methodology

The identification and evaluation of potential environmental and social impacts in this ESIA follows a structured, semi-quantitative methodology consistent with the Environmental (Impact Assessment and Audit) Regulations and with the African Development Bank Group's Integrated Safeguards System (ISS, 2023). Potential impacts were identified by overlaying the project activities for each phase (planning and design, construction, operation and decommissioning) on the established environmental and social baseline, drawing on site reconnaissance, baseline measurements, stakeholder consultation outputs and professional judgement.

Each potential impact is characterised as direct, indirect, induced or cumulative, and is rated against five criteria as set out below:

Criterion	Scale	Description
Magnitude (M)	1–5	Severity of the change relative to baseline conditions (1 = negligible; 5 = severe)
Duration (D)	1–5	Temporal extent of the impact (1 = temporary/short-term; 5 = permanent)
Extent (E)	1–5	Geographic reach (1 = site-specific; 3 = local/ward level; 5 = regional or beyond)
Reversibility (R)	1–3	Ease of reversal once the activity ceases (1 = readily reversible; 3 = irreversible)
Likelihood (L)	1–5	Probability of occurrence (1 = unlikely; 5 = certain)

A composite significance score is derived as $\text{Score} = (M + D + E + R) \times L$, and each impact is classified as Low (score ≤ 15), Medium (16–35) or High (≥ 36). Significance is assessed both before mitigation and with the mitigation measures committed in this report and the ESMMP applied (residual significance). Where quantification is feasible, measured or estimated values (baseline noise levels, waste generation rates, workforce numbers, land take and water demand) inform the ratings; where quantification is not feasible, ratings rely on documented professional judgement and comparable-facility experience.

This framework is applied in the impact rating tables presented in this chapter for the construction, operation and decommissioning phases.

For the purposes of this assessment: direct impacts arise from project activities themselves; indirect impacts occur later in time, or at a distance from the activity, through intermediate pathways; induced impacts result from third-party activities stimulated by the project (for example, settlement growth and commercial development around the hospital); and cumulative impacts are the combined, incremental effects of the project together with other past, present and reasonably foreseeable developments in the area of influence. Residual impacts are those remaining after implementation of the committed mitigation measures; these are carried into the ESMMP for monitoring and management.

6.1 PROJECT POSITIVE IMPACTS

i. Improved Access to Specialized Healthcare Services

The construction of the Level VI Teaching and Referral Hospital will significantly improve access to advanced and specialized healthcare services within Kericho County and the wider South Rift region. The facility will reduce the need for patients to travel long distances to referral hospitals such as Moi Teaching and Referral Hospital, thereby enhancing timely access to critical care and reducing delays in treatment.

ii. Improved Health Outcomes and Reduced Mortality

The availability of specialized medical services, including emergency care, intensive care, and advanced diagnostics, will contribute to improved health outcomes. The hospital will play a critical role in reducing mortality rates associated with trauma, maternal complications, and non-communicable diseases, particularly along high-risk areas such as the Londiani transport corridor.

iii. Employment and Economic Growth

The project will generate significant employment opportunities during both construction and operational phases. Skilled and unskilled labour will be engaged, while indirect employment will arise through supply chains, transport services, and local businesses. Once operational, the hospital will create long-term jobs for healthcare professionals, administrative staff, and support personnel, contributing to sustained economic growth in Kericho County.

iv. Strengthening of Healthcare Infrastructure and Capacity

The establishment of a Level VI facility will strengthen the healthcare system by providing advanced infrastructure, modern medical equipment, and specialized departments. This will enhance the region's capacity to manage complex medical cases, reduce congestion in lower-level facilities, and improve overall service delivery.

v. Enhancement of Medical Training and Research

As a teaching and referral hospital, the facility will support medical education, training, and research. It will provide a platform for training healthcare professionals and conducting research on emerging health issues, thereby improving the quality of healthcare services and promoting innovation in the health sector.

vi. Improved Emergency and Trauma Response

The hospital will enhance emergency preparedness and response capacity within the region. With fully equipped trauma and emergency units, the facility will provide timely

intervention for accident victims and critical cases, significantly reducing fatalities and long-term disabilities.

vii. Improved Sanitation and Waste Management Systems

The project will incorporate modern, on-site waste management systems for both solid and liquid waste, including medical waste treatment. This will improve sanitation standards, minimize environmental pollution, and promote safer healthcare practices within the facility.

viii. Improved Water Supply and Utility Reliability

The hospital will be supported by independent and reliable utility systems, including water supply, sewerage, and power infrastructure. This will ensure uninterrupted healthcare service delivery and enhance operational efficiency.

ix. Promotion of Gender Equity and Social Inclusion

The project will improve access to specialized healthcare services for vulnerable groups, including women, children, the elderly, and persons with disabilities. Enhanced maternal and reproductive health services will particularly benefit women, contributing to gender equity in healthcare access.

x. Improved Security and Hospital Environment

The development will include controlled access, fencing, and security systems to safeguard patients, staff, and hospital assets. Landscaping and organized infrastructure will create a conducive, safe, and welcoming environment for healthcare delivery.

xi. Regional Development and Reduced Healthcare Inequality

The project will promote equitable distribution of healthcare services by decentralizing specialized care from major urban centers. This will reduce regional disparities and support balanced socio-economic development across the South Rift and neighboring regions.

6.2 CONSTRUCTION PHASE IMPACTS (NEGATIVE IMPACTS)

i. Noise

Noise and vibration impacts during the construction phase are expected to arise from the operation of construction machinery, equipment, and vehicles associated with demolition, excavation, masonry works, concrete mixing, drilling, cutting, and transportation of

materials. Sources of noise will include mixers, generators, power tools, trucks, and other construction activities. These operations will generate intermittent and continuous noise levels that may exceed normal background levels within the hospital environment.

Prolonged exposure to elevated noise levels may also result in headaches, fatigue, stress, and temporary hearing discomfort among construction workers. Vibration generated from excavation equipment and movement of heavy vehicles may cause localized disturbance and minor structural stress to nearby hospital buildings if not properly managed, although such impacts are expected to be short-term and reversible.

Mitigation Measures

To minimize noise and vibration impacts during construction, the following measures will be implemented:

- i. Restricting noisy construction activities to daytime hours and coordinating work schedules with hospital management in accordance with the Noise and Excessive Vibration Pollution (Control) Regulations
- ii. Use of well-maintained, low-noise machinery and equipment fitted with silencers and mufflers
- iii. Switching off equipment when not in use to minimize unnecessary noise
- iv. Erecting temporary noise barriers or hoardings around high-noise activity areas, especially along boundaries facing the nearest residential and institutional receptors
- v. Providing appropriate Personal Protective Equipment (PPE), such as ear plugs or ear muffs, to construction workers
- vi. Sensitizing workers on noise control measures, sensitivity of neighbouring receptors, and good site practices
- vii. Regular monitoring of noise levels to ensure compliance with permissible limits and to promptly address any complaints or disturbances

Baseline Noise Monitoring Data

A baseline ambient noise survey was undertaken at four sensitive receptor points surrounding the proposed project site on 9th May 2026, in accordance with ISO 1996 methodology. Daytime LAeq measurements, averaged over the monitoring period at each point, were as follows: Point 1 (North West of the site) recorded 51.52 dB(A) at GPS coordinates 0° 09' 51.25"S, 35° 35' 25.62"E; Point 2 (East of the site, near the stadium) recorded 49.07 dB(A) at 0° 09' 51.24"S, 35° 35' 27.63"E; Point 3 (South of the site) recorded 50.93 dB(A) at 0° 09' 53.14"S, 35° 35' 26.76"E; and Point 4 (West of the site) recorded 51.81 dB(A) at 0° 09' 52.41"S, 35° 35' 25.57"E. All four points were within the 55 dB(A) daytime limit prescribed under the Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009 for mixed residential/institutional receptors, as summarized in the table below.

Point	GPS Coordinates	Average Daytime LAeq (dB(A))	Regulatory Limit (dB(A))	Compliance Status
Point 1	0° 09' 51.25"S, 35° 35' 25.62"E	51.52	55	Within permissible limits
Point 2	0° 09' 51.24"S, 35° 35' 27.63"E	49.07	55	Within permissible limits
Point 3	0° 09' 53.14"S, 35° 35' 26.76"E	50.93	55	Within permissible limits
Point 4	0° 09' 52.41"S, 35° 35' 25.57"E	51.81	55	Within permissible limits

Full monitoring methodology, instrumentation details, calibration records, and raw noise logging data for all four points are presented in the standalone Baseline Noise Assessment Report appended to this ESIA package.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	3	3	2	3	3	33	Medium
With Mitigation Measures	2	2	1	2	2	14	Low

ii. Conflict

During the construction phase of the proposed hospital development, social conflict may arise between the contractor and the surrounding community, particularly neighbouring residents. One of the main sources of conflict is likely to be expectations for employment opportunities. Local community members may anticipate being given priority for casual jobs, security work, material supply, or other construction-related opportunities. Where such expectations are not clearly managed, perceived exclusion or unequal access to employment may lead to dissatisfaction and tension.

Additional conflict may arise due to construction-related disturbances such as noise, dust, vibration, restricted access, and temporary changes to movement patterns around the site. Neighbours may feel inconvenienced by construction activities, especially if works extend into early mornings or evenings, or if access to their homes or businesses is affected. In densely populated areas, these disturbances may heighten sensitivity and increase the likelihood of complaints.

If not properly addressed, such conflicts may escalate into complaints to local authorities, hostility toward construction workers, obstruction of works, or community resistance, potentially causing delays to the project and straining relations between the hospital and the host community.

Mitigation Measures

- i. Clearly communicate the scope and limitations of available employment opportunities to manage expectations.
- ii. Where feasible, prioritize fair and transparent recruitment of local casual labour for

- non-specialized works.
 - iii. Establish a grievance redress mechanism for neighbours to raise concerns related to noise, dust, access, or employment.
 - iv. Schedule noisy or disruptive activities during approved daytime hours to minimize disturbance.
 - v. Implement dust and noise control measures to reduce nuisance to surrounding properties.
 - vi. Maintain open communication between the contractor, hospital management, and community representatives throughout the construction period
- Workers shall not share accommodation facilities with community members, to minimise social friction and reduce risks of conflict; and all workers shall be formally introduced to the local administration and relevant authorities prior to commencement of works.

Labour Influx

The construction phase of the proposed hospital is expected to attract an estimated peak workforce of approximately 80 workers to the project site in Kedowa/Kimugul Ward, Kipkelion East Sub-County. Where a significant proportion of this workforce is sourced from outside the immediate locality, the resulting in-migration of workers may place additional pressure on local housing, water, sanitation, and other social services, and may disrupt the existing social fabric of the host community. Experience on similar projects indicates that labour influx can also contribute to localized inflation in the price of housing, food, and other basic goods and services, disproportionately affecting low-income residents.

Mitigation Measures

Prioritize the recruitment of qualified local labour from Kedowa/Kimugul Ward and the wider Kipkelion East Sub-County for unskilled and semi-skilled positions to minimize the scale of external in-migration.

Where non-local workers must be engaged, encourage day-commuting arrangements over the establishment of on-site or informal workers' camps.

Require the contractor to develop and implement a Labour Influx Management Plan addressing worker accommodation, conduct, and community relations.

Institute and enforce a Code of Conduct for all workers governing behaviour towards the host community, including provisions addressing harassment, exploitation, and public order.

Monitor local housing and commodity prices periodically during peak construction to identify and respond to inflationary pressure attributable to the project workforce.

Engage local administration and community leadership on an ongoing basis to identify and address emerging social tensions associated with the presence of the construction workforce.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	2	2	2	2	2	16	Medium

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
With Mitigation Measures	1	1	1	1	1	4	Low

Human Rights and Gender Inequalities

Construction workers, particularly women, may face heightened vulnerability related to informal labour arrangements, unequal treatment, and limited access to social protections during the construction phase.

Mitigation Measures

Worker contracts shall clearly state leave entitlements, including maternity and paternity leave, consistent with the Employment Act.

Recruitment shall be conducted without discrimination on the basis of gender, and there shall be equal compensation for equal work, including excess working hours.

The contractor shall provide appropriate gender-sensitive sanitary, health, and safety facilities, including separate facilities for men and women.

The contractor shall put in place mechanisms for reporting and addressing gender-based violence, sexual exploitation and abuse (GBV/SEA), and other human rights violations, consistent with the project's Code of Conduct.

iii. Air Quality

Air quality impacts during the construction phase of the proposed hospital development are anticipated to arise mainly from dust generation and exhaust emissions associated with construction activities. Unlike noise, which diminishes relatively quickly with distance, air pollutants can persist in the atmosphere and be transported by wind, potentially affecting a wider area beyond the immediate project site. This is particularly significant because the site adjoins occupied residential and institutional properties, and construction workers, delivery personnel and authorised site visitors will be present within the works area throughout the construction period.

Dust emissions are expected to originate from site clearance, excavation, earthworks, material handling, and movement of construction vehicles within and around the project site. Activities such as dry cutting, drilling, surface preparation, and mixing of construction materials may generate fine particulate matter, including cement dust and silica particles, which can become airborne. Loading and unloading of materials such as sand, ballast, and cement may further contribute to dust emissions, especially during dry and windy conditions.

Exhaust emissions will be generated from diesel-powered construction machinery, vehicles, generators, and equipment operating on site. These emissions may include Suspended Particulate Matter (SPM), Nitrogen Oxides (NO_x), Sulphur Dioxide (SO₂), Carbon Monoxide (CO), and trace hydrocarbons, which may temporarily degrade ambient air quality within the hospital environment. Increased fuel consumption during peak

construction activities may lead to elevated concentrations of these pollutants within the project area.

Meteorological conditions such as wind speed, wind direction, and atmospheric stability will influence the dispersion of air pollutants. Calm conditions may result in localized accumulation of dust and exhaust fumes, while strong winds may disperse pollutants over a wider area, increasing the zone of influence. The presence of structures under construction and of buildings on adjoining properties may also affect airflow patterns and pollutant dispersion.

Vulnerable receptors within the project area include residents of neighbouring properties — particularly children, older persons, pregnant women and persons with pre-existing respiratory conditions — together with construction workers and authorised site visitors. These groups are especially sensitive to air pollution, as prolonged exposure to dust and exhaust emissions may cause respiratory irritation, allergic reactions, or aggravate existing respiratory conditions. Dust deposition may also affect nearby vegetation and cause temporary aesthetic degradation of hospital buildings and surfaces. However, given the localized nature and limited duration of construction activities, these impacts are expected to be short-term and reversible with proper mitigation.

Mitigation Measures

To minimize adverse air quality impacts during the construction phase, the following mitigation measures will be implemented:

- i. Provision and mandatory use of appropriate Personal Protective Equipment (PPE) for all workers, including dust masks or respirators, safety boots, helmets, gloves, and protective clothing
- ii. Scheduling material delivery, pick-up, and drop-off times in consultation with hospital management to minimize congestion and dust generation
- iii. Establishment of buffer zones and installation of physical barriers or hoardings around active construction areas to protect patients, staff, and visitors
- iv. Scheduling dust-generating activities with consideration of weather conditions, particularly avoiding works during strong winds
- v. Use of wet methods for cutting, drilling, demolition, and concrete works to suppress dust emissions
- vi. Preference for well-maintained, low-emission, and where feasible, electrically powered construction equipment
- vii. Use of low-sulphur diesel fuel for construction machinery
- viii. Regular servicing and maintenance of all construction vehicles and equipment to ensure efficient combustion and reduced exhaust emissions

Baseline Air Quality Monitoring Data

To establish existing ambient conditions against which construction-phase impacts can be assessed, a baseline air quality survey was undertaken at four sensitive receptor points surrounding the proposed project site by Mazingira Limited, a NEMA-registered testing

laboratory, using calibrated EPAM-5000 particulate monitoring equipment and associated gas detection methods. Measured baseline concentrations across the four monitoring points were as follows: PM10 ranged from 0.006 to 0.070 mg/m³; PM2.5 ranged from 0.002 to 0.072 mg/m³; Carbon Monoxide (CO) ranged from 0.302 to 0.413 mg/m³; Carbon Dioxide (CO₂) ranged from 0.18 to 0.26 mg/m³; Nitrogen Oxides (NO_x) were below 0.031 µg/m³ at all points; and Sulphur Oxides (SO_x) ranged from 0.30 to 0.48 µg/m³. All measured parameters at all four monitoring points were within the limits prescribed under the Environmental Management and Coordination (Air Quality) Regulations, 2024, and within applicable WHO air quality guideline thresholds. Full sampling methodology, equipment calibration records, and raw monitoring data are presented in the standalone Baseline Air Quality Report appended to this ESIA package.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	2	2	2	2	3	24	Medium
With Mitigation Measures	1	1	1	2	3	15	Low

Vegetation Loss

Construction activities, including site clearance, grading, and excavation, will result in the loss of existing vegetation on site, comprising predominantly agricultural crops, scattered trees, and modified grassland cover.

Mitigation Measures

Revegetation and landscaping following construction should prioritize indigenous tree species suited to Kericho's highland Rift Valley margin environment, including *Prunus africana*, *Olea africana* (African olive), *Croton megalocarpus*, *Markhamia lutea*, and *Grevillea robusta*, to restore ecological value and support local biodiversity.

iv. Solid waste

The construction phase of the proposed hospital development will result in the generation of solid waste from various construction activities. Solid waste is expected to include excavated soil, surplus construction materials, cement bags, scrap metal, timber off-cuts, broken blocks, packaging materials, and general domestic waste generated by construction workers. Poor waste management may obstruct site operations, create nuisance for neighbouring properties and compromise site hygiene standards.

If not properly managed, construction waste may lead to environmental degradation, including land contamination, blockage of drainage systems, attraction of pests, and visual pollution within the project site. Accumulated waste materials may obstruct walkways and access routes, thereby increasing the risk of accidents and injuries. In addition, unmanaged waste may create dust, unpleasant odours, and potential health risks to visitors, and construction personnel

Potential Mitigation Measures

- i. Segregation of construction waste at source into reusable, recyclable, and non-recyclable categories
- ii. Reuse or recycling of suitable materials such as scrap metal, timber, and excavated soil where feasible
- iii. Provision of adequate waste skips and bins at designated construction areas
- iv. Prohibition of open dumping or burning of construction waste within the project site
- v. Regular site housekeeping to prevent accumulation of waste and obstruction of movement
- vi. Training of construction workers on proper waste handling, segregation, and site cleanliness

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	5	2	4	5	8	25	Medium
With Mitigation Measures	1	1	1	1		4	Low

Extraction and Use of Construction Materials

Construction materials required for the project, including sand, ballast, hardcore, and building blocks, will be sourced from quarries and other natural material sources, or obtained from established suppliers.

Mitigation Measures

Construction materials shall be extracted and sourced from registered and NEMA-licensed quarry and sand-mining firms, and/or from suppliers who source from such licensed firms.

The contractor shall adhere to the approved procurement plan, ordering only the quantities of material required through accurate budgeting and estimation of actual construction requirements, to minimize wastage and unnecessary extraction pressure on natural material sources.

v. Liquid Waste

During the construction phase, liquid waste impacts are expected to arise from increased use of sanitation facilities by contractors, technicians, and support staff working on site for extended hours. Overuse or inadequate maintenance of sanitary facilities may result in blockages, overflow, and reduced hygiene standards, creating health risks such as diarrhoeal diseases, skin infections, and unpleasant odours.

If portable toilets are provided but not properly managed, they may become sources of leakage, odour, and wastewater spillages. Liquid waste from poorly maintained facilities may infiltrate the soil or enter surface drainage channels, posing contamination risks. In

addition, construction activities such as equipment washing, concrete works, and site cleaning may generate wastewater containing cement residues and suspended solids, which can degrade soil quality and block drainage systems if discharged indiscriminately. Machinery servicing and refuelling may also result in oil and fuel spillages that contaminate soil and create slippery surfaces, increasing accident risks.

Potential Mitigation Measures

- i. Provision of adequate, dedicated sanitation facilities for construction workers.
- ii. Regular cleaning, servicing, and emptying of portable toilets to prevent overflow, odour, and leakage
- iii. Monitoring of existing drainage and sanitation systems to ensure they are not overloaded during construction
- iv. Establishment of lined concrete washout pits for disposal of cement-contaminated wastewater.
- v. Prohibition of discharge of wastewater into open ground, storm drains, or natural watercourses.
- vi. Conducting machinery servicing and refuelling in designated areas with impermeable surfaces
- vii. Proper storage of oils and lubricants in sealed containers and bunded areas
- viii. Immediate containment and cleanup of spills using spill kits.
- ix. Training construction workers on proper sanitation use, spill prevention, and hygiene practices.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	3	3	2	2	3	30	Medium
With Mitigation Measures	1	2	1	1	2	10	Low

vi. Traffic Congestion During Construction

Delivery vehicles may need to park in loading zones, bus stops, taxi stands, or other spaces designated for other uses, displacing these legitimate functions and creating conflicts with other road users who depend on these spaces.

Traffic pattern disruption can occur when construction activities require temporary changes to normal traffic flow. Lane closures to allow crane operation or material staging force traffic to merge and reduce capacity.

Mitigation Measures

- i. Traffic management plan to be developed before construction begins.

- ii. Delivery scheduling- Restricting deliveries to off-peak hours, mid-morning and early afternoon. rather than during peak commute times.
- iii. Consolidated deliveries, where multiple items are combined onto single trucks rather than arriving on separate vehicles.
- iv. Worker transportation management to minimize numerous vehicle trips.
- v. Parking arrangements that designate specific parking areas for construction vehicles,
- vi. Trained traffic marshals positioned to guide traffic around temporary obstacles.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	2	3	2	1	3	24	Medium
With Mitigation Measures	1	2	1	1	2	10	Low

vii. **Public Safety**

Construction activities within the project site present public safety risks if work areas are not adequately secured. Unauthorized access to construction zones may expose visitors and support service providers to hazards such as open excavations, moving machinery, falling materials, dust, and noise. These individuals are generally not trained to recognize or avoid construction-related risks and do not have appropriate personal protective equipment.

Mitigation measures:

- i. Clearly demarcate all construction areas using solid hoardings, fencing, and lockable access points to prevent unauthorized entry.
- ii. Restrict construction access routes and separate them from patient, staff, and visitor pathways within the hospital.
- iii. Install visible warning signs and directional signage in both English and local language(s) around all construction zones.
- iv. Schedule high-risk construction activities during off-peak hospital hours to minimize interaction with patients and visitors.
- v. Assign trained security personnel or site marshals to control access and guide movement around construction areas.
- vi. Ensure all open excavations are covered or securely barricaded when work is not ongoing.
- vii. Enforce strict housekeeping practices to prevent loose materials, debris, or tools from posing trip or injury hazards.
- viii. Conduct regular safety inspections to ensure barriers, signage, and access controls remain effective throughout the construction period.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	2	3	2	2	2	18	Medium
With Mitigation Measures	1	2	1	1	1	5	Low

viii. Occupational Health & Safety

Construction activities associated with the construction of the hospital pose various occupational health and safety risks to construction workers, hospital staff, patients, visitors, and the general public. Potential hazards include falls from heights during structural works, injuries from sharp tools and construction equipment, electrocution during electrical installations, exposure to dust, noise, and vibration, manual handling injuries, and accidents involving moving vehicles and heavy machinery. Because the site adjoins occupied residential and institutional properties and public roads, there is a risk of interaction between construction activities and third parties, which may compromise safety if not properly managed.

Construction workers may also face health risks arising from prolonged exposure to dust, noise, hazardous substances, and physical strain, particularly in the absence of adequate training, supervision, and use of appropriate personal protective equipment. These risks underscore the need for strict adherence to occupational health and safety requirements, effective site management, and coordination between contractors and hospital management to ensure the safety of all users of the facility throughout the construction phase.

Mitigation measures:

- i. Establish and implement safe working and operational procedures,
- ii. Use of tool lanyards to secure tools to workers, toe boards along work platforms to prevent materials from rolling off edges,
- iii. Erection of warning signs, barricades, and controlled access points around construction areas
- iv. Use of debris netting to catch falling objects.
- v. Designated exclusion zones beneath work areas combine to minimize falling object risks.
- vi. Provide fire extinguishers
- vii. Train fire marshals, First aiders.
- viii. Conduct OSH sensitization and toolbox talks

- ix. Provide first aid kits
 - x. Emergency response planning and preparedness for potential incidents
 - xi. Ensure the use of appropriate PPE by all employees on site.
 - xii. Adhere to the occupational health and safety rules and regulations stipulated in the Occupational Safety and Health Act 2007
- PPE issuance shall be tracked through a signed register, with worn or damaged PPE replaced promptly; supervisors shall enforce consistent PPE use on site.
- Provision of clean, accessible, and gender-sensitive sanitary facilities, and safe drinking water, to all workers on site.
- Health, safety, and environment (HSE) signage on site shall be provided in both English and Kiswahili to ensure comprehension by all workers.
- Workers required to perform work at height shall receive appropriate height-work training and shall be provided with, and required to use, fall-arrest equipment.

Child Labour Risks

The construction phase of the proposed hospital may create incidental risks of child labour, particularly given prevailing livelihood pressures among households in Kedowa/Kimugul Ward and the wider Kipkelion East Sub-County. The project maintains a strict prohibition on the engagement of children in any project-related work, in line with the Constitution of Kenya (2010), the Employment Act (Cap 226), and the Children Act.

Mitigation Measures

Persons under the age of 18 years shall not be engaged, whether directly or through subcontractors, in any construction or project-related activity.

The contractor shall verify the age of all prospective workers against national identification documents prior to engagement, and maintain a recruitment register recording verified ages.

Clear signage prohibiting child labour shall be displayed at the site entrance and at prominent points within the work areas.

Site supervisors and the Community Liaison Officer shall conduct periodic checks to confirm continued compliance with the child labour prohibition throughout the construction period.

Any suspected incidence of child labour shall be reported and addressed through the project's Grievance Redress Mechanism and, where warranted, referred to the relevant labour and child protection authorities.

Spread of Communicable Diseases

The concentration of construction workers on site, together with increased interaction with the local community, carries a risk of transmission of communicable diseases, including HIV/AIDS, other sexually transmitted infections, tuberculosis, and respiratory infections.

Mitigation Measures

The contractor shall establish an on-site clinic staffed by a qualified nurse for the duration of construction works, and shall maintain a Memorandum of Understanding (MoU) with a nearby health facility, such as Londiani Sub-County Hospital, for the treatment and referral of workers requiring higher-level medical care.

Conduct regular health education and awareness sessions for workers and the surrounding community on HIV/AIDS, other sexually transmitted infections, and communicable disease prevention.

Provide access to voluntary counselling and testing services, and make condoms available to workers, in coordination with the Ministry of Health and local health facilities.

Archaeological and Cultural Properties

A baseline survey of the proposed hospital site in Kedowa/Kimugul Ward, Kipkelion East Sub-County, did not identify any known archaeological sites, graves, shrines, or other culturally significant properties within the project footprint. The site is undeveloped county land with no visible evidence of heritage or cultural significance at the time of assessment.

Notwithstanding the absence of known findings, there remains a possibility that archaeological, historical, or culturally significant materials may be encountered during excavation and earthworks. Accordingly, a chance-find procedure shall be implemented throughout the construction phase.

Chance-Find Procedure

Should the contractor or any worker encounter items of possible archaeological, historical, paleontological, or cultural significance (including human remains) during construction, all works in the immediate vicinity of the find shall be immediately suspended.

The find shall be secured and protected from further disturbance, theft, or damage, and its location clearly marked and recorded (including photographs and GPS coordinates where possible).

The contractor shall promptly notify the resident engineer, the hospital implementation committee, and the National Museums of Kenya (NMK) of the discovery.

Works shall remain suspended in the affected area until the National Museums of Kenya, in liaison with relevant county and national authorities, has assessed the find and issued written guidance on whether and how works may resume.

All site personnel shall be sensitized during induction on the chance-find procedure and their obligation to report any suspected archaeological or cultural finds without delay.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	4	4	4	2	3	42	High

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
With Mitigation Measures	2	2	2	1	2	14	Low

6.3 OPERATIONS PHASE NEGATIVE IMPACTS

i. Increased Population Density and Crowding

The operation of the proposed facility is expected to attract an increased number of people to the area, including patients, staff, visitors, suppliers, and service providers. This influx will contribute to higher population density, particularly during peak service hours, clinic days, visiting hours, and emergency situations. Increased human activity within and around the facility may lead to crowding in waiting areas, entrances, corridors, parking zones, and adjacent public spaces.

If not adequately managed, increased population density and crowding may result in congestion, reduced service efficiency, heightened public health risks, and strain on existing infrastructure, including sanitation facilities, water supply, waste management systems, and access routes. In healthcare settings, overcrowding also increases the risk of disease transmission, compromises patient comfort and privacy, and may affect emergency response efficiency.

Mitigation measures:

- i. Design adequate waiting areas, corridors, and circulation spaces to accommodate projected patient and visitor volumes.
- ii. Implement appointment and patient flow management systems to reduce congestion during peak periods.
- iii. Provide clear signage and wayfinding systems to improve movement and minimize unnecessary crowding.
- iv. Ensure sufficient sanitation facilities, handwashing stations, and waste bins to support increased population levels.
- v. Deploy trained staff to manage queues, guide visitors, and control access during peak hours.
- vi. Schedule visiting hours and service delivery to spread demand and avoid excessive crowding.
- vii. Implement infection prevention and control measures, including routine cleaning and crowd density management in public areas.
- viii. Provide adequate security and emergency access routes to ensure safe movement within and around the facility.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	2	2	2	2	3	24	Medium
With Mitigation Measures	1	1	1	1	2	8	Low

ii. **Energy Demand Increase.**

The proposed facility will result in a significant increase in energy demand due to continuous hospital operations and the use of energy-intensive equipment. Major sources of electricity consumption will include medical equipment (diagnostic machines, sterilizers, laboratory equipment), theatre lighting and ventilation, refrigeration for pharmaceuticals and blood storage, laundry services, water pumping systems, ICT infrastructure, and general lighting across wards and offices. Most hospital services operate on a 24-hour basis, leading to sustained energy use with peak demand during clinical procedures, laundry cycles, and operational hours.

Increased energy demand may place pressure on the local power supply network, potentially resulting in power instability, higher operational costs, and increased reliance on backup generators. Generator use, particularly during outages, may also contribute to increased fuel consumption, air emissions, and noise if not properly managed.

Mitigation measures include: -

- i. Install energy-efficient lighting systems such as LED lights throughout the facility.
- ii. Use energy-efficient medical, laboratory, and office equipment with high energy performance ratings.
- iii. Design buildings to maximize natural lighting and ventilation to reduce reliance on artificial lighting and mechanical cooling.
- iv. Implement a preventive maintenance program for electrical systems and equipment to ensure optimal energy performance.
- v. Install power meters and sub-meters to monitor energy consumption in high-demand areas such as theatres, laboratories, and laundry facilities.
- vi. Utilize automatic controls, timers, and motion sensors to reduce unnecessary energy use in low-occupancy areas.
- vii. Provide backup power systems that comply with safety and environmental standards and ensure generators are well-maintained. Generator fuel levels, run hours, and maintenance activities shall be logged periodically, consistent with the generator maintenance and fuel supply management procedures detailed in the Emergency Preparedness and Response Plan (EPRP) annex to this report.
- viii. Explore the use of renewable energy options, such as solar power, to supplement grid electricity and reduce overall energy demand.
- ix. The hospital will be required to install and operate its own power distribution transformers and internal power grid to ensure reliable electricity supply. This is

in line with Kenya Power requirements, which stipulate that large-scale facilities must provide dedicated transformer installations to manage their power demand efficiently and reduce strain on the national grid.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	2	2	2	2	2	16	Medium
With Mitigation Measures	1	1	1	1	1	4	Low

iii. Occupational Health & Safety

During the operational phase of a health care facility, occupational health and safety risks are significant due to the continuous interaction between health workers, patients, visitors, and hazardous materials. Health care workers may be exposed to infectious diseases, including blood-borne pathogens such as HIV, Hepatitis B, and Hepatitis C, through contact with blood, body fluids, sharps, contaminated linen, and medical waste. Routine clinical activities such as injections, wound dressing, surgical procedures, laboratory work, and waste handling increase the risk of needlestick injuries, cuts, and splashes, which can lead to occupational infections. Inadequate infection prevention and control practices may also contribute to the spread of hospital-acquired (nosocomial) infections among staff and patients, affecting overall service delivery and staff wellbeing.

Hospital staff may also be exposed to hazardous substances during daily operations. These include disinfectants, sterilizing agents such as glutaraldehyde and ethylene oxide, pharmaceutical chemicals, cytotoxic drugs used in cancer treatment, laboratory reagents, and mercury from broken medical devices. Prolonged or unprotected exposure to these substances can result in respiratory irritation, skin conditions, eye injuries, allergic reactions, or long-term health effects. Workers involved in waste management, laundry, cleaning, and maintenance are particularly vulnerable if hazardous and non-hazardous wastes are not properly segregated and handled.

Physical and ergonomic hazards are also common during hospital operations. These include manual handling injuries from lifting and transferring patients, slips and falls on wet floors, electrical hazards from medical equipment, fire risks associated with oxygen use and flammable chemicals, and stress-related conditions arising from long working hours, emergency situations, and high patient loads. Exposure to radiation from diagnostic imaging and radiotherapy equipment presents additional occupational risks if appropriate shielding, monitoring, and controls are not enforced. Without adequate safety systems, training, and monitoring, these hazards may result in injuries, illnesses, absenteeism, reduced productivity, and legal liabilities for the facility.

Mitigation:

- i. Development and implementation of comprehensive occupational health and safety policies and procedures in line with national legislation and international health care facility guidelines
- ii. Establishment of infection prevention and control programmes, including standard and universal precautions for handling blood and other potentially infectious materials
- iii. Provision and mandatory use of appropriate personal protective equipment such as gloves, masks, gowns, eye protection, and safety footwear
- iv. Regular training of staff on infection control, safe handling of sharps, waste management, chemical safety, fire safety, and emergency response
- v. Installation of adequate handwashing facilities and promotion of strict hand hygiene practices among staff, patients, and visitors
- vi. Proper segregation, storage, treatment, and disposal of medical and hazardous waste using color-coded systems and licensed waste handlers
- vii. Safe handling and storage of chemicals and pharmaceuticals, including availability of Material Safety Data Sheets and spill response procedures
- viii. Implementation of safe patient handling practices and use of mechanical aids to reduce manual lifting injuries
- ix. Regular inspection, servicing, and maintenance of medical equipment, electrical systems, and fire safety installations
Clear signage on the correct use, handling, and access-control procedures for hazardous equipment and restricted areas shall be installed and maintained throughout the facility.
- x. Radiation protection measures, including controlled access to imaging areas, use of shielding, and monitoring of staff exposure
- xi. Establishment of emergency preparedness and response plans, including fire drills, spill response, and first aid services
- xii. Routine occupational health surveillance and monitoring to identify and address workplace hazards and health trends among staff

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	3	3	2	2	2	20	Medium
With Mitigation Measures	2	2	1	1	1	6	Low

iv. Waste Management (Medical Waste and General Waste).

During the operational phase, waste management impacts are expected to be significant because a hospital generates multiple waste streams daily, including general waste and hazardous healthcare waste. If waste is not properly segregated, collected, stored, transported, treated, and disposed of, it can lead to infections, needle-stick injuries, odours,

pest infestation, environmental pollution, and non-compliance with Ministry of Health and NEMA requirements. Poor waste handling can also compromise patient safety, increase healthcare-associated infections, and expose workers and the public to biological and chemical hazards.

Hospital waste generated during operation can be classified into several categories. General (non-hazardous) waste includes paper, food waste, packaging materials, office waste, and non-contaminated plastics, and is similar to domestic waste. Infectious waste includes materials contaminated with blood and body fluids such as dressings, swabs, gauze, bandages, gloves, blood bags, and items from isolation areas. Sharps waste includes needles, syringes with needles, scalpels, blades, lancets, and broken contaminated glass, which pose high injury and infection risks. Pathological waste includes tissues, placentas, body parts, and materials from delivery rooms and theatres. Pharmaceutical waste includes expired, damaged, or contaminated medicines and vaccines, while chemical waste includes disinfectants, laboratory reagents, solvents, formalin, and cleaning chemicals. Pressurized containers such as aerosol cans and gas cylinders and e-waste such as broken electronic equipment may also be generated.

The greatest waste management risks arise when segregation is not done at source. Mixing infectious waste with general waste increases waste volumes requiring special treatment, increases costs, and exposes cleaners, waste handlers, and the public to infection risks. Poor sharps disposal can lead to needle-stick injuries, which can transmit blood-borne infections. Inadequate storage of waste may cause odours, attract flies and rodents, and result in spillages. Uncontrolled movement of waste through patient areas can increase cross-contamination. If incineration or treatment systems are poorly operated, they can generate air pollution and leave hazardous ash requiring controlled disposal. Illegal dumping or burning of medical waste can contaminate soil and water resources and create serious public health hazards.

Mitigation Measures

Segregation at source

- ✓ Waste must be segregated at the point of generation in every ward, theatre, maternity, laboratory and pharmacy.
- ✓ Segregation must separate general waste from hazardous healthcare waste to prevent cross-contamination.
- ✓ Clear signage and posters should be displayed above bins to guide staff and reduce mixing.

Type of dustbins to use (recommended for healthcare settings)

- ✓ Use foot-operated, hands-free bins to reduce hand contact and prevent infection spread.
- ✓ Bins should be rigid, leak-proof, non-corrosive, easy to clean, and fitted with tight lids.
- ✓ Bins should be lined with colour-coded bags and placed in all waste generation

points.

- ✓ Sharps must be disposed of in puncture-proof, tamper-proof sharps safety boxes (rigid plastic or approved safety containers) that can be sealed when $\frac{3}{4}$ full.
- ✓ Suggested bin system (colour-coded, aligned to common MoH practice):
- ✓ Black bins/bags: general non-hazardous waste (paper, food waste, packaging not contaminated)
- ✓ Yellow bins/bags: infectious waste (contaminated dressings, swabs, gloves, blood-stained materials)
- ✓ Yellow puncture-proof sharps boxes: sharps (needles, blades, scalpels, lancets)
- ✓ Red bins/bags (where used): highly infectious waste / isolation waste
- ✓ Brown bins/containers: pharmaceutical and chemical waste (expired medicines, disinfectants, lab chemicals)
- ✓ All bins should be labelled with the waste category and hazard symbols where applicable.

Internal collection and transportation

- ✓ Waste should be collected on a defined schedule (at least daily, and more frequently in high-waste areas such as theatre and maternity).
- ✓ Dedicated waste handlers should use appropriate PPE (heavy-duty gloves, masks, boots, aprons, eye protection where needed).
- ✓ Waste should be moved using covered, leak-proof trolleys/carts that are easy to disinfect; open carrying of waste bags should be prohibited.
- ✓ Waste movement routes should avoid high patient-traffic areas where possible to minimize exposure and cross-contamination.
- ✓ Waste trolleys should be cleaned and disinfected after each round.

Temporary storage on site

- ✓ Establish a designated, secure waste storage area (waste holding bay) that is roofed, ventilated, lockable, and protected from rain, pests, and scavenging.
- ✓ The storage area should have an impermeable floor, good drainage, a wash point, and clearly marked sections for different waste types.
- ✓ Infectious waste should not be stored for long periods; storage should be minimized (ideally less than 24–48 hours depending on temperature and volumes).
- ✓ Sharps boxes must be stored securely to prevent tampering and accidental access.
- ✓ Treatment and disposal (by waste category)
- ✓ Infectious waste: treated using approved technologies such as microwave waste treatment Management.
- ✓ Sharps: sealed sharps boxes should be treated.
- ✓ Pathological waste (e.g., placenta, tissues): managed separately and treated/disposed of through microwave waste treatment management or other approved methods; where culturally appropriate and legally permitted, placenta disposal should follow MoH and facility procedures in a controlled manner to prevent scavenging and infection risk.

- ✓ Pharmaceutical waste: returned to authorized handlers/suppliers where take-back systems exist, or disposed of through approved high-temperature incineration or other NEMA-approved methods.
- ✓ Chemical waste: stored in labelled, sealed containers with Material Safety Data Sheets available; disposed of through licensed hazardous waste handlers; never poured into drains.
- ✓ E-waste: collected and transferred to licensed e-waste recyclers; not mixed with general waste.

Management of waste onsite.

- i. The hospital shall prepare operate and maintain a Healthcare Waste Management Plan (HWMP) adequate for the scale and type of activities and identified hazards consistent with the National regulations, Health, and Safety Guidelines for Health Facilities, and WHO guidelines. Key content of Health Care Facility waste management plan should include:
 - ✓ Assignment of responsibilities including designate waste management officer
 - ✓ Waste classification (including quantities of waste generated)
 - ✓ waste minimization, reuse and recycling; waste segregation.
 - ✓ On-site handling, transport and storage practices (including containerization, color coding, labeling and signage)
 - ✓ Waste-treatment and disposal options (on-site and off-site)
 - ✓ Record keeping and documentation, training and monitoring.
 - ✓ Costs relating to waste management, including capital, operational and maintenance costs.
 - ✓ Training
 - ✓ Procedures for segregation, storage and handling of wastes requiring special arrangements, contingency plans, containing instructions on storage or evacuation of health-care waste in case of breakdown of the waste treatment unit during closure for planned maintenance and emergency procedures.
- ii. Customized training for the staff handling and managing Infectious waste will involve:
 - ✓ The use of appropriate / full PPEs (N95 respirators, apron, heavy duty gloves, eye protection.
 - ✓ Boots and long-sleeved gown
 - ✓ Hand hygiene practices
 - ✓ Waste segregation strategies and clean up procedures
 - ✓ On-site Handling, Collection, Transport and Storage
 - ✓ Exposure to radiation
- iii. Seek an operational license for the waste management facility from NEMA to ensure compliance with the EMCA (Waste Management Regulations, 2024)

Adoption of the 3Rs Waste Management Hierarchy

The adoption of the 3Rs waste management hierarchy focuses on minimizing waste generation at the source through the principle of **Reduce**. This involves efficient use of materials, careful procurement practices, selection of products with minimal packaging, and preference for reusable or durable items where safety standards allow. By reducing waste at the point of generation, the facility can significantly lower the volume of waste requiring handling, treatment, and disposal, thereby minimizing environmental impacts and operational costs.

The principle of **Reuse** emphasizes extending the life of materials and products through repeated use before disposal. This can be achieved by utilizing reusable containers, washable linen, and durable equipment, as well as repurposing suitable materials within the facility. Proper cleaning, sterilization, and maintenance procedures will be applied to ensure that reused items remain safe, hygienic, and fit for purpose, particularly within a healthcare setting.

The **Recycle** component involves segregation of waste at source to separate recyclable materials such as paper, plastics, glass, and metals from non-recyclable and hazardous waste streams. Clearly labeled waste receptacles will be provided, and staff will be trained on proper waste segregation practices. Recyclable waste will be collected and handed over to licensed recycling service providers for environmentally sound processing. Through the effective application of the 3Rs hierarchy, the facility will promote sustainable waste management, reduce pressure on disposal facilities, and contribute to environmental protection.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	7	6	8	5	10	36	High
With Mitigation Measures	2	2	1	1	1	6	Low

v). Gender-based discrimination

The operation of the proposed facility may give rise to gender-related conflicts among staff, patients, visitors, and service providers. Such conflicts may arise from unequal access to employment opportunities, perceived gender bias in job allocation, promotion, or remuneration, as well as differences in treatment of male and female patients within service delivery processes. In healthcare settings, gender dynamics may also influence communication, decision-making, workload distribution, and leadership roles.

Additionally, increased interaction between diverse groups within the facility may expose or exacerbate issues related to gender-based discrimination, harassment, or exclusion, particularly in crowded environments or during high-pressure situations. If not adequately addressed, gender conflict can negatively affect staff morale, patient satisfaction, workplace harmony, and the overall quality of healthcare services.

Mitigation Measures

- i. Implement and enforce a gender-sensitive human resource policy that promotes equal opportunity and fair treatment.
- ii. Ensure transparent recruitment, promotion, and remuneration procedures based on merit and qualifications.
- iii. Provide regular training on gender equality, diversity, and workplace ethics for all staff, including security personnel.
- iv. Establish a confidential reporting and grievance mechanism for gender-related complaints and harassment cases.
- v. Promote balanced gender representation in management, supervisory, and decision-making roles.
- vi. Ensure patient care procedures are respectful of gender-specific needs and cultural sensitivities.
- vii. Provide safe, well-lit, and gender-sensitive facilities, including changing rooms, sanitation facilities, and waiting areas.
- viii. Conduct periodic reviews to assess gender inclusivity and address emerging gender-related concerns.

Gender-Based Violence and Sexual Exploitation and Abuse (GBV/SEA)

In addition to the gender-based discrimination risks addressed above, the project recognises the heightened risk of Gender-Based Violence (GBV) and Sexual Exploitation and Abuse (SEA) associated with construction and hospital operations. For the purposes of this ESIA, “sub-project workers” refers to all personnel engaged in construction and subsequent hospital operations, whether directly employed by the contractor or the hospital, subcontracted, or engaged by service providers and suppliers operating within the project site.

GBV/SEA risks may arise from the interaction between sub-project workers and members of the surrounding community, including power imbalances associated with employment opportunities, cash income, and site access, as well as from interactions between staff, patients, and visitors within the hospital environment during operations.

Mitigation Measures

Develop and enforce a Code of Conduct for all sub-project workers prohibiting GBV/SEA, to be signed as a condition of engagement.

Conduct mandatory GBV/SEA induction training and periodic refresher sessions for all sub-project workers.

Establish confidential, survivor-centred reporting channels accessible to both sub-project workers and community members.

Any GBV/SEA incident affecting sub-project workers shall be reported to the Project Management Team (PMT) within 24 hours of occurrence, in addition to being logged through the project's Grievance Redress Mechanism.

Maintain a documented GBV/SEA referral pathway linking survivors to medical, psychosocial, and legal support services.

Monitor and report on GBV/SEA cases and corrective actions taken as part of routine ESMMP monitoring and reporting.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	3	3	2	2	2	20	Medium
With Mitigation Measures	2	2	1	1	1	6	Low

vi). Social Conflict

The operation of the proposed facility may give rise to social conflicts arising from increased interaction between hospital management, staff, patients, visitors, suppliers, and the surrounding community. Potential sources of conflict include competition for employment opportunities, perceived unequal access to services, overcrowding, noise, security concerns, and pressure on local infrastructure. Disputes may also arise from misunderstandings regarding facility operations, service prioritization, or emergency situations.

If not adequately managed, such conflicts may escalate into community dissatisfaction, staff–patient disputes, service disruptions, and reputational risks for the facility. Prolonged conflict can undermine harmonious relations with the host community, affect staff morale, and compromise the quality and efficiency of healthcare service delivery.

Mitigation

- i. Establish a clear grievance redress mechanism for patients, staff, and community members.
- ii. Engage local leaders and community representatives to promote open communication and resolve concerns promptly.
- iii. Implement transparent service delivery and patient handling procedures to minimize misunderstandings.
- iv. Prioritize fair and inclusive employment practices, giving consideration to qualified local residents where possible.
- v. Provide clear information to the public on facility services, operating hours, and procedures through signage and outreach.
- vi. Train staff in conflict management, communication skills, and customer care.
- vii. Ensure adequate security presence to manage disputes calmly and prevent escalation.
- viii. Conduct regular stakeholder consultations to identify emerging issues and address them early.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	3	3	2	2	2	20	Medium

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
With Mitigation Measures	2	2	1	1	1	6	Low

vii). Security Exclusion and Inequality

The implementation of enhanced security measures at the facility, such as access controls, perimeter fencing, identification checks, and surveillance systems, may unintentionally lead to security exclusion and inequality. Certain groups, including persons with disabilities, the elderly, low-income patients, informal caregivers, and community members unfamiliar with formal hospital procedures, may experience barriers to access or feel intimidated by strict security protocols.

If not carefully managed, security practices may result in perceived discrimination, unequal access to healthcare services, delays in emergency response, and reduced trust between the facility and the surrounding community. Overly restrictive or poorly communicated security measures can disproportionately affect vulnerable populations, thereby undermining equity, inclusivity, and the facility's role as a public-serving institution.

Mitigation

- i. Design security procedures that are inclusive, non-discriminatory, and sensitive to vulnerable groups.
- ii. Ensure emergency access is not delayed by security screening or access control measures.
- iii. Train security personnel on human rights, customer care, and respectful engagement with all users.
- iv. Provide clear signage and guidance to help patients and visitors understand security procedures.
- v. Incorporate universal access features such as ramps, priority lanes, and assistance desks for persons with special needs.
- vi. Establish a complaints and feedback mechanism to address concerns related to security treatment.
- vii. Engage community representatives to explain security measures and address perceptions of exclusion.
- viii. Regularly review security policies to ensure they balance safety with equitable access to services.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	3	3	2	2	2	20	Medium
With Mitigation Measures	2	2	1	1	1	6	Low

viii). Pressure on Water Resources

The operation of the proposed facility will place additional pressure on local water resources due to increased demand for potable water for medical procedures, sterilization, patient hygiene, cleaning and general sanitation. Continuous hospital operations and an increased number of patients, staff, and visitors will significantly raise daily water consumption compared to existing baseline levels.

If water abstraction and use are not efficiently managed, increased demand may strain existing water supply systems, reduce water availability for surrounding users, and exacerbate shortages during dry seasons or periods of low supply. Overreliance on limited water sources may also affect the sustainability of local water resources and increase vulnerability to climate variability and supply interruptions.

Mitigation

- i. Install water-efficient fixtures and fittings to minimize unnecessary water use.
- ii. Implement regular inspection and maintenance of plumbing systems to detect and repair leaks promptly.
- iii. Provide adequate on-site water storage facilities to buffer against supply interruptions and peak demand.
- iv. Monitor water consumption through metering and record-keeping to promote efficient water management.
- v. Promote water conservation practices among staff through operational guidelines and training.
- vi. Explore supplementary water sources such as rainwater harvesting for non-potable uses where feasible.
- vii. Schedule high-water-demand activities, such as laundry operations, to minimize peak pressure on supply systems.
- viii. Ensure abstraction and water use comply with relevant regulatory requirements and permits.

Impact	Mag. (1–5)	Dur. (1–5)	Ext. (1–5)	Rev. (1–3)	Likely (1–5)	Score	Significance
Before Mitigation	3	3	2	2	2	20	Medium
With Mitigation Measures	2	2	1	1	1	6	Low

ix). Liquid Waste Management

The proposed hospital will generate various forms of liquid waste, including domestic sewage, laboratory effluents, and wastewater from cleaning, laundry, and clinical

operations. If not properly managed, this wastewater may lead to contamination of soil and water sources, unpleasant odours, and potential public health risks due to pathogens and chemical pollutants.

Mitigation Measures

- i. Construction and operation of an on-site effluent wastewater treatment plant to treat all generated wastewater before discharge
- ii. Ensuring all wastewater is properly collected through a well-designed internal drainage system
- iii. Segregation of wastewater streams (e.g., clinical, laboratory, and domestic wastewater) where feasible
- iv. Regular maintenance and servicing of the wastewater treatment plant to ensure optimal performance
- v. Routine monitoring and testing of effluent quality before discharge
- vi. Proper disposal of sludge generated from the treatment process through approved methods
- vii. Training of hospital staff on proper wastewater management practices and hygiene standards
- viii. Avoidance of direct discharge of untreated wastewater into the environment
- ix. Provision of emergency response measures in case of system failure or overflow

6.4 DECOMMISSIONING PHASE IMPACTS

i. Waste Generation and Material Disposal

During the decommissioning phase of the proposed facilities at the Hospital, environmental impacts are expected to arise mainly from the generation of solid waste and disposal of construction materials. Decommissioning activities may occur at the end of the project life or during major redevelopment and will involve partial or complete demolition of the amenities

Waste generated during this phase may include concrete rubble, masonry blocks, steel reinforcement, timber, roofing materials, glass, electrical fittings, plumbing components and general debris. If not properly managed, such waste may lead to land degradation, visual pollution, obstruction of drainage systems, and potential safety hazards within and around the hospital compound.

Improper handling and disposal of demolition waste may also result in dust emissions, accidental injuries, and contamination of soil from hazardous materials such as paints, electrical components, or laboratory residues. Transportation of waste materials may further contribute to localized environmental disturbances.

Mitigation

- Preparation and implementation of a Decommissioning and Waste Management Plan
- Segregation of waste materials into reusable, recyclable, and non-recyclable categories
- Reuse or salvage of materials such as steel, timber, doors, windows, and roofing sheets where feasible
- Safe handling and disposal of hazardous waste, including electrical components and laboratory equipment, in accordance with NEMA regulations
- Transportation and disposal of waste by licensed NEMA-approved waste handlers
- Suppression of dust through controlled demolition methods and water spraying
- Provision of appropriate PPE to all workers involved in decommissioning activities
- Site restoration and landscaping after completion of decommissioning works

ii. Air Quality Impacts

During the decommissioning phase, air quality impacts are expected to arise mainly from demolition activities, dismantling of structures, handling of debris, and transportation of waste materials. Activities such as breaking of concrete, cutting of masonry, removal of roofing materials, and loading of demolition waste may generate dust and fine particulate matter, which may temporarily degrade ambient air quality within and around the hospital compound.

Operation of demolition equipment, vehicles, and machinery may also result in exhaust emissions, including Suspended Particulate Matter (SPM), Nitrogen Oxides (NO_x), Sulphur Dioxide (SO₂), and Carbon Monoxide (CO). These emissions, although localized and short-term, may pose respiratory health risks to workers and nearby receptors if not adequately controlled.

Sensitive receptors during this phase may include medical staff, neighbouring residents, and demolition workers. Exposure to high dust levels may cause respiratory irritation, allergic reactions, and discomfort, particularly among individuals with pre-existing respiratory conditions.

Mitigation

- Regular water spraying on demolition areas and debris to suppress dust
- Provision and mandatory use of appropriate PPE such as dust masks or respirators
- Limiting vehicle idling time and ensuring efficient operation of machinery
- Use of well-maintained, low-emission equipment

- Proper covering of debris during transportation to prevent dust dispersion
- Scheduling demolition activities during calm weather conditions where feasible

iii. **Occupational Health and Safety (OHS)**

The decommissioning phase poses significant occupational health and safety risks due to the nature of demolition and dismantling activities. Potential hazards include falls from heights, collapse of unstable structures, injuries from sharp objects, exposure to dust and noise, electrocution from residual electrical connections, and accidents involving moving machinery and vehicles.

Inadequate safety controls may result in serious injuries, fatalities, or property damage. Workers may also be exposed to hazardous materials such as old paints, electrical components, or laboratory residues if present.

Mitigation

- Conducting a structural integrity assessment before demolition activities
- Isolation and safe disconnection of electrical and utility services prior to demolition
- Provision and mandatory use of appropriate PPE, including helmets, safety boots, gloves, goggles, and harnesses
- Restricting access to demolition areas through fencing and warning signage
- Training and supervision of workers on safe demolition procedures
- Availability of first aid facilities and trained emergency response personnel

iv. **Noise Pollution**

Noise and vibration impact during the decommissioning phase will arise from demolition works, use of heavy machinery, cutting tools, and movement of trucks transporting demolition waste. These activities may generate high noise levels that could cause temporary disturbance to nearby receptors. Excessive noise and vibration may lead to discomfort, stress, and reduced concentration among nearby occupants, while prolonged exposure may pose occupational health risks to workers. Vibration from heavy equipment may also cause minor structural disturbances to adjacent buildings if not properly managed. Given the temporary nature of decommissioning activities, noise impacts are expected to be short-term and reversible.

Mitigation

- Limit noisy activities to daytime hours (typically 8 AM - 5 PM weekdays)

- Provide written notice to neighbors at least 7-14 days before work begins, detailing schedule, expected noise levels, duration, and contact information for concerns.
- Use of equipment fitted with noise suppression devices such as mufflers and silencers
- Regular maintenance of demolition machinery to minimize noise and vibration
- Provision of hearing protection (ear plugs or ear muffs) to workers
- Erection of temporary noise barriers where sensitive receptors are nearby
- Advance notification to affected stakeholders prior to commencement of demolition works

v). Potential exposure of workers and the public to hazardous materials and pathogens

During the decommissioning of the facility, there is a heightened risk of exposure to hazardous materials and pathogenic organisms affecting both workers and the public. Decommissioning activities such as dismantling medical equipment, removal of fittings, demolition of structures, disconnection of utilities, and clearance of stored materials may disturb residual biological contaminants present on surfaces, within drainage systems, ventilation ducts, laboratories, theatres, and waste storage areas.

Healthcare facilities may retain pathogens, blood residues, pharmaceutical traces, chemicals, and disinfectants even after operations cease. Disturbance of these materials during demolition or dismantling can release contaminated dust, aerosols, or spills, increasing the risk of inhalation, skin contact, or accidental injury. Workers involved in demolition, waste handling, and cleaning activities are particularly vulnerable due to direct exposure to contaminated materials, sharp objects, and improperly disposed medical waste.

Members of the public may also be at risk if decommissioning activities are not adequately controlled. Unrestricted access to the site, poor containment of demolition areas, or improper transportation and disposal of contaminated waste may result in environmental contamination, public exposure to infectious agents, and health risks to nearby communities. Failure to manage these risks effectively may lead to occupational illnesses, public health concerns, regulatory non-compliance, and environmental pollution.

Mitigation Measures

- Conduct a comprehensive site assessment and decontamination of all medical, laboratory, and waste handling areas prior to demolition activities.
- Ensure all medical, pharmaceutical, chemical, and biological wastes are safely removed and disposed of by licensed waste handlers before dismantling begins.
- Provide appropriate personal protective equipment (PPE) to all decommissioning workers, including gloves, masks, coveralls, eye protection, and safety boots.
- Implement strict access control and site fencing to prevent public entry into decommissioning areas.
- Segregate, label, and safely handle all hazardous and contaminated materials during

- dismantling and removal.
- Suppress dust through controlled wetting methods to minimize airborne transmission of contaminants.
- Train workers on hazard recognition, safe handling procedures, and emergency response related to hazardous materials and pathogens.
- Establish and enforce spill response and exposure management procedures, including availability of spill kits and first-aid facilities.
- Transport all contaminated materials and demolition waste using approved methods to licensed treatment or disposal facilities.
- Carry out regular health and safety inspections and monitoring throughout the decommissioning process.

vi). Psychological and Social Impacts

During the decommissioning phase of the hospital, significant psychological and social impacts may affect patients, healthcare workers, support staff, and the surrounding community. Patients who depend on the facility for regular treatment, emergency services, or specialized care may experience fear, anxiety, and uncertainty regarding access to alternative healthcare services, continuity of treatment, and increased travel distances to other facilities.

Hospital staff may face job insecurity, redeployment, or loss of income, which can result in psychological stress, reduced morale, and social strain on households. The surrounding community may also be affected by the reduced availability of healthcare services, particularly vulnerable groups such as the elderly, chronically ill patients, pregnant women, and low-income households. If poorly managed, hospital decommissioning may lead to public dissatisfaction, social tension, and loss of trust in service providers or authorities.

Mitigation Measures.

- Prepare and implement a comprehensive decommissioning plan detailing service transition and closure timelines.
- Ensure continuity of healthcare services through referrals, patient transfers, or linkage to alternative health facilities.
- Communicate clearly with patients, staff, and the community regarding changes to services and access arrangements.
- Provide adequate notice to staff and support fair redeployment or separation processes in line with labour laws.
- Offer psychosocial support and counselling services for affected patients and staff where feasible.
- Coordinate with health authorities to safeguard access to essential and emergency healthcare services.
- Establish a grievance and complaints handling mechanism to address concerns during decommissioning.

6.5 CUMULATIVE AND INDUCED IMPACTS

In line with the impact assessment methodology, this section considers the combined, incremental effects of the project together with other existing and reasonably foreseeable developments, as well as impacts induced by the project.

The area of influence of the proposed South Rift Level VI Teaching and Referral Hospital includes Londiani town and the Kedowa/Kimugul ward, the Londiani–Kericho and Londiani–Muhoroni transport corridors, and the water, power and road infrastructure serving them. Other past, present and reasonably foreseeable developments considered include the continuing growth of Londiani town and its market functions, agricultural and agro-processing activity in the sub-county, planned county road and utility upgrades, and the induced residential and commercial development expected to cluster around a regional referral facility of this scale.

Cumulative/induced issue	Contributing developments and pathways	Significance (before mitigation)	Management and mitigation
Water resources	Hospital operational demand together with growing municipal and agricultural abstraction	Medium (16–35) — incremental pressure on shared sources	Water Resources Authority abstraction permitting; on-site storage; rainwater harvesting; water-efficient fixtures; demand monitoring under the ESMMP
Traffic and road safety	Hospital-generated trips (staff, patients, referrals, supplies) added to corridor traffic growth	Medium — corridor already experiences severe accidents	Traffic Management Plan approved by the County Engineer; access design; signage; emergency response coordination under the EPRP
Waste and effluent loads	Healthcare and municipal waste streams; effluent to be treated on-site	Medium — managed through dedicated infrastructure	On-site W/WTP with Effluent Discharge Licence; NEMA-licensed non-burn healthcare waste treatment sized with capacity headroom; annual environmental audits
Induced settlement and land use	Staff housing, student accommodation (teaching function) and commercial growth around the site	Medium — gradual, plannable	Coordination with the County physical planning function; phased utility planning; continuing stakeholder engagement under the SEP

Cumulative/induced issue	Contributing developments and pathways	Significance (before mitigation)	Management and mitigation
Pressure on public services and utilities	Combined growth in demand for power, water and roads from the hospital and induced development	Low to Medium	Utility coordination during detailed design; standby power provisions; monitoring through county development planning fora

Overall, cumulative and induced impacts are assessed as of Medium significance before mitigation, reducing to Low–Medium with the management measures above, which are embedded in the ESMMP, the conditions of the NEMA licence, and the project's continuing engagement with the County Government's planning and utility functions. No cumulative effect was identified that would alter the overall conclusion of this ESIA.

6.6 Residual Impact and Risk Assessment

This section identifies and evaluates the impacts and risks that remain after full implementation of the mitigation measures committed in this report and the ESMMP, and provides the justification for their acceptability. Residual ratings apply the significance framework set out in the Impact Assessment Methodology section.

Aspect	Residual impact / risk after mitigation	Residual significance	Management and monitoring
Healthcare waste management	Residual handling and treatment risks despite segregation, licensed treatment and trained staff	Low–Medium	Medical Waste Management Plan; NEMA licence conditions; continuous treatment monitoring; annual environmental audit
Liquid effluent and water quality	Low-probability treatment plant upsets or non-conforming discharges	Low	WWTP operation and maintenance; Effluent Discharge Licence compliance monitoring; incident reporting to NEMA within 24 hours
Occupational health and safety	Inherent clinical and construction OHS risks that cannot be fully eliminated	Low–Medium	OSH plans and infection prevention and control protocols; PPE tracking and enforcement; site clinic and MoU arrangements; incident recording and investigation

Aspect	Residual impact / risk after mitigation	Residual significance	Management and monitoring
Community health, safety and security	Traffic, security incidents and emergency events affecting the community	Medium	Emergency Preparedness and Response Plan; Traffic Management Plan; security management measures; community engagement through the SEP and GRM
Water demand	Continuing pressure on water resources during operation	Medium	Abstraction permitting; storage and rainwater harvesting; efficiency fixtures; demand monitoring
GBV/SEA and labour risks	Residual risk of misconduct or labour grievances despite preventive measures	Low	Codes of Conduct with site sign-off; confidential SEA/SH reporting channels; worker and community GRM; labour management requirements
Institutional and capacity risks	Implementation shortfalls in E&S management during construction and early operation	Medium	Institutional Capacity Assessment and Capacity Strengthening Plan; supervising consultant oversight of the contractor; quarterly safeguard reporting; Bank implementation support missions
Emergency events (fire, outbreak, mass casualty)	Low-probability, high-consequence events inherent to a referral hospital	Medium	Hazard Vulnerability Assessment and hazard-specific response plans in the EPRP; drills and training; stockpile targets; inter-agency coordination

The residual risk profile of the proposed South Rift Level VI Teaching and Referral Hospital is considered acceptable: no residual impact is rated High; the remaining Medium-rated risks are typical of a referral healthcare facility of this scale, are backed by dedicated management instruments (ESMMP, MWMP, EPRP, SEP and GRM), and are subject to defined monitoring indicators, the Year-1 environmental audit required under the NEMA licence, and the Bank's implementation support and supervision. The substantial health-system benefits of the project further support the acceptability of the residual risks.

7.0 PUBLIC CONSULTATION AND PARTICIPATION

7.1 Introduction

Stakeholder engagement and consultation is a policy requirement of the Government of Kenya and a mandatory process outlined in the National Constitution, EMCA 1999, and the EMCA (Amendment) 2015. It is undertaken to uphold the core principles of sustainable development. This section outlines the stakeholder engagement and consultation process used to identify key issues and potential impacts of the proposed project, with particular focus on the views of Project Affected Persons (PAPs) living near the proposed site. The consultations were conducted using a standard questionnaire.

Objectives

The objectives of the exercise were to:

- Disseminate information to stakeholders, particularly the communities surrounding the proposed site.
- Raise public awareness on the need for an Environmental Impact Assessment (EIA) for the proposed project.
- Collect comments, suggestions, and concerns from interested and affected parties.
- Integrate the information gathered into the final EIA report.
- Inform stakeholders about the potential positive and/or negative impacts of the project during construction, installation, and operation.
- Seek consensus and obtain stakeholder consent for the project.
- Ensure compliance with EIA Regulations.
- Fulfill the public participation requirements as outlined in the National Constitution.
- Garner broader support from stakeholders for the proposed project.

7.2 Identification of stakeholders

The ESIA study incorporated extensive consultations with community members residing near the proposed project site. A stakeholder analysis was conducted to identify individuals and groups

relevant to the ESIA process. Stakeholders were selected based on their involvement in activities within the project area and their residency in the surrounding community, ensuring that all affected parties had the opportunity to contribute to the assessment

7.3 Stakeholder Engagement Approach

Preliminary consultations were undertaken with the management of the proposed project, relevant County health authorities, and officials from the Ministry of Health to identify and engage key stakeholders who are involved in, or likely to be affected by, the proposed development. The engagement process was structured to create awareness about the project, inform stakeholders about the environmental and social assessment process, and provide a platform for capturing their views, concerns, and expectations to inform project planning and decision-making.

Stakeholders were identified based on their direct or indirect roles in healthcare service delivery, public health governance, and the socio-economic wellbeing of the surrounding community. These included Ministry of Health officials, county health officials, hospital management and technical staff, local community members, neighboring residents, local administrative leaders, and other relevant institutions.

Engagement was undertaken through a combination of key informant interviews, public consultations and focused group discussions. This allowed stakeholders to provide input on potential impacts, anticipated benefits, and suitable mitigation measures associated with the project. The process ensured inclusive participation and facilitated the integration of stakeholder concerns and recommendations into the project design and the Environmental and Social Management Plan for the proposed project.

Overall Decision by stakeholders

A public participation meeting was held on 16th of April, 2026 after notification for the meeting was sent seven days before the meeting via the provincial administration and the local media channels-sulwe

The following were the key findings from the public participation meeting:

1. Majority of those present supported the proposed project
2. The locals were aware of the benefits as well as negative social and environmental impacts of the project

3. Main concerns were based around inclusivity and equitability in ensuring that locals benefit from employment and any community empowerment initiatives.
4. Gender inclusivity was emphasized by the residents during the meeting
5. County Government of Kericho officials expressed full support for the proposed development

Minutes and attendance list of the public participation meeting are attached on the Appendix of this report.

8.0 CLIMATE CHANGE AND SUSTAINABILITY

8.1 CLIMATE VULNERABILITY ASSESSMENT FOR THE PROPOSED HOSPITAL

Projected climate conditions for the period 2025–2050 indicate notable changes in temperature, rainfall patterns, and the frequency of extreme weather events within the project area in Kericho County. According to projections from the Kenya Meteorological Department and regional assessments by the Intergovernmental Panel on Climate Change, the South Rift highland areas are expected to experience gradual warming, shifts in rainfall distribution, and increased intensity of storm events. Given that the proposed South Rift Level VI Teaching and Referral Hospital is intended to serve a large and growing population across the South Rift Region and beyond, it is critical that the project integrates climate resilience measures to ensure sustainable and uninterrupted healthcare service delivery.

Average temperatures within the project area are projected to increase by approximately 1.5–2.5°C by mid-century. Although Kericho generally experiences moderate highland climatic conditions, rising temperatures may result in more frequent warm periods, affecting indoor thermal comfort within hospital buildings. Sensitive units such as maternity wards, neonatal intensive care units, operating theatres, and inpatient wards may be particularly impacted. Increased temperatures may also affect the efficiency and lifespan of medical equipment and electrical systems, while increasing demand for energy-intensive cooling and ventilation systems. Rainfall patterns in the South Rift region are projected to become more erratic and less predictable. Changes may include delayed onset and shortened duration of rainy seasons, coupled with intense rainfall events over shorter periods. These conditions may increase the risk of surface runoff, localized flooding, and soil erosion, especially considering the terrain characteristics of parts of Kericho County. Within the hospital site, such events could lead to waterlogging, erosion around foundations, and disruption of access roads particularly critical given the hospital's role in emergency and trauma care linked to the busy Londiani transport corridor.

The frequency and intensity of extreme weather events such as thunderstorms, strong winds, lightning, and occasional hailstorms are also expected to increase. These events pose risks to hospital infrastructure, including roofing systems, windows, solar installations, water storage facilities, and communication systems. Any damage to these components could disrupt critical healthcare services, especially in a Level VI referral facility that is expected to reduce reliance on distant facilities such as Moi Teaching and Referral Hospital.

Secondary climate-related impacts are also anticipated. During prolonged dry periods, increased wind speeds may lead to elevated dust levels, particularly from surrounding agricultural activities and unpaved areas. This may compromise indoor air quality and increase maintenance requirements for filtration and ventilation systems, especially in sterile and sensitive hospital environments. Additionally, fluctuations in temperature and humidity may promote moisture accumulation, mould growth, and corrosion of building materials and equipment if not properly managed. These factors could accelerate infrastructure deterioration and increase operational costs over time.

In response to these projected climate risks, the proposed hospital development should

incorporate comprehensive climate-resilient design and operational strategies. These include: well-designed and adequately sized stormwater drainage systems; use of durable, weather-resistant construction materials; reinforced roofing and structural systems to withstand extreme weather; optimized natural ventilation and thermal insulation; installation of reliable water storage and backup systems; and implementation of preventive maintenance programs. Integrating these measures will enhance the resilience of the hospital, ensuring continuous delivery of critical healthcare services in the face of evolving climate conditions.

8.2 COMMUNITY & SOCIAL VULNERABILITIES

During climate-related events, disruptions to hospital infrastructure can trigger a chain of community and social vulnerabilities, particularly affecting access to healthcare services, patient safety, and overall community wellbeing within Kericho County and the wider South Rift Region. Extreme weather conditions such as heavy rainfall, localized flooding, prolonged cold periods, and strong winds may damage critical hospital components including wards, maternity and neonatal units, sanitation facilities, and access roads. Such disruptions may result in temporary interruption of essential health services at a time when emergency response and continuity of care are most needed, especially for a Level VI referral facility.

The surrounding population is expected to rely heavily on the proposed South Rift Level VI Teaching and Referral Hospital as a central hub for specialized healthcare, emergency services, and referral care. Communities along the Londiani transport corridor and neighbouring counties depend on timely access to such facilities due to the high incidence of road accidents and growing healthcare demand. Climate-induced disruptions to hospital operations may therefore lead to delayed treatment, increased travel distances to alternative facilities such as Moi Teaching and Referral Hospital, and additional financial and logistical burdens for households. Interruptions in critical services including emergency trauma care, maternal and child health services, and inpatient care may directly affect health outcomes, particularly during peak demand periods.

These impacts are not evenly distributed across the population. Low-income households, which constitute a significant proportion of the population within the South Rift region, are likely to be disproportionately affected. Limited financial capacity, inadequate access to reliable transport, and dependence on public healthcare systems may hinder their ability to seek alternative care when services are disrupted. Vulnerable groups such as persons with disabilities, the elderly, and patients with chronic illnesses face heightened risks if access roads become impassable due to flooding, erosion, or poor drainage, limiting their ability to reach the hospital during emergencies. Pregnant women, newborns, and infants remain among the most vulnerable groups during climate-related disruptions. Any interruption in maternity, neonatal, or emergency obstetric services, or delays in reaching the facility due to extreme weather conditions, may increase the risk of complications and adverse health outcomes. Given the hospital's intended role in reducing maternal and neonatal mortality in line with national health targets, ensuring uninterrupted access to these services is critical.

Additionally, climate-related damage to hospital infrastructure may compromise its function as a

key emergency response center during disasters. As a Level VI teaching and referral hospital, the facility is expected to serve as a focal point for emergency medical response across the region. Structural damage, ineffective stormwater management, or compromised sanitation systems could limit its operational capacity during critical periods, thereby weakening community resilience. To address these vulnerabilities, the project should incorporate inclusive and climate-resilient planning measures such as all-weather access roads, barrier-free design for vulnerable groups, decentralized service delivery where feasible, emergency preparedness systems, and strengthened referral networks. These measures will help ensure that the hospital continues to serve its critical role in safeguarding public health, even under changing climate conditions.

8.3 ENVIRONMENTAL VULNERABILITY

The proposed construction of the South Rift Level VI Teaching and Referral Hospital in Kericho County is situated within a highland environment increasingly exposed to climate variability, including rising temperatures, shifting rainfall patterns, and more frequent extreme weather events as projected by the Intergovernmental Panel on Climate Change. Construction activities such as excavation, foundation works, and erection of hospital structures will temporarily disturb soils and may alter natural surface drainage patterns within the project site. These disturbances may heighten susceptibility to soil erosion, dust generation, and localized flooding if not properly managed.

During periods of intense rainfall, stormwater runoff may exceed the capacity of on-site drainage systems, especially during peak construction phases. This could result in temporary water accumulation in open areas, internal access roads, and service zones within the hospital compound. Uncontrolled runoff may accelerate soil erosion, cause sediment deposition, and degrade both paved and unpaved surfaces. In addition, water saturation around building foundations and underground utilities may reduce soil bearing capacity, increasing the risk of settlement, structural stress, and long-term damage to hospital infrastructure.

Extended dry periods and increasing temperatures may also impose environmental stress on the project site. Dry conditions are likely to increase dust generation during both construction and operational phases, potentially affecting air quality within sensitive hospital environments. Elevated temperatures may accelerate the wear and tear of external finishes, paved walkways, and landscaping features, thereby increasing maintenance demands. Loss of vegetation cover during site clearing or due to prolonged dry spells may further intensify surface heating and reduce the natural cooling benefits of green spaces within the hospital compound.

Strong winds associated with extreme weather events present additional environmental risks. Wind action may exacerbate soil erosion on exposed surfaces and increase the dispersion of dust and loose construction materials. Poorly secured materials, temporary installations, and lightweight structures may be displaced, posing both environmental and safety concerns within the site.

Climate variability may also affect water availability and overall site usability during both construction and operation. Prolonged dry spells may strain water resources required for construction activities such as concrete curing, dust suppression, and landscaping. Conversely, heavy rainfall events may disrupt site mobility, affect construction timelines, and compromise the effectiveness of drainage infrastructure. If not well controlled, runoff during such events may carry sediments, construction debris, and waste materials, leading to localized environmental pollution.

within and around the project site.

To minimize these vulnerabilities, the project should integrate robust environmental management measures, including erosion control strategies, well-designed stormwater drainage systems, phased site clearing, dust suppression practices, proper material storage, and sustainable water use planning. These measures will help ensure that both the construction and operational phases of the hospital are environmentally sustainable and resilient to climate variability.

8.4 CLIMATE CHANGE ADAPTATION MEASURES

Climate change is projected to increase the frequency and intensity of extreme weather events, including heavy rainfall, prolonged dry spells, and temperature variability within Kericho County and the wider South Rift Region. In line with projections by the Intergovernmental Panel on Climate Change, the proposed South Rift Level VI Teaching and Referral Hospital should be designed and implemented with strong climate resilience considerations. As a critical regional referral and trauma facility, the hospital must maintain continuous operations under varying climatic conditions while safeguarding patients, staff, and infrastructure.

The following climate change adaptation measures are recommended:

- i. Design and installation of effective stormwater drainage systems capable of safely channeling runoff away from hospital buildings, internal roads, and service areas to prevent localized flooding and waterlogging during intense rainfall events.
- ii. Elevation of building floor levels where necessary, and protection of critical areas such as operating theatres, intensive care units, diagnostic rooms, and utility installations to minimize the risk of water ingress and damage.
- iii. Implementation of soil stabilization measures, including proper grading, compaction, and installation of erosion control structures, to reduce soil erosion and enhance structural stability of foundations.
- iv. Design of foundations and structural components in accordance with geotechnical survey recommendations to withstand soil movement, moisture fluctuations, and differential settlement associated with changing rainfall patterns.
- v. Use of durable and weather-resistant construction materials, including corrosion-resistant fittings and protected electrical and mechanical systems, to improve the lifespan and reliability of infrastructure under variable climate conditions.
- vi. Incorporation of passive design features such as natural ventilation, adequate shading, and insulated roofing systems to regulate indoor temperatures and maintain thermal comfort in patient care areas during warmer periods.
- vii. Provision of adequate and reliable water storage systems, including strategically sized water tanks, to ensure uninterrupted water supply during dry spells or disruptions to municipal supply.
- viii. Integration of energy-efficient systems and renewable energy sources, such as solar power, to enhance energy security and ensure continuity of critical services during power outages or extreme weather events.
- ix. Proper scheduling and management of construction activities, where feasible, to avoid peak rainfall periods and reduce risks related to erosion, flooding, and construction delays.

- x. Establishment of routine inspection and preventive maintenance programs for drainage systems, roofing, structural components, and utility installations to sustain long-term resilience and operational efficiency.

8.5 CLIMATE CHANGE MITIGATION MEASURES

Climate change mitigation focuses on reducing greenhouse gas (GHG) emissions and minimizing the overall environmental footprint of the proposed South Rift Level VI Teaching and Referral Hospital in Kericho County. In alignment with global guidance from the Intergovernmental Panel on Climate Change and national sustainability goals, the project will integrate energy-efficient, resource-conscious, and low-emission strategies throughout its design, construction, and operational phases. These measures will support sustainable healthcare delivery while contributing to broader climate change mitigation efforts.

The following mitigation measures are recommended:

- i. Installation of solar photovoltaic systems to supplement grid electricity supply, thereby reducing dependence on fossil-fuel-based energy and lowering greenhouse gas emissions associated with hospital operations.
- ii. Use of energy-efficient lighting systems (such as LED fixtures), electrical appliances, and medical equipment to minimize overall energy consumption within the facility.
- iii. Maximization of natural lighting and cross-ventilation in building design, where feasible, to reduce reliance on artificial lighting and mechanical cooling systems, thus lowering energy demand.
- iv. Use of durable, low-emission, and locally appropriate construction materials with longer service life to reduce emissions associated with frequent maintenance, repair, and replacement.
- v. Incorporation of rainwater harvesting systems to supplement water supply, reduce pressure on conventional water sources, and minimize energy use associated with water pumping and treatment.
- vi. Promotion of tree planting and landscaping within the hospital compound to enhance carbon sequestration, improve microclimatic conditions, and reduce heat buildup within the facility.
- vii. Sourcing of construction materials from local suppliers where possible to reduce transportation distances, fuel consumption, and associated carbon emissions.
- viii. Implementation of efficient waste management practices, including segregation at source, recycling of suitable materials, and safe disposal of non-recyclable waste, to minimize environmental pollution and reduce emissions during both construction and operation phases.

9.0 ENVIRONMENTAL& SOCIAL IMPACTS MANAGEMENT AND MONITORING PLAN (ESMMP)

9.1 The Environment Management Plan

Impact	Proposed Mitigation	Indicators to be monitored	Responsibility	Estimated Cost (KES)	Time frame
Construction Phase					

This Environmental and Social Impacts Management and Monitoring Plan (ESMMP) sets out the key mitigation measures, monitoring indicators, responsible parties, and estimated costs for managing the environmental and social risks identified in this ESIA across the planning and design, construction, and operation phases of the project. It consolidates, in tabular form, the mitigation measures presented in narrative form throughout the preceding chapters of this report.

Prior to commencement of construction works, the Contractor shall prepare a Contractor's Environmental and Social Management Plan (C-ESMP) for review and approval by the Project Implementation Unit and hospital management. The C-ESMP should clearly spell out workforce management arrangements, worker accommodation arrangements, and construction material sourcing plans, in addition to specific plans for occupational health and safety, waste management, labour management, and emergency response.

Noise	Drivers of the vehicles transporting materials will be encouraged to switch off vehicle engines whenever possible and Limit vehicles idling time. Sensitize workers on noise control practices and hospital-specific noise restrictions Install temporary acoustic barriers or hoardings around noisy construction zones - Workers to wear ear muffs if working in noisy section. - Management to ensure that noise from the residents is kept within reasonable limits. Equipment should be selected with noise reduction in mind, and the proponent should prioritize the use of simple hand-held tools where possible. Work methodology optimization (Coordinating the noisiest activities so they occur simultaneously rather than sequentially)	Initial and Periodic Noise survey High noise complaints Frequency of noise-related complaints from patients or staff	Proponent	During construction Phase

	Temporary sound walls erected around particularly loud equipment. Procure equipment with vibration dampening features Vibration monitoring during construction The team will also ensure that only well serviced machinery is used. All equipment will be subject to a routine maintenance programme to ensure they are in good working order, hence minimizing noise levels. Construction activities should be restricted to the hours of 08:00 to 17:00, given the proximity to residential areas, to avoid disturbing nearby residents.			

Solid Waste	The proponent should work hand in hand with private refuse handlers, NEMA and the County government to facilitate sound waste handling and disposal from site. All solid wastes should be taken for disposal to the approved dumpsites and by licensed waste handlers. Reuse and recycling program where some materials can be re-used elsewhere or recycled The wastes should be properly segregated and separated to encourage recycling of some useful waste materials. Proper dustbins should be provided, and the occupier should make arrangements on proper disposal of wastes during operation. Material Safety Data sheet should be obtained for any acquired chemical which will guide its handling. Segregate waste by separating hazardous waste from non-hazardous waste for appropriate disposal.	Solid Waste pile Waste quantities	Proponent/ Contractor	During construction Phase

	Train workers on waste management and segregation. For disposal of chemical and any hazardous substances, it should follow guidelines of the EMCA Waste Management Regulations, 2024.			
Air Quality	Appropriate Personal Protective Equipment (PPE) must be provided to all site workers, particularly those involved in activities such as site preparation, painting and welding. This includes respirators, dust coats, aprons, safety boots, helmets, and protective gloves among others. Scheduling pick up and drop off times. The proponent will be responsible for ensuring that all construction equipment is properly maintained to minimize emissions Air quality monitoring. Ensure use of hand tools where appropriate Establishing buffer zones and physical barriers around the most intense emission sources Schedule activities based on weather forecast	Air quality Monitoring within the site Periodic Employee Health Monitoring	Proponent/Contract or	During construction Phase

	Use of wet cutting methods rather than dry cutting for concrete work			
Water Resources Impacts	- Source construction water from approved and licensed suppliers. - Monitor and control water use to avoid over-abstraction. - Use water-efficient construction practices and reuse water where feasible. - Construct temporary drainage channels and sediment traps. - Provide lined concrete washout pits away from drains - Prohibit discharge of wastewater into storm drains or open ground - Store fuels and oils in bunded areas with secondary containment - Provide spill kits and enforce immediate spill cleanup procedures - Regular inspection and maintenance of drainage systems.	- Volume of water consumed during construction - Presence or absence of sediment in runoff and drains - Condition and functionality of drainage channels and sediment traps - Number of spill incidents reported and response time - Visual signs of soil erosion, ponding, or water contamination	Proponent/ Contractor	Construction and Operation Phase.
Oil leaks and spills	Fuels, oils, chemicals, and cement should be stored in designated areas with impermeable surfaces and secondary containment capable of holding the volume of the largest container plus an additional margin for rainfall	General observation Analysis reports	Proponent/ Contractor	During construction

	Concrete mixing should occur in controlled areas where rinse water can be captured and properly disposed. Spill kits containing absorbent materials, containment booms, and personal protective equipment should be readily available at locations where spills might occur. Workers should receive training on spill response procedures. Regular inspections of hydraulic lines, engine seals, and fluid levels identify developing problems.			
Liquid waste	Provide adequate, dedicated sanitation facilities for construction workers Ensure portable toilets are regularly serviced, emptied, and cleaned Separate construction workers' sanitation facilities from hospital facilities Direct cement-contaminated wash water to lined concrete washout pits Prohibit discharge of wastewater into storm drains or open ground	Number and condition of functional sanitation facilities on site Frequency of toilet servicing and waste removal Presence of wastewater ponding, leaks, or odours Evidence of oil stains or contamination on soil or drains	Proponent/ Contractor	During construction

	Conduct machinery servicing in designated areas with impermeable surfaces Store oils and fuels in sealed containers within bunded areas Provide spill kits and enforce immediate spill containment and cleanup	Records of spill incidents and response actions Condition of drainage systems and washout pits		
Soil and Land Degradation	Limit excavation and earthworks to only necessary areas Stabilize exposed soils immediately after excavation using grassing or mulching Install silt fences and sediment traps around disturbed areas Backfill and compact trenches and excavations promptly Avoid stockpiling soil near riverbanks or drainage channels Cover soil stockpiles during rainy periods to prevent erosion Restrict heavy machinery movement to designated access routes Rehabilitate disturbed areas through re-	- Topsoil erosion during excavation and clearing activities - Soil compaction from heavy machinery reducing soil fertility - Potential contamination from fuel/oil spills, cement runoff, and construction chemicals - Disruption of natural drainage patterns leading to localized flooding or waterlogging	Proponent/ Contractor	During construction and operation phase.

	vegetation and landscaping Implement proper waste management to prevent soil contamination Regularly inspect the site for signs of erosion and take corrective action.			
Traffic congestion during construction	Traffic management plan to be developed before construction begins. Delivery scheduling- Restricting deliveries to off-peak hours, mid-morning and early afternoon. rather than during peak commute times. Consolidated deliveries, where multiple items are combined onto single trucks rather than arriving on separate vehicles. Worker transportation management to minimize numerous vehicle trips. Parking arrangements that designate specific parking areas for construction vehicles, Trained traffic marshals positioned to guide traffic around temporary obstacles.	Traffic buildup Road rage	Proponent/ Contractor	During construction

Public Safety	Isolation controls shall be employed, where site will be secured off from the public and residents Designated exclusion zones beneath work areas combine to minimize falling object risks. Use of debris netting to catch falling objects. Work permits for high-hazard activities Access control that restricts entry to construction zones prevents unauthorized exposure to hazards. Physical barriers including fences, locked doors, or barricades prevent inadvertent entry. Signage warning	Accidents/Injuries/Near Misses Public/Residents' Complaints	Proponent/ Contractor	During construction Phase
Occupational Health & Safety	Develop and implement a site-specific Occupational Health and Safety Plan Provide and enforce use of appropriate Personal Protective Equipment (PPE) Fence off and hoard construction zones and restrict access to unauthorised persons Maintain separation between construction activities and adjoining occupied properties and public routes Conduct regular safety training, toolbox talks,	Number of reported accidents, injuries, or near-miss incidents PPE availability and compliance rates Records of safety training and toolbox talks conducted Condition of safety signage, barriers, and access controls Fire safety equipment	Proponent/ Contractor	During construction Phase

	and site inductions Install warning signs, barricades, and clearly marked access routes Ensure safe scaffolding, fall protection systems, and secure work platforms Provide fire extinguishers and train designated fire marshals Provide first aid kits and trained first aiders on site Enforce infection prevention and control measures for all workers	inspection records		
Gender Conflict	Implement gender-sensitive human resource policies that promote fairness and equality. Ensure transparent recruitment, promotion, and remuneration processes based on merit. Establish confidential reporting mechanisms for gender-related complaints and harassment.	Complaints related to gender discrimination or harassment. Unequal gender representation in certain job categories. Increased staff turnover linked to workplace relations. Reports of dissatisfaction related to gender treatment.	Proponent	Annually During Operations Phase
Structural Integrity of	Conduct structural and geotechnical	Cracks appearing on walls, floors, and ceilings after	Contractor Proponent.	During Construction and Operation Phase

buildings	assessments Reinforce foundations and stabilize soil where needed Use durable, moisture-resistant construction materials Implement regular building inspections and monitoring Repair cracks and damaged components promptly Ensure proper drainage around buildings Train staff on building maintenance and early issue reporting	construction Uneven settlement or visible foundation movement Water accumulation around building foundations Deterioration of building materials (plaster, concrete, or finishes) History of maintenance or repair issue		
Liquid Waste	Direct all hospital wastewater to the existing septic tank system for proper treatment. Install grease traps in kitchen and laundry areas to capture fats, oils, and grease. Ensure pre-treatment of wastewater from laboratories and theatres where required. Conduct regular inspection, maintenance, and desludging of septic tanks and sewer lines. Prohibit discharge of untreated wastewater into storm drains or open ground.	Wastewater volume depends on patient load and hospital activities. Condition of septic tank, sewer lines, and drains depends on age, design, and maintenance. Blockages and overflows are influenced by grease, waste disposal, and upkeep.	Proponent / Site manager	During Operations

	Implement infection prevention and control procedures for handling hospital wastewater. Train staff on proper sanitation practices and safe disposal of chemicals. Develop and implement a hospital wastewater management plan.	Effluent quality depends on treatment efficiency and pre-treatment practices. Sanitation complaints depend on hygiene, facility access, and maintenance.		
Pressure on Water Resources	Implement water conservation measures and operational guidelines to reduce unnecessary water use. Install rainwater harvesting systems for non-potable uses such as cleaning and landscaping. Schedule high water-demand activities, including laundry operations, to reduce peak pressure on supply systems.	Increased daily water consumption compared to baseline levels. Frequent peak demand periods during operational hours. Reduced water pressure or intermittent supply during high-use periods. Increased water utility bills.	Proponent	Annually During Operations Phase
Solid Waste management	Provide adequate, clearly labelled waste bins in all hospital areas Use colour-coded bins for general (non-	Availability and condition of waste bins in wards and service areas	Proponent	During Operations

	hazardous) waste in accordance with Ministry of Health guidelines Ensure waste bins are covered, durable, leak-proof, and easy to clean Conduct regular waste collection to prevent accumulation and odour Store waste in a designated, secure waste holding area before disposal Engage licensed and approved waste collectors for final disposal Train staff and cleaners on proper waste segregation and handling Implement a hospital solid waste management plan Set-Up of an incinerator.	Frequency of waste collection and disposal Presence of odour, litter, or pests in waste areas Records of waste collection by licensed handlers Staff compliance with waste segregation procedures.		
Medical Waste	Implement strict medical waste segregation at source using colour-coded bins and liners Use puncture-proof sharps containers for needles and sharp instruments Provide clearly labelled bins for infectious,	- Compliance with waste segregation and colour-coding systems - Number of needle-stick injuries or waste-related incidents reported. - Condition and availability of sharps containers and medical waste bins.	Proponent	During Operation phase

	pathological, and pharmaceutical waste Store medical waste in a secure, restricted access area Treat medical waste using approved methods such as incineration or licensed off-site treatment Engage NEMA-licensed medical waste handlers for transportation and disposal Train healthcare workers and support staff on medical waste management and infection control Provide appropriate PPE for all staff involved in waste handling Develop and enforce a healthcare waste management plan in line with Ministry of Health and WHO guidelines.	- Records of medical waste treatment and disposal by licensed operators - Results of internal audits on healthcare waste management practices		
Public Safety	Isolation controls shall be employed, where site will be secured off from the public and security personnel appointed to ensure unauthorized entry is prohibited.	Accidents/Injuries/Near Misses Public Complaints	Proponent	During Operations Phase
Occupational Health & Safety	Implement and enforce an Occupational	Number of reported	Proponent	During Operations Phase

	Health and Safety Management Plan Adhere to infection prevention and control (IPC) protocols, including hand hygiene and use of PPE Provide puncture-proof sharps containers and enforce safe sharps handling procedures Ensure regular training of staff on OHS, IPC, emergency response, and fire safety Maintain clean, dry, and well-lit floors to reduce slip and fall risks Proper labeling, storage, and handling of chemicals in accordance with safety data sheets Install and maintain fire detection systems, fire extinguishers, and emergency exits Provide appropriate lifting aids and promote safe patient-handling techniques Establish staff welfare measures, including reasonable shift scheduling and psychosocial support	occupational injuries, infections, or near-miss incidents Availability and proper use of PPE by staff Records of OHS and IPC training conducted Inspection and maintenance records for fire safety equipment Incident and accident investigation reports Compliance with Occupational Safety and Health Act, 2007 and Ministry of Health guidelines		
Waste Generation and Material	Pre-decommissioning Waste Audit: Conduct a comprehensive inventory of all materials to be	Solid Waste pile Waste quantities	Proponent/ Contractor	During Decommissioning Phase

Disposal	removed, categorizing them as recyclable, reusable, hazardous, or general waste. Partner with licensed electronic waste recyclers who can properly extract valuable materials and safely dispose of toxic components. Require certificates of proper disposal for all e-waste. Set quantitative targets for recycling and reuse (e.g., 80% of metals recovered, 60% of total waste diverted from landfills) and track performance against these benchmarks.			
Potential exposure of workers and the public to hazardous materials and pathogens	- Conduct a pre-decommissioning hazard and contamination assessment - Remove and safely dispose of all medical waste and hazardous materials before demolition - Isolate decommissioning areas using barriers and warning signage - Provide and enforce use of appropriate PPE for all workers - Apply wet methods to suppress dust during dismantling - Restrict public access to decommissioning zones. - Engage licensed hazardous and medical waste handlers for disposal	- Number of exposure or health incidents reported - PPE availability and compliance levels - Records of hazardous material removal and disposal - Air quality and dust levels during dismantling - Compliance with Public Health, OSH, and Waste Management regulation		

	- Implement infection prevention and control procedures throughout decommissioning.			
Air Quality Impacts	Use water misting or fogging systems during cutting and grinding operations. Apply water to surfaces before dismantling concrete or heavily corroded components. Use precision cutting tools rather than impact methods that generate excessive dust. Employ vacuum-equipped tools that capture particulates at the source. Erect temporary screens or barriers around work areas to contain dust and prevent particulate migration to adjacent properties, particularly important on windy sites. Deploy real-time particulate monitors at site boundaries, especially near air intake vents of occupied spaces. Halt work if readings exceed acceptable thresholds. Ensure all diesel vehicles and generators are properly maintained with emission controls functioning correctly. Use ultra-low sulfur diesel fuel.	Air Quality monitoring Visual	The proponent/ Contractor	Decommissioning

	Provide workers with appropriate respiratory protection (N95 or P100 respirators) for dusty operations. Thoroughly clean all work areas with HEPA-filtered vacuums rather than compressed air blowing, which redistributes particulates.			
Noise Pollution	Limit noisy activities to daytime hours (typically 8 AM - 5 PM weekdays) Avoid early mornings, evenings, weekends, and holidays in residential areas. Provide written notice to building occupants and neighbors at least 7-14 days before work begins, detailing schedule, expected noise levels, duration, and contact information for concerns. Specify low-noise equipment in contractor requirements electric tools over pneumatic, with noise ratings under 85 dB where possible. Ensure all equipment is properly maintained worn bearings, loose parts, and poorly maintained engines significantly increase noise generation.	Noise decibel readings Noise complaints	Proponent / Contractor	During Decommissioning

	Choose cutting methods over impact methods where feasible (saw cutting vs. jackhammering) Establish dedicated contact person for noise complaints with authority to adjust work practices or timing if community impacts are excessive is relatively short. Conduct baseline noise measurements and predict decommissioning noise levels. Identify sensitive receptors (residences, schools and offices) and distance to property lines.			
Traffic and Transportation Impacts	Transportation Management Plan- Develop comprehensive plans identifying route selection, number of truck trips, vehicle types, timing, and parking/staging locations before work begins. Coordinate material deliveries and waste removal during off-peak traffic hours (mid-morning or mid-afternoon) to minimize congestion contribution. Select routes that avoid school zones, high-density residential areas, narrow streets, and known congestion points. Use highways and	Traffic buildup	Proponent / Contractor	During Decommissioning

	arterial roads rather than local streets where possible. Maximize truck efficiency by coordinating shipments, using appropriate-sized vehicles, and batching trips rather than multiple partial loads. Notify local traffic departments, obtain necessary permits for oversized loads or lane closures, and coordinate with traffic management centers during transport. Use traffic marshals where necessary to direct traffic. Arrange dedicated staging areas away from public streets as much as possible. Ensure trucks are roadworthy and properly secured loads. Warn immediate neighbors and building occupants when large trucks or cranes will be accessing the site, advising on temporary parking restrictions or access limitations.			

	Encourage worker carpooling or use of crew vans rather than individual vehicles to reduce parking demand and traffic volume. Use vehicle tracking systems to ensure drivers follow approved routes and schedules, providing accountability and data for community concerns.			
Employment and Livelihood Effects	Prioritize hiring local contractors and workers for decommissioning activities, providing temporary employment opportunities in affected communities. Where possible, offer affected workers positions at other company facilities or sites, even if relocation assistance is required. For employees whose positions are eliminated, provide career counselling, resume preparation assistance, and job placement services. Provide fair severance compensation based on length of service, including health insurance continuation assistance and unemployment benefit filing support.	Contractor terminations Employment terminations	Proponent / Contractor	During Decommissioning

Community Safety During Decommissioning	Comprehensive Safety Plan: Develop site-specific health and safety plans addressing fall protection, electrical hazards, heavy equipment operations, confined spaces, and emergency response procedures. Establish secure work zones with fencing, barriers, or safety tape preventing unauthorized access by building occupants or public. Post warning signage in multiple languages. Install overhead protection canopies, nets, or catch platforms where materials could fall onto occupied areas, walkways, or parking lots below. Use trained traffic marshals, barriers, and signage to safely separate pedestrians and vehicles from construction equipment and material movement. Cover and protect building access routes used for equipment removal. Post warning signs and restrict access during material transport.	Accident records	Proponent / Contractor	During Decommissioning

	Require all workers have appropriate certifications (fall protection, electrical safety, confined space, rigging) and verify credentials before work begins. Conduct toolbox talks each day reviewing specific hazards, work plans, weather conditions, and safety expectations. Establish emergency procedures with building management, including evacuation routes, emergency contacts, first aid provisions, and nearest medical facilities. Conduct daily pre-use inspections of all equipment, tools, fall protection gear, and lifting devices. Use multiple communication methods (posted notices, email, text alerts) to warn building occupants of specific hazards during high-risk operations. Assign dedicated safety officers with authority to stop work if unsafe conditions develop. Establish clear procedures for reporting near-misses, injuries, property damage, or safety			

	concerns. Investigate all incidents and implement corrective actions.			

Table 1: Environmental and Social Risks and Mitigation Measures during Planning and Designing, Construction and Operation Phase

Aspect	Potential Impact	Proposed Mitigation Measures	Monitoring Indicators	Frequency	Responsibility	Cost (KES)
Planning and Design	Inadequate integration of environmental and social safeguards into project design	Incorporate climate-resilient design, barrier-free access, and ESMMP recommendations into final engineering designs	Approved designs incorporating ESMMP recommendations	Once, prior to construction	MoH / Project Implementation Unit (PIU)	500,000
Planning and Design	Delayed regulatory approvals	Secure NEMA EIA licence and all other statutory approvals prior to construction commencement	NEMA licence and permits obtained	Once, prior to construction	MoH / PIU	300,000
Noise and Vibration	Elevated ambient noise levels affecting neighbouring residents, construction workers and site visitors	Use of well-maintained, low-noise equipment; scheduling noisy works to daytime hours; use of PPE (ear protection) for workers	Noise levels within NEMA Noise Regulations limits	Monthly during construction	Contractor	200,000
Solid Waste (Construction)	Generation of construction debris, packaging, and excavated material	Segregation, reuse/recycling of scrap metal, timber and excavated soil; disposal of residual waste at approved sites	Waste segregation and disposal records	Monthly during construction	Contractor	300,000

Aspect	Potential Impact	Proposed Mitigation Measures	Monitoring Indicators	Frequency	Responsibility	Cost (KES)
Water Resources	Increased water demand and risk of water wastage during construction	Install discharge meters; sensitize construction staff on responsible water use; source water from approved suppliers	Water use records; meter readings	Monthly during construction	Contractor	150,000
Social Conflict	Conflict between contractor/workers and host community over employment, noise, and access	Transparent local recruitment; community liaison; grievance redress mechanism; scheduling of disruptive works	Number of conflict-related grievances received and resolved	Continuous	Contractor / MoH-PIU	150,000
Grievance Redress	Unresolved worker or community grievances during construction	Operationalize project Grievance Redress Mechanism (GRM) with defined escalation steps and timelines	GRM register; percentage of grievances resolved within set timelines	Continuous	Contractor / MoH-PIU	100,000
Child Labour	Risk of engagement of persons under 18 years in construction activities	Age verification of all workers; signage prohibiting child labour; periodic compliance checks	Recruitment records; signage in place; compliance check reports	Continuous	Contractor	50,000

Aspect	Potential Impact	Proposed Mitigation Measures	Monitoring Indicators	Frequency	Responsibility	Cost (KES)
Gender-Based Violence / Sexual Exploitation and Abuse (GBV/SEA)	Risk of GBV/SEA involving workers and community members	Code of Conduct for all workers; GBV/SEA induction training; confidential reporting channels; referral pathway to support services	Signed Codes of Conduct; training attendance records; GBV/SEA cases reported and addressed	Continuous	Contractor / MoH-PIU	200,000
Medical Waste	Generation of infectious, pathological, sharps, chemical and radioactive healthcare waste	Implementation of the Medical Waste Management Plan (MWMP): segregation at source, colour-coded containers, on-site treatment (autoclave/microwave), licensed disposal	Waste generation and disposal records; NEMA waste transporter licences	Continuous / Monthly reporting	Hospital Management / MoH E&S Expert	2,000,000 (annual)
Energy Demand	Increased energy consumption and pressure on power supply	Energy-efficient lighting and equipment; preventive maintenance of electrical systems and generators; renewable energy options	Energy consumption records; generator maintenance logs	Continuous / Quarterly reporting	Hospital Management	500,000 (annual)
Water Demand	Increased water consumption from continuous hospital operations	Water-efficient fixtures; rainwater harvesting; water use monitoring and metering	Water consumption records; rainwater harvesting system in place	Continuous / Quarterly reporting	Hospital Management	400,000 (annual)

Aspect	Potential Impact	Proposed Mitigation Measures	Monitoring Indicators	Frequency	Responsibility	Cost (KES)
Security	Theft, vandalism, and unauthorized access to hospital premises	Perimeter fencing and lighting; access control systems; trained security personnel	Security incident register; access control logs	Continuous	Hospital Management	600,000 (annual)
Occupational Health and Safety	Exposure of healthcare workers to infectious materials, sharps, and hazardous substances	Infection prevention and control programmes; mandatory PPE use; staff training; occupational health surveillance	Training records; PPE issuance records; incident/near-miss reports	Continuous / Quarterly reporting	Hospital Management / MoH E&S Expert	500,000 (annual)

Table 2: Environmental and Social Management Plan

Aspect	Management Objective	Management Actions	Monitoring Indicators	Frequency	Responsibility	Cost (KES)
Air Quality (Construction)	Minimize dust and exhaust emissions during construction	Wet suppression methods; use of low-emission, well-maintained equipment; low-sulphur diesel fuel	Ambient air quality monitoring results; equipment maintenance records	Monthly during construction	Contractor	250,000

Aspect	Management Objective	Management Actions	Monitoring Indicators	Frequency	Responsibility	Cost (KES)
Vegetation and Landscaping	Restore vegetation cover disturbed during construction	Revegetation using indigenous species (Prunus africana, Olea africana, Croton megalocarpus, Markhamia lutea, Grevillea robusta); landscaping and tree planting	Number of indigenous trees planted; survival rate	Annually	Contractor / Hospital Management	150,000
Labour Influx	Manage social impacts of construction workforce (estimated peak of 80 workers)	Prioritize local recruitment; Labour Influx Management Plan; Code of Conduct; day-commuting over on-site camps	Proportion of local workers hired; Labour Influx Management Plan in place	Continuous	Contractor	100,000
Occupational Health and Safety (Construction)	Protect construction workers, staff, patients and visitors from site hazards	C-ESMP with OSH Plan; PPE issuance tracked; gender-sensitive sanitary facilities; safe drinking water; bilingual (English/Kiswahili) HSE signage; fall-arrest training and equipment	OSH Plan approved; PPE issuance register; incident register; training attendance records	Continuous	Contractor	300,000

Aspect	Management Objective	Management Actions	Monitoring Indicators	Frequency	Responsibility	Cost (KES)
Communicable Diseases	Reduce risk of transmission of HIV/AIDS and other communicable diseases among workers and community	On-site clinic staffed by a qualified nurse; MoU with Londiani Sub-County Hospital for referral of workers; awareness and VCT sessions	On-site clinic operational; signed MoU in place; number of awareness sessions held	Continuous	Contractor	200,000
Medical Waste Management (Operation)	Ensure safe segregation, treatment and disposal of healthcare waste	Full implementation of the MWMP; colour-coded segregation; autoclave/microwave treatment; licensed off-site disposal for non-autoclavable waste	Waste audit reports; NEMA waste management facility licence; treatment logs	Continuous / Quarterly reporting	Hospital Management / MoH E&S Expert	2,000,000 (annual)
Energy Management (Operation)	Optimize energy use and ensure reliable backup power	Energy-efficient systems; preventive maintenance programme for electrical systems and generators, cross-referenced to the EPRP generator maintenance procedures; renewable energy options	Energy consumption trends; generator maintenance and fuel logs	Continuous / Quarterly reporting	Hospital Management	500,000 (annual)

Aspect	Management Objective	Management Actions	Monitoring Indicators	Frequency	Responsibility	Cost (KES)
Water Management (Operation)	Ensure sustainable water use and supply reliability	Water-efficient fixtures; rainwater harvesting infrastructure; regular metering and leak detection	Water consumption records; rainwater harvesting yield	Continuous / Quarterly reporting	Hospital Management	400,000 (annual)
Security (Operation)	Prevent theft, vandalism and unauthorized access	Perimeter security infrastructure; access control; trained security personnel; signage on access-control procedures for hazardous areas	Security incident register; access control logs	Continuous	Hospital Management	600,000 (annual)
Stakeholder Engagement	Maintain institutional and community support throughout implementation	Continued engagement of County Government, NEMA, Ministry of Health, and community leadership; functioning GRM	Stakeholder engagement records; GRM register	Continuous	Hospital Management / MoH E&S Expert	150,000 (annual)

11. CONCLUSION AND RECOMENDATION

The proposed construction of the South Rift Level VI Teaching and Referral Hospital in Kericho County is both justified and viable. The project addresses a critical gap in access to specialized healthcare services within the South Rift Region, particularly in reducing delays associated with referrals to distant facilities such as Moi Teaching and Referral Hospital. The high incidence of road traffic accidents along the Londiani corridor, coupled with a rapidly growing population, further reinforces the need for a fully equipped Level VI referral and trauma facility in the region.

The project demonstrates strong socio-economic feasibility through its potential to improve health outcomes, reduce mortality rates, create employment opportunities, and stimulate local and regional economic development. It is also aligned with key national frameworks, including Universal Health Coverage (UHC) and Kenya Vision 2030, thereby strengthening its strategic relevance and justification for public investment.

From an environmental and social feasibility perspective, the anticipated impacts are largely manageable and can be effectively mitigated through the implementation of the proposed Environmental and Social Management and Monitoring Plan (ESMMP). Climate-related risks, including extreme weather events and environmental degradation, have been adequately considered, and appropriate adaptation and mitigation measures have been integrated into the project design.

Institutionally, the project is feasible given the involvement of the State Department for Medical Services and other relevant government agencies, which have the mandate and capacity to implement and manage large-scale health infrastructure projects. Financial feasibility is supported through government commitment and potential development partner support, ensuring adequate resource mobilization for both capital and operational phases.

However, the overall feasibility of the project is contingent upon strict adherence to environmental safeguards, effective project management, and timely allocation of financial resources.

Recommendations

- The project should proceed to implementation, subject to approval by the National Environment Management Authority and compliance with all regulatory requirements.
- Full implementation of the Environmental and Social Management and Monitoring Plan (ESMMP) should be prioritized to ensure that environmental and social risks remain within acceptable limits.
- Regular environmental audits, Occupational Safety and Health (OSH) audits, and fire risk assessments should be conducted throughout the project lifecycle to ensure compliance and continuous improvement.
- Sustainable design principles, including climate resilience, energy efficiency, and resource optimization, should be fully integrated into the final engineering designs and construction processes.
- Adequate funding mechanisms and financial oversight should be established to ensure timely project completion and long-term operational sustainability.
- Stakeholder engagement should be maintained throughout implementation to enhance transparency, community acceptance, and overall project success.

Continued awareness creation and engagement of institutional stakeholders — including the

County Government of Kericho, the National Environment Management Authority (NEMA), the Ministry of Health, and local community leadership — should be maintained throughout project design, construction, and operation to ensure sustained institutional support and timely resolution of emerging issues.

REFERENCES

1. Government of Kenya (1999, as amended 2015). Environmental Management and Coordination Act (EMCA), Cap 387.
2. Government of Kenya (2003, as amended 2019). Environmental (Impact Assessment and Audit) Regulations.
3. Government of Kenya (2024). Environmental Management and Co-ordination (Waste Management) Regulations.
4. Government of Kenya (2024). Environmental Management and Co-ordination (Water Quality) Regulations.
5. Government of Kenya (2024). Environmental Management and Co-ordination (Air Quality) Regulations.
6. Government of Kenya (2009). Noise and Excessive Vibration Pollution (Control) Regulations.
7. Government of Kenya (2007). Occupational Safety and Health Act.
8. Government of Kenya (2017). The Health Act.
9. Government of Kenya (2010). The Constitution of Kenya.
10. African Development Bank Group (2023). Integrated Safeguards System: Policy, Operational Safeguards and Guidance.
11. World Bank Group (2007). Environmental, Health, and Safety (EHS) Guidelines: Health Care Facilities.
12. World Health Organization (2014). Safe Management of Wastes from Health-Care Activities (2nd ed.).
13. Ministry of Health, Kenya (2015). National Health Care Waste Management Strategic Plan.
14. County Government of Kericho. County Integrated Development Plan (current edition).
15. Kenya National Bureau of Statistics (2019). Kenya Population and Housing Census.
16. Kenya Vision 2030 and Fourth Medium Term Plan (MTP IV, 2023–2027).

LIST OF APPENDICES

The following appendices and appendices are appended to and form an integral part of this ESIA report:

Appendix 1: NEMA Correspondence

Appendix 2: Public Participation Meeting Minutes, Attendance List and Site Photographs

Appendix 3: Study Team — Curricula Vitae, NEMA Certificates of Registration and Practising Licences

Appendix 4: Land Ownership Documentation (Registered Lease, Parcel No. Londiani/Township/186)

Appendix 5: Grievance Redress Management Plan

Appendix 6: Baseline Air Quality Measurement

Appendix 7: Baseline Noise Measurement

Appendix 8: Stakeholder Engagement Plan (SEP)

Appendix 9: Emergency Preparedness and Response Plan (EPRP)

Appendix 10: Medical Waste Management Plan (MWMP)

Appendix 11: Review Comments Resolution Log

APPENDIX 1: NEMA CORRESPONDENCE

This appendix reproduces the statutory correspondence between the proponent and the National Environment Management Authority for the proposed South Rift Level VI Teaching and Referral Hospital: the public participation notice issued under Regulation 17 of the Environmental (Impact Assessment and Audit) Regulations 2003; the Authority's approval of the Terms of Reference for the assessment; and the Environmental Impact Assessment Licence issued for the project.

A. Public Participation Notice

Notice issued to stakeholders and members of the public in Londiani and environs, Kedowa/Kimugul Ward, Kipkelion East Sub-County, convening the public consultative meeting under Regulation 17.

REPUBLIC OF KENYA
MINISTRY OF HEALTH
STATE DEPARTMENT FOR MEDICAL SERVICES
P. O. Box 30016 – 00100, Nairobi, Kenya

Monday, 20th April, 2026

To: ALL STAKEHOLDERS / MEMBERS OF THE PUBLIC IN LONDIANI AND ENVIRONS, KEDOWA/KIMUGUL WARD, KIPKELION EAST SUB-COUNTY, KERICHO COUNTY.

RE: INVITATION TO ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT PUBLIC PARTICIPATION MEETING FOR THE PROPOSED SOUTH RIFT LEVEL (VI) TEACHING AND REFERRAL HOSPITAL ON PLOT L.R. NO. LONDIANI TOWNSHIP/186, KEDOWA/KIMUGUL WARD, KIPKELION EAST SUB-COUNTY, KERICHO COUNTY.

THE STATE DEPARTMENT FOR MEDICAL SERVICES is proposing to construct a Level Six Teaching and Referral Hospital on the above stated land parcel (formerly the public works office).

Pursuant to Regulation 17 of the Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003, we, the proponent of the subject project, invite the public to a public consultative meeting to be held on Monday, 27th April, 2026. The venue of the meeting shall be the proposed project site, Londiani Township, Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County, at 10.00 a.m.

Members of the public, Project Affected Persons, local administration, community representatives, women, youth, the elderly, persons with disabilities, religious leaders and other interested parties are invited to attend and to submit their views, comments and concerns. Written submissions may also be delivered to the contact given below.

For any enquiries kindly contact the following:

Edgar Eredi — 0724 904217

Email: muyesuedgar@gmail.com

Yours faithfully,

STATE DEPARTMENT FOR MEDICAL SERVICES
Ministry of Health

B. NEMA Terms of Reference Approval

Reference No. NEMA/ENVIS/EIA/TOR/00561, Approval No. NEMA/ENVIS/EIA/TOR/Approval_0223, dated 6 May 2026, signed for the Director General. The approval carries conditions, including the requirement for inclusive stakeholder engagement and public participation with Project Affected Persons under Regulation 17.



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Terms of Reference (TOR) Approval

License No.: NEMA/ENVIS/EIA/TOR/Approval_0223

Application Reference No: NEMA/ENVIS/EIA/TOR/00561

Reference No: NEMA/ENVIS/EIA/TOR/00561 Date of Approval: 6th May 2026

The Director

STATE DEPARTMENT FOR MEDICAL SERVICES

P.O. BOX 30016, 00100, Nairobi General Post Office

Email: healthsdms@gmail.com

RE: TERMS OF REFERENCE FOR ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT FOR Construction of South Rift Level VI Teaching and Referral Hospital in Kericho County

The National Environment Management Authority (NEMA) acknowledges receipt of your Terms of Reference (ToR) for the above subject.

Pursuant to the Environmental Management and Coordination Act, 1999, the Environmental (Impact Assessment and Audit) Regulations 2003 and Legal notice 31 & 32 of 2019, your terms of reference for the Environmental Impact Assessment (EIA) for the

Construction and operation of the South Rift Level VI Teaching and Referral Hospital, a multi-specialty healthcare, teaching and research complex comprising inpatient towers, emergency and trauma units, theatres, ICU facilities, outpatient departments, medical training facilities, staff housing, utility infrastructure, waste management systems, landscaped areas and associated amenities on Plot L.R. No. Londiani Township/186 in Kericho County.

, has been **approved** with the attached conditions.

You shall submit a duly signed ESIA study report prepared by a team of experts to the Authority, accompanied by the above specialized assessment reports upon payment of the applicable EIA processing and monitoring fees, being 0.1% of the total project cost and a soft copy of the summarized ESMP in **WORD** format for preparation of public notice.

Joseph Makau

For DIRECTOR GENERAL

National Environment Management Authority

Our Environment, Our Life, Our Responsibility



TERMS AND CONDITIONS

1. You shall undertake an inclusive and detailed stakeholders' engagement and Public Participation with the Project Affected Persons (PAPs) in full compliance with Regulation 17 of the EIA/EA Regulations 2003, with evidence of analysis and incorporation of public comments, concerns and issues in the final ESIA study Report. To ensure an inclusive public participation and engagement process, the Proponent shall submit evidence of the same in the form of:
2. A notice giving the PAPs 7 days' notice of meetings to be held, the notice(s) should include:
3. Posters posted in strategic public places in the vicinity of the site of the proposed project, informing the affected parties and communities of the proposed project.
4. A notice published on the proposed project for two successive weeks in a newspaper that has a nationwide circulation.
5. Announcement made over the radio of the notice in both official and local languages in a radio with nationwide coverage at least once a week for two consecutive weeks.
6. At least 3 meetings held with the PAPs with evidence of the 3 public consultation meetings, each with duly endorsed minutes, attendance list signed and stamped by the area local administrator, as well as photographs, written comments from the participants and duly filled and signed questionnaires, signed memoranda to be annexed to minutes as supporting documents.
7. Provide evidence of engaging a suitably qualified coordinator appointed in consultation with the Authority to receive and record both oral and written comments during public participation meetings.
8. You shall undertake a detailed baselines environmental assessment including Water quality, Soil site geotechnical analysis, site hydrogeological analysis, Ambient air quality, Noise Level measurements and biodiversity assessment of the proposed project site area.
9. You shall identify potential Green House Gas (GHG) emission sources and the projected emission estimates and undertake a Climate Change Risk and Vulnerability Assessment to inform appropriate adaptation and mitigation measures to climate-proof the project in line with provisions of the Climate Change Act, 2016.
10. You shall ensure that the Final ESIA report is signed by all members of the multi-disciplinary team of experts.

C. NEMA Environmental Impact Assessment Licence

Licence No. NEMA/ENVIS/SR/LIC-03354, Application Ref. No. NEMA/ENVIS/SR/00567, issued 8 May 2026 to the Ministry of Health for the construction and operationalisation of the South Rift Level VI Teaching and Referral Hospital on Plot L.R. No. Londiani/Township/186, subject to the attached conditions.



EIA250526151

nema
Mazingira Yetu | Uhai Yetu | Wajibu Wetu

**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENSE**

License No: **NEMA/ENVIS/SR/LIC-03354**

Application Ref No: **NEMA/ENVIS/SR/00567**

This is to certify that the Environmental Impact Assessment Project Report received from
MINISTRY OF HEALTH.

of

P.O BOX 30016--00100, Nairobi.

submitted to the National Environment Management Authority in accordance with
the Environmental Impact Assessment & Audit Regulations, 2003 regarding the:
Proposed South Rift Level (VI) Teaching and Referral Hospital.

whose objective is to carry on

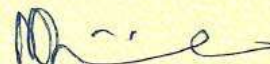
Construction and operationalization of the South Rift Level VI Teaching and Referral Hospital (SRTRH), a modern 700-bed capacity, teaching, research and trauma referral complex comprising multi-storey main hospital building with two basement levels and six upper clinical floors, associated medical education and research facilities, staff housing, ICT and data centre infrastructure, utility and engineering facilities, ~450 parking bays, healing gardens, wastewater treatment systems and supporting infrastructure and amenities.

Located on

Plot L.R. No. Londiani/Township/186 measuring approximately 34.3 hectares in Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County.

has been reviewed and a license is hereby issued for the implementation of the project,
subject to attached conditions.

Issue Date: **08/05/2026**


Signature

(Seal)

**Director-General
The National Environment
Management Authority.**



1. General Conditions

This approval project is for the Proposed South Rift Level (VI) Teaching and Referral Hospital comprising construction and operationalization of the South Rift Level VI Teaching and Referral Hospital (SRTRH), a modern 700-bed capacity, teaching, research and trauma referral complex comprising multi-storey main hospital building with two basement levels and six upper clinical floors, associated medical education and research facilities, staff housing, ICT and data centre infrastructure, utility and engineering facilities, ~450 parking bays, healing gardens, wastewater treatment systems and supporting infrastructure and amenities on Plot L.R. No. Londiani/Township/186 measuring approximately 34.3 hectares in Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County.

- 1.1 The license shall be valid for 24 months (time within which the project shall commence from the date hereof).
- 1.2 The Director General shall be notified of any transfer, variation or surrender of this license.
- 1.3 Without prejudice to the other conditions of this license, the proponent shall implement and maintain an environmental management system, organizational structure and allocate resources that are sufficient to achieve compliance with the requirements and conditions of this license.
- 1.4 The Authority shall take appropriate action against the proponent in the event of breach of any of the conditions stated herein or any contravention to the Environmental Management and Coordination Act, 1999 and regulations therein.
- 1.5 This license shall not be taken as statutory defence against charges of environmental degradation or pollution in respect of any manner of degradation/pollution not specified herein.
- 1.6 The proponent shall ensure that records on conditions of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environmental Inspectors.
- 1.7 The proponent shall submit an Environmental Audit report in the first year of occupation/operations/commissioning to confirm the efficacy and adequacy of the Environmental Management Plan.
- 1.8 The proponent shall comply with NEMA's improvement orders throughout the project cycle.

2. Construction Conditions

- 2.1 The proponent shall obtain all the requisite approval from the County Government of Kericho, Ministry of Health and all other relevant authorities prior to commencement of construction works for the Hospital.
- 2.2 The proponent shall ensure that the construction is done as per the approved drawings in adherence to the building code, 2024 and the provisions of the National Construction Act, 2011.
- 2.3 The proponent shall submit design drawings of the proposed effluent treatment plant, water and sewerage reticulation systems to the area Water and Sewerage Company and the County Public Health Officer for approval prior to commencement of works.
- 2.4 The proponent shall ensure that construction, operation and disposal of ash from the incinerator is done in adherence to the provisions of the Environmental Management and Coordination (Waste Management) Regulations of 2024.
- 2.5 The proponent shall ensure that the furnace of the proposed incinerator is fitted with a chimney of a minimum height of 10m above ground level and clear the highest point of the building by not less than

Page 1 of 5



3 metres for all roofs; taking into consideration the topography and height of adjacent buildings within 50 metres. The chimney should preferably be visible to the operator from the material feeding area.

- 2.6 The proponent shall submit designs drawings of the proposed Waste Water Treatment Plant (Biogas digester) to the Area Water Resources Authority and the County Public Health Officer for approval prior to commencement of works.
- 2.7 The proponent shall develop and implement a traffic management plan approved by the County Engineer.
- 2.8 The proponent shall ensure that all excavated materials and debris are collected, reused and where need be, disposed as per the Environmental Management Coordination (Waste Management) Regulation 2024.
- 2.9 The proponent shall ensure that the design of the proposed incinerator meets the specifications for Class 2A incinerator, as stipulated in the Third Schedule of the Environmental Management and Coordination (Waste Management) Regulations of 2024.
- 2.10 The proponent shall establish and maintain a comprehensive labour management plan during the entire project cycle. This plan should be designed to protect the safety and human rights of all workers at all times. It must incorporate occupational health and safety strategy, workman compensation insurance policies, a system for addressing workers' grievances, measures for preventing gender-based violence, as well as a comprehensive plan for preventing sexual harassment, exploitation and abuse.
- 2.11 The proponent shall adhere to the provisions of the Building Code of 2024 and the provisions of National Construction 2011 Act.
- 2.12 The proponent shall put up a project signboard as per the Ministry of Transport and Infrastructure standards indicating the NEMA license number among other information.
- 2.13 The proponent shall ensure strict adherence to the provisions of Environmental Management and Coordination (Noise and Excessive Vibrations Pollution Control) Regulations, 2009.
- 2.14 The proponent shall ensure strict adherence to the Occupational Safety and Health Act, 2007.
- 2.15 The proponent shall ensure that workers are provided with adequate Personal Protection Equipment (PPE), sanitary facilities as well as adequate training.
- 2.16 The proponent/developer shall ensure that construction activities are undertaken during the day (and not at night) - between 0800 hrs and 1800 hrs; and on Saturdays between 0800 hrs to 1300 hrs. No work shall be undertaken on Sundays; and that transportation of construction materials to and from site are undertaken during weekdays and Saturdays only during the hours specified herein.
- 2.17 The proponent shall ensure that the development adheres to zoning specifications issued for development of such a project within the jurisdiction of County Government of Kericho with emphasis on approved land use for the area.
- 2.18 The proponent shall ensure strict adherence to the provisions of Environmental Management and Coordination (Air Quality) Regulations, 2014.



Page 2 of 5

- 2.19 The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.

3. Operational Conditions

- 3.1 The proponent shall obtain all the requisite approvals from the Ministry of Health and all other Relevant Authorities before commencement of operations of the hospital.
- 3.2 The proponent shall obtain a license to own/ operate a waste disposal facility from NEMA before commencement of incineration activities in accordance with the provisions of the Environmental Management and Coordination (Waste Management) Regulations, 2024.
- 3.3 The proponent shall obtain an effluent discharge license from NEMA for the proposed effluent treatment plant within the first year of operation.
- 3.4 The proponent shall ensure that continuous stack emission control equipment is installed at the incinerator for periodic measurements of stack emission to ensure air emissions are maintained within permissible levels.
- 3.5 The proponent shall ensure that a well-designed ash pit is constructed for storage of all residual ash from incineration process.
- 3.6 The proponent shall ensure that the proposed incinerator is fitted with a functional temperature gauge to regulate temperature during the combustion process.
- 3.7 The proponent shall provide a suitable waste storage facility with a solid floor and record quantities, type and origin of materials incinerated per day.
- 3.8 The proponent shall ensure proper material mixing and allow for suitable start up and operational temperatures that will ensure that the capacity of the smoke does not exceed 20% viewed from 50m with the naked eyes.
- 3.9 The proponent shall ensure that the residual waste from the incinerator is appropriately reused or disposed of at a site approved by NEMA and the County Government.
- 3.10 The proponent shall obtain an authorization to drill any borehole from Water Resources Authority and a license from NEMA before drilling and abstracting water.
- 3.11 The proponent shall obtain Effluent Discharge License (EDL) from NEMA within the first year of operation.
- 3.12 The proponent shall ensure that the water heating systems installed comply with the provisions of the Energy (Solar Water Heating) Regulations, 2012.
- 3.13 The proponent shall ensure appropriate biomedical waste management through labelling, lining treatment and disposal.
- 3.14 The proponent shall not operate a morgue within the hospitals in case of death in the hospital only a designated temporary body holding areas shall be used before transferring the bodies to registered mortuary.



Page 3 of 5

- 3.15 The proponent shall ensure that all the biomedical waste is incinerated by a NEMA licensed incinerator.
- 3.16 The proponent shall ensure that all waste water is disposed as per the standards set out in the Environmental Management and Coordination (Water Quality) Regulations, 2024.
- 3.17 The proponent shall ensure that rain water harvesting facilities are provided to supplement surface and ground water.
- 3.18 The proponent shall ensure that all solid waste is handled in accordance with the Environmental Management and Coordination (Waste Management) Regulations, 2024.
- 3.19 The proponent shall ensure compliance to the Environmental Management and Coordination (Air Quality) Regulations, 2024.
- 3.20 The proponent shall ensure that all workers are well protected and trained as per the Occupational Safety and Health Act, 2007.
- 3.21 The proponent shall provide adequate parking space for vehicles and adequate access routes for emergency situations.
- 3.22 The proponent shall implement a greenhouse gas (GHG) emission monitoring system to track reductions or removals over time, and report the findings in the environmental audits submitted to the Authority.
- 3.23 The proponent shall obtain emissions license for each Standby Generator of 100kVA and above in line with requirements of Environment Management and Coordination (Air Quality) Regulations 2024.
- 3.24 The proponent shall ensure strict adherence to the provisions of Environmental Management and Coordination (Noise and Excessive Vibrations Pollution Control) Regulations, 2009.
- 3.25 The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of County Government of Kericho, Kenya Urban Roads Authority, National Construction Authority, Ministry of Lands, Housing and Urban Development, Directorate of Health and Safety Services, Ministry of Health, Water Resources Authority and other relevant Authorities.
- 3.26 The proponent shall ensure that environmental protection facilities or measures to prevent pollution and ecological deterioration such as water and energy saving fixtures, integrated solid waste management system, landscaping, soil erosion controls, functional drainage systems, emergency response plan, utility relocation plan, traffic management plan, Air pollution control, crowd control mechanisms, waste water management plans are designed, constructed and employed simultaneously with the proposed project.

4. Notification Conditions

- 4.1 The proponent shall seek written approval from the Authority for any operational changes under this license.
- 4.2 The proponent shall ensure that the Authority is notified of any malfunction of any system within 12 hours on the NEMA hotline No. **0741101100/0736101100** and mitigation measures put in place.
- 4.3 The proponent shall keep records of all pollution incidences and notify the Authority within 24 hours.



Page 4 of 5

- 4.4 The proponent shall notify the Authority in writing of its intent to decommission the facility **three (3) months** in advance.

5. Decommissioning Conditions

- 5.1 The proponent shall ensure that a decommissioning plan is submitted to the Authority for approval at least three (3) months prior to decommissioning.
- 5.2 The proponent shall ensure that all pollutants and polluted material is contained and adequate mitigation measures provided during the phase.

The above conditions will ensure environmentally sustainable development and must be complied with.



APPENDIX 2: PUBLIC PARTICIPATION MEETING MINUTES, ATTENDANCE LIST AND SITE PHOTOGRAPHS

PUBLIC PARTICIPATION MEETING MINUTES

MINUTES FOR PARTICIPATION MEETING FOR ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT STUDY FOR PROPOSED SOUTH RIFT LEVEL (VI) TEACHING AND REFERRAL HOSPITAL ON PLOT NO. LONDIANI TOWNSHIP/186 IN KERICHO COUNTY.

DATE: 16/04/2026

VENUE: The Proposed Project Site, Londiani Township ward, Kipkelion East Sub County, Kericho County.

IN ATTENDANCEIN ATTENDANCE:

- Youth Representatives
- Women Representatives
- The Elderly
- People who are physically challenged
- County Government Officials
- Provincial Administration
- Area MP Representative
- Area Senator Representative
- Religious Leaders
- Other Stakeholders.
- NEMA Experts.

See attached signed attendance list

MIN 1/16/04/2026: PRELIMINARIES OPENING REMARKS.

The meeting called to order at 11:15am by the Local hospital committee coordinator Mr. Willis Ngetich .
A word of prayer was made. The coordinator welcomed all members of the public and officials present.

MIN 2/16/04/2026OPENING REMARKS.

Mr. Geofry Mbuthia, the area Assistant Chief also welcomed all including the team of ESIA experts, the committee members, community members and all the visitors present for the public participation stating the significance of the proposed project to the local community, the entire South Rift and Kenya at large.

Mr. Willis Mutai the area Chief, expressed gratitude to all members present and officials and thanked praised the mobilization done mobilizing pointing that it was a success as over 300 people were in attendance. He urged the public to feel free and express their input into the process.

The committee coordinator introduced all committee members and official.

A history of evolution of the proposed project to the current status was given by one committee member .

Dr. Rono, an opinion leader, who's a researcher and lecturer recently based in South Africa and a local, thanked members present for public participation and pointing that the project was a gift to the community and all should support it and voice any concerns which can be addressed.

MIN 1/15/04/2026 Presentation by the Lead Expert.

Members were informed of a courtesy call by the ESIA team to the secretary of the County Government of Kericho, stating that the county government sent the assurance that it was fully behind the project.

The lead expert explained the role of public participation in the Environmental and Social Impact Assessment (ESIA) process and how the findings are presented for decision making.

Positive environmental impacts and enhancements were outlined by the expert. He also outlined the negative impacts and their mitigations.

Aspects of the design were presented to the public including modern technological installations that improve resource conservation (energy and water), waste minimization and waste treatment.

MIN 3/16/04/2026 Contributions from community and professionals from the community.

- Mr. Zebra Githogori, was of the view that the socio-economic status of the area would be positively impacted through employment creation and business opportunities
- Mr. Alexander Roginyi pointed that he was among the first people who attended 1st public meeting regarding the project at Kericho Teacher Training College and thanked too the C.E.C Lands Kericho county for helping in acquiring of the proposed project title deed
- Ben Shele thanked all stakeholders and supported the project. He gave a history of the land acquisition process. He went on to outline why the location was appropriate for the projects as follows:
 - The size of the land parcel was sufficient for a Level Six and any future expansions.

- The area. Londiani is centrally located, thus all parts of South Rift Region will easily access the site
 - The road infrastructure is sufficient for referrals. The Muhoroni-Kisumu Road is tarmacked and the Makutano- Londiani road was in the process of being tarmacked.
 - A proposed air strip was nearby the referral hospital.
 - The ecosystem around Londiani complements the project including a serene and peaceful environment
 - The area has professionals but the project will lead to more locals aspiring to be specialists.
 - The SGR line will pass in Londiani Township, making it easier for referrals from many regions in Kenya.
- Stephen Cheruiyot, the chairperson of *bodaboda* association in Londiani, speaking behalf youths and Bodaboda riders said that they are in full support of the proposed project and as for the youth they should be considered in job once the construction starts.
 - Florence Njeri, thanked the committee and assured that women in Londiani fully supported the. She advised that next time women should be considered when constituting committee members. Youth and women should also get equal job opportunity in the proposed project.
 - Sarah Langat was of the view that while the hospital is referral, locals will benefit from community health promotions and CSR initiatives by the hospital.
 - Anna Maina, said that women in community are for the project being that health care is brought closer to them.
 - Sammy Bett, representing persons with disabilities, also a member of Kericho Disability Network, sited that he was also among the first who took part in the first public participation in Kericho Teacher Training College. He expressed hope that people with disability are considered in the project design and employment opportunities during the project implementation stages and completion.
 - Eng. Joseph Rugut, representing professionals from the area, informed the public that the proposed design was very superior and of high level. Having worked in two level 6 hospitals (Kenyatta & Moi referral), he assured the audience that many benefits will accrue.
 - Mr. Joseph Kirui expressed support for the project and that the entire community supported the project

MIN 4/16/04/2026 :Remarks from County Government and other leaders Representatives.

- The area Member of Parliament representative, Mr. Salim expressed the MP's support for the project stating that it will benefit all the communities around and the entire country. The MP, through CDF projects committed to tarmacking roads around the project to ensure that the proposed project is successful. He suggested that a foundation stone/plate include all names of founding committee members for their honor and recognition

- The Kericho Senator representative, Mr Seth Kipsegei, said that Senator supports the project 100% and urged the community members to guard the project jealously.
- The C.E.C Lands Kericho County, gave a chronology of the process of title deed acquisition , which he spearheaded. He thanked the area member of parliament for the support. He outlined the contribution of the office of the Governor of Kericho to the entire process.

The CEC also gave the reason why the proposed hospital is named South Rift Level 6 Referral and teaching hospital and not Kericho referral hospital

MIN 5/16/04/2026: Responses by the Lead Expert and Authorities

None in the audience publicly expressed opposition to the project it. Asked by the Lead Expert, all in the audience raised their hands to express support for the project.

The elders from the Kipsigis community blessed the project leading in chants from those present as part of the blessing protocol.

MIN 6/16/04/2026 Vote of Thanks

A youth leader Mr. Laban Bett gave the vote of thanks He thanked all committee members; officials present and the entire community for the support to the proposed project and for being present for the meeting.

MIN 7/15/04/2026 AOB and adjournment.

The Chief thanked all participants for their contributions and active participation. The meeting was officially adjourned at 2:30 p.m. with a word of prayer.

Minutes Written by:

Edgar Eredi

Date 26/4/26

Signature:



(EIA Lead Expert)

Confirmed by

Geofry Mbuthia

Date

Signature

(CHIEF)

PICTORIALS



sections of elders in support of the project.





ATTENDANCE LIST- SIGNED

Environmental Impact Assessment Public Participation Attendance

Record

Proponent: STATE DEPARTMENT OF MEDICAL SERVICES
 Project: SOUTH RIFT LEVEL (VI) TEACHING AND REFERRAL HOSPITAL ON PLOT L.R NO. LONDIANI TOWNSHIP/186 IN KERicho COUNTY
 Dates: 16/4/2026
 Venue: PROPOSED VENUE
 NEMA EIA Lead Expert: Edgar Eredi (NEMA Reg 1921) Signature: [Signature] Date: 16/4/2026
 Proponent Rep: Signature: [Signature] Date: [Date]

S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	Thas Kipkurui Mutai	5244524	0725800354	[Signature]
02	William chopkwoony	1764063	0713345599	[Signature]
03	Zakayo Kipkorir Sela	1365127	0729852225	[Signature]
04	Kipkorway aiar chanyioz	2325429	0720228377	[Signature]
05	Stanley Kosch	5238800	0711763015	[Signature]
06	Daniel Langat	16011292	0783306315	[Signature]
07	Richard Bii	1764464	0721241583	[Signature]
08	Dani Kipkorir	3834689	0729120255	[Signature]
09	Philip Kipkorir	0664548	0717949094	[Signature]
10	William chumek	38522157	0704087566	[Signature]
11	Bernard Kosch	26081887	0724707974	[Signature]
12	Joshua Rotich	3847938	0726903243	[Signature]
13	Kipkorir Kaelh	3312556	0720403451	[Signature]
14	Jenniss Kipton	37163248	0721437102	[Signature]
15	Munfred Koir	36636582	0715705708	[Signature]
16	Simon Birir	8753859	0717949185	[Signature]
17	NICTOP Xipkumi	33842452	0714883351	[Signature]
18	Joseph Ngari	25710062	0720749392	[Signature]
19	Joseph Kipkorir	10770794	0787631827	[Signature]
20	Relvin Bii	39775466	0796747434	[Signature]

ASSISTANT CHIEF
 SHEPONGONY SUB-LOCATION
 P.O. Box 44-20203, LONDIANI
 Date: 16/4/2026 Sign: [Signature]

Environmental Impact Assessment Public Participation Attendance

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 Proponent Rep: Signature: [Signature] Date: [Date]

S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	James Busienei	5238902		[Signature]
02	Edwin Matagei	27022912	0729085862	[Signature]
03	Charles Koskei	7699711	0726928389	[Signature]
04	Ruth C. Rutto			[Signature]
05	Amos Langat	40322657	0727017058	[Signature]
06	David Yegen	8020698	0710355467	[Signature]
07	Enock Rotich	40339862	0745276616	[Signature]
08	Geoffrey Kosch	9577300	0742213341	[Signature]
09	Gibson Kipkemai	40499246	0757890072	[Signature]
10	Joseph Rotich	0721460506	00094061	[Signature]
11	Samuel M. Kari	7132661		[Signature]
12	Julius Langat	5221175	0714688371	[Signature]
13	Richard Mutai		0714440660	[Signature]
14	Caleb Teile	42653707	0702693632	[Signature]
15	Gilbert Pop	8072844	0722714949	[Signature]
16	John Langat	38429496	0710355538	[Signature]
17	Zeth Tami	Representing office of Senate Kericho		[Signature]
18	Sarah Koske	10015048	0727038630	[Signature]
19	Ruth Kemel	13011836	0704884942	[Signature]
20	Roberts Mutai	282770646	0721219875	[Signature]

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 Proponent Rep: Signature: _____ Date: _____

S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	Kevin Langat	32144354	0727144499	<i>[Signature]</i>
02	Peter Kosici	27222113	0702721201	<i>[Signature]</i>
03	Amos Kari	36205747	0724307023	<i>[Signature]</i>
04	Duncan Mutai	36394241	0704732408	<i>[Signature]</i>
05	Joseph Karit	9578212	0789157559	<i>[Signature]</i>
06	Stephen Kapan	1755684	0726837166	<i>[Signature]</i>
07	Joseph Rutto	2331299	0705264678	<i>[Signature]</i>
08	Adony Nrendo	21057209	0729217632	<i>[Signature]</i>
09	Gregory Kariuki	7108655	0716852020	<i>[Signature]</i>
10	Wendone Chirchir	1753563	0720885879	<i>[Signature]</i>
11	SHALEY (CHURUMOS)	07201175220	0720212920	<i>[Signature]</i>
12	Henry Chumo	10939013	0721657477	<i>[Signature]</i>
13	Joseph Langat	1752838	0707355730	<i>[Signature]</i>
14	David Vach	4071100	0706782220	<i>[Signature]</i>
15	James Soy	11206623	0725580172	<i>[Signature]</i>
16	Evelina Bureai	11642492	0797189912	<i>[Signature]</i>
17	Esther Sing	1754385	0712873543	<i>[Signature]</i>
18	Anna Maina	1131830	0702766662	<i>[Signature]</i>
19	Deonis Rotich	38493586	0114347024	<i>[Signature]</i>
20	ECRA IGARA	22949585	0101008849	<i>[Signature]</i>

ASSISTANT CHIEF
 CHEPKONGONY SUB-LOCATION
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20	ECRA IGARA	22949585	0101008849	<i>[Signature]</i>

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Environmental Impact Assessment Public Participation Attendance

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 Dates: 16/12/2026
 Venue: PROJECT SITE
 NEMA EIA Lead Expert: Edgar Eredi (NEMA Reg 1921) Signature: [Signature] Date: 16/12/2026
 Proponent Rep: Signature: [Signature] Date: [Signature]

S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	Kelvin Langat	32144354	0727144499	[Signature]
02	Peter Kosici	27222113	0702721201	[Signature]
03	Amos Kari	35805747	0724307023	[Signature]
04	Duncan Mutai	36394241	0704732408	[Signature]
05	Joseph Kari	9578212	0729157559	[Signature]
06	Stephen Kari	1755684	0726837166	[Signature]
07	Joseph Ruto	2321299	0705244678	[Signature]
08	Anthony Mendo	21057209	0727217632	[Signature]
09	Gregory Kari	1108655	0716852020	[Signature]
10	Wendy Chirchir	1753563	072088874	[Signature]
11	Samuel Chirchir	11201175270	0720212920	[Signature]
12	Henry Chumo	10929013	0721657477	[Signature]
13	Joseph Langat	1752838	0707355730	[Signature]
14	David Vach	4071100	0706782220	[Signature]
15	James Soy	11206623	0725580172	[Signature]
16	Valina Bwari	11642492	0797189912	[Signature]
17	Esther Sing	1754385	0712873543	[Signature]
18	Anna Maina	1131830	0702746662	[Signature]
19	Donis Botich	38493586	0714347024	[Signature]
20	ECRA WMA	22949585	0101008849	[Signature]

ASSISTANT CHIEF
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Environmental Impact Assessment Public Participation Attendance

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 Proponent Rep: Signature: [Signature] Date: [Signature]

S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	Bernard Siele	22222138	072519425	[Signature]
02	Nelson Kari	24648294	0720600967	[Signature]
03	Geoffrey Muriithi	13011608	0724240606	[Signature]
04	David Mutai	9578145	0727498037	[Signature]
05	Josephine Chepkwony	3816717	0724556236	[Signature]
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Environmental Impact Assessment Public Participation Attendance

Record

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 Project: SOUTH RIFT LEVEL (VI) TEACHING AND REFERRAL HOSPITAL ON PLOT L.R NO. LONDIANI TOWNSHIP/186 IN
 KERicho COUNTY
 Dates: 16/4/2026
 Venue: PROJECT SITE
 NEMA EIA Lead Expert: Edgar Eredi (NEMA Reg 1921)
 Signature: _____ Date: 16/4/2026
 Proponent Rep: _____ Signature: _____ Date: _____

S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	Samuel ODERO	8602235	072220548	[Signature]
02	Charles ODERO	5241428	0728836177	[Signature]
03	David ODERO	7238112	0725773547	[Signature]
04	Robert Langat	25791355	0729345674	[Signature]
05	Wesley Koyi	20823688	0720601379	[Signature]
06	Samuel maina	2708917026	11628884	[Signature]
07	Francis ODERO	1751146	071206569	[Signature]
08	Johana Kiri	10542003	0768781512	[Signature]
09	LINAH Koech	71497631	0712395846	[Signature]
10	Wesley Koech	24134135	0715794198	[Signature]
11	MARGARET KIRI KANUKI	8753855	0712645394	[Signature]
12	Joseph Koech	1230448	0794612146	[Signature]
13	Rev. Kipkoech Bohon	21560247	0724846714	[Signature]
14	Samuel ODERO KUPAT	0320141	0723207342	[Signature]
15				
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ASSISTANT
 CHIEF KONGONY SUB-
 P.O. Box 44-20203, LONDIANI
 Sign: _____

Environmental Impact Assessment Public Participation Attendance

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S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	Paul ODERO Ruto	5241218	07118270651	[Signature]
02	David ODERO MUKO	16040858	0713670934	[Signature]
03	Joseph Kipkurui Sang	7652527	0728725643	[Signature]
04	Charles ODERO	22925183	0703355796	[Signature]
05	David Tembur	21405338	0768781505	[Signature]
06	Kenneth ODERO	0227055	0722753801	[Signature]
07	LANGAT PHILIP	24611592	0727636285	[Signature]
08	Simon Rono	5453664	0714257087	[Signature]
09	David ODERO	10214504	0723925419	[Signature]
10	David ODERO	23244280	072033282	[Signature]
11	JOEL KIPKURUI KIRI	1762821	0705928321	[Signature]
12	David ODERO	11206471	0723526717	[Signature]
13	David ODERO	20000839	0722965042	[Signature]
14	WILLIAM ODERO	25444023	0729234110	[Signature]
15	PAUL IRON TEMBUR	3856775	0711413255	[Signature]
16	SIMON KOSGEI	325295	0703263790	[Signature]
17	SIMON K. ODERO	22190395	0723559630	[Signature]
18	KAPPA BETI	02460704	0718072907	[Signature]
19	KELVIN KIPKURUI	376319	0723740024	[Signature]
20	KELVIN KIPKOECH	39353249	0790558104	[Signature]

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 Proponent Rep: [Signature] Signature: [Signature] Date: [Signature]

S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	RICHARD KIPRONO KERINGO	3871254	0710890191	[Signature]
02	JOHN KIRNGEICH A.ROP	02271147	0728156800	[Signature]
03	REUBEN A KERING	9109927	0725242041	[Signature]
04	JOSEPH BARCOK	1752223	0725877912	[Signature]
05	REUBEN TWEA A. CHURCH	1753370	0718995620	[Signature]
06	REUBEN KIPRONO KIRU	1365094	0725959229	[Signature]
07	JULIUS JUMA	2634830	0723487703	[Signature]
08	WILLIAM K.A. IDI	3855030	0725606297	[Signature]
09	TAVIA MOP MARTIN	6608901	0700132856	[Signature]
10	CHERUNVI AROP KURGAT	3647077	0745561717	[Signature]
11	SOL KIPKOSGE AROP	37156969		[Signature]
12	REUBEN IDOCH	30267077	0746615450	[Signature]
13	Samson Lagat	9767764	0723242767	[Signature]
14	GILBERT	27737293	0740365794	[Signature]
15	HENRY KOSKE	0710229038	07105238768	[Signature]
16	JOEL TONUI	07248788-1	0721838801	[Signature]
17	David Njoro	0728725617	1766553	[Signature]
18	Samson Koske	0605681	072602690	[Signature]
19	JOSEPH MATIGLONG	1770155	0726644657	[Signature]
20				

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 Proponent Rep: [Signature] Signature: [Signature] Date: [Signature]

S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	Hony Claviet	1751563	0720157197	[Signature]
02	JOSEPH LAMGAT	17697415	0722845804	[Signature]
03	Samson Kach	6622417	0703730285	[Signature]
04	Asen Kiprono KIRU	41014253	0757914428	[Signature]
05	Kelvin Chergat		0798555611	[Signature]
06	MURRAY LAGAT	37163099	0790206203	[Signature]
07	Samson KIRU		07914125531	[Signature]
08	Victor Koskei	10160347	0718408595	[Signature]
09	Emmanuel KIRU	12915555	0791458151	[Signature]
10	Brian Kipruto	153286536	0116341015	[Signature]
11	LAMGAT KIPKOSGE DANGIN	23564543	0702252589	[Signature]
12	Shedrick Kipruto	22843467	07284042141	[Signature]
13	STEPHEN W. CHETHUNYU	22656531	0728378611	[Signature]
14	Mary Chomangob	26970097	07437079482966	[Signature]
15	Samson Chergat	32765768	07244524714	[Signature]
16	Artisan Kach	29989124	0712263442	[Signature]
17				
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ASSISTANT CHIEF
 CHEPKONGONY
 P.O. Box 44-202
 Date: [Signature]

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 Proponent Rep: Signature: [Signature] Date: [Signature]

S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	Gilpin Kaskei	42842331	0701523126	[Signature]
02	Victr Bett	32060345	0714408501	[Signature]
03	Ambrose Koech	26294300	0717589841	[Signature]
04	Francis Bore	3834280	0724724735	[Signature]
05	Westley Korir	23497525	0720401409	[Signature]
06	Samuel Maina	11638884	0708917028	[Signature]
07	Frans Koech	38759244	0742688418	[Signature]
08	Richard Kikwai	3835523	0705036212	[Signature]
09	Richard Ngelich	9887264	0720452908	[Signature]
10	Henry Langat	0866549	072823888	[Signature]
11	Kenneth Chirchir	9227059	0721386231	[Signature]
12	Ann Kagah	11080077	0707730548	[Signature]
13	Simion Rono	10770103	0727268004	[Signature]
14	Sara Pop	12748683	0714112776	[Signature]
15	Rachael Kaskei	5988314	0116916447	[Signature]
16	Elizabeth Rono	1754806	0723073328	[Signature]
17	Daniel Byegon	11432334	0769060407	[Signature]
18	Cyrus Nemburi	34069343	0722941761	[Signature]
19	Rangel Joseph	10470121	0711166779	[Signature]
20	Naniel Soi	0286615	0742546684	[Signature]

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S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	WILLIAM YAPOL	7164576	0719440448	[Signature]
02	SARAH C. LANGATI	5453615	0741198166	[Signature]
03	JOSAPH K. KASGIE	0323118	0710456565	[Signature]
04	Johane Sigita	7101817	0727572920	[Signature]
05	JOHN A. KOECH	0770973	0710213140	[Signature]
06	Reverend John Kang'endo	1755759	0715604794	[Signature]
07	Richard K. K. K. K.	1753225	0710628359	[Signature]
08	JOHN M. KEREBEI	1750561	0719400182	[Signature]
09	LEAH K. M. M. M.	1764082	0712555973	[Signature]
10	KEPHEIN K. L. B. B.	1797113	0709083838	[Signature]
11	LEAH SHEPETER KOILA	1763642	0708419661	[Signature]
12	Kimuna K. K. K.	28843467	0758234675	[Signature]
13	JOHN K. K. K.	12916193	0723839699	[Signature]
14	DAVID ROTICH	1768407	0727689582	[Signature]
15	HENRY BII	1775630	0720167870	[Signature]
16	SYLVESTER YAGON	177912277497	0700428589	[Signature]
17	ARSON M. K. K. K.	2568784	0722292431	[Signature]
18	DAVID K. KOECH	0770384	0722553401	[Signature]
19				
20				

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S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	James Chepkoroch	8287629	0700101136	[Signature]
02	ELIZABETH FUNDING TUKI	2410763	0914234651	[Signature]
03	WILSON K. MUTAI	3866490	0722946010	[Signature]
04	Edith Chemeli Kariy	3874537	0728872266	[Signature]
05	Harriet C. Kariy	20232961	0726637994	[Signature]
06	DANIEL ALIBION MUDJIN	1752625	0720606325	[Signature]
07	ZACHARIA KIPKURIR NG'OM	3850944	0706350135	[Signature]
08	Samuel M. LANGAT	10503841	0705243483	[Signature]
09	John Mwaniki	0721863376	2232644010	[Signature]
10	EDNA K. KORIR	20492934	0716930458	[Signature]
11	PHILIP KIPTOO MUNAI	2324247	07220042358	[Signature]
12	ISAAC MATANI	1764082	0712655923	[Signature]
13	KEVIN BETT	23171133	0790705897	[Signature]
14	ALVIN DIT	35960036	07916161	[Signature]
15	FELIX NGETICH	40780189	0728824610	[Signature]
16	Victor Chepkwony	34065620	0712523144	[Signature]
17	PHILIP CHEKUNYI	3843195	0715477955	[Signature]
18	SAMUEL KIPKORIR	0739345	0799936097	[Signature]
19				
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S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	WILSON KIPKORIR NG'OM	2246234	0722222599	[Signature]
02	Patricia Kariy	9577211	0726741590	[Signature]
03	Sammy K. H. H.	7480231	0723952104	[Signature]
04	ELPHAS BIRIK	4007400	0721215025	[Signature]
05	CHARLES CHEPKWONY	0857026	0710198110	[Signature]
06	JOHNSONE CHEKUNYI	38683670	0791368512	[Signature]
07	Stephen K. Laboso	1764002	0767002	[Signature]
08	ALFRED LABOSO	1751256	0728052667	[Signature]
09	JOSEPH K. TOO	0324726	0720845691	[Signature]
10	JOTANA LOMU	0323378	0727869161	[Signature]
11	POUL TIGIREL	0086008	07229933 079092233	[Signature]
12	FRANCIS K. ROTICH	0644322	0725071505	[Signature]
13	ISRAEL MAINANI	072558773	172	[Signature]
14	JOHN M. KEREKEI	0719400182		[Signature]
15	JULIUS XURANT	1751434	0727465534	[Signature]
16	CHARLES K. KORIR	1766224	0723401238	[Signature]
17	SIMON LANGAT	1762374	0722601515	[Signature]
18	JOHN KIPKORIR	5241268	0727970559	[Signature]
19	JOHN LANGAT	073874773	071469024	[Signature]
20	PHILIP K. H.	072787723	0712425395	[Signature]

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S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	ROSE Lagat Chepkor	13666948	0720279215	[Signature]
02	Charles Kereker	10989444	0768180906	[Signature]
03	Ruth Rono	1770431	071637947	[Signature]
04	Mariam Koesch	9578387	0760929428	[Signature]
05	Paul Cheruot	7062762	0720057733	[Signature]
06	Richard Chepkwony	0385605	-	[Signature]
07	David Chemutet	1755735	0797360139	[Signature]
08	Joel Ton	1264150	0712837725	[Signature]
09	Steve too	30568151	0746147730	[Signature]
10	John Chemutet A Bii	5245676	0729236905	[Signature]
11	Joseph Muto	7484161	0726318413	[Signature]
12	Joshua Morindany Simba	3225703	0713675476	[Signature]
13	William Makwani Ngao	1750253	0703162423	[Signature]
14	John Kiplangat Muta	3805722	0721160131	[Signature]
15	William Kiplangat A Bii	3874719	0718978364	[Signature]
16	Joseph Sigilai Morir	3874520	0728872266	[Signature]
17	Patrick Kipyegon Karongo	8603097	0728057786	[Signature]
18	SAMUEL CHEPKWONY	5195743	0700194783	[Signature]
19	Joseph Kimutai Rono	1771456	0715632626	[Signature]
20	Jonathan haboso	7130036	0727299075	[Signature]

ASSISTANT CHIEF
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S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	DAVID MUTAI	11299889	0717050777	[Signature]
02	CHARLES LANGAT	22895107	0721513398	[Signature]
03	JONAH TENUI	07212172848	0721217218	[Signature]
04	YATTA K NGETICH	0550451	0728468819	[Signature]
05	WILSON Kiplangat Langat	2355932	0728281878	[Signature]
06	KIPKORIR ARAP KATAP	8287123	0701461485	[Signature]
07	WILLIAM MARITIM	-	0719144210	[Signature]
08	RICHARD KIBET TERER	1770283	0729317198	[Signature]
09	SIMION K. RONO	4288389	0114896125	[Signature]
10	KIPSELM A RAP	0470082	0718510484	[Signature]
11	KENNEL K. K. K.	26106091	0741398838	[Signature]
12	DAVID TERSECH	12748452	0782668130	[Signature]
13	DAVID K. V. V.	2350493	0720032377	[Signature]
14	Leah Chemutet Terer	21242005	0720621616	[Signature]
15	Amos Chepkwony	31513402	0729160479	[Signature]
16	Philipine Chalangat Tumbat	3855362	0715165318	[Signature]
17	Joseph Langat	3834155	0113123201	[Signature]
18	David Bii	0870108	0717623023	[Signature]
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S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	JOSEPH KIPROTICH LANGAT	5225772	0713202071	[Signature]
02	PETER KIMUTAI KAIKE	3446124	0703734736	[Signature]
03	JOHN MUKAMEN TERER	3257037	0795147077	[Signature]
04	PHILIP KIPLANGAT KORIR	2866160	0769632622	[Signature]
05	JAMES ARAP WBI LEITCH	0990558	0711846052	[Signature]
06	REUBEN KIPKORIR KORIR	7063764	0714783284	[Signature]
07	NICK TERER	25542016	0725105991	[Signature]
08	Simon Kipngeno Kood	22374226	0707335857	[Signature]
09	Wesley Kono	176673391	0708202265	[Signature]
10	David Mutea	4270162	0743152509	[Signature]
11	Joseph Kimutai Rotich	20845577	0796311307	[Signature]
12	Natrick Kipkari TIGENO	1763261	0928668534	[Signature]
13	KIPKORIR KASAT	2884275	0799696002	[Signature]
14	Kamathi Chepkwony	23862353	0720890983	[Signature]
15	LANGAT PHILIP KIPKORIR	24611593	0727636285	[Signature]
16	GEORGE YEGON	33694903	0728536082	[Signature]
17	DENNIS KAGGEY	39600674	0769471358	[Signature]
18	PHILEMON BBI	32873594	0793259317	[Signature]
19	COLLINS KIRUI	40395605	0795794860	[Signature]
20	ALFRED SANG	38153828	0722625628	[Signature]

ASSISTANT CHIEF
 CHEPKWONY SUB-LOCAT
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 Proponent Rep: Signature: [Signature] Date: [Date]

S/N	Attendee Name	ID NO	PHONE NO	SIGNATURE
01	Kay Samuel Langat	20951384	0713667858	[Signature]
02	DAVID N. A. MURTHA	03228733	0720-614452	[Signature]
03	Wesley SITENGEI	0705604638	ID No. 1767348	[Signature]
04	Andrew Mutea	5453648	0724119965	[Signature]
05	Joseph Ngatich	1754764	0713311760	[Signature]
06	JOSIAH KIRUI	6046002	0721845994	[Signature]
07	JOSEPH A. RENO	1751771	0723104071	[Signature]
08	BENJAMIN RUTO	1765215	0725726719	[Signature]
09	CHEPKWONY MUKAMEN KORIR	1765184		[Signature]
10	PHILIP KIPKOTI MUKAI	2324247	0720042338	[Signature]
11	WILSON MIBEI	3856747	0725079281	[Signature]
12	EZEKIEL CHEPKWONY	1990022	0720856666	[Signature]
13	REUBEN KUGO	1751234	072670899	[Signature]
14	JOSEPH SITIENGEI KIPKOTI	0805170	0720021461	[Signature]
15	WILSON ARAP SANG	0341960	072703442	[Signature]
16	KIMETET ARAP CHEPKWONY	1755398		[Signature]
17	JOHANNA RENO		0727355153	[Signature]
18	JOHN MUTEA	1771311	0720970359	[Signature]
19	James Chepkwony	1754283	0724257221	[Signature]
20	Andrew Kipkari Rotich	3863150		[Signature]

ASSISTANT CHIEF
 CHEPKWONY SUB-LOCAT
 P.O. Box 44-20203, LONDI
 Date: Sign:

Site Photographs

The photographs below record the condition of the proposed site and the conduct of the public participation meeting held on 16 April 2026 at the proposed project site, Londiani Township, Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County.



Plate 1: General view of the proposed site — open grassland with mature eucalyptus and the remnant structures of the former public works office, looking towards the Rift escarpment.



Plate 2: Site access during the assessment, showing the derelict remains of the former public works buildings on the parcel.



Plate 3: The site looking across the parcel, with the boundary tree line and adjoining land uses.



Plate 4: Public participation meeting in progress at the proposed project site, under the eucalyptus stand.



Plate 5: A community member addressing the public participation meeting.



Plate 6: Attendance at the public participation meeting, including women, elders and local leadership.



Plate 7: Existing masonry building retained on the parcel, part of the former public works establishment, with rainwater tank and hedge planting.



Plate 8: Wide view across the site in the late afternoon, showing the open grassland, the eucalyptus boundary line and the perimeter wall of the adjoining property.



Plate 9: The open site looking towards the distant hills, with a mature conifer standing within the parcel.

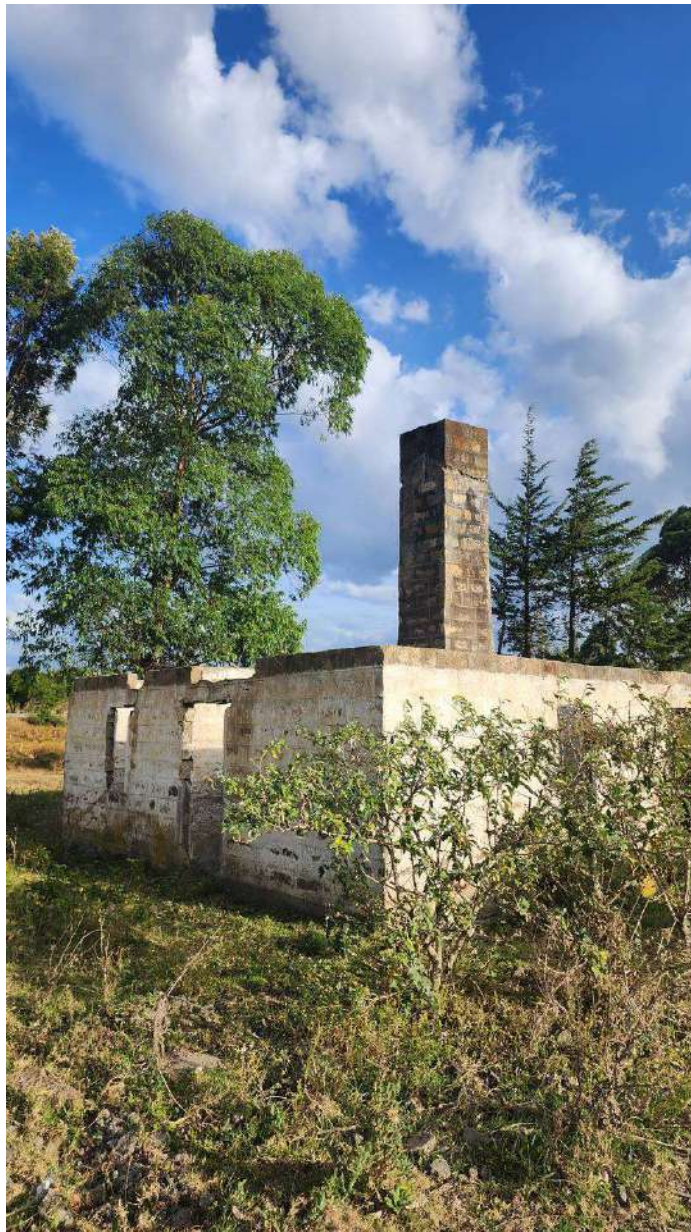


Plate 10: Derelict roofless masonry structure with chimney stack — remains of the former public works buildings on the parcel.

APPENDIX 3: STUDY TEAM — CURRICULA VITAE, NEMA CERTIFICATES OF REGISTRATION AND PRACTISING LICENCES

The curricula vitae, NEMA certificates of registration and practising licences of the study team are reproduced in full below, one sub-section per expert and in the order of the table above. All ten experts' documents are on file. Six of the licences carry a manuscript endorsement by the Authority naming this Ministry of Health Level VI hospital programme, and four of those name the Londiani (South Rift) and Bungoma facilities expressly — the same study team was engaged for both hospitals, and the identical pack is reproduced in each report.

Name	Registration	Qualification	Role on this assignment	Affiliation
Edgar Eredi Muyesu	NEMA Lead Expert — Licence No. NEMA/ENVIS/EL/0559 (App. Ref. NEMA/ENVIS/ELA/02565); EIA/EA Lead Expert Reg. No. 1921. Issued 22 January 2026, valid to 31 December 2026. Licence endorsed "For South Rift Level VI & Bungoma Level VI Hospitals ESIA & Feasibility", 5 June 2026	BSc Environmental Science (Egerton University, 2002–2006); MSc Occupational Safety and Health (JKUAT, ongoing); ISO 9001/14001/45001 Lead Auditor; Member, Environment Institute of Kenya	ESIA Lead Expert — overall responsibility for the assessment, author of the report and signatory to the certification	Ecotecture Limited (Managing Consultant, Mikayi Systems and Environment Limited)
Edgah M. Ambaza	NEMA Lead Expert — Licence No. NEMA/ENVIS/EL/0759 (App. Ref. NEMA/ENVIS/ELA/05332). Issued 27 January 2026, valid to 31 December 2026	BSc Natural Resources Management, Second Class Honours Upper Division (Egerton University, 1998–2003); IRCA-approved Lead Auditor/Trainer ISO 9001, ISO 14001, ISO 50001, OHSAS 18001; CDM/JI Lead Verifier	Lead Auditor — legal and regulatory compliance review; environmental audit methodology	Bureau Veritas (K) Limited, Coast Region
Eddy Okelo Otieno	NEMA Lead Expert — Licence No. NEMA/ENVIS/EL/0253 (App. Ref. NEMA/ENVIS/ELA/03118); EIA/EA Lead Expert Reg. No. 8090. Issued 6 January 2026, valid to 31 December 2026. Licence endorsed "To be used for Ministry of Health Level Six (6) Hospitals in Londiani and Bungoma", 6 June 2026	BSc Environmental Science (Kenyatta University, 2013); MSc Project Planning and Management (University of Nairobi, ongoing); NEBOSH International General Certificate (2017); COSHH Manager (2020); Member, Environment Institute of Kenya since 2014	Lead Expert — impact assessment and management planning	Everest Maven Group Limited
Totona Evans Kibon	NEMA Lead Expert — Licence No. NEMA/ENVIS/EL/0356 (App. Ref. NEMA/ENVIS/ELA/03421); EIA/EA Lead Expert Reg. No. 8049; DOSHS Reg. No. OSH/ADV III and OSH/FSA 121. Issued 8 January 2026, valid to 31 December 2026. Licence endorsed "For proposed South Rift & Londiani Referral Hospitals by the State Department of Health", 8 June 2026	BSc Environmental Studies and Community Development (Kenyatta University, 2005–2009); MSc Occupational Safety and Health (JKUAT); IFE (UK) Level 2 Certificate in Fire Science, Operations and Safety; Member, Environment Institute of Kenya	Occupational safety and health assessment; fire safety audit; construction-phase risk	CEMEA Limited
Purity Mukami Kariuki	Registered Associate Expert, NEMA; Member, Environment Institute of Kenya; Member, Kenya Wetland Forum; Member, Kenya Forest Working Group	BSc Environmental Studies (Community Development), Second Class Honours Upper Division (Kenyatta University, 2011–2015)	Social assessment, stakeholder engagement and vulnerable-group analysis	Global Environmental and Health Safety (EHS) Consulting

Name	Registration	Qualification	Role on this assignment	Affiliation
Venlensa Atieno Odhiambo	NEMA Lead Expert — Licence No. NEMA/ENVIS/EL/0745; Registration No. NEMA/ENVIS/RC/0076 (App. Ref. NEMA/ENVIS/ELA/04290); EIK/2/1502. Issued 26 January 2026, valid to 31 December 2026. Licence endorsed "For proposed Level 6 Hospital"	MSc Environmental Law (University of Nairobi); BSc Environmental Planning and Management (Pwani University, 2017); over 7 years in EIA, environmental audit, OSH audit and ESG compliance	Lead Expert — environmental and social assessment; field data collection and baseline survey; EHS and ESG compliance review	Global EHS Consulting
Sharon Kerubo Ondieki	NEMA Associate Expert — Certificate of Registration No. NEMA/EIA/RC/7207 (App. Ref. NEMA/EIA/ER/15570); Expert Registration No. 13241, issued 12 May 2023. Certificate endorsed "For the proposed Level 6 Hospital by the Ministry of Health"	BSc Environmental Science (Kenyatta University, 2019); NEBOSH IGC; ISO 9001 Implementation and Internal Auditor; Environmental and Social Governance; WSPAK No. 447; EIK/2/6488	Associate Expert — baseline data compilation and environmental monitoring support	Mikayi Systems and Environment Limited
Lawrence Oguda Ogwang	NEMA Associate Expert — Certificate of Registration No. NEMA/EIA/RC/372 (App. Ref. NEMA/EIA/ER/1416); Expert Registration No. 8187, issued 20 June 2014. Certificate endorsed "For proposed Londiani & Sichei Bungoma Level 6 Hospitals"	Diploma, Kenya Wildlife Service Training Institute (2002–2005); Environmental Science; public participation facilitation	Associate Expert — ESIA team member; public participation facilitation and community liaison	Ecotecture Limited
Ezekiel Olukohe	NEMA Lead Expert — Licence No. NEMA/ENVIS/EL/0906 (App. Ref. NEMA/ENVIS/ELA/05462). Issued 5 February 2026, valid to 31 December 2026. Licence endorsed "For proposed Level 6 Hospitals by the Ministry of Health — Kenya", 6 June 2026	BSc Environmental Health (Mount Kenya University, 2012–2014); Diploma in Environmental Science (Mombasa Polytechnic University College, 2003–2006); QESH Consultant	Environmental impact assessment and audit; health, safety and fire safety training input	Global E.H.S Consulting
Martha Akinyi	Registered Environmental Impact Assessment and Audit Expert, NEMA	BSc Natural Resource Management (University of Eldoret); climate change, environmental and social safeguards, public participation	Environmental and social safeguards support — field assessment, public participation with project-affected persons, and report preparation	Everest Maven Group Limited

Edgar Eredi Muyesu — ESIA Lead Expert (Licence NEMA/ENVIS/EL/0559; Reg. 1921)

Curriculum vitae, signed 12 June 2026, and NEMA Experts Licence endorsed "For South Rift Level VI & Bungoma Level VI Hospitals ESIA & Feasibility" — 5 pages

CURRICULUM VITAE

Edgar Eredi Muyesu

P.O.Box. 42588-80100 Mombasa

Phone No: 0724-904217

E-mail: muyesuedgar@gmail.com

Languages: English, Kiswahili, (Fluently spoken and written)

Date of Birth: 19th January 1983 **Marital status:** Married **Nationality:** Kenyan

CAREER OBJECTIVE

I am seeking a position that will enable me to pursue day to day consultancy, implementation, training and auditing, in quality, environment and occupational safety & health management systems to positively contribute to organizational sustainability.

WORK AND PROFESSIONAL EXPERIENCE

2015- Present

Contractor Systems Auditor/Trainer

SGS (K) Limited

Conducting Quality, Safety, and Environmental, Occupational Health & Safety Systems Management Systems Audits and Trainings as per the ISO 9001:2015, & 14001:2015 and ISO 45001:2018 standard requirements respectively and related criteria.

May 2013- Current:

Managing Consultant

Mikayi Systems & Environment Limited

1. Conducting Quality, Safety, Environmental, Occupational Health & Safety Systems Management Systems Audits/Trainings/ Implementation programs as per the ISO 9001:2015, & 14001:2015, and ISO 45001:2018 Standard requirements respectively.
2. Conducting Environmental Impact Assessment in line with EMCA and EIA Regulations
3. Conducting Statutory audits –NEMA, Occupational Safety & Health, Fire Safety & Risk Assessment Audits
4. Overseeing the day to day operations

May 2013 – December 2019

Course Instructor- Environmental Impact Assessment

Jomo Kenyatta University of Agriculture & Technology (JKUAT)-Mombasa Campus

Taking learners through EIA courses as guided by EMCA curriculum

Jan 2011 to April 2013

AUDITOR/TRAINER: BUREAU VERITAS (K) LTD

RESPONSIBILITIES:

1. Conducting Quality, Safety, Environmental, Occupational Health & Safety Systems Management Systems Audits/Trainings as per the ISO 9001:2008, & 14001:2004, and ISO 18001: 2007 Standard requirements respectively.
2. Carrying out Environmental, Impact/Audit Assessments as per the Environmental Management and Coordination Act (EMCA 1999) for the company clients as a NEMA registered Expert.

September 2008- December 2010

QUALITY, ENVIRONMENT, OCCUPATIONAL SAFETY HEALTH (QEOSH): GLOBAL E.H.S CONSULTING

RESPONSIBILITIES

Conducting environmental impact assessment and environmental audits in pursuant to the legal requirements of Environmental Management & Coordination Act 1999 (Kenya) for various firms (see attached list of EIAs/Audits conducted)

September 2008 –Nov 2010;

PART TIME TEACHING ASSISTANT: MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

RESPONSIBILITIES

Teaching Environmental Impact Assessment/Audit (EIA/EA), Project Planning & Management, Environmental Planning, Environmental Economics, Environmental law, Occupational Health and Safety, Planning and Management of Natural Resources, Ecology and Environmental Monitoring, Environmental Economics, Law and Community Environmental Health.

Nov 2007-August 2008:

PROJECT OFFICER: NZOIA RIVER BASIN WATER RESOURCE USERS ASSOCIATION-(COMMUNITY DEVELOPMENT TRUST FUND)

RESPONSIBILITIES

- Coordinating day to day operational aspects of the project and staff in the Upper Nzoia basin
- Monitoring and evaluation of project progress jointly with other partners Creating and executing project work plans and revising them as appropriate to meet changing needs/requirements
- Providing technical support to the implementing community groups

EDUCATIONAL BACKGROUND

2017- Ongoing: Jomo Kenyatta University of Agriculture & Technology

Msc. Occupational Safety & Health

2002-2006: Egerton University

Bsc. Environmental science
Graduated with First Class Honours

Professional Qualifications & Knowledge

- Management Systems Risk Based Thinking Training
- Quality Management Systems Lead Auditor Training Course -Lead Auditor, QMS 9001:2008 and later 2015
- Environmental Management Systems Lead Auditor Training Course Lead Auditor, EMS 14001:2004 and later 2015
- Occupational Health& Safety Management Systems Lead Auditor Training Course Lead Auditor, EMS 18001:2007 and later ISO 45001:2018
- National Environment Management Authority (NEMA): Registered and practicing as Environmental Impact Assessment Lead Expert (Reg. No. 1921)
- Environment Institute of Kenya – Member

REFEREES

Godfrey Wabwile Wafula County Director of Environment P. O. Box 87400-80100 Mobile: +254 734235574 Email: gwafula@yahoo.com	Philip Maliro QHSE Group Head Grain Bulk Industries Limited & MJ Group Mobile: +254 714297058 Email: wphima@gmail.com




[Signature of the staff Member]

Date: 12th June, 2026

Full name of staff member: _____ EDGAR EREDI MUYESU _____

Full name of authorized representative: _____ EDGAR EREDI MUYESU _____



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

ENVIRONMENT MANAGEMENT AND COORDINATION ACT, Cap 387

Experts License - Associate/Lead Experts

License No.:

NEMA/ENVIS/EL/0559

Application Reference No:

NEMA/ENVIS/ELA/02565

M/S Edgar Eredi Muyesu

(individual or firm) of (address) **P.O.BOX 42588, 80100, Mombasa GPO**

is licensed to practice in the capacity of a **Lead Expert** registration number **NEMA/ENVIS/EL/0559** in accordance with the provision of the Environmental Management and Coordination Act cap 387.

Issued Date: **22nd January 2026**

Expiry Date: **31st December 2026**

David Ongare

*For SOUTH RIFT LEVEL VI & BUNGOMA LEVEL VI
HOSPITALS ECIA & FEASIBILITY*

For DIRECTOR GENERAL

National Environment Management Authority

[Signature]
5th of JUNE 2026

P.T.O.



ISO 9001 : 2015 Certified

Edgah M. Ambaza — Lead Auditor (Licence NEMA/ENVIS/EL/0759)

Curriculum vitae, signed 8 June 2026, and NEMA Experts Licence — 10 pages

CURRICULLUM VITAE

PERSONAL INFORMATION

NAME: Mr. Edgah M. Ambaza
ADDRESS: P.O. Box 42588-80100,
MOMBASA, KENYA.
TEL: 0720282167.
E-mail: ambaza.edgar@gmail.com
FIELD OF PRACTICE: Quality, Safety, Health and Environment.
NATIONALITY: Kenyan.
Languages: English and Kiswahili
PIN NO. A003342346J.
SEX: Male.
AGE: 35 years.

BACKGROUND

Mr. Edgah M. Ambaza is a dedicated, energetic, proactive and committed Quality, Safety, Health and Environmental Expert with 10 years experience in this field. I am a troubleshooter and able to deal with a range of situations that can arise in my occupation towards quality, safety, health and environmental management. I also have strong communication and diplomatic skills which come in handy with dissatisfied customers and when dealing with staff and clients at all levels.

NOTABLE ACHIEVEMENTS

Managed to increase client and maintain base through prudent service delivery to company clients whilst serving as a trainer and environmental auditor in Universal consultancy Ltd, through advice on the safety and health legislative requirements and timely auditing and submission of environmental audit reports for clients through team work. Managed to improve culture of safety within Mombasa Maize Millers Group towards safety consciousness. Furthermore have assisted organizations achieve certifications in ISO 14001:2004, 18001:2007 & 9001:2008 through awareness, training, documentation and auditing.

EXPERIENCE

CURRENT: December 2008 to Date

AUDITOR/TRAINER BUREAU VERITAS (K) LTD, COAST REGION.

RESPONSIBILITIES:

1. IRCA approved Tutor for EMS EnMS and QMS Lead Auditor Trainings.
2. Conducting Quality, Safety, Health & Environmental, and Energy Management Systems Audits as per the ISO 9001:2008, OHSAS 18001:2007 & ISO 14001:2004, ISO 50001:2011 Standard requirements respectively.
3. Carrying out validation and verification of CDM/JI Projects on behalf of The United Nations Framework Convention on Climate Change.
4. Carrying out Environmental, Impact/Audit Assessments as per the Environmental Management and Coordination Act (EMCA 1999) for the company clients as a NEMA

- registered LEAD EXPERT.
5. Providing consultancy services with special reference to statutory requirements i.e. (EMCA 1999) and OSHA 2007 to help clients comply.
 6. Conducting occupational health and safety trainings/audits as per Occupational Safety and Health Act 2007 (Safety and Health Committee Rules) 2004.
 7. Taking the company clients through the entire documentation, implementation and maintenance of management systems processes of the respective international standards i.e. ISO 9001:2008 & 14001:2004 until they achieve certification.
 8. Formulation of occupational, safety and health policies for the company clients.

Sampled out projects for include:

	EMS	OHSAS	EnMS	QMS	CDM
Coastal Bottlers Ltd	Documentation & Implementation	Documentation & Implementation		Documentation & Implementation	
Primefuels (K) Ltd	Documentation & Implementation				
Primefuels (T) Ltd	Documentation & Implementation				
Pwani University College				Documentation & Implementation	
Bureau Veritas Ltd	Facilitator, IRCA Lead Auditor Open courses		Facilitator, IRCA Lead Auditor pen course	Facilitator, IRCA Lead Auditor Open course	
J.P. Morgan Energy Ventures					Verification of Gyapa Improved Cookie Stoves project, Ghana
J.P. Morgan Energy Ventures					Verification of Ugastove Improved Cookie Stoves, Uganda
Standard Bank Plc					Validation of Refrigeration Plant Efficiency Programme Project, Republic of South Africa
Camco Carbon Africa Ltd					Validation of Small Scale Grid Connected Solar Power Programme Project, Republic of South Africa

2006-2008

GROUP SAFETY HEALTH AND ENVIRONMENT OFFICER

In charge of safety health and environment **Mombasa Maize Millers** and group of companies in Kenya namely:

1. Mombasa Maize Millers Ltd (Mombasa).
2. Mombasa Maize Millers Ltd (Nairobi).
3. Mombasa Maize Millers Ltd (Nakuru).
4. Mombasa Maize Millers Ltd (Kisumu).
5. Mombasa Maize Millers Ltd (Embakasi).
6. Poly Proplene Bags Ltd (Mombasa).
7. Malindi Ginneries Ltd (Malindi).
8. Malindi Salt Works Ltd (Malindi).
9. Patco Industries Ltd (Nairobi).
10. Kitale Industries Ltd (Kitale).
11. Bash Hauliers Ltd

RESPONSIBILITIES.

- ❖ Ensuring site standards are met as set out in the environment, safety and health policies.
- ❖ Carry out specific safety training and participate in new employee and contractor inductions.
- ❖ Coordinating functions of safety, health and environmental committees of all the companies.
- ❖ Liaising with National Environment Management Authority (NEMA and Directorate of Occupational Safety and Health Services (DOHSS) on environment, health and safety issues.
- ❖ Conducting annual Environmental Audits and Environmental Impact Assessments in liaison with approved lead experts.
- ❖ Creating awareness among employees to participate actively in safety, health and environmental management.
- ❖ Analysing accidents and injury statistics for the group.
- ❖ Writing of technical reports on environment, occupational health and safety situations in all the companies on monthly basis.
- ❖ Providing advice to all levels on best practice and legal requirements as per safety, health and environmental standards.
- ❖ Participation in risk assessment and control and maintenance of safety, health and environmental standards.
- ❖ Establishing and maintaining systems for, and participation in, safety, health and environmental inspection and audit.
- ❖ Establishing and maintaining procedures for, and assisting where appropriate, in investigation of accidents, incidents and near misses.
- ❖ Initiating the redrafting of safety rules, systems and procedures for protection of workers against injury and safeguarding property.
- ❖ Carrying out of analysis of trends in safety statistics and recommending action for improvement. Discharging legal information obligations and information requirements from Head Office and external bodies.
- ❖ Participation in site safety communication and review activities. Member of site safety committee.
- ❖ Selection, maintenance and training on use of PPE's.
- ❖ Organizing for annual safety and health audits in liaison with approved safety and health advisors and arranging specialist surveys including dust, noise etc.
- ❖ Authority to stop works being carried out in contravention of agreed standards which puts people at risk.

Sura

2004 TO 2006

SAFETY, HEALTH AND ENVIRONMENTAL CONSULTANT
(UNIVERSAL WORK, HEALTH AND SAFETY CONSULTANCY LTD).

ENVIRONMENTAL (IMPACT ASSESSMENTS & AUDITS)

Conducted Environmental Audits, Environmental Impact Assessments in pursuant to the legal requirements of **Environmental Management & Coordination Act 1999 (Kenya)** for various farms and industries.

2004-2006

Rose Brothers Agricultural Contractors, Patel Coffee Brothers, Njoro Gardens Ltd, Sher Agencies Ltd, Van den Berg (K) Ltd, Matuikam Agencies Ltd, Geokam Filling Station, Falcon Filling Station .

Nakuru, Kenya

Responsibilities:

Identified potential positive and negative environmental impacts of the stations to (BESP) environment. Carried out pertinent literature search and research into the mitigation measures to remedy the potential negative impacts of the two stations. Developed a comprehensive report that provided guidelines towards safeguarding the environment and promoting workers health & safety.

2004-2006

Mombasa Maize Millers Ltd, Malindi Ginneries Ltd, Malindi Salt Works Ltd, Mombasa Polythene Bags Ltd, Polypropylene Bags Ltd, Limca Agricultural Produce Ltd, Gongoni Filling Station.

Mombasa/Malindi/Taveta, Kenya.

Responsibilities

Established and documented environmental impacts of the factories, and predicted likely future impacts. Aailed suggestions on how to protect the adjacent surface water bodies from pollution by meeting the standards set by the Ministry of Development. Determined and evaluated the efficiency of the waste management process and gave recommendations.

Identified the occupational safety and health measures in place and provided input towards betterment of the same.

Spa

2004 - 2006 KETEPa Ltd, Unilever Tea Kenya Ltd, Jumbo Filling Station, Tealand Service Station, Bureti Filling Station, Tea Hotel.
Kericho, Kenya

Responsibilities: Identified the safety and health management practices in place, their efficiency and provided guidelines to meet DOHSS requirements. Carried out pertinent literature search and research into the mitigation measures to remedy the potential negative impacts of the factories. Developed a comprehensive report that provided guidelines towards safeguarding the environment.

2004-2006 Ashut Engineers Ltd, Catalyst Chemicals Ltd, Laxmanmbhai Construction Co Ltd, Budget Housing Ltd, Ceramics Manufacturers Ltd, Chirag Builders, Brush Manufactures Ltd, Patco Industries Ltd, Mombasa Maize Millers (Nairobi), Ramji Ratna & Co Ltd, Supplies & Services, Super Manufacturers Ltd, Dreamland Apartments Ltd.

Nairobi, Kenya

Responsibilities: Evaluated the company's overall environmental performance, generated baseline data, and identified measures for improvement. Assessed the company's use of natural resources, with special attention to water use and waste management practises. Established measures in place to secure the health & safety of personnel and evaluated the facility's fire safety preparedness.

2004-2005 Eastern Produce Kenya Ltd, Corn Products Ltd, Raiply (K) Ltd,

Eldoret/Nandi hills; Kenya

Responsibilities: Collected and collated data relevant to the study as part of the team constituted to audit the three factories. Provided key input into the development of suitable environmental management plans for the firms, which addressed issues related to water use, waste management, occupational health, fire safety and health aspects of indoor environments with respect to air quality. Took active role in compilation of the consolidated environmental audit report for the study.

OCCUPATIONAL SAFETY & HEALTH TRAININGS

2005-2006 Conducted Occupational Safety and Health trainings for various firms and industries throughout the country in pursuant to the legal requirements of **Factories and Other Places of Work Act Cap 514 (Safety and Health Committees) Rules 2004 (Kenya)**. Among them Kenya Association of Manufacturers (KAM) Kisumu and Nakuru chapter, Unilever Tea (K) Ltd, Eastern Produce Kenya Ltd, Sher Agencies, Shalimar Flowers, Panda Flowers, Brush Manufacturers Ltd, Banbros (K) Ltd, Tim Sales Ltd, Sasini Tea & Coffee (Kipkebe Tea Factory), Comply Industries Ltd, George Williamson Tea Ltd, Palmac Oil Refineries Ltd, Economic Housing Group Ltd, Van Den Berg Kenya Ltd, Nini Ltd, Blue Sky Ltd, Fontana Ltd, Kiptagich Tea Estates Ltd, Plantation Plants Ltd, Savannah Plants Ltd, Epco Builders, Welding Alloys, Kitale Industries Ltd,

Amza

Enkasiti Roses Ltd, Keroche Industries Ltd, High chem East Africa Ltd, Patel Coffee Estates Ltd, Patco Industries Ltd, Central Tea Group Ltd among others.

Responsibilities:

Performed research on occupational health & safety and developed various training programs for different cadres of workers in numerous companies ranging from inter alia; timber industry, building and construction, chemical processing, tea industry, food processing and the floricultural sector. Trained various staffs in occupational safety and health, chemical safety and fire safety among others.

**FIELD ATTACHEE.
June – August 2002**

Kenya Wildlife Service (KWS), Lake Nakuru National Park.

- ❖ Sampled and analyzed the Nakuru Town Sewage for contaminant levels.
- ❖ Sampled and analyzed water samples of the Lake Nakuru.
- ❖ Collected and collated wildlife and bird counts data for Lake Nakuru National Park, Research station.
- ❖ Carried out biomass inventory of the invasive species in the Lake Nakuru National Park
- ❖ Participated in the World clean-up Day courtesy of the Wetland Working Group.
- ❖ Participated in both animal and bird counts of the Lake Nakuru National Park and other Rift Valley Lakes.

ACADEMIC QUALIFICATIONS

DURATION	INSTITUTION	AWARD
December 2010	Bureau Veritas (Dubai) Ltd	LEAD AUDITOR/TRAINER EN BS 50001:2011 Energy Management Systems Certificate
September 2010	Bureau Veritas (Poland) Ltd	CDM/JI LEAD Verifier Certificate
October 2009	Bureau Veritas (K) Ltd	LEAD AUDITOR/TRAINER ISO 14001:2004 Environmental Management Systems Certificate.
February 2009	Bureau Veritas (K) Ltd	LEAD AUDITOR/TRAINER ISO 9001:2008 Quality Management Systems Certificate.
October – November 2005	Universal Work Health & Safety Consultancy Ltd.	Certificate in Occupational Health and Safety for competent Persons as provided in the Health and Safety Committee Rules 2004
1998-2003	Egerton University.	BSc. Natural Resources Management (Second Class Honours-Upper Division).
1993-1996	Lubinu Secondary School.	K.C.S.E certificate Attained a mean grade B- (Minus).

Enka

CAREER OBJECTIVES

Short term

To seek relevant and challenging position in an enabling corporate environment where I would be able to translate the knowledge, skills and experience acquired into practice and to aspire to contribute positively to the organizational goals.

Long term

Seeking to see myself advancing to a position of leadership and in a situation calling for total dedication, hard work, creativity, implementation of projects, evaluation, decision making, lead and inspire others in an open honest way to enable the organization achieve its long term strategic aspirations more competitively.

ADDITIONAL INFORMATION

WORKSHOPS & SEMINARS:

Attended workshop for *"solid and liquid waste treatment, preconditions, technology and utilization"* on December 2005 presentation for NEMA auditors, focusing on the improvement of the environment and making use of the waste generated other than disposing it.

Federation of Kenya Employers workshop (Coast Chapter) on occupational safety and health and environmental management focussing on occupational safety and health at the workplace with reference to legislation by Directorate of Occupational Safety and Health Services. Further, good environmental management practices for the production sector and environmental auditing/impact assessment requirements presentations by National Environment Management Authority (NEMA) officials. March 2007

Kenya Association of Manufacturers workshop (Coast Chapter) for occupational safety and health and environmental management presentations by Directorate of Occupational Safety and Health Services and National Environment Management Authority (NEMA) officials. June 2007.

Kenya Association of Manufacturers workshop (Coast Chapter) workshop on Environmental Management & Coordination (Waste Management) Regulations, 2006 and Environmental Management & Coordination (Water Quality) Regulations, 2006.

VITAL QUALITIES:

- ❖ Good oral and written communication skills.
- ❖ Assertive with good interpersonal skills; team player.
- ❖ Credibility and flexibility to deal with people at varied levels and cultural background; persuasive.
- ❖ Pro-active, highly motivated, adheres to deadlines, possess problem solving skills and a quick learner.
- ❖ Committed to highest ethical skills.

SKILLS:

- ❖ Computer literacy.
- ❖ Occupational Health and Safety Trainings.
- ❖ Environmental Impact Assessment.
- ❖ Environmental Auditing.
- ❖ Report writing.

Enza

LANGUAGES:

	<u>Spoken</u>	<u>Written</u>	<u>Read</u>
▪ English	Excellent	Excellent	Excellent
▪ Kiswahili	Good	Good	Good

INTERESTS:

- ❖ Conservation.
- ❖ Traveling.
- ❖ Community work participation.
- ❖ Watching football.

REFERIES**1. Mr. Walter Rono**

General Manager,
Bureau Veritas (K) Ltd,
P. O. Box 41622-80100
Mobile: +254722606886,
NAIROBI, KENYA.

2. Mrs. Arnolda Chao.

Executive Officer, Regulatory Services,
Kenya Association of Manufacturers (KAM),
P.O Box 30225-40100,
NAIROBI, KENYA.
Mobile: +254 722 830990.

3. Mr. Anthony Ngochoch,

Quality Improvement Manager,
Coca-Cola East & Central Africa Ltd,
P.O. Box 300134-00500,
NAIROBI, KENYA.
Mobile: +254 725699989



Edga

Date: 08th June, 2026

[Signature of the staff Member]

Full name of staff member: _____ EDGAH M. AMBAZA _____

Full name of authorized representative: _____ EDGAH M. AMBAZA _____



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

ENVIRONMENT MANAGEMENT AND COORDINATION ACT, Cap 387

Experts License - Associate/Lead Experts

License No.:

NEMA/ENVIS/EL/0759

Application Reference No:

NEMA/ENVIS/ELA/05332

M/S Edgah Ambaza Malenge

(individual or firm) of (address) P.O.BOX 50677, 00100, Nairobi General Post Office

is licensed to practice in the capacity of a **Lead Expert** registration number NEMA/ENVIS/EL/0759 in accordance with the provision of the Environmental Management and Coordination Act cap 387.

Issued Date: 27th January 2026

Expiry Date: 31st December 2026

Newton Ombese

For DIRECTOR GENERAL

National Environment Management Authority

P.T.O.



Eddy Okelo Otieno — NEMA Lead Expert (Licence NEMA/ENVIS/EL/0253; Reg. 8090)

Curriculum vitae, signed 6 June 2026, and NEMA Experts Licence endorsed "To be used for Ministry of Health Level Six (6) Hospitals in Londiani and Bungoma" — 8 pages

EDDY OKELO

P.O.BOX 30670-00100 Nairobi • (+254)712503327 • okelloedu@gmail.com

PERSONAL SUMMARY

Enthusiastic and highly motivated Environmental Health and Safety personnel with practical hands-on approach in trainings, audits and program implementation and who is well organized and proactive in providing services with the determination to achieve the best results. Able to collect and analyze information, digest facts/figures and quickly grasp complex technical issues. Excellent negotiation and problem-solving skills and swiftly identify the root of any problem and develops effective solutions.

EDUCATION

Nairobi University, Nairobi	Ongoing
Masters in Project Planning and Management	
Second Class Honors	
Kenyatta University, Nairobi	December 2013
Bachelor of Environmental Science	
Second Class Honors	
Strathmore School, Nairobi	November 2007
KCSE B+	

PROFESSIONAL COURSES

NEBOSH

International General Certificate in Occupational Safety and Health	March 2017
The COSHH Manager certification	June 2020

PROFILE

- Safety & health and committee trainer
- Fire safety trainer
- Scaffolding, and work at height trainer
- Environmental Awareness
- Construction safety
- Chemical safety trainer
- ISO implementation
- Safety Risk Assessment
- Environmental auditing
- Safety and health auditing
- Environmental Impact Assessment
- Fire safety auditing

EXPERIENCE

Everest Maven Group Limited

2016 to Present

Environment Safety and Health Consultant

Roles and Responsibilities

Role and Responsibilities include; HSE supervision on related projects, partaking occupational Fire safety, health and safety trainings; Gap analysis, Implementation and Documentation for ISO 9001, ISO 45001 and OHSAS 18001; Under Lead Advisors participate in Fire Safety Audits, Safety and Health Audits. As a NEMA Lead auditor conduct Environment Audits, Environmental Impact Assessments and noise survey audits.

Some notable clients:

- In the company of approved advisers, offered Consulting services on, Safety and Fire safety audits and environment audits and Environmental Impact Assessments for Mantrac K. Ltd, Bureau Veritas (k) Ltd, Naivas Limited, Safaricom Limited and Arvind Engineering among others
- Noise survey audits for clients such as Bollore Transport and Logistics, Pesapal Limited, Exotic Penina Fields, Bamburi Cement Ltd, Nduti Factory among others.
- Safety and health systems development and implementation which include; Developing permits to work, Safe work and operating procedures, Fire safety signages, job hazard and job safety analysis, accident investigation procedures as well as risk assessments to clients such as Channa Construction Ltd.
- Conducted fire drills for companies such as Sisibo Tea Factory, Pesapal and Earth oil among others.
- Conducted trainings on Fire Safety and occupational safety trainings at Chania Supermarket, Sea Harvest Limited, Jubilee Insurance Group, Lipton Teas and Infusions among others.
- Consulted on matters of Environment Impact assessments for clients such as Boly Industries Kenya Limited, Vitrocow Genetics Limited, Ministry of Water, Sanitation and Irrigation, Ruwa Enterprises, Kenbro limited and Exotic Penina Limited among other developers.
- Consulted on ISO 9001, ISO 45001 and OHSAS 18001 implementation and documentation for clients such as Sika Kenya, Metal Crowns Ltd, Bentworth and Geoff Griffiths among others.

Unisafe Fire and Safety Consultancy Limited

Jan 2018 to Present

(Part Time contractor)

Environment Safety and Health Contractor

Roles and Responsibilities

Role and Responsibilities include; HSE supervision on related projects, partaking occupational Fire safety, health and safety trainings; Conducting Fire Safety Audits, Safety and Health Audits as well as Environment Audits.

Nu-Plan Engineering and Design

Jan 2017 to Present

(Permanent and as a Part time contractor)

Safety, Health and Environment Manager

Responsibilities

- Drafting, implementing and reviewing company safety policies.
- Drafting, implementing and reviewing safe systems of work and procedures including permit to work, standard operating procedures and job hazard analysis for works at height, excavation works, cementing, confined space entry, electrical installations among other dangerous work processes.
- Regular training of staff on safety including PPE usage and management, safe work procedures, dangerous work processes, ergonomics, fire safety among others.
- Ensuring compliance with Client (Total Kenya, Tata Chemicals) safety requirements and local legislation
- Evaluating practices, procedures and facilities to assess risk
- Conducting toolbox meetings at various construction sites
- Managing construction site safety including training and supervising painting works, hot works, electrical installations, confined space entry, work at height
- Conducting training needs assessments and delivering trainings and presentations on health and safety matters
- Recommending solutions to issues, improvement opportunities and new prevention measures

- Reporting on health and safety awareness, issues and statistics through weekly reports.
- Conducting accident investigations to determine root causes of accidents and incidents.
- Some of the notable projects engaged in include Huduma centers renovation, Kenya Railways commuter train renovation, Total Kenya service stations construction and renovations, Tata Chemicals service railway line maintenance, Toyota Kenya vehicle yard and service center

Bureau Veritas, (K) Ltd (Part Time Contractor)

June 2016 to Present

Safety, Health and Environment Consultant

- In the company of approved advisers, offered Consulting services on, safety and fire safety audits for, VTTI Kenya (Mombasa), Bollere Transport and Logistics, Mombasa Island Container Terminal Ltd, Deepa Industries, Sankara Hotel, Bamburi, Intercontinental Hotel and Dusit D2 Hotel among others.
- Offered consulting services on Fire Safety systems assessments and verification to Crown Hotel Plaza.
- Offered consulting services on air quality, dust and noise surveys for Companies such as Savanna Cement Limited and East Africa packaging Industry among others.

Kaileys Consortium Limited

Aug 2014 to Feb 2016

Environment Safety and Health Consultant

- Offered trainings on Fire safety and occupational Safety and Health to diverse companies including; Earth Oil Epz K.Ltd, Waridi Fowers Limited, Milly Fruits Limited, New Wide Garments Epz K. Ltd Athi-River, Manchester Outfitters and Auto Sueco (EA) among others.
- Under a DOSHS advisor, offered Consulting Services on Statutory Safety and Health Audits, Fire Safety Audits and Risk Assessments for different companies including; Finlays Kenya Limited, Florensis Kenya Limited, and Soliton Telmec Limited among others.
- Offering consulting services on Environmental Impact Assessments and Audits for companies such as Blooming, Flower Bulbs Limited, New Wide Garments Epz K. Ltd and Deepa Industries and Dusit D2 Hotel among others.
- Under a DOSHS approved advisor Offered Consulting Services on Noise measurements and Air Quality Measurements to companies such as Western Seed Company Limited and Finlays Kenya Limited among others.

SUMMARY OF SKILLS

- Inspection and Hazard Identification skills
- Assessment and Auditing skills (Safety, Health and Environment)
- ISO gap analysis and documentation
- Organization skills, Research and Team work skills
- Environment, Health and Safety project management

REGISTRATION TO PREFESSIONAL BODIES

- Environment Impact Assessment & Audit (EIA/EA) Lead Expert. Nema Reg. No: 8090
- Member of Environment Institute of Kenya since 2014

REFEREES

Evans Totona

Cemea Limited

NEMA Lead Reg. No 8049

0726397739

Kevin Kimani

EHS Consultant

Everest Maven Group Ltd

0725814558

Nema Lead Reg. 8071

OK

Date: 06th June, 2026

[Signature of the staff Member]

Full name of staff member: _____ EDDY OKELO _____

Full name of authorized representative: _____ EDDY OKELO _____



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

ENVIRONMENT MANAGEMENT AND COORDINATION ACT, Cap 387

Experts License - Associate/Lead Experts

License No.:

NEMA/ENVIS/EL/0253

Application Reference No:

NEMA/ENVIS/ELA/03118

M/S Eddy Okelo Otieno

(individual or firm) of (address) **P.O.BOX 30670, 00100, Nairobi General Post Office**

is licensed to practice in the capacity of a **Lead Expert** registration number **NEMA/ENVIS/EL/0253** in accordance with the provision of the Environmental Management and Coordination Act cap 387.

Issued Date: **5th January 2026**

Expiry Date: **31st December 2026**

David Ongare

For DIRECTOR GENERAL

National Environment Management Authority

OK
*To be used For Ministry
of Health Level Six (6)
Hospitals in Londiani
and Bungoma*
06/06/2026

P.T.O.



ISO 9001 : 2015 Certified

EDDY OKELO

P.O.BOX 30670-00100 Nairobi • (+254)712503327 • okelloedu@gmail.com

PERSONAL SUMMARY

Enthusiastic and highly motivated Environmental Health and Safety personnel with practical hands-on approach in trainings, audits and program implementation and who is well organized and proactive in providing services with the determination to achieve the best results. Able to collect and analyze information, digest facts/figures and quickly grasp complex technical issues. Excellent negotiation and problem-solving skills and swiftly identify the root of any problem and develops effective solutions.

EDUCATION

Nairobi University, Nairobi	Ongoing
Masters in Project Planning and Management	
Second Class Honors	
Kenyatta University, Nairobi	December 2013
Bachelor of Environmental Science	
Second Class Honors	
Strathmore School, Nairobi	November 2007
KCSE B+	

PROFESSIONAL COURSES

NEBOSH

International General Certificate in Occupational Safety and Health	March 2017
The COSHH Manager certification	June 2020

PROFILE

- Safety & health and committee trainer
- Fire safety trainer
- Scaffolding, and work at height trainer
- Environmental Awareness
- Construction safety
- Chemical safety trainer
- ISO implementation
- Safety Risk Assessment
- Environmental auditing
- Safety and health auditing
- Environmental Impact Assessment
- Fire safety auditing

EXPERIENCE

Everest Maven Group Limited

2016 to Present

Environment Safety and Health Consultant

Roles and Responsibilities

Role and Responsibilities include; HSE supervision on related projects, partaking occupational Fire safety, health and safety trainings; Gap analysis, Implementation and Documentation for ISO 9001, ISO 45001 and OHSAS 18001; Under Lead Advisors participate in Fire Safety Audits, Safety and Health Audits. As a NEMA Lead auditor conduct Environment Audits, Environmental Impact Assessments and noise survey audits.

Some notable clients:

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- Noise survey audits for clients such as Bollore Transport and Logistics, Pesapal Limited, Exotic Penina Fields, Bamburi Cement Ltd, Nduti Factory among others.
- Safety and health systems development and implementation which include; Developing permits to work, Safe work and operating procedures, Fire safety signages, job hazard and job safety analysis, accident investigation procedures as well as risk assessments to clients such as Channa Construction Ltd.
- Conducted fire drills for companies such as Sisibo Tea Factory, Pesapal and Earth oil among others.
- Conducted trainings on Fire Safety and occupational safety trainings at Chania Supermarket, Sea Harvest Limited, Jubilee Insurance Group, Lipton Teas and Infusions among others.
- Consulted on matters of Environment Impact assessments for clients such as Boly Industries Kenya Limited, Vitrocow Genetics Limited, Ministry of Water, Sanitation and Irrigation, Ruwa Enterprises, Kenbro limited and Exotic Penina Limited among other developers.
- Consulted on ISO 9001, ISO 45001 and OHSAS 18001 implementation and documentation for clients such as Sika Kenya, Metal Crowns Ltd, Bentworth and Geoff Griffiths among others.

Unisafe Fire and Safety Consultancy Limited

Jan 2018 to Present

(Part Time contractor)

Environment Safety and Health Contractor

Roles and Responsibilities

Role and Responsibilities include; HSE supervision on related projects, partaking occupational Fire safety, health and safety trainings; Conducting Fire Safety Audits, Safety and Health Audits as well as Environment Audits.

Nu-Plan Engineering and Design

Jan 2017 to Present

(Permanent and as a Part time contractor)

Safety, Health and Environment Manager

Responsibilities

- Drafting, implementing and reviewing company safety policies.
- Drafting, implementing and reviewing safe systems of work and procedures including permit to work, standard operating procedures and job hazard analysis for works at height, excavation works, cementing, confined space entry, electrical installations among other dangerous work processes.
- Regular training of staff on safety including PPE usage and management, safe work procedures, dangerous work processes, ergonomics, fire safety among others.
- Ensuring compliance with Client (Total Kenya, Tata Chemicals) safety requirements and local legislation
- Evaluating practices, procedures and facilities to assess risk
- Conducting toolbox meetings at various construction sites
- Managing construction site safety including training and supervising painting works, hot works, electrical installations, confined space entry, work at height
- Conducting training needs assessments and delivering trainings and presentations on health and safety matters
- Recommending solutions to issues, improvement opportunities and new prevention measures
- Reporting on health and safety awareness, issues and statistics through weekly reports.

- Conducting accident investigations to determine root causes of accidents and incidents.
- Some of the notable projects engaged in include Huduma centers renovation, Kenya Railways commuter train renovation, Total Kenya service stations construction and renovations, Tata Chemicals service railway line maintenance, Toyota Kenya vehicle yard and service center

Bureau Veritas, (K) Ltd (Part Time Contractor)

June 2016 to Present

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- Offered consulting services on air quality, dust and noise surveys for Companies such as Savanna Cement Limited and East Africa packaging Industry among others.

Kaileys Consortium Limited

Aug 2014 to Feb 2016

Environment Safety and Health Consultant

- Offered trainings on Fire safety and occupational Safety and Health to diverse companies including; Earth Oil Epz K.Ltd, Waridi Fowers Limited, Milly Fruits Limited, New Wide Garments Epz K. Ltd Athi-River, Manchester Outfitters and Auto Sueco (EA) among others.
- Under a DOSHS advisor, offered Consulting Services on Statutory Safety and Health Audits, Fire Safety Audits and Risk Assessments for different companies including; Finlays Kenya Limited, Florensis Kenya Limited, and Soliton Telmec Limited among others.
- Offering consulting services on Environmental Impact Assessments and Audits for companies such as Blooming, Flower Bulbs Limited, New Wide Garments Epz K. Ltd and Deepa Industries and Dusit D2 Hotel among others.
- Under a DOSHS approved advisor Offered Consulting Services on Noise measurements and Air Quality Measurements to companies such as Western Seed Company Limited and Finlays Kenya Limited among others.

SUMMARY OF SKILLS

- Inspection and Hazard Identification skills
- Assessment and Auditing skills (Safety, Health and Environment)
- ISO gap analysis and documentation
- Organization skills, Research and Team work skills
- Environment, Health and Safety project management

REGISTRATION TO PROFESSIONAL BODIES

- Environment Impact Assessment & Audit (EIA/EA) Lead Expert. Nema Reg. No: 8090
- Member of Environment Institute of Kenya since 2014

REFEREES

Evans Totona
Cemea Limited
NEMA Lead Reg. No 8049
0726397739

Kevin Kimani
EHS Consultant
Everest Maven Group Ltd
0725814558
Nema Lead Reg. 8071

A handwritten signature in blue ink, appearing to be 'Totona Evans Kibon', written on a light blue background.

Totona Evans Kibon — NEMA Lead Expert (Licence NEMA/ENVIS/EL/0356; Reg. 8049)

Curriculum vitae, signed 8 June 2026, and NEMA Experts Licence endorsed "For proposed South Rift & Londiani Referral Hospitals by the State Department of Health" — 4 pages

CURRICULUM VITAE (CV) FOR TOTONA EVANS KIBON

Position: Lead EIA/ EA Expert, Safety and Health Advisor & Fire Safety Auditor

Name of Firm: CEMEA LIMITED

Name of consultant: Totona Evans Kibon

Profession: OCCUPATIONAL SAFETY AND HEALTH ADVISER, FIRE SAFETY AUDITOR & TRAINER,
EIA & EA LEAD EXPERT

Date of Birth: October 7th 1986

Years with firm: 3 years Nationality: Kenyan

Membership in Professional Societies:

-
- a. Lead EIA/EA Expert duly registered by National Environment Management Authority (NEMA) -Reg. No 8049
 - b. Registered Safety and Health Adviser & Fire Safety Auditor under the Directorate of Occupational Safety and Health Services (DOSHS)- Reg. No. OSH/ADV III & OSH/FSA 121
 - c. Registered member of the Environmental Institute of Kenya
-

Key Qualifications:

- ❖ Master in Occupational Safety and Health
 - ❖ Trained in fire safety, operations and safety at the Institute of Fire Engineers (UK)
 - ❖ Implemented general environmental health and safety in different sectors for over 5 years
-

Education:

COLLEGE:	INSTITUTE OF FIRE ENGINEERS (UK) IFE Level 2 Certificate in Fire Science, Operations and Safety
POST GRADUATE DEGREE:	JKUAT MSC, Occupational Safety and Health
UNDERGRADUATE DEGREE:	KENYATTA UNIVERSITY (2005 -2009). Bachelor of Environmental Studies and Community Development
Degree Attained	Second Class Honors (Upper Division)
SECONDARY EDUCATION:	NAIROBI SCHOOL (2000-2003) Kenya Certificate of Secondary Education
Grade Attained	B + (Plus)

Page 1 of 3



Employment Record:

June 2016 To: To-date -CEMEA LIMITED

Positions Held: Specialist in Environment Health and Safety. In-charge of Safety & Health Auditing, Health and Safety Risk Assessments, Fire Safety Auditor, Environmental Impact Assessments and Audits as well as trainings in EHS.

November 2012 to: July 2015- TRANSEAST (K) LIMITED

Responsibilities

- Implementation of Management System for Quality and EHS Management System
- Conducting trainings and induction of new employees on HSE issues, policies
- Implementation of Journey Management Procedures
- Conducting Accident and Incident Investigations and prepare reports
- Administrations of Permits to Work to sub-contractors and staff for non-routine work
- Perform HSE duties on client sites including out of the country sites
- Conducting of workers Toolbox and Safety Meetings
- Conducting Risk Assessment and proposing corrective actions
- Review pre-trip inspection checklists of trucks and trailers
- Perform other tasks as management may assign

Field Assignments:

Involved in Twiga Rig Shunt (Rig 804) in February- March 2013-Tullow B V site as the HSE supervisor.

- ❖ Involved in the camp move of BGP camp from Marsabit to Kerio Valley (Baringo) -Tullow B V Site as the HSE supervisor during offloading in Baringo in January-February, 2013

November 2011 to Nov 2012

Technical EHS Officer at Global EHS CONSULTING -experts in Environment, Health and Safety (Environmental Impact Assessment and Health and Safety Auditing)

Languages:

a. Swahili/English	Spoken/Written	Excellent Knowledge
	Written	Working Knowledge

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience.

Ant

Date: 08th June, 2026


[Signature of the staff Member]

Full name of staff member: _____ TOTONA EVANS KIBON _____

Full name of authorized representative: _____ TOTONA EVANS KIBON _____





NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

ENVIRONMENT MANAGEMENT AND COORDINATION ACT, Cap 387

Experts License - Associate/Lead Experts

License No.:

NEMA/ENVIS/EL/0356

Application Reference No:

NEMA/ENVIS/ELA/03421

M/S Totona Evans Kibon

(individual or firm) of (address) P.O.BOX 42550, 80100, Mombasa GPO

is licensed to practice in the capacity of a **Lead Expert** registration number NEMA/ENVIS/EL/0356 in accordance with the provision of the Environmental Management and Coordination Act cap 387.

Issued Date: 8th January 2026

Expiry Date: 31st December 2026

FOR PROPOSED SOUTH RIG & LONDIANI
REFERRAL HOSPITALS BY STATE
DEPARTMENT OF HEALTH

David Ongare

For DIRECTOR GENERAL

National Environment Management Authority

AAH
8/06/2026

P.T.O.



Purity Mukami Kariuki — Registered Associate Expert, NEMA

Curriculum vitae, signed 16 June 2026 — 4 pages

PURITY MUKAMI KARIUKI

Cell Phone: +254724770748

Email: Purity300@gmail.com

P.O. Box 93776, 80102 Mombasa

PROFESSIONAL SUMMARY

As a highly skilled and passionate professional, I have acquired key skills in policy formulation, project management as well as excellent people skills. My 2+ Years' experience has equipped me with expertise that has enabled me plan, execute and deliver in Key projects. My goal is to secure a suitable role that will enable learning and growth as professional.

SKILLS AND COMPETENCE

- Excellent communication and interpersonal skills.
- Mastery of negotiation and Collaboration skills.
- Sharp networking skills.
- Leadership and management skills.
- Keen eye and attentive to detail.
- Unique ability in ideas and innovations.
- Proficient in Microsoft Office suite: excellent knowledge of MS Word, Microsoft Outlook, Excel, PowerPoint, Databases, Spreadsheets and the Internet.
- Excellent telephone etiquette.
- Excellent planning and organizing skills.

WORK EXPERIENCE

August 2015 to Date

Global Environmental and Health Safety (EHS) Consulting

Assistant Associate Expert

Roles and responsibilities:

- ❖ Assisted in preparation of Environmental Impacts Assessment/Audit reports
- ❖ Carrying out public/stakeholder consultation on a proposed project
- ❖ Visits to proposed project sites and data collection
- ❖ Assisting in trainings Occupational Health and Safety sessions
- ❖ Noise Survey for Workplaces
- ❖ Health and Safety Audits, Risk Survey, Fire Audits and workplace policy formulation.
- ❖ Negotiate for consultant fees on behalf of the Firm

Sept –Dec 2014

National Environment Management Authority Mombasa County office

Internship

In my tenure I have been tasked with the following roles:

- ❖ Assisting in dispatching Environmental Assessment Impact (EIA) Reports to various lead agencies
- ❖ Assisting in data entry and database management
- ❖ Recording public complains and attending to environmental incidences with NEMA officers
- ❖ Participating in Environmental inspections with Environmental Officers
- ❖ Providing advice to public on various environmental matters
- ❖ Providing exemplary services at the waste management and water quality section mostly in

PURITY MUKAMI KARIUKI

Cell Phone: +254724770748

Email: Purity300@gmail.com

P.O. Box 93776, 80102 Mombasa

processing application of licenses.

- ❖ Monitoring of compliance of the licensed projects and facilities

Feb –Apr 2014

National Environment Management Authority Coastal Regional office

Attachee

In my tenure I have been tasked with the following roles:

- ❖ Receiving, filling and reviewing of EIA and Environmental Audits
- ❖ Conducting EIA review, site verification and compilation of site visits
- ❖ Dispatching EIA reports to relevant Lead Agencies for their review and comments.
- ❖ Recording Public complains and attending to environmental incidences
- ❖ Undertaking environmental inspections and compilation of inspection reports
- ❖ Planning and execution of Coastal and Marine environmental meetings and workshops.

Dec 2012 –Apr 2013

NEMA Headquarters at Coastal, Marine and Fresh Waters Department

Volunteer

In my tenure I have been tasked with the following roles:

- ❖ Wetland Monitoring and assessment
- ❖ Development, validation and Implementation of coastal and marine pollution control guidelines
- ❖ Documentation of baseline information on environmental issues and best practices in constructed wetlands and mining activities
- ❖ Stakeholder mobilization and sensitization on wetlands and aquatic resource conservation
- ❖ Development and implementation of integrated wetland management plans

EDUCATIONAL BACKGROUND

2011-2015

Bachelor of Environmental Studies (Community Development)

Kenyatta University

Second Class Honours (Upper Division)

2006-2009

Kenya Certificate of Secondary Education (KCSE)

Mary Leakey Girls' High School

2001-2005

Kenya Certificate of Primary Education

St. Agnes Primary School

RECOGNITION & PROFESSIONAL AFFILIATIONS

- ❖ Registered as Associate Expert by NEMA
- ❖ Member of Environment Institute of Kenya
- ❖ Member of the Kenya Wetland Forum
- ❖ Member of Kenya Forest Working Group.

PURITY MUKAMI KARIUKI

Cell Phone: +254724770748

Email: Purity300@gmail.com

P.O. Box 93776, 80102 Mombasa

Co-author: **BOOK OF ABSTRACTS,**

4th National museums of Kenya Biannual conference; Effects of climate change on communities in livelihood in Kenya.

Participated in International Essay Competition

"Dreaming the world without poverty"

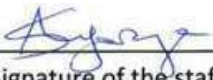
AVAILABILITY

Available Immediately.

REFEREES

Upon request.

Date: 16th June, 2026


[Signature of the staff Member]

Full name of staff member: _____ PURITY MUKAMI KARIUKI _____

Full name of authorized representative: _____ PURITY MUKAMI KARIUKI _____

Venlensa Atieno Odhiambo — NEMA Lead Expert (Licence NEMA/ENVIS/EL/0745)

Curriculum vitae — 14 pages

VENLENSA ATIENO ODHIAMBO

Environmental Health & Safety Consultant | ESG Practitioner | NEMA Lead Expert

Mombasa, Kenya | ✉ venlensaodhiambo1@gmail.com | ☎ +254 702463337/738802225

Languages: English, Kiswahili

PROFESSIONAL PROFILE

Results-driven Environmental, Health, and Safety (EHS) Consultant with over 7 years' experience in Environmental Impact Assessments (EIA), Environmental Audits (EA), Occupational Safety & Health (OSH) audits, and ESG compliance. Proven expertise in helping organizations achieve statutory compliance with EMCA, OSHA, and ISO standards, while implementing sustainable environmental and workplace safety solutions. Strong background in stakeholder engagement, policy formulation, training, and project management across diverse industries.

FOR TENDER PURPOSE

EDUCATION

PROPOSED LEVEL 6 HOSPITAL

MS	University of Nairobi Masters of Environmental Law	Ongoing
BS	Pwani University Environmental Planning and Management 2013- 2017	Second Class Honors (Upper Division)

PROFESSIONAL REGISTRATIONS

NEMA LEAD EXPERT	NEMA/ENVIS/RC/0076
ENVIRONMENTAL INSTITUTE OF KENYA (EIK)	EIK/2/1502

SPECIALIZED TRAINING AND CERTIFICATION

Upcoming Short Course

1. **Key Essentials:** Investment Rules, Sustainable Development and the Law Short Course
2. **Key Essentials:** Wealth Economy, Sustainable Development and the Law Short Course

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(Lucy Cavendish College: Cambridge University)

Ongoing Short Course

1. Climate Change and Carbon Trading

Environmental Institute of Kenya (EIK) – Ongoing

Finalized Short Courses

1. Key Essentials: The Sustainable Development Goals and the Law

(Lucy Cavendish College: Cambridge University)

2. Key Essentials: The Paris Agreement, Sustainable Development and the Law

(Lucy Cavendish College: Cambridge University)

3. Key Essentials: The Global Biodiversity Framework, Sustainable Development and the Law

(Lucy Cavendish College: Cambridge University)

4. Certified in Environmental, Social and Governance (ESG) Practices

Environment Institute of Kenya (EIK), Certificate No. EIK/ESG/2025/3989/2025

5. Lead Auditor: PR357-ISO 45001:2018 LEAD AUDITOR (Occupational Health and Safety Management System)

3Fold Education Centre

August – September 2022

WEBINARS ATTENDED

- 1) Global Webinar Series 2024: Key Considerations in the Energy Transition, Spotlight on Infrastructure:

Hosted By: UN Environment Programme (9th May 2024)

- 2) Refresher on Integration of Extended Producer Responsibility in the EIA/EA Process

Hosted by: Environmental Institute of Kenya (EIK) – 22nd May 2024

- 3) Developing Quality Environmental Audit Reports in 2024.

Hosted by: Environmental Institute of Kenya (EIK) – 31st January 2024

- 4) Global Webinar Session (3) on Strategic Environmental Assessment and Planning Tools for Sustainable Oceans Planning

Hosted by: UN Environment Programme (6th December 2023)

- 5) Global Webinar Session (2) on The New Energy Mix and The Sustainable Blue Economy: Exploring Challenges and Opportunities
Hosted by: UN Environment Programme (16th November 2023)
- 6) EHS Masterclass – A Beginner's Guide to EHS Fundamentals.
Hosted By: Dr. Shankar Subramanian – EHS Expert & Senior Faculty, Westford University (30th May 2023)
- 7) Global Webinar on Spill Assessment and Response in Environmentally Sensitive areas.
Hosted by: UN Environment Programme (22nd September 2022)
- 8) Global Webinar on Environmental Sensitivity Mapping for Oil Spill Preparedness and Response.
Hosted by: UN Environment Programme (24th May 2022)
- 9) Global Webinar on Implementing International Conventions to Strengthen National Oil Spill Contingency Planning and Risk Reduction.
Hosted by: UNEP – Global Network on Environment and Oil & Gas (GNEOG) (24th February 2022)
- 10) Executive Webinar on Oil & Gas Operations in Environmentally Sensitive areas.
Hosted by: GNEOG (7th November 2021)
- 11) Occupational Safety and Health in Environment Social Impact Assessment (ESIA) Process
Hosted by: Environmental Institute of Kenya (EIK) – (16th September 2021)
- 12) Understanding Summary Project Report (SPR), Comprehensive Project Report (CPR) and Study Report (SR) in Environmental Social Impact Assessment Process.
Hosted by: Environmental Institute of Kenya (EIK) – (10th August 2021)
- 13) Global Webinar on Available Technologies that Contribute to Climate Mitigation in Upstream Oil & Gas Production.
Hosted by: UN Environment Programme (6th July 2021)
- 14) Executive Webinar on Undertaking Oil Contaminated Site Assessments
Hosted by: GNEOG (30th July 2019)
- 15) Executive Webinar on Environmental Impact Assessments for Upstream Oil & Gas Operations.
Hosted by: GNEOG (30th April 2019)

Venlensa - 3

CAREER HISTORY

LEAD CONSULTANT – ENVIRONMENTAL, SOCIAL, HEALTH & SAFETY (EHS) & SAFEGUARD SPECIALIST**VENLICHECK INVESTMENT LTD & CEMEA LTD**

(JANUARY 2022 TO PRESENT)

Provide environmental and social safeguards, ESIA, environmental audit, OHS, ESG, and regulatory compliance advisory services to public and private sector clients across infrastructure, industrial, utility, and commercial projects. Lead statutory compliance assessments and safeguards documentation in line with EMCA, OSHA, and applicable international standards.

CORE RESPONSIBILITIES

- Lead and conduct Environmental and Social Impact Assessments (ESIA) and Environmental Audits in compliance with EMCA and subsidiary regulations
- Carry out environmental and social safeguards screening and risk categorization for proposed projects
- Undertake site visits and baseline environmental and social data collection
- Prepare ESIA, ESMP, ESMMP, audit reports, and compliance documentation
- Provide statutory compliance advisory under EMCA and OSHA 2007 frameworks
- Conduct Occupational Health & Safety audits and workplace risk assessments
- Deliver OHS training and Safety & Health Committee training programs
- Develop hazard identification and risk assessment (HIRA) and control plans
- Conduct fire safety audits and emergency preparedness assessments
- Prepare environmental and OHS policies and management plans for client organizations
- Support development and implementation of management systems including ISO 45001 OHSMS
- Guide clients through documentation, implementation, and audit readiness for ISO management systems
- Compile audit findings, corrective action plans, and compliance improvement programs
- Lead stakeholder and worker consultation processes during safeguards and audit assignments

Venlensa - 4

TECHNICAL SERVICE AREAS DELIVERED

Environmental & Social Safeguards

- Environmental Audits
- Environmental & Social Impact Assessments (ESIA)
- Strategic Environmental & Social Assessment support
- ESMP / ESMMP preparation
- Safeguards mitigation and monitoring frameworks

Occupational Health & Safety

- OHS audits
- Workplace risk assessments
- Fire safety audits
- Noise level measurements
- Air quality measurements
- Industrial hygiene assessments

FOR TENDER PURPOSE

PROPOSED LEVEL 6 HOSPITAL

Environmental Monitoring (with accredited partners)

- Ambient air quality monitoring
- Stack emission monitoring
- Noise and vibration monitoring
- Odour assessments

Energy Compliance (with licensed partners)

- Energy audits under Energy Management Regulations

KEY ACHIEVEMENTS

- Supported multiple client organizations to achieve statutory environmental and OHS compliance
- Identified environmental, social, and OHS risks across diverse project types and operations
- Developed and implemented mitigation and control plans for identified EHS risks
- Prepared HSE implementation and monitoring plans for project operations
- Strengthened client compliance systems through audit findings and corrective action frameworks
- Supported organizations toward ISO 45001 OHSMS certification readiness

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ASSISTANT ENVIRONMENT OFFICER

Global EHS Consulting

(January 2019 – December 2021)

Global EHS Consulting is a firm of experts that offers consultancy services on environment, health and safety matters.

KEY RESPONSIBILITIES:

- Undertake site visit to determine the baseline information.
- Carrying out Environmental, Impact/Audit Assessments as per the Environmental Management and Coordination Act (EMCA 1999) for the company clients as a NEMA Registered ASSOCIATE EXPERT with supervision of the LEAD EXPERT.
- Develop the HSE management system for the implementation of the project.
- Overall Project management

KEY ACHIEVEMENTS:

Assisting various clients to comply with relevant laws pertaining to their operations and projects.

INTERN

Kenya Revenue Authority (KRA-SOUTHERN REGION) - Facility & Properties Department

(July 2018 – December 2018)

KRA is an agency of the Government of Kenya that is responsible for the assessment, collection and accounting of all revenues that are due to the government in accordance with the laws of Kenya.

KEY RESPONSIBILITIES:

- Executing maintenance orders, purchase requisition, service entry sheets and office supply reservation using SAP Gui System
- General maintenance and supervision of office cleaning
- Preparation of weekly and monthly reports
- Preparation of meeting minutes and database management
- Helping in front office management
- Conducting housing inspection of KRA staff houses
- Supervision of casuals

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- Preparation of Bill of Quantities
- Perform any other duty assigned by supervisor

VOLUNTEER

National Environment Management Authority (NEMA-MOMBASA OFFICE)

(January 2018 – June 2018)

NEMA is a Kenyan government agency responsible for the management of the environment, and environmental policy.

KEY RESPONSIBILITIES:

- Receiving and reviewing Environmental Impact Assessment and Audits
- Participating in Environmental Inspection
- Monitoring of compliance of licensed projects and facilities
- Assisting in site visits and verification
- Receiving and filing complaints from clients within Mombasa County
- Data entry and database management
- Dispatch of EIA reports to various Lead Agencies
- Assisting in front office management
- Providing training and assistance to new volunteers
- Preparing weekly reports

ATTACHEE

Ministry of Lands – Regional Physical Planning Department(Provisional Headquarters, Mombasa)

(May 2014 – September 2014)

The Ministry of Lands has its origin at the Lands Survey Section in the Department of Public Works where it was established in 1903. It oversees all land Administration and Management in the Country. It was initially founded to operate the Crown Lands Ordinance (1902), which is today known as the Government Land Act (Cap 280).

The Ministry of Land, Housing and Urban Development was established in May 2014, through Executive Order No. 2/2014 following the inauguration of the new government that collapsed the hitherto 44 ministries into 18, in accordance with Constitution of Kenya, 2010. In the new

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structure, ministries that previously existed as single entities were merged to form super ministries, some with bigger responsibilities. Thus, the five erstwhile ministries of Land, Housing, Urban Development and Nairobi Metropolitan Development, were joined together to form the Ministry. The Ministry is charged with the responsibility of providing policy direction and coordinating all matters related to lands, housing and urban development.

In the current organization of the Government, the department falls under the Ministry of Lands functioning as a core department working toward helping the ministry attain its core mandates as stipulated by law.

KEY RESPONSIBILITIES:

- Preparation of Action Area Plans
- Preparation of Land Use Plans and Land Capability Mapping Plans
- Preparation of site maps using ArchGis
- Taking Coordinates using Global Positioning System (GPS)
- Data Collection through surveys, observation, interviews, focus group discussion and questionnaires
- Preparation of reports (reports writing)

KEY ACHIEVEMENTS:

- Digitization of maps – Participated in Preparation of Bomani and Kipini East Ward Action Plan Maps.
- Pairwise ranking tool – Prepared a Pairwise ranking tool for data collection
- Conducting feasibility analysis – Conducted feasibility analysis for the Bomani and Kipini East Ward Action Plan.

SELECTED RELEVANT PROJECT EXPERIENCE

1. Project Title: Annual Environmental Audit — Mwache Multipurpose Dam Project (Auxiliary Facilities)

Client: Government of Kenya - Ministry of Water, Sanitation and Irrigation

Contractor: Sinohydro Corporation

Funding: World Bank

Donor-Funded Project: World Bank Funded Project - Mwache Multipurpose Dam

Project Type: Large Infrastructure (Dam & Associated Facilities)

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Facilities Covered: Quarry, batching plants, aggregate crushing units, stockpiles, workers' camps, temporary clinic, access roads, explosive magazines, maintenance workshops

Role: Lead Auditor

Period: December 2025 to January 2026

Project Budget: Core project donor-funded (auxiliary facilities operational)

Specific Safeguards Outputs

- Conducted Annual Environmental Audit for auxiliary infrastructure facilities under dam project
- Prepared Environmental Audit Report covering multi-site auxiliary facilities
- Assessed compliance with ESMP and license conditions
- Audited quarry and aggregate crushing environmental controls
- Audited batching plant emissions, dust and noise controls
- Reviewed hazardous materials and explosives storage safeguards
- Assessed workers' camps environmental health & sanitation safeguards
- Evaluated OHS compliance across workshops and plant areas
- Reviewed waste management and hazardous waste handling systems
- Assessed air quality, noise and vibration control measures
- Evaluated access road environmental and safety safeguards
- Reviewed temporary clinic environmental health compliance
- Prepared Corrective Action and Compliance Improvement Plan
- Developed environmental monitoring and follow-up recommendations
- Verified compliance with national regulations and donor safeguards requirements

2. Project: Asbestos Decommissioning — Kipevu Wastewater Treatment Plant & Pumping Stations

Client: Mombasa Water Supply & Sanitation Company (MOWASSCO)

Funding: World Bank — Water & Sanitation Development Project (WSDP)

Role: Environmental & Social Safeguards / EHS Specialist

Period: 2025

Safeguards Outputs:

- Prepared Comprehensive Project Report (CPR) and ESIA for asbestos removal

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- Developed Environmental & Social Management & Monitoring Plan (ESMMP)
- Prepared hazardous asbestos handling and disposal safeguards plan
- Developed OHS risk assessment and Job Safety Analysis framework
- Designed stakeholder engagement and grievance redress mechanism
- Conducted public participation and PAP consultations
- Prepared WB ESF & ESS compliance framework section
- Developed hazardous waste transport & disposal compliance plan
- Prepared safeguards mitigation & monitoring matrix

3. Project Title: Proposed ESIA for Water Projects — Flocca Program, Kwale County

Client: County Government of Kwale

Program: FLOCCA (Financing Locally-Led Climate Action)

Funding: World Bank (through County Climate Financing Mechanism)

Donor-Funded Project: World Bank — FLOCCA Climate Financing Facility (County Level)

Project Type: Climate & Water Infrastructure (Decentralized Water Projects)

Subprojects Covered:

- Water pans
- Drainage infrastructure
- Small-scale water works
- Community water structures

FOR TENDER PURPOSE

PROPOSED LEVEL 6 HOSPITAL

Role: Environmental & Social Safeguards / ESIA Specialist

Period: [Dec 2024 to March 2025]

Specific Safeguards Outputs

- Conducted Environmental & Social Impact Assessments (ESIAs) for county-level water projects
- Prepared ESIA Reports for decentralized water infrastructure subprojects
- Developed Environmental & Social Management Plans (ESMPs)
- Undertook environmental and social baseline assessments
- Conducted stakeholder and community consultations
- Prepared public participation documentation
- Identified climate and environmental risks for water infrastructure

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- Developed mitigation and monitoring measures
- Assessed community health & safety risks
- Screened subprojects for environmental and social risks
- Prepared safeguards compliance recommendations
- Supported county safeguards approval process

Experience in safeguards assessment for World Bank-supported climate resilience and decentralized water infrastructure projects.

4. Project: ESIA — Chamunyu–Mwamlai Water Pipeline Rehabilitation & Extension

Client: Mombasa Water Supply & Sanitation Company (MOWASSCO)

Funding: Water Sector Trust Fund (UPC Programme)

Safeguards Framework: World Bank OP Safeguards Applied

Project Type: Urban Water Infrastructure

Role: ESIA Associate Expert

Location: Mombasa County

Period: 2023

Specific Safeguards Outputs:

- Prepared ESIA and ESMMP for 3 km water pipeline project
- Conducted environmental and social baseline assessments
- Performed WB safeguards screening and categorization (Category B)
- Developed mitigation and monitoring matrices
- Conducted stakeholder and community consultations
- Prepared labour influx & GBV risk mitigation measures
- Developed OHS and construction safety safeguards
- Prepared WB OP safeguards applicability table
- Conducted resettlement trigger screening
- Developed community health & safety safeguards
- Prepared decommissioning safeguards measures

FOR TENDER PURPOSE

PROPOSED LEVEL 6
HOSPITAL

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5. Project: ESIA Summary Project Reports — Community Water Infrastructure (Water Ponds & Mwakalanga Dam Subprojects), Kwale County

Client: County Government of Kwale

Program: National Agricultural & Rural Inclusive Growth Project (NARIGP)

Funding: World Bank — NARIGP Program

Donor-Funded Project: Yes

Location: Kwale County, Kenya

Year: 2020

Role: Associate EIA Expert — NEMA Registered (Reg. No. 9899)

Key Responsibilities & Specific Safeguards Outputs

- Prepared EIA Summary Project Reports (SPR) for decentralized water infrastructure subprojects including community water ponds and small dam works
- Conducted environmental and social baseline studies covering biophysical and socio-economic receptors
- Undertook environmental and social risk screening and project categorization
- Applied World Bank safeguards screening and policy trigger analysis
- Developed Environmental Management Plans (EMP) with mitigation and monitoring frameworks
- Prepared impact mitigation matrices and compliance monitoring indicators
- Conducted stakeholder and community consultations and documented outcomes
- Prepared public participation records and disclosure documentation
- Developed occupational health & safety (OHS) safeguards measures
- Developed community health and safety risk controls
- Prepared construction-phase environmental and social safeguards controls
- Supported safeguards compliance submission to regulatory authorities

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TECHNICAL SKILLS

- 1) ESIA, ESMP and ESMMP preparation
- 2) Environmental audits and safeguards compliance assessments
- 3) Environmental and social safeguards screening and risk categorization
- 4) OHS risk assessment within ESIA and safeguards frameworks
- 5) ESG and environmental compliance support
- 6) Stakeholder engagement and public participation processes
- 7) Hazardous materials and asbestos safeguards planning
- 8) Climate and water infrastructure safeguards assessment

DECLARATION

I certify that this Curriculum Vitae correctly describes my qualifications, experience, and professional background. I confirm that I am available to undertake the assignment and will carry out the services in good faith and to the best of my ability.

Name: Venlensa Atieno Odhiambo

Signature: _____  _____ **Date:** _____ 29th July 2026 _____

FOR TENDER PURPOSE

PROPOSED LEVEL 6 HOSPITAL

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REFERENCES

Available on request in compliance with data protection regulations

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PROPOSED LEVEL 6 HOSPITAL

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NEMA Experts Licence, endorsed "For proposed Level 6 Hospital" — 3 pages



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

ENVIRONMENT MANAGEMENT AND COORDINATION ACT, Cap 387

Experts License - Associate/Lead Experts

License No.:

NEMA/ENVIS/EL/0745

Application Reference No:

NEMA/ENVIS/ELA/04290

M/S VENLENSA ATIENO ODHIAMBO

of P.O.BOX 10167, 80100, Mombasa GPO

is licensed to practice in the capacity of a **Lead Expert**

registration number **NEMA/ENVIS/RC/0076**

in accordance with the provision of the Environmental Management and Coordination Act cap 387.

FOR PROPOSED LEVEL 6 HOSPITAL

VENLENSA ATIENO ODHIAMBO

Issued Date: **26th January 2026**

Expiry Date: **31st December 2026**

David Ongare

For DIRECTOR GENERAL

National Environment Management Authority



TERMS AND CONDITIONS

Conditions for Licensing

1. This license expires on 31st December of the year it is issued.
2. The expert shall comply with the Code of Practice and Professional Ethics for experts.
3. The expert shall comply with the attached conditions.

General Conditions

1. All Environment Experts certified and registered in accordance with the provisions of the relevant Regulations may establish professional associations to complement and implement the objectives of the Code of Practice.
2. All Environmental Experts shall act professionally, accurately, fairly and in an unbiased manner in undertaking their work.
3. The Director General, in consultation with relevant stakeholders, may from time to time issue guidelines for the proper conduct of registered Environmental Impact and Audit (EIA/EA) Experts.
4. Every Environmental Expert shall, each year, attend at least two relevant seminars organised by the authority for the purposes of improving the professional expertise of its members.
5. No Expert shall exploit the inexperience, lack of understanding, illiteracy or other lack of technical knowledge in environmental matters of a project proponent, owner or the public, for his personal gain.

Receiving Instructions

1. No Environmental Expert shall act for any project proponent unless he has received written instructions from such project proponent or his authorised agent.
2. An Environmental Expert shall not unreasonably delay the carrying out of instructions received from the project proponent or his authorised agent.
3. An Environmental Expert shall discharge his responsibilities to the project proponent with due diligence and integrity.
4. An Environment Expert may terminate a contract on carrying out an environmental impact assessment or audit as stipulated in section 8 of the Code of Practice and Professional Ethics of EIA/EA Experts.

Carrying out an EIA/EA

1. An Environmental Expert shall follow relevant regulations or guidelines, and directives issued by the Authority.
2. An Environmental Expert shall take due care and diligence to collect the relevant data to address the significant environmental issues in the various stages of the assessment or audit process and fully acknowledge the source of any data that is not the result of his/her findings.
3. An Environmental Expert shall consult widely with all the relevant agencies, stakeholders, interested parties and the general public on all matters that are likely to affect them.
4. An Environmental Impact Assessment or Audit Report shall be based on the Terms of Reference of the Assignment and shall include all the matters relevant to the findings of the study, all the relevant matters required by statutory provisions, and must be guided by professional standards and judgments.

Responsibility of Lead Environmental Experts

1. An Environmental Lead Expert shall be responsible for the documents prepared by him/her on behalf of the project proponent.
2. An Environmental Lead Expert shall guide the proponent throughout the preparation of the environmental impact assessment and/or environmental audit, and/or during implementation of the Environmental Management Plan.
3. An Environmental Lead Expert shall disclose to a client or employer any relationships of conflicting or competing interests that may influence their judgment prior to the carrying out of work.

Misconduct of Environmental Experts

1. An Environmental Expert who contravenes a provision of the Code of Practice and Professional Ethics shall be deemed to have committed professional misconduct and shall be subject to disciplinary action by the Authority as appropriate and as stipulated in the Code of Practice and Professional Ethics of Environmental Experts.

Disciplinary Action

1. Where an Environmental Expert is found to have committed professional misconduct by the Environmental Experts' Advisory Committee/Authority shall be punished as stated under section 19 of the Code of Practice and Professional Ethics.

Appeals

1. An Environmental Expert aggrieved by the decision of the Authority may apply for the review of such a decision in the High Court.
2. If an application for judicial review shall not have been filed at the expiry of thirty (30) days from the date of the decision of the Authority, the Director General may publicize the disciplinary action taken against the Environmental Expert.

Sharon Kerubo Ondieki — NEMA Associate Expert (Cert. NEMA/EIA/RC/7207; Reg. 13241)

NEMA Certificate of Registration endorsed "For the proposed Level 6 Hospital by the Ministry of Health", with curriculum vitae — 6 pages



EAE 23060487

nema

For the proposed Level 6 Hospital by the
Ministry of Health.

Sharon Kerubo Ondieki

for

**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
CERTIFICATE OF REGISTRATION AS AN ENVIRONMENTAL IMPACT ASSESSMENT/
AUDIT EXPERT**

Certificate No: NEMA/EIA/RC/7207

Application Reference No: NEMA/EIA/ER/15570

This is to certify M/s SHARON KERUBO ONDIEKI

of

P.O Box 42588 - 80100 MOMBASA

(Address) has been registered as an Environmental

Impact Assessment Expert in accordance with the provisions of the Environmental Management and

Coordination Act Cap 387 and is authorized to practice in the capacity of a Lead Expert/Associate

Expert/Firm of Experts (Type) Associate Expert

Expert Registration No: 13241

Issued Date : 12/5/2023

Signature/

(Seal)

Director-General
The National Environmental Management Authority

P.T.O.



For the proposed Level 6 Hospital by the
Ministry of Health.
Sharon K Ondieki


Personal Information

CURRICULUM VITAE

Name: Sharon Kerubo Ondieki
Email: sharonkerubo52@gmail.com
Phone Number: +254 704 177 455

PROFESSIONAL SUMMARY

Highly skilled Quality Health Safety and Environment professional with a strong background in conducting risk and impact assessments and analysis to identify and solve complex quality, safety and environmental issues. Strong knowledge of ISO (9001, 45001, 14001) management systems, industry best practices, and emerging trends. Possess excellent leadership, communication, and interpersonal skills to collaborate effectively with cross-functional teams and management. Experienced in conducting comprehensive risk assessments, developing organizational policies and procedures, and delivering engaging training programs including first aid, fire safety and OSH committee.

Education

June 2024	NEBOSH International General Certificate Auditors Guild
December 2019	Bachelor of Environmental Science Second class honors (Upper Division), Kenyatta University, Nairobi
March 2015	Computer Packages Certificate, Microsoft Computer Programs, Distinction Loyal Computer Training College, Nakuru
2014	Kenya Certificate of Secondary Education Nyabururu Girls High School, Kisii

Work Experience

October 2024 –To date

Quality Assistant

The Tal Group (Boss Freight, Makupa Transit Shade Limited, Bulk Storage Limited)

Roles:

- Compile and analyze operational and compliance data across multi-site operations to support management decision-making.
- Monitor and ensure compliance with quality, environmental, and occupational health & safety regulatory requirements across the multi-sites.
- Coordinate preventive and corrective actions, tracking effectiveness to close non-conformances and improve system

CURRICULUM VITAE

performance.

- Participate in internal audits and follow up on audit findings to ensure timely closure of gaps and continuous compliance.
- Support implementation and continuous improvement of ISO 9001:2015 and ISO 45001:2018 management systems.
- Track and follow up on corrective actions arising from external audits and regulatory inspections.
- Conduct site assessments, inspections, and operational audits across the multi-site operations.
- Monitor operational productivity, analyze KPIs, and prepare performance and compliance reports.
- Lead and support quality, safety, and environmental incident investigations, including root cause analysis and corrective actions.
- Provide advisory support on environmental management issues, including compliance, risk mitigation, and improvement initiatives.

February 2023 – September 2024

Quality, Health, Safety and Environment Assistant

*Mikayi Systems and Environment Consultants,
Mombasa*

Roles:

- Conducted Environmental Impact Assessments in line with EMCA and EIA Regulations.
- Conducted statutory audits, including NEMA compliance, Occupational Safety & Health, Fire Safety, Noise Measurement and Calibration, and Risk Assessment.
- Advised companies on strategies to minimize their environmental impact and ensure compliance with environmental regulations.
- Developed health and safety policies and procedures for companies.
- Provided training and education to employees on topics such as emergency response, hazard identification, safe work practices, and environmental awareness.
- Assisted companies in identifying and evaluating potential workplace hazards and developing strategies to minimize risk.
- Delivered first aid, fire safety, and occupational health and safety training for employees in various organizations

January 2022 – June 2024

CURRICULUM VITAE

Health, Safety and Environment field officer (part-time) |
Engineering Safety Consultants Ltd, Mombasa

Roles

- Conducting risk assessments
 - Assisting in the development of safety policies, procedures, and guidelines.
 - Conducting fire Safety audits
 - Participating in environmental monitoring activities to assess compliance with regulatory requirements and identify opportunities for improvement.
 - Conducting safety training programs for employees including first aid and fire safety training
 - Writing health, safety and Environment Audit reports
 - Noise Measurement and calibration
 - Conducting Environmental Impact Assessment in line with EMCA and EIA Regulations
 - Providing first aid, fire safety, and occupational health and safety trainings for employees in different organizations
- Jan 2022 - To Date**

St Johns Ambulance| Mombasa| Volunteer

Roles

- Regional coordinator for the special program within St Johns that incorporates persons with disabilities
- Providing first aid at public events like festivals, sporting events, and concerts.
- Community outreaches
- Setting up first aid stations, managing equipment, and coordinating with event organizers to ensure that everyone receives the care they need.
- First Aid training to junior volunteers
- First aid training to persons with disabilities particularly, the deaf community
- Sign language skills training to volunteers

August 2019 – November 2021

Techno Brain | Nairobi | Customer service Representative

Roles

- Advertised the company brand to potential customers
- Resolved customer complaints via phone, email, and social media with a 95% satisfaction rate

CURRICULUM VITAE

- Listened actively to handle client issues proficiently and professionally
- Educated clients on various service-related processes
- Increased customer retention by 15% through frontline customer service
- Handled billing-related queries and emails
- Pioneered the implementation of WhatsApp social platform to handle multiple clients from diverse countries, including Uganda, Tanzania and Kenya.

May-July 2019

Nairobi County government (Environmental Department) |
Environmental officer (Intern)

Roles

- Identified and planned environmental related activities
- Analyzed environmental matters and wrote reports
- Assessing environmental projects on the ground
- Supervised county workers while they cleaned and collected waste
- Recording environmental complaints from community residents
- Public awareness and educating the community on environmental conservation

Skills

Training, Dedicated team player, risk assessment, leadership, Organization skills, Fast Learner, Report writing, sign language, attention to detail, excel

Professional Qualifications & Certifications

- Safety Programs Trainer – First Aid, fire safety, OSH committee
- National Environmental Management Authority (NEMA) practicing associate expert Reg No. 13241

CURRICULUM VITAE

- NEBOSH IGC
- ISO 9001 Implementation
- ISO 9001 Internal Auditor
- Environmental & Social Governance (ESG)

Professional Bodies

- Workplace Safety Professionals Association of Kenya (WSPAK) – Membership No. 447
- Environment Institute of Kenya – Membership No. EIK/2/6488

Trainings

- Occupational Health and Safety | St Johns Ambulance, Mombasa
- Occupational First Aid | St Johns Ambulance, Mombasa
- Internet Governance and Data Protection | Kenya School of Internet Governance
- Leadership Program | Kenyatta University, Nairobi

Achievements

ISO 45001:2018 Implementation & Certification at Bulk storage Terminal Limited (Oil & gas terminal)

REFEREES

Mr. Edgar Eredi Muyesu

Managing Director, Mikayi Systems and Environment | Mombasa

Phone No: +254 724904217

Email: muyesuedgar@gmail.com

Mr. Gilbert Mariaka

Managing Director, Engineering Safety Consultants Ltd | Mombasa

Phone No: +254 725 410 936

Email: gilbert.mariaka@gmail.com

Mr. Derrick Bidali Munene

HSE Manager | Mr. Green Africa

Phone No: 0725753261

For the proposed Level 6 Hospital
by the Ministry of Health

CURRICULUM VITAE

Personal Information

Name: Sharon Kerubo Ondieki
Email: sharonkerubo52@gmail.com
Phone Number: +254 704 177 455

PROFESSIONAL SUMMARY

Highly skilled Quality Health Safety and Environment professional with a strong background in conducting risk and impact assessments and analysis to identify and solve complex safety and environmental issues. Strong knowledge of occupational health and safety regulations, industry best practices, and emerging trends. Possess excellent leadership, communication, and interpersonal skills to collaborate effectively with cross-functional teams and management. Experienced in conducting comprehensive risk assessments, developing safety policies and procedures, and delivering engaging training programs including first aid, fire safety and OSH committee.

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December 2019	Bachelor of Environmental Science Second class honors (Upper Division), Kenyatta University, Nairobi
March 2015	Computer Packages Certificate, Microsoft Computer Programs, Distinction Loyal Computer Training College, Nakuru
2014	Kenya Certificate of Secondary Education Nyabururu Girls High School, Kisii
2010	Kenya Certificate of Primary Education Kisii Primary School, Kisii

Work Experience

May 2022 – To Date

Quality, Health, Safety and Environment Assistant
*Mikayi Systems and Environment Consultants,
Mombasa*

Roles:

- Conducting Environmental Impact Assessment in line with EMCA and EIA Regulations
- Conducting Statutory audits –NEMA, Occupational Safety

CURRICULUM VITAE

& Health, Fire Safety, Noise measurement and calibration
& Risk Assessment

- Advising companies on strategies to minimize their impact on the environment and comply with environmental regulations.
- Developing health and safety policies and procedures for companies
- Provide training and education to employees on topics such as emergency response, hazard identification, and safe work practices, environmental awareness
- Helping companies to identify and evaluate potential hazards in the workplace and develop strategies to minimize risk.
- Providing first aid, fire safety, and occupational health and safety trainings for employees in different organizations

January 2022 – To date

Health, Safety and Environment field officer (part-time) |
Engineering Safety Consultants Ltd, Mombasa

Roles

- Conducting risk assessments
- Assisting in the development of safety policies, procedures, and guidelines.
- Conducting fire Safety audits
- Participating in environmental monitoring activities to assess compliance with regulatory requirements and identify opportunities for improvement.
- Conducting safety training programs for employees including first aid and fire safety training
- Writing health, safety and Environment Audit reports
- Noise Measurement and calibration
- Conducting Environmental Impact Assessment in line with EMCA and EIA Regulations
- Providing first aid, fire safety, and occupational health and safety trainings for employees in different organizations

Jan 2022 - To Date

St Johns Ambulance| Mombasa| Part-time Volunteer

Roles

CURRICULUM VITAE

- Providing first aid at public events like festivals, sporting events, and concerts.
- Community outreaches
- Setting up first aid stations, managing equipment, and coordinating with event organizers to ensure that everyone receives the care they need.
- First Aid training to junior volunteers

August 2019 – November 2021

Techno Brain | Nairobi | *Customer service Representative*

Roles

- Advertised the company brand to potential customers
- Resolved customer complaints via phone, email, and social media with a 95% satisfaction rate
- Listened actively to handle client issues proficiently and professionally
- Educated clients on various service-related processes
- Increased customer retention by 15% through frontline customer service
- Handled billing-related queries and emails
- Pioneered the implementation of WhatsApp social platform to handle multiple clients from diverse countries, including Uganda, Tanzania and Kenya.

May-July 2019

Nairobi County government (Environmental Department) |
Environmental officer (Intern)

Roles

- Identified and planned environmental related activities
- Analyzed environmental matters and wrote reports
- Assessing environmental projects on the ground
- Supervised county workers while they cleaned and collected waste
- Recording environmental complaints from community

CURRICULUM VITAE

residents

- Public awareness and educating the community on environmental conservation

Skills

Training, Dedicated team player, risk assessment, leadership, Organizational skills, Fast Learner, Flexible, Report writing, sign language, attention to detail

Professional Qualifications

Safety Programs Trainer – First Aid, fire safety, OSH committee
National Environmental Management Authority (NEMA) practicing
associate expert Reg No. 13241
NEBOSH IGC

Professional Bodies

Workplace Safety Professionals Association of Kenya (WSPAK) – Membership No. 447
Environment Institute of Kenya – Membership No. EIK/2/6488

Trainings & Certifications

- Occupational Health and Safety | St Johns Ambulance, Mombasa
- Occupational First Aid | St Johns Ambulance, Mombasa
- Internet Governance and Data Protection | Kenya School of Internet Governance
- Leadership Program | Kenyatta University, Nairobi

REFEREES

Mr. Edgar Eredi Muyesu

Managing Director, Mikayi Systems and Environment | Mombasa

Phone No: +254 724904217

Email: muyesuedgar@gmail.com

CURRICULUM VITAE

Mr. Gilbert Mariaka

Managing Director, Engineering Safety Consultants Ltd| Mombasa

Phone No: +254 725 410 936

Email: gilbert.mariaka@gmail.com

Mr. Fred K. Khisa

Supervisor| Techno Brain Limited | Nairobi

Phone No: +254 706 616 413

Email: khisafred2012@gmail.com

Lawrence Oguda Ogwang — NEMA Associate Expert (Cert. NEMA/EIA/RC/372; Reg. 8187)

Curriculum vitae — 7 pages

CURRICULUM VITAE

PERSONAL DETAILS

NAME: OGWANG OGUDA LAWRENCE

AGE: 43 Years

NATIONALITY: Kenyan

MARITAL STATUS: Married

SEX: Male

RELIGION: Christian

LANGUAGES: Fluent in writing, reading and speaking English, Kiswahili and Luo.

CONTACTS

P.o. Box 2670 (30200), Kitale

Mobile Tel: 0720-236634, 0724468942.

E-mail: ogwangrence@yahoo.com, ogwanglawrence1@gmail.com

EDUCATION BACKGROUND

2002-2005: Kenya Wildlife Training Institute {KWSTI}

(Diploma in Environmental management). Pass-(CREDIT)

1998-2001: Immaculate Conception Mukuyu Secondary: Kenya

Certificate of Secondary Education (KCSE)

1997: Uriri Primary School: Kenya Certificate of Primary

Education (KCPE).

FIELD ATTACHMENTS

September-December 2004: Field attachment with National Environment Management Authority (NEMA)

October- December 2005: Field attachment with the Kitale Municipal Council.

FIELD AND WORK EXPERIENCE.

April 2006-August 2008: Worked for National Environment Management Authority (NEMA) as a volunteer.

Duties and Responsibilities:

- Preparing of monthly and quarterly financial reports
- Field visits to environmental trouble spots and resolving environment related conflicts as well as participating in public barazas to create environmental awareness
- Issuance of noise, waste and effluent discharge licenses
- Carrying out environmental inspections to facilities within the county to ensure compliance with EMCA 1999 regulations.
- Reviewing of the Environmental Impact Assessment (EIA) reports.
- Visiting schools to create environmental education and awareness.
- A member of Trans-Nzoia stakeholder forum.
- Organizing for cleanup activities and World Environment Day celebrations at the District level.
- Attending the District Environment Committee (DEC) meeting and writing the minutes as well as representing the District Environment Officer (D.E.O) on various meetings or forums.
- Participated in National Environmental Policy Formulation forums.

August 2011 - Jan 2012: Worked with RIWE Consultants on Community Capacity Building on Natural resources management. (Bee keeping Component), through KAP Programme.

March 2012-2016: Works with Kenya Environmental Education Teachers Association KEETA as a Project Manager.

Duties and Responsibilities:

- Coordinating day- to -day implementation of project activities
- Implementing the recommendations of the Project Implementation Committee (PIC)
- Providing technical and administrative support to the PIC
- Supervising the implementation of various project activities
- Preparing both narrative and financial reports as per the Financing Agreement under the direction of the PIC and distribute them to the respective offices
- Providing secretarial services to PIC
- Preparing relevant project documents and reports for review and approval by the PIC
- Custodian of all project property and maintenance and accurate keeping of the project records.
- Facilitating, preparation and logistical arrangements for all project trainings
- Ensuring timely preparation and submission of work plans, financial and progress reports
- Conducting monitoring and evaluation jointly with the PIC and other partners to track project progress

April 2017- 2020:

Worked for Vi Agroforestry as a Field officer.

Duties and Responsibilities:

- Coordinate sensitization of farmers to form or join existing groups and group contracting
- Support cooperatives to recruit new members (farmers and their groups)

- Capacity build community facilitators on SALM, Dairy best practices and monitoring
- Train farmers through their groups on SALM and Improved dairy management
- Train farmers through their groups on agro-forestry practices for soil fertility, firewood and timber for construction among others.
- Train households on Households Road Map (HRM)
- Follow-up on implementation of Livelihood project activities at farmer and group level
- Carry out quality control and assurance of data collected by the cooperative
- Coordinate business hub capacity building trainings for the cooperative
- Coordinate service provider capacity building and engagement with the cooperative
- Monitor, collect data and report on business performance at cooperative level
- Prepare and Submit monthly reports to the cooperative management and Vi Agroforestry
- Promote women participation in project activities.

From August 2014.

Practised as an Environmental Impact and Audit Expert licensed with National Environmental Management Authority (NEMA)

Duties and Responsibilities:

- Conduct an Environmental Impact Assessment for undeveloped and ongoing projects.
- Carry out an Environmental Audits to ongoing projects.

Trained and Expertise on:

- Ecology,
- Biogeography,
- Environmental conservation and environmental management concepts,
- Earth physical environment and natural resources,
- populations dynamics and environment,
- Environmental Disasters\Hazards Management,
- Waste management, Natural resource management,
- Environmental management approaches, Ecotoxicology,
- Environmental management techniques, Safety and survival techniques,
- Introduction to quantitative methods and research methods,
- Environmental natural laws and conventions,
- Environmental restoration and rehabilitation,
- Environmental resources economics and entrepreneurship,
- Land use planning
- Environmental impact assessment & audits
- Urban and regional planning,
- Principles of management and administration,
- Financial and stores management, Science Technology and Environment and project and information management.

OTHER SKILLS

COMPUTER SKILLS

Proficient with the following computer programs

- Introduction to computer
- Ms windows
- Ms Word
- Ms Excel

- Ms access
- Ms power point
- Ms outlook Express
- Adobe page maker
- Key boarding.

RESEARCH SKILLS

- Design and implementation of field data from field experiments, environmental and ecology research, and community based projects.
- Field survey, data and sample collection and analysis, and evaluation of research techniques, laboratory techniques.
- Research proposal development and writing.
- Data analysis using the different statistical packages.
- GIS Application and project mapping.

CARRIERASPIRATIONS

-
- Expertise in Environmental and Natural Resource Management for food security, sustainable development and poverty alleviation.
 - Research in fields of Ecology, Environmental conservation and Natural resource economics and management.
 - Extension consultancy in areas of Forestry, Natural resource/ Environmental economics, Ecology, Biology and Sustainable management of resources.

HOBBIES

- Participation in environmental debates/workshops and conferences.
- Playing Basket Ball, swimming and playing chess.
- Travelling, making friends and reading novels.
- Listening to music, watching movies and watching football.

REFEREES

1. JEFFERSON SITATI
Chairman, Kiminini Dairy
Cooperative,
P.O. Box 2009-(30200) KITALE
TEL 0724875752

2. JASPER OMWENGA
County Director of Environment
NEMA, Trans Nzoia County,
P.O. Box 99 (30200) KITALE.
TEL: 0721473901

3. JULIAS OGEKA
Senior Curator,
Kitale Museums
P.O.Box 1219 -30200, KITALE.
Tel +254-30996, 0701260904

FOR PROPOSED LONDIANI & SICHEI BUNGOMA
LEVEL 6 HOSPITALS.



0724468542

FORM 5

(K.14/4)



nema
mazingira yetu / shulika yetu / wajibu yetu

**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT**

**CERTIFICATE OF REGISTRATION AS AN ENVIRONMENTAL IMPACT ASSESSMENT/
AUDIT EXPERT**

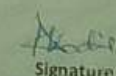
Certificate No: NEMA/EIA/RC/372

Application Reference No: NEMA/EIA/ER/1416

This is to certify M/s **Lawrence Oguda Ogwang** of
P.O. BOX 2670 - 30200 Kitale (Address) has been registered as an Environmental
Impact Assessment Expert in accordance with the provisions of the Environmental Management and
Coordination Act and is authorized to practice in the capacity of a Lead Expert/Associate Expert/Firm of
Experts (Type) **Associate Expert**

Expert Registration No: **8187**

Issued Date: **6/20/2014**


Signature

**FOR PROPOSED LONDANI & SICHETI BUNGOMA PROPOSED
LEVEL 6 HOSPITALS**


0724468942

(Seal)

 Director-General
The National Environmental Management Authority

P. T. O.



Ezekiel Olukohe — NEMA Lead Expert (Licence NEMA/ENVIS/EL/0906)

Curriculum vitae, signed 10 June 2026, and NEMA Experts Licence endorsed "For proposed Level 6 Hospitals by the Ministry of Health — Kenya" — 5 pages

CURRICULUM VITAE

Ezekiel Olukohe

P.O.Box. 16633 - 80100 Mombasa

Phone No: 0724-634 944

E-mail: olukohe2000@yahoo.com

Languages: English, Kiswahili, Luhya (Fluently spoken and written) and Luhya.

Date of Birth: 22nd August 1983 **Marital status:** Married **Nationality:** Kenyan

CAREER OBJECTIVE

To excel in the community empowerment sector, by building and enhancing the capacity of our people and institutions to pursue sustainable development.

In the short term, I am seeking consultant positions that will enable me to pursue on a day to day basis in auditing, training and/or implementation quality, environment and safety management systems.

EDUCATIONAL BACKGROUND

2012-2014: Mount Kenya University
Bsc. Environmental Health
Graduated with Second Class Honours

2003 -2006: Mombasa Polytechnic University College
Diploma Environmental Science

2007 : - Naivasha WordStar Environmental Organization
Approaches to Environmental Management and Conservation Techniques

Professional qualifications& knowledge

QUALITY, ENVIRONMENT, OCCUPATIONAL SAFETY HEALTH (QEOSH) CONSULTANT
GLOBAL E.H.S CONSULTING

RESPONSIBILITIES

1. Conducting environmental impact assessment and environmental audits in pursuant to the legal requirements of Environmental Management & Coordination Act 1999 (Kenya) for various farms and industries(see attached list of EIAs/Audits conducted)
2. Organize and participate in Health Safety Committee, First Aid& Fire Safety Trainings for clients.
3. In charge of day to day running of the company

Achievements: Key team member in placing the market share of the consultancy to a highly recognizable level. Gained conversancy and expertise in the EIA/Audit process and strengthened facilitative and people relation skills as a trainer in Occupational Health & Safety.

National Environment Management Authority (NEMA):
Registered as Environmental Impact Assessment Lead Expert.

Computer Skills

Proficiency in:

- ❖ MS word
- ❖ MS excel
- ❖ MS Powerpoint
- ❖ MS Access
- ❖ Internet use and applications

WORK AND PROFESSIONAL EXPERIENCE

SEPTEMBER 2008

Global E.H.S Consulting

Technical Officer, Environmental Impact Assessment/Audit

- ❖ Conducting environmental impact assessment and environmental audits in pursuant to the legal requirements of Environmental Management & Coordination Act 1999 (Kenya) for various farms and industries
- ❖ Organize and participate in Health Safety Committee, First Aid & Fire Safety Trainings for clients.
- ❖ In charge of day to day Mombasa area operations of the firm
- ❖ Collecting and collating data relevant to the study as part a team constituted to conduct environmental audits

Achievements: Gained conversancy and expertise in the EIA/Audit process, strengthened facilitative and people relation skills as a trainer in occupational safety, first aid and fire safety

Nov 2005 August 2007: VI – AGROFORESTRY CENTRE KISUMU

Position: Project Officer

RESPONSIBILITIES

- ❖ Coordinating day to day operational aspects of the project and staff in the Upper Nzoia basin
- ❖ Building partnerships with both the private and public sector to fundraise for development projects
- ❖ Providing technical and administrative support to the Project Implementing Committee
- ❖ Preparing narrative and financial reports
- ❖ Facilitating timely preparations and logistical arrangements for all project trainings
- ❖ Monitoring and evaluation of project progress jointly with other partners Creating and executing project work plans and revising them as appropriate to meet changing needs/requirements
- ❖ Providing technical support to the implementing community groups

Achievements: Acquired project management skills, partnership building, community mobilization, reporting & donor compliance requirement

EXTRA CURRICULUM ACTIVITIES

2004-2005: Member of Youth Wildlife Environmental Movement (YWEM)
Mombasa Polytechnic

2006: Wildlife Club, Mombasa Polytechnic University College

ACTIVITIES

- ❖ Tree planting activities
- ❖ Clean up exercises
- ❖ Animal census

ACHIEVEMENTS: Acquired voluntary service and teamwork experience

HOBBIES

- ❖ Traveling
- ❖ Participating in voluntary activities/ community service
- ❖ Reading

REFEREES

Mr. Fred Marani
Project Manager, VI
GROFORESTRY,
[Mail: yabwibo@yahoo.com](mailto:yabwibo@yahoo.com)

James macharia
Chairman
Environment & Health
Sciences Department,
Mombasa Polytechnic
University College
Email: mwamita@yahoo.com

Godfrey Wabwile Wafula
Provincial Environment Officer,
National Environment Management
Authority
P. O. Box 87400-80100
Mobile: +254 734235574
EMAIL: gwafula@yahoo.com



Date: 10th June, 2026

[Signature of the staff Member]

Full name of staff member: _____ EZEKIEL OLUKOHE _____

Full name of authorized representative: _____ EZEKIEL OLUKOHE _____



nema
NATIONAL ENVIRONMENTAL MANAGEMENT AUTHORITY

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

ENVIRONMENT MANAGEMENT AND COORDINATION ACT, Cap 387

Experts License - Associate/Lead Experts

License No.:

NEMA/ENVIS/EL/0906

Application Reference No:

NEMA/ENVIS/ELA/05462

M/S EZEKIEL OLUKHOE

(individual or firm) of (address) **P.O.BOX 42588, 80100, Mombasa GPO**

is licensed to practice in the capacity of a **Lead Expert** registration number **NEMA/ENVIS/EL/0906** in accordance with the provision of the Environmental Management and Coordination Act cap 387.

Issued Date: **5th February 2026**

Expiry Date: **31st December 2026**

*FOR PROPOSED LEVEL 6 HOSPITAL
BY THE MINISTRY OF HEALTH KENYA*

06/06/2026

Robert Orina

For DIRECTOR GENERAL

National Environment Management Authority

P.T.O.



ISO 9001 : 2015 Certified

Martha Akinyi — Registered Environmental Impact Assessment and Audit Expert

Curriculum vitae — 5 pages

MARTHA AKINYI
Environmental professional, expert in Climate
change, Environmental Impact Assessment
/Environmental Audit

P.O. Box 66296-00800 Nairobi

Marthaomondi447@gmail.com

+254 759966078

PROFILE

A highly motivated young environmental professional with strengths in climate change, sustainable natural resources management, and environmental and social safeguards. She holds a Bachelor of Science degree in Natural Resource Management from the University of Eldoret.

I have experience working on aquatic ecosystem inventory, watershed and riparian zone protection, pollution prevention, and stakeholder coordination involving government agencies, NGOs, private sector actors, and communities. Demonstrated ability in data collection, environmental reporting, development of management plans, and implementation of national and international environmental frameworks.

On sustainable natural resources management, I have been involved in Programmes in biodiversity conservation, and especially community-based interventions. I'm a strong advocate of nature-based solutions in addressing biodiversity loss and climate challenges, and community participation in conservation as custodians of biodiversity and natural resources.

As a champion of sustainability, I am well versed with policies and procedures for identification, assessment, and management of environmental and social risks in projects to ensure development is economically, socially, and ecologically sustainable. I'm registered environmental impact assessment and audit expert with the National Environment Management Authority in good standing.

In the course of my career, I have acquired valuable skills in project management, stakeholder engagement, research, report writing, facilitating community initiatives, public communication and organizing and managing meetings and workshops.

EXPERIENCE

Dec 2023 – to date **Part time Consultant EVEREST MAVEN GROUP LTD**

- Assisting in the writing of Environmental Impact Assessment and Audit Reports.
- Organizing and conducting public participation with the project affected persons and stakeholders.
- Conducted field assessments of proposed projects to collect biophysical and socio-environmental data.
- Carried out environmental monitoring and audits of facilities to assess compliance and recommend corrective measures.
- Conducted environmental research to support ecosystem protection, pollution prevention, and sustainable development.

Jan 2024 – Jan 2025 **Water Resource Authority Intern**

- Identifying and implementing adaptive solutions to water shortages tailored to, local livelihoods and communities across the country.
- Monitored inland freshwater resources including rivers, springs, and riparian zones to support sustainable water resource management.
- Conducted inventory and assessments of water-related ecosystems to inform conservation

- and pollution control measures.
- Supported watershed management and protection of riverine and riparian ecosystems.
- Supported project monitoring and evaluation systems to track ecosystem resilience and climate adaptation outcomes.
- Establishing and maintaining conservation agriculture and dryland farming demonstration sites, delivering training sessions to community members.
- Supporting women and youth civil society organizations in advocating for local climate change solutions.
- Developing learning materials on sustainable, scalable strategies for green growth, dryland farming, and business resilience.
- Leading initiatives to protect springs, riverine, and riparian zones, and supported watershed management.
- Conducting community consultations and assessments to identify adaptive livelihood solutions.
- Drafting project proposals and concept notes to secure funding for livelihoods and climate resilience initiatives.
- Representing the organization in national-level working groups, interagency workshops, and communities of practice.

March 2022-
Jan 2024

**National Environment Management Authority
Intern- Adaptation Funds and Green Climate Funds Programs**

- Planned, coordinated, and implemented climate change adaptation projects and initiatives. This includes overseeing project lifecycles, tracking completion against critical paths, and ensuring adherence to environmental standards.
- Provided technical expertise and guidance on climate change adaptation measures. I conducted assessments to identify climate risks and vulnerabilities, trained stakeholders, and communities on adaptation options, and monitored the effectiveness of interventions for continuous improvement.
- Forged strong relationships and facilitated participatory planning with internal and external stakeholders. I have successfully led community engagement and liaison and overseen awareness and training sessions on adaptation interventions.
- Maintained meticulous documentation and data management systems.
- Participated in the designing and implementation of programs that build resiliency and adaptive capacity of communities to climate change impacts
- Participated in monitoring and preparing project monitoring reports for internal use as well as donors
- Participated in meetings and workshops on Climate change mitigation and adaptation.
- Ensured all the activities funded by the Adaptation Fund programme adhere the environmental and social policy, as well as gender policy
- Participated in development of concepts and project proposals for funding by development partners
- Engaged and provided support to project partners

Dec 2020 -
Dec 2021

**Kenya Forest Service
Attachment – Ceng'alo Forest Station**

- Conduct research on indigenous species (olea Africana) on the field.
- Survey and demarcating land for planting of trees on the field.
- Inventory and data collection of forest resources.
- Report writing on the nursery activities, field activities, siculture, weather experience.

Achievements

- Spearheaded community initiatives that improved water management and enhanced climate resilience.
- Established functional conservation agriculture sites, benefiting over 200 community members.
- Supported the development of grassroots economic groups, increasing financial inclusion and stability
- Strengthened community participation in wetland and water resource conservation initiatives.
- Contributed to monitoring and protection of freshwater and riparian ecosystems across multiple counties.

EDUCATION

DEC 2019	UNIVERSITY OF ELDORET	Bachelors of Science Degree in Natural Resource Management
JAN 2015	EMMANUEL COMPUTER COLLEGE	Certificate in Computer Package
NOV 2015	ST THERESA EREGI GIRLS	Kenya Certificate of Secondary Education

SKILLS

- Climate Change Adaptation and Resilience
- Water Resource Management
- Conservation Agriculture and Dryland Farming
- Community Engagement and Capacity Building
- Biodiversity Conservation
- Renewable Energy Solutions
- Project Monitoring and Evaluation
- Policy Development and Advocacy
- Administrative Support
- Microsoft Office Suite Excel, Word, SharePoint
- Problem-Solving

Referees

John Wafula
National Environmental Management Authority
Head of Programmes-Adaption Funds/ Green
Climate Funds Programme
0721412828
jswafula@gmail.com

Eddy Okello
Lead Expert
Everest Marven Group
LTD 0712503327
okelloedu@gmail.com

Dorine Wairimu Ng'ang'a
Water Resource
Authority Human
Resource 0728535209
doreenwairimux@gmail.com

APPENDIX 4: LAND OWNERSHIP DOCUMENTATION

This appendix reproduces the registered lease for the project site. The National Government leases Parcel No. Londiani/Township/186, Registration Unit Kericho, measuring approximately 34.3 hectares, to the Cabinet Secretary to the Treasury of Kenya, to hold for the South Rift Level VI Teaching and Referral Hospital, Kericho, for a term of 99 years from 1 December 2025. The lease was executed on 12 March 2026 under CF No. 363704 (Form LA, LA No. 6 of 2012). Special condition 5 provides that the land and buildings shall always be used for referral hospital, medical research and teaching purposes with appurtenant facilities.

LA No. 6 of 2012
(to be completed in quadruplicate)

FORM LA

Presentation Book Date received for registration:

Registration Fees: KSh.

Paid on 20.....

Receipt No. :

CF NO.363704



REPUBLIC OF KENYA

THE LAND REGISTRATION ACT

(No. 3 of 2012)

THE LAND ACT

(No. 6 of 2012)

REGISTERED LAND ACT (Repealed)

REGISTRATION OF TITLES ACT (Repealed)

S.D#5
BQUW
12.03.2026

Kipfeno Kach 022
Land Administration Officer

LEASE

(This LEASE is issued pursuant to the transitional provision in sections 160 and 161 of the Land Act and section 108 of the Land Registration Act)

REGISTRATION UNIT Kericho PARCEL NO. LONDIANTOWNSHIP/186

THE NATIONAL GOVERNMENT in consideration of the sum of Kenya Shillings 0/= by way of stand premium paid on or before the execution hereof

HEREBY LEASES to THE CABINET SECRETARY TO THE TREASURY OF KENYA (A BODY CORPORATE DULY ESTABLISHED UNDER THE PROVISIONS OF THE CABINET SECRETARY TO THE TREASURY (INCORPORATION) ACT CAP 101, LAWS OF KENYA) (POST OFFICE BOX NUMBER 30007-00100, NAIROBI) (TO HOLD FOR SOUTH RIFT LEVEL VI TEACHING AND REFERRAL HOSPITAL, KERICHO) - hereinafter called the lessee.

ALL THAT piece of land comprised in the Registry Index Map No. - / Deed Plan No. containing by measurement approximately Thirty-Four Point Three (34.3) hectares or thereabouts for the term of 99 years from the 1st day of December, 2025 payable at the annual rent of Kenyan shillings. Seventy-Two Shillings (72.00) w.e.f 01-12-2025 **REVISABLE** payable in advance on the first day of January in each year and subject to the following special conditions.

GP/CM/11931/2000-01/2026

Phone:
Sold to/Issued To:
Land Admin
For Regn/To Proof/
Land/Title/106

KENYA

00000005/-
LEASE
2025-12-01 08:12:14

CS CamScanner

Lease, page 1 — parties, parcel, area and term.

SPECIAL CONDITIONS

1. No buildings shall be erected on the land nor shall additions or external alterations be made to any buildings otherwise than in conformity with the plans and specifications previously approved in writing by the National /County Government. The National / County Government shall not give its approval unless it is satisfied that the proposals are such as to develop the land adequately satisfactorily.
2. The lessee shall within six (6) calendar months of the actual registration of the lease submit in triplicate to the National Government/ County Government building plans (including block plans showing the position of the buildings and system of drainage for the disposal of the sewage, surface and sullage water), drawings, elevations and specifications of the buildings the lessee proposes to erect on the land and shall within 48 months of the actual registrations of the lease complete the erection of such buildings and the construction of the drainage system in conformity with such plans, drawings, elevations and specifications as amended (if such be the case) by the PROVIDED that notwithstanding anything to the contrary contained in or implied by the Land Act No. 6 of 2012 if default shall be made in the performance or observance of any of the requirements of this condition it shall be lawful for any person authorized by it on behalf of the National and County Governments to re-enter into and upon the land or any part thereof in the name of the whole and thereupon the term hereby created shall cease but without prejudice to any right of action or remedy of the National and /County Government in respect of any antecedent breach of any conditions herein contained
3. The lessee shall maintain in good and substantial conditions all buildings at any time erected on the land
4. Should the Lessee give notice in writing to the National/County Government that the lessee is unable to complete the buildings within the period aforesaid the National/ County Government shall at the lessee's expense accept a surrender of land comprised herein PROVIDED FURTHER that if such notice is aforesaid shall be given (1) within twelve months paid in in respect of the land or (2) at any subsequent time prior to the expiration of the said of the actual registration of period of Government shall refund the Lessee twenty-five per centum of the said premium. In the event of notice being given after the expiration of the said building period no refund shall be made.
5. The land and buildings shall always be used for referral hospital, medical research and teaching purposes with appurtenant facilities.

Lease, page 2 — special conditions 1 to 5, including the restriction of use to referral hospital, medical research and teaching purposes.

6. The buildings shall not cover a greater area of the land or such lesser area as may be prescribed by the National /County Government Development Control Regulations
7. The land shall not be used for any purpose which the National / County Government considers to be dangerous or offensive.
8. The lessee shall not subdivide, change or extend use of the land, without prior written consent and approval of the National Government or County Government.
9. The lessee shall not sell, transfer, sublet, charge or part with possession of the land or any part thereof or any building thereon except with prior consent in writing of the National / County Government or Land Control Board.
10. The lessee shall from time to time pay to the National / County Government on demand such proportion of the cost of maintaining all roads and drains serving or adjoining the land as the National / County Government may assess.
11. The Lessee shall pay such rates, charges, duties, assessments or outgoings of whatever descriptions as may be imposed charge or assessed by the National / County Government on behalf of the National / County Government upon the land or the buildings erected thereon, including any contribution or other sum paid in lieu thereof.
12. The National Government or respective County Government or such other person or authority as may be appointed for the purpose shall have the right to enter upon the land and lay and have access to water main service pipes and drains, telephone wire, fiber optic and electric mains of all descriptions whether overhead or underground and the Lessee shall not erect any buildings in such a way as to cover or interfere with any existing alignments of main or services pipes or fiber optic or telephone wires and electric mains.
13. The National Government / County Government may revise the annual ground rent payable. Such rental shall be at a rate to be determined by the National Government / County Government of the unimproved value of the land

Dated this 12th day March, 2026

SIGNED BY:



Peter O. Ngidi *011
Land Administration Officer

For: CABINET SECRETARY

CS CamScanner

Lease, page 3 — special conditions 6 to 13 and execution, dated 12 March 2026 and signed for the Cabinet Secretary.

APPENDIX 5: GRIEVANCE REDRESS MANAGEMENT PLAN

This appendix consolidates the Grievance Redress Mechanism established for the South Rift Level VI Teaching and Referral Hospital. It is reproduced here as a standalone plan so that affected persons, workers and the reviewer can find the mechanism, the contacts and the timeframes in one place. The mechanism is also carried in the Stakeholder Engagement Plan at Appendix 8.

Structure of the mechanism

The project operates a two-tier mechanism. Employee grievances arising from terms of employment, working conditions or workplace disputes are raised in the first instance through the contractor's site management and human resources channel. Community grievances relating to construction impacts, land, environmental or social concerns, or hospital operations, are channelled through the Project Grievance Redress Committee. Where a grievance of either kind remains unresolved after all administrative avenues have been exhausted, the aggrieved party retains the right to pursue the matter before the Environment and Land Court.

Designated grievance office and contact details

Item	Detail
Designated Grievance Officer	Dr Collins Kipkoech
Title	Medical Superintendent, Londiani County Level IV Hospital
Telephone / SMS	+254 715 323192
Email	kmhfl@health.go.ke; londianihospital@gmail.com
Physical address	Administration Office, Londiani Sub-County Hospital, Kericho County
Hours	Monday to Friday, 08:00–17:00; written, SMS and email submissions accepted at any time
Anonymous submissions	Suggestion boxes at the site entrance and at the Sub-County and Ward administration offices, cleared weekly by the Community Liaison Officer
Confidential SEA/SH channel	Direct submission to the designated female or male focal point, bypassing the site management chain
Acknowledgement	Within three (3) working days of receipt
Resolution — community level	Within fourteen (14) working days
Resolution — Project Grievance Redress Committee	Within thirty (30) working days
Determination — County Grievance Redress Committee	Within forty-five (45) working days
Right of appeal	To the next tier and ultimately to the Environment and Land Court

These details are to be posted at the site entrance, on the hospital notice board and at the offices of the Sub-County and Ward administration, and are to be stated on the grievance form and in all community information materials.

APPENDIX 6: BASELINE AIR QUALITY MEASUREMENT

A baseline air quality survey was undertaken at four sensitive receptor points surrounding the proposed project site by Mazingira Limited, a NEMA-registered testing laboratory, using calibrated EPAM-5000 particulate monitoring equipment and associated gas detection methods. The survey establishes the existing ambient conditions against which construction-phase impacts are assessed in Chapter 6.

Measured baseline concentrations

Parameter	Measured range across the four points	Assessment
PM10	0.006 – 0.070 mg/m ³	Within the limits prescribed under the EMC (Air Quality) Regulations, 2024 and within WHO guideline thresholds
PM2.5	0.002 – 0.072 mg/m ³	Within prescribed and WHO guideline limits
Carbon Monoxide (CO)	0.302 – 0.413 mg/m ³	Within prescribed and WHO guideline limits
Carbon Dioxide (CO ₂)	0.18 – 0.26 mg/m ³	Within prescribed limits
Nitrogen Oxides (NO _x)	Below 0.031 µg/m ³ at all points	Within prescribed and WHO guideline limits
Sulphur Oxides (SO _x)	0.30 – 0.48 µg/m ³	Within prescribed and WHO guideline limits

All measured parameters at all four monitoring points were within the limits prescribed under the Environmental Management and Coordination (Air Quality) Regulations, 2024 and within applicable World Health Organization air quality guideline thresholds.

Sampling methodology, equipment calibration records and raw monitoring data are held by the proponent in the standalone Baseline Air Quality Report prepared by Mazingira Limited, and are available to the Authority and to the Bank on request. Confirmatory monitoring is carried as a line item in the Environmental and Social Management and Monitoring Plan and is reported at the Year-1 Environmental Audit.

APPENDIX 7: BASELINE NOISE MEASUREMENT

A baseline ambient noise survey was undertaken at four sensitive receptor points surrounding the proposed project site on 9 May 2026. The survey establishes the existing acoustic environment against which construction-phase and operational noise impacts are assessed in Chapter 6.

Measured daytime ambient noise levels

Point	GPS Coordinates	Average Daytime LAeq (dB(A))	Regulatory Limit (dB(A))	Compliance Status
Point 1	0° 09' 51.25"S, 35° 35' 25.62"E	51.52	55	Within permissible limits
Point 2	0° 09' 51.24"S, 35° 35' 27.63"E	49.07	55	Within permissible limits
Point 3	0° 09' 53.14"S, 35° 35' 26.76"E	50.93	55	Within permissible limits
Point 4	0° 09' 52.41"S, 35° 35' 25.57"E	51.81	55	Within permissible limits

All four receptor points recorded daytime equivalent continuous sound levels within the permissible limit of 55 dB(A) applicable to the receiving environment under the Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations. Monitoring methodology, instrumentation details, calibration records and raw noise logging data for all four points are held by the proponent and are available to the Authority and to the Bank on request.

APPENDIX 8: STAKEHOLDER ENGAGEMENT PLAN (SEP)

Defines the structured approach for engaging all project stakeholders throughout the project lifecycle.



REPUBLIC OF KENYA
MINISTRY OF HEALTH, STATE DEPARTMENT OF
MEDICAL SERVICES

CONSTRUCTION OF SOUTH RIFT LEVEL (VI) TEACHING AND REFERRAL HOSPITAL ON PLOT L.R NO. LONDIANI TOWNSHIP/186 IN KERICHO COUNTY STAKEHOLDER ENGAGEMENT PLAN

MAY 2026

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Name	Description
ADR	Alternative Dispute Resolution
ACC	Assistant County Commissioner
CC	County Commissioner
CSO	Civil Society Organization
DCC	Deputy County Commissioner
ESIA	Environmental and Social Impact Assessment
FAQs	Frequently Asked Questions
GoK	Government of Kenya
GRM	Grievance Redress Mechanism
MCA	Member of County Assembly
MoH	Ministry of Health
MP	Member of Parliament
NLC	National Lands Commission
NEMA	National Environment Management Authority
PA	Project Affected Household
H	Project Affected Person
PAP	
SMS	Short Message System
SEP	Stakeholder Engagement Plan
VMGP	Vulnerable and Marginalised Groups Plan

xiii. INTRODUCTION

○ Overview

The Government of Kenya through the Ministry of Health has received funding from the African Development Bank (AfDB) towards the implementation of the proposed South Rift Level (VI) Teaching and Referral Hospital to be developed on Plot L.R. No. Londiani Township/186 in Kericho County.

The proposed project aims to improve access to quality healthcare services within the South Rift region and neighboring counties through the establishment of a modern referral and teaching hospital equipped with specialized medical facilities, training infrastructure, emergency care services, and improved health support systems. The project is expected to strengthen healthcare delivery, enhance medical training and research, reduce referral cases to distant national hospitals, and improve overall public health outcomes within the region.

The proposed facility is a 1,000-bed Level VI teaching and referral hospital on a site of approximately 34.30 hectares (84.75 acres). These figures are consistent with the Feasibility Study Report, the ESIA and the approved bed schedule, and govern for all purposes of this Plan.

The proposed hospital project is expected to generate significant socio-economic and health benefits to the local community and the country at large. These benefits include improved access to specialized and affordable healthcare services, creation of employment opportunities during the construction and operational phases, stimulation of local businesses through increased demand for goods and services, enhancement of medical training and research opportunities, and improvement of regional healthcare infrastructure.

The project will also contribute towards achievement of the Government's Universal Health Coverage (UHC) agenda by improving healthcare accessibility and service delivery within the South Rift region.

However, implementation of the proposed project may also result in a number of environmental and social impacts during the construction and operational phases. Anticipated impacts may include increased dust emissions, noise and vibration, generation of construction waste, increased pressure on water and energy resources, occupational health and safety risks, traffic congestion, and temporary disruption of neighboring activities during construction works. During operation, impacts may include increased generation of healthcare waste, wastewater generation, increased demand for utilities, and public health and safety concerns if not properly managed.

The proposed project site is currently undeveloped government land with no major permanent

structures. Nevertheless, the project design and implementation process will ensure that any affected persons, neighboring communities, institutions, and stakeholders are adequately consulted and involved throughout the project cycle. Special consideration will also be given to vulnerable groups and neighboring institutions to ensure that the project is implemented in a socially inclusive and environmentally sustainable manner in compliance with relevant Kenyan environmental laws and the African Development Bank(ADB) Guidelines on Stakeholder Consultation and Participation.

The proposed mitigation measures and Environmental and Social Management Plans (ESMPs) will therefore be developed to address all identified impacts and enhance positive outcomes associated with the proposed South Rift Level (VI) Teaching and Referral Hospital project.

○ Goal and Objectives of Stakeholder

The Goal

The Ministry of Health recognizes that the Project affects and as well is affected by various stakeholders who pose varied needs for engagement and consultation. The goal of this stakeholder engagement strategy is to build informed stakeholder support base, ownership and provide adequate stakeholder participation space and modes of communication for the successful implementation of the RAP/VMGP as well as the overall hospital project.

Land and livelihoods related issues are often the biggest source of community grievances against development projects. There is need therefore to engage all critical stakeholders for the success of the project. The aim of SEP within the resettlement implementation processes is to ensure that all interested and affected parties are informed and involved throughout the project phases. The strategic general objective is to ensure a collaborative and a participatory approach during the implementation of the RAP and VMGP and at large the entire project. This Stakeholder Engagement Plan (SEP) seeks to define a technically and culturally appropriate approach to consultation and disclosure. The goal of this SEP is to improve and facilitate decision making and create an atmosphere of understanding that actively involves project- affected people and other stakeholders in a timely manner, and that these groups are provided sufficient opportunity to voice their opinions and concerns that may influence Project decisions.

Specific Objectives

The main objectives of this Plan include:

- To comply with regulations and requirements on disclosure and stakeholder consultation as per the Kenyan policies and legislation as well as International best practice in particular African Development Bank (AfDB) requirements;
- Map out stakeholders and provide in-depth analyses of the interests and needs of consultation of the different stakeholder groups;
- Identify the most effective methods and structures through which the Project information can be disseminated, and to ensure regular, accessible, transparent and appropriate stakeholder engagement;

- Provide guidance for the Project to build mutual, respectful, beneficial and lasting relationships with stakeholders;
- Implement and enable review whether necessary the present Grievance Redress Mechanism (GRM), making sure it affords all stakeholders or interested citizenry the ability to provide feedback, channel their concerns and, thereby, access information and, where relevant, seek recourse and remedy under the GRM. The GRM also provides the options available to PAPs for grievances they may have as they arise during implementation of RAP and VMGP;
- Reporting, monitoring and feedback measures that ensure the effectiveness of the SEP and periodical reviews of the SEP based on findings; and
 - Define roles and responsibilities for the implementation of the SEP;
 - Gather feedback on RAP/VMGP implementation process for future guidance.

This SEP is being implemented in line with the country's national legislation, the lenders' requirements, and in accordance with international best practice. It is also taking into consideration the social and cultural norms among the affected communities that define how information is shared, while working through the existing local structures.

○ Preparation of the Stakeholder Engagement Plan

This SEP has been developed to document a process through which the Project (either through the RIC, PIU or PMU) will engage its stakeholders on the hospital Project in a structured, informed and regular manner. The following steps were undertaken to develop this SEP:

- Meetings with stakeholders: This specific SEP is largely informed by the stakeholder engagements during preparation and disclosure of the RAP report to the various stakeholders of the South Rift level (vi) hospital
- Literature review: Further, it was developed through a review of documents such as disclosed RAP, ESIA, VMGP, Project Communication Plan and existing Kenyan policies, legislations and internationally acceptable standards and guidelines.

Disclosure of this Stakeholder Engagement Plan

This Stakeholder Engagement Plan is disclosed on 29 July 2026 through the following channels: the Ministry of Health project webpage; the African Development Bank public disclosure platform; the offices of the County Government of Kericho; the offices of the Sub-County and Ward administration serving the project area; and in hard copy at the hospital administration office. A summary in Kiswahili is disclosed through the same channels. The Plan is reviewed and re-disclosed on any material revision, and at least annually during implementation.

a. PROJECT CONTEXT

b. Project Location

The proposed South Rift Level (VI) Teaching and Referral Hospital Project will be located on Plot L.R. No. Londiani Township/186 in Londiani area, Kipkelion East Sub-County, Kericho County, within the South Rift region of Kenya. The project site lies along the strategic Northern Transport Corridor that connects Nairobi and the central part of Kenya to the western region and neighboring East African countries including Uganda, Rwanda, Burundi, South Sudan, and Tanzania. The proposed hospital site is strategically positioned near the Londiani–Kericho Highway and Londiani–Muhoroni Highway, which are major transport corridors characterized by high traffic volumes and frequent road accidents.

The proposed Level VI Teaching and Referral Hospital is intended to serve the wider South Rift region and neighboring counties including Bomet, Nandi, Nakuru, Baringo, Uasin Gishu, and parts of western Kenya. Upon completion, the facility will provide specialized healthcare services, emergency and trauma care, medical training, research, and referral services to the growing regional population. The project is expected to improve access to quality healthcare, reduce referrals to distant national referral facilities such as Moi Teaching and Referral Hospital, and strengthen healthcare delivery within the South Rift and East African region.

c. Geography

Kericho County is one of the counties located within the South Rift region of Kenya. The County borders Bomet County to the South, Nandi County to the North, Nakuru County to the East, Kisumu County to the West, and Uasin Gishu County to the North East. The County lies within the Great Rift Valley region and is strategically positioned along the Northern Transport Corridor connecting Nairobi to western Kenya and neighboring East African countries.

The County is administratively divided into several sub-counties including Kipkelion East, Kipkelion West, Belgut, Bureti, Ainamoi, Soin/Sigowet, and Londiani areas. The proposed South Rift Level (VI) Teaching and Referral Hospital Project is located within Kipkelion East Sub-County on Plot L.R. No. Londiani Township/186 in Kedowa/Kimugul Ward. The project area is strategically situated near the Londiani–Kericho Highway and Londiani–Muhoroni Highway, which serve as major transport corridors

within the South Rift region. The proposed project is therefore expected to serve residents of Kericho County and neighboring counties within the South Rift and wider East African region through provision of specialized healthcare, emergency response, medical research, and teaching services.

d. Social context

The proposed South Rift Level (VI) Teaching and Referral Hospital Project is located within a socially active and economically vibrant region of Kericho County. The project area is characterized by strong community structures, active local leadership, and established social institutions that play a significant role in community mobilization and development initiatives. Community participation within the project area remains high, with local leaders, administrators, religious institutions, youth groups, women groups, and community-based organizations actively involved in addressing social, economic, and environmental challenges affecting the region.

The communities within Kipkelion East Sub-County have continued to demonstrate strong support for development initiatives aimed at improving healthcare services, infrastructure, and socio-economic wellbeing. Various organized groups including Self-Help Groups, Community Based Organizations (CBOs), Faith Based Organizations (FBOs), and local welfare associations actively participate in community development activities and public consultation forums. The presence of these organized social structures is expected to enhance stakeholder engagement, promote effective community participation, and support sustainable implementation of the proposed hospital project.

The project area also hosts a diverse population whose livelihoods largely depend on agriculture, trade, transport-related businesses, and public sector employment. Due to the strategic location of the proposed facility along major transport corridors prone to frequent road accidents, the local communities have expressed the need for improved emergency response and specialized healthcare services. The proposed project is therefore expected to receive significant community support owing to its anticipated contribution towards improved healthcare access, employment opportunities, medical training, and regional socio-economic development.

e. Demographics

According to the 2019 Kenya Population and Housing Census, Kericho County has experienced steady population growth driven by urbanization, agricultural activities, and expanding economic opportunities within the South Rift region. Kipkelion East Sub-County, where the proposed South Rift Level (VI) Teaching and Referral Hospital Project is located, comprises a rapidly growing

population distributed across various wards and trading centers including Londiani and Kedowa/Kimugul areas. The region serves as an important commercial and transport hub along the Northern Transport Corridor, contributing to increased population movement and settlement within the area.

The South Rift region served by the proposed project has an estimated population of approximately 4,986,341 people according to the 2019 Kenya National Bureau of Statistics (KNBS) Census, with projections indicating continued population growth in the coming years. The population is characterized by a high demand for quality healthcare services, emergency response, specialized treatment, and referral services due to increasing cases of road accidents, communicable and non-communicable diseases, and maternal and child health needs. The region also records significant movement of people and goods along the Londiani–Kericho and Londiani–Muhoroni highways, increasing pressure on existing healthcare facilities.

The area surrounding the proposed project site is predominantly inhabited by farming communities, small-scale traders, transport operators, and public servants. The population density within the urbanizing centers of Londiani and surrounding areas continues to increase due to improved infrastructure and economic activities. Consequently, the proposed South Rift Level (VI) Teaching and Referral Hospital is expected to play a critical role in addressing the growing healthcare demand within Kericho County, neighboring counties, and the wider South Rift and East African regio

- **SUMMARY OF NATIONAL LEGAL REQUIREMENTS AND INTERNATIONAL GOOD PRACTICE**

7.6

- **National Regulatory Requirements for Public Participation**

Public participation is a constitutional requirement specifically, Article 1 of Constitution of Kenya states that sovereign power belongs to the people. This principle of public participation intends to enhance, promote and facilitate public participation in governance processes. Further, the Constitution endeavors to ensure the following;

- ix. Promote democracy and participation of the people in accordance with Article 10 of the Constitution;
- x. Promote transparency and accountability in decision making;
- xi. Enhance public awareness and understanding of governance processes; promote community ownership of public decisions; and
- xii. Promote public participation and collaboration in governance processes.

- **International Stakeholder Consultation requirements**

- **African Development Bank Integrated Safeguards System (2023) — Operational Safeguard 2: Involuntary Resettlement, Land Acquisition, Population Displacement and Compensation**

The African Development Bank (AfDB) AfDB ISS (2023) Operational Safeguard 2 includes safeguards to address and mitigate impoverishment risks arising from involuntary resettlement. Thus, the Bank provided for mitigation against actions that may be taken to relocate PAPs without the displaced person's informed consent or power of choice.

The experience of the Bank on control measures on the involuntary resettlement under development projects indicates that if not mitigated, the process gives rise to negative socio-cultural and economic impacts on the resettled people. The objectives on the AfDB's policy on involuntary resettlement indicates that;

- Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs;
- Borrower needs to inform potentially displaced persons at an early stage about the resettlement aspects of the project and take their views into account in project design;
- Displaced persons and their communities, and any host communities

receiving them, should be provided with timely and relevant information, consulted on resettlement options, and offered opportunities to participate in planning, implementing, and monitoring resettlement.

- **African Development Bank Safeguards — Community Engagement and Vulnerable Groups**

The Bank provides project financing only where free, prior, and informed consultation results in broad community support to the project by the affected Indigenous Peoples. The Bank-financed projects include measures to (a) avoid potentially adverse effects on the Indigenous Peoples' communities; or (b) when avoidance is not feasible, minimize, mitigate, or compensate for such effects.

No involuntary resettlement, land acquisition, physical or economic displacement, or impact on Indigenous Peoples has been identified for this project. The site is public land already set aside for the purpose and no persons are to be relocated. Accordingly, no Resettlement Action Plan and no Vulnerable and Marginalised Groups Plan is required. The community engagement requirements of the African Development Bank Integrated Safeguards System (2023), in particular Operational Safeguard 10 on Stakeholder Engagement and Information Disclosure, apply in full and are implemented through this Stakeholder Engagement Plan, with particular attention to the inclusion of women, youth, older persons, persons with disabilities and low-income households. Should any land-related impact be identified during implementation, the requirements of Operational Safeguard 2 will be applied and the Bank notified. Operational Safeguard 2 (Involuntary Resettlement) of the AfDB Integrated Safeguards System (2023), that is compatible with the Indigenous Peoples' cultural preferences, and includes a land-based resettlement strategy.

In regard to AfDB OP 4.10 and 4.12; the RIC will continue to sensitize, engage and consult the PAPs and all relevant stakeholders on all matter that affects them in all phases of the RAP implementation process in this project.

vii. STAKEHOLDER ENGAGEMENT PROCESS AND APPROACH

The SEP recognizes that to plan and conduct effective stakeholder engagement activities certain factors must be taken into consideration. These factors may include:

- v. Stakeholders and their interests may change over time given the stakeholder's situation is dynamic.
- vi. Stakeholder Identification and Analysis: Recognizing and analyzing the diverse stakeholders involved, including their interests, concerns, and influence, while also acknowledging that stakeholders and their interests may evolve over time.
- vii. Communication and Information Dissemination: Ensuring transparent and culturally sensitive communication channels to disseminate necessary information to stakeholders, enabling their meaningful participation in informed decision-making processes.
- viii. Capacity Building and Inclusivity: Providing training and resources to stakeholders, especially marginalized or underrepresented groups, to enhance their capacity for participation, while ensuring inclusivity and respect for cultural diversity.
- ix. Timeliness and Flexibility: Engaging stakeholders early in the planning process and maintaining flexibility to adapt engagement strategies based on feedback and changing circumstances.
- x. Constructive External Relationships: Initiating and maintaining constructive relationships with external stakeholders over time to foster trust and collaboration throughout the project lifecycle.
- xi. Context-Specific Consultations: Conducting context-specific consultations tailored to the needs and preferences of stakeholders, recognizing that there is no one-size-fits-all approach to engagement.
- xii. Documentation and Accountability: Documenting consultation activities and outcomes to track progress, ensure accountability, and publicly commit to responding to stakeholder concerns within specified time frames.
- xiii. Feedback Mechanisms and Conflict Resolution: Establishing feedback mechanisms for stakeholders to express concerns and grievances, and implementing fair and transparent conflict resolution processes to address disagreements.
- xiv. Environmental and Social Safeguards: Incorporating measures to mitigate potential environmental and social impacts of the project, and addressing stakeholder concerns regarding these issues.
- xv. Ethical Considerations: Upholding ethical principles such as integrity, honesty, and respect for human rights throughout the engagement process, while recognizing and addressing gender-based concerns and ensuring equal representation and participation.

a. Stakeholder Identification and Categorization

The South Rift Level (vi) hospital Project stakeholders were identified and classified on the basis of a number of factors, including proximity to the main project, level of concern, criticality to the Project success (e.g. management), influence over the success etc.

Project stakeholders were identified at the following levels:

- ix. Local Level: This includes all individuals, groups, and organizations physically located within the project's Zone of Influence who could be directly affected by project activities or investments, or those who may oppose project implementation.
- x. County Level: This group comprises individuals, groups, or organizations indirectly affected by the project implementation. They may be elected officials, community leaders, or representatives of local government bodies within the county where the project is located.
- xi. National Level: This group comprises individuals, groups or organizations that may be required to provide specific services to those affected by the project such as Ministry of Lands, Water, Sanitation and Irrigation, Education, internal security, NLC or entities responsible for setting standards and regulations for the implementation of the Resettlement Action Plan (RAP).

The project's stakeholders encompass both internal and external entities. Internal stakeholders include the Project Implementation Unit (PIU) and Project Management Unit (PMU), directly involved in project execution. External stakeholders, such as the Project Affected Persons (PAPs), are impacted by the project's activities. These stakeholders derive from various spheres:

In addition, these are derived from several spheres:

- xii. Public: National and County government civil servants in charge of various sectors of concern to the project
- xiii. Political: Elected representatives of the people in the project zone of impact (Senators, Governors, Women Representatives, MPs, MCAs).
- xiv. Non-profit: Voluntary and non-governmental organizations, social groupings active within the affected thematic areas and geographical scope.
- xv. Private Organizations/Professional Associations: Entities interested in project partnerships.
- xvi. Religious or Faith-based: Representatives of various religions, some of whom operate projects in the area.
- xvii. Traditional; Respected community leaders with traditional authority, knowledgeable about the area customs and culture

- xviii. **Media:** Owners, managers, and representatives of media outlets covering project developments.

The Ministry, through the RIC, compiles and maintains a comprehensive list of its stakeholders and develops a database informed by the stakeholder analysis. The database provides information on the stakeholders' rights and/or responsibilities as well as their capacity to engage meaningfully in the Project (i.e., factors such as literacy, norms, and decision-making via village elders, etc.). The records are reviewed routinely and updated to reflect any identifiable changes in stakeholder status or circumstances. The following actions are performed as part of implementing this SEP.

- xix. The Stakeholder Register aims to maintain a comprehensive list of institutions and agencies for regular consultation and updates, which is routinely reviewed.
- xx. The Commitments Register is enhanced to monitor all new social safeguards commitments made by the Ministry to its stakeholders throughout the Project's duration, ensuring timely fulfillment of promises and fostering trust and positive relationships.
- xxi. Stakeholder Categorization is revised to appropriately prioritize "affected sub-locations, villages, and individuals" and "other interested parties," facilitating effective engagement and liaison activities.
- xxii. Key Stakeholder Profiles is maintained for designated key informants and individuals with influence or high impact, capturing their knowledge, legitimacy, and willingness to engage with the Ministry.
- xxiii. Stakeholder Engagement/Community Liaison Planning is conducted for each event or activity, considering practical issues, potential risks, and culturally appropriate approaches.
- xxiv. Contact Register/Reports is implemented to document all stakeholder interactions, excluding grievances which is handled separately as outlined in chapter 4. Designated officers will complete this register, and information from Contact Reports is added to the stakeholder database to support planning and targeted engagement activities through keyword searches and generating stakeholder lists.

b. Stakeholder Analysis

Project stakeholders were analyzed to determine the level of engagement necessary to appropriately include them.

c. Guiding Principles for Implementing the Stakeholder Engagement Plan

Stakeholders are fully informed of and invited to participate actively in key decisions regarding the resettlement and livelihood restoration plans as well as display of proposed designs of the houses, which markedly impact their lives, well-being and communities. Stakeholders with a high stake in the Project is engaged regularly.

- ix. Stakeholder engagement is well planned and is carried out continuously throughout the RAP/VMGP implementation phase;
- x. Public engagement is conducted in very close proximity to affected villages, especially those prioritized areas at significant risk of adverse socio-economic impacts and extended disruption during construction;
- xi. Public engagement is conducted in neutral places where invited stakeholders feel comfortable to participate and where no power relations/dynamics or threats can affect the process negatively;
- xii. Announcements of public engagement is displayed prominently in Kiswahili and English e.g. using public address announcements mounted on office vehicles, large posters displayed in numerous public locations, through the local/chief's office with the capability to reach most people targeted by the message or through the use of mobile platforms commonly used by the target population, within the affected communities and placed at least 7 days prior to the scheduled event;
- xiii. Announcements of public engagement is accompanied with the circulation of background materials (such as posters and previous meetings brief) about the Project to serve the specific purpose of the interaction. This may include progress briefs and/or minutes of previous meetings to assist key stakeholders to get prepared for the discussion;
- xiv. Engagement is inclusive. Care is taken to identify, invite and engage with all categories of local stakeholders including all PAPs and the special groups (e.g. women, persons with disabilities and youth).
- xv. Public disclosure of plans, information and expected impacts/disruptions is honest, understandable and transparent to local stakeholders, including persons who are not literate, all information going out is translated into local languages where needed.
- xvi. Stakeholder engagement is managed by capable organizational staff who have facilitation, communication and conflict resolution skills; and
- xvii. Public consultations are carefully and efficiently documented and records are kept including weekly, monthly, quarterly reporting as well as RAP/VMGP implementation progress reports. These include photographs, documentaries and registration forms (when applicable), copies of the announcements, etc.

d. Stakeholder Communication Plan

i. Objective

The objective of this communication plan is to define the communication requirements for the Project and how information is shared. A good plan describes the following:

1. What information is communicated including the level of detail and format;
2. How the information is communicated - in meetings, email, telephone, web portal, WhatsApp, etc.;
3. When information is distributed, the frequency of Project communication, both formal and informal;
4. Who is responsible for communicating project information;
5. Communication requirements for all project stakeholders;
6. How sensitive or confidential information is communicated and who must authorize this;
7. How changes in communication or the communication process is managed;
8. Any constraints, internal or external, which may affect Project communication; and
9. The escalation process for resolving any communication-based conflicts or issues

i. Key Communication Principles

The following key considerations guide the formulation of communication messages and decisions on the channels to be used:

1. The involvement of the project beneficiaries (the PAPs and those affected directly by the Project) and community members in the design and dissemination of information.
2. Multiple communication channels are utilized, including group meetings, workshops, radio broadcasts, newsletters, social media platforms, fact sheets, and frequently asked questions (FAQs), tailored to the needs and accessibility of the target audience. All documents are translated into Swahili and Duruma to ensure broader accessibility.
3. Use of multiple channels of communication including group meetings, workshops, radio, newsletters, social media, fact sheets, frequently asked questions (FAQs), etc. based on the needs and access requirements of the target audience. All documents are translated into Swahili and Kiswahili to facilitate a broader reach.
4. Ability to communicate with a broad range of people is ensured through the use of easily understood media, such as local radio stations broadcasting in local languages.
5. Sensitivity to Government of Kenya (GoK), the financiers (African Development Bank/AfDB), and other communication requirements is maintained to safeguard the integrity of the process and the

authenticity of the messages.

6. Evidence-based media engagement: The designated officer from the RIC is responsible for the Social Engagement Plan (SEP) and monitors and evaluates the effectiveness of the information shared and the channels used, making adjustments as appropriate. The officer is engaged on a full-time basis to oversee the implementation of the SEP and communication plan.

i. When to Communicate

Project communication is structured to offer regular updates while maintaining flexibility to address emerging issues. There is a heightened focus on engaging with the community at the grassroots level, including Project Affected Persons (PAPs), host community members, and local leaders. Specifically, PAPs receive regular updates and are informed of any activities that may affect their operations. Providing a list of received and resolved complaints occurs during regular meetings, one-on-one discussions, and on an as-needed basis to ensure communities rely on accurate information rather than rumors as their primary source of Project updates.

ii. Targets, Messages and Communication Channels

Part of managing stakeholder relationships involves keeping track of who speaks on the Project's behalf and monitoring statements made by third parties. Table 5.1 presents a list of key stakeholders who receive information on the Project, the frequency of engagement, and the level of interaction. This list is regularly reviewed and adjusted based on changing contexts and communication needs.

The table below also delineates the key roles and responsibilities regarding communication by different actors. Although the RIC nominates an officer to oversee the communication aspects of RAP/VMGP implementation, the PMU's Communication Specialist provides overall coordination and oversight throughout the SEP implementation and other project activities. These two roles collaborate closely with other members of the Project Management Unit (PMU) and RIC to execute communication activities, including:

1. Provide leadership, support, and oversee the implementation of the communication and outreach plan for the Project in consultation with the PIU.
2. Develop and ensure timely implementation of a work plan on and outreach in line with the IDA guidelines.
3. Create appropriate linkages between the various implementers, including Project partners and national counterparts, as appropriate.

4. Take appropriate and pre-emptive measures to mitigate any negative publicity on the Project activities.
5. Monitor and document the communication effects and impacts of the Project.
 6. Establish and maintain a database of key stakeholders and their communication needs - this database is reviewed and updated regularly.
 7. Support the Project stakeholders to package and share information on a regular basis - this could be in the form of a newsletter, status reports, FAQ, website, etc.

i. **Communication Crisis Action Plan**

This Communication Crisis Action Plan is designed to provide a structured approach to managing communication during crises that may arise within the South Rift Level (vi) Hospital Project.

Crisis Communication Team	Roles and Responsibilities
Team Leader: PMU-Project Manager	Overall coordination and decision-making and project spokesperson unless delegate this responsibility to another team member
Team Members: PMU	
Project Coordinator	Providing project-specific insights – assess the nature and severity of the crisis, notify the crisis team, and activate the predetermined response plan.
Social Safeguard Specialist	Identify, and assess the nature and severity of the crisis, offer expertise on safeguard issues, compliance, and risk mitigation to the team
ESHS Specialist	Identify, and assess the nature and severity of the crisis, offer expertise on safeguard issues, compliance, and risk mitigation to the team
Communications Specialist	Crafting and disseminating approved key messages (PM/PC) through appropriate channels

Note:

Regularly review and update the crisis communication plan based on feedback, lessons learned, and changes in the project environment.

Conduct periodic drills and exercises to test the effectiveness of communication protocols and ensure the Crisis Response Team remains prepared to handle crises as they arise.

ii. **Indicators and Feedback Mechanisms**

- ✓ *Indicator 1: Stakeholder Satisfaction Level*
 - Feedback Mechanism: Conduct annual stakeholder satisfaction surveys to assess satisfaction levels with communication, engagement opportunities, and project outcomes.
 - Indicator: Percentage of stakeholders reporting satisfaction with communication processes and perceived impact of

the project.

✓ *Indicator 2:* Participation rates in stakeholder engagement activities

- Feedback Mechanism: Track attendance and participation rates in community meetings, stakeholder forums, and workshops.
- Indicator: Number of stakeholders participating in engagement activities compared to the total number of stakeholders invited.

ii) *Indicator 3:* Response time to stakeholder feedback

- Feedback mechanism: Monitor response times to stakeholder inquiries, feedback submissions, and reported concerns.
- Indicator: Average time taken to acknowledge and address stakeholder feedback or concerns.

iii. **Monitoring and Evaluation Indicators**

1. Indicator 4: Communication Reach and Engagement

- a. Number of website visits, social media impressions, and email open rates.
- b. Indicator: Measure the reach and engagement of communication materials and activities.

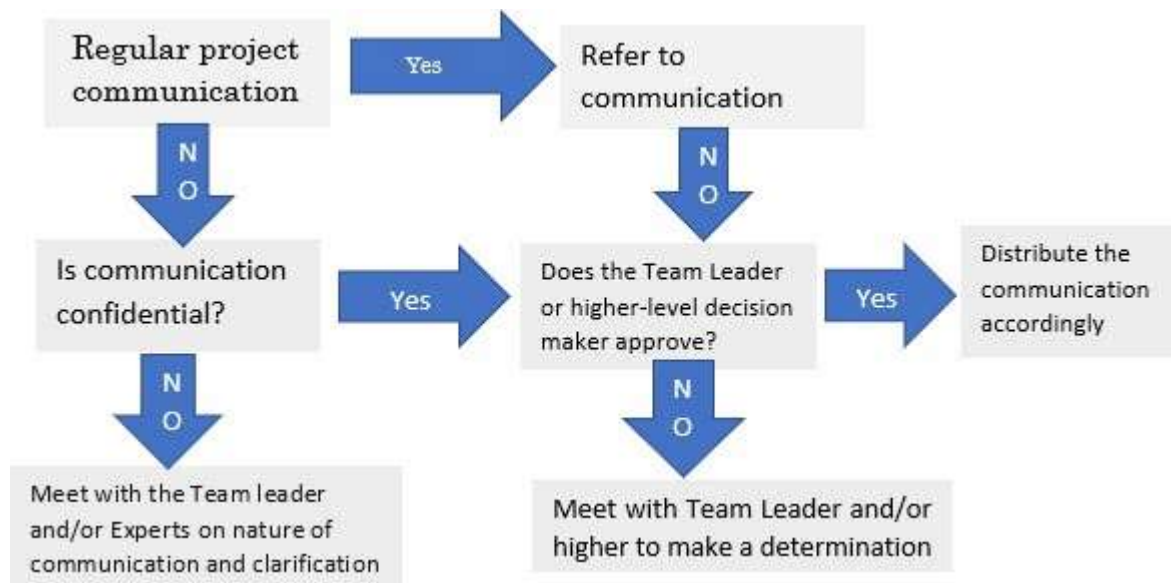
2. Indicator 5: Stakeholder Perception Change

Pre-and-post surveys to measure changes in stakeholder perceptions and attitudes towards the project

iv. Communication Escalation Process

All the key stakeholders with a better understanding of the steps involved in sharing of Project information. It is cognizant that there may be occasions or situations which fall outside of the *communication flowchart* where additional clarification is necessary. In such situations, the RIC is responsible for discussing the communication with MOH management to make a determination on how to proceed.

Communication flowchart



e. Communication Constraints

All projects are subject to limitations and constraints as they must operate within a specific scope, scheduling, and resource requirements. As part of communication management, there are legislative, regulatory, technological, or organizational policy requirements that must be followed. These constraints must be clearly understood and communicated to all stakeholders.

The management of communication must be done in an effective manner and within the constraints with set timeline and available resources. Subsequently, all Project communication activities will occur within the available resources and schedule.

The communication activities is undertaken according to the regularity detailed in the communication matrix *Table 5.1* in order to ensure the Project adheres to schedule constraints.

The RIC is responsible for ensuring that approvals are requested and obtained prior to the distribution of any confidential information regarding the Project.

The presence of language barrier among the PAPs and the host communities requires that any information going out be translated into local languages.

i. Review of the Communication Plan

The designated communications officer overseeing the implementation of this plan, is required to develop plans, for review by the PIU, similar to the other Project activities. Further, the officer is expected to prepare periodic reports (monthly and quarterly) that will brief subsequent periodic meetings. The review is internal with the primary aim of informing the process for more effective communication on the Project.

ii. Key Messages

The following are some of the important messages that are given to the community members, PAPs and CSOs:

- ✓ Formation of grievance redress committees
- ✓ National Land Commission asset inspection and valuation process
- ✓ Compensation process;
- ✓ Status of completion/progress made so far on the Project;
- ✓ Design and the main Dam features (a visual representation in the form of a map is most preferred by the community members); and
- ✓ Gender mainstreaming interventions
- ✓ Livelihood restoration plans and other support interventions
- ✓ The GRM process for better understanding of how complainants can channel their complaints and grievances

iii. Documentation/Records of Consultations

Records of consultation undertaken to date. A public participation meeting for the project was held on 16 April 2026 at the proposed project site, Londiani Township Ward, Kipkelion East Sub-County, following seven days' notice issued through the provincial administration and local media. Participants included community members, women, youth, persons with disabilities, older persons, local administration, county and national government officers and other stakeholders. The signed attendance register, minutes recording the issues raised and the responses given, and site photographs are appended to the ESIA at Appendix 2 (Public Participation Meeting Minutes, Attendance List and Site Photographs) and form part of the record of this Plan. Subsequent consultation undertaken during implementation is recorded in the same format and retained by the Community Liaison Officer.

It is good practice to ensure that all stakeholder engagement is documented; therefore records is maintained of all stakeholder consultations and meetings. Information such as date, time, location and names of attendees is included, but the format is adapted as appropriate for any particular

situation. The record will summarize what information was provided to or discussed with the attendees and in what form. It will also indicate any documents that were left with the participants. Records is available for public consultation whenever requested i.e. based on tools such as written reports, attendance lists, photos and videos, Q&A lists, etc.:

There is need to capture the following in writing during the engagement:

- ✓ Date and locations of all project information/consultation meetings
- ✓ The original purpose and aims of the engagement
- ✓ The methods used
- ✓ Type of information shared
- ✓ The exercises undertaken e.g. context analysis and problem identification, proposed solutions and devised projects.
- ✓ Summary of any other noted stakeholder concerns, expectations and perceptions. May include registration of complaints via grievance register
- ✓ Stakeholder response strategy (responses to issues raised and requests)
- ✓ Attendance records showing the list of participants and all organizations consulted
- ✓ A summary of discussions and/or minutes and
- ✓ A robust list of outputs (decisions, actions, proposals, and recommendations).

a. GRIEVANCE REDRESS MECHANISM

b. Introduction

The main objective of the Grievance Redress Mechanism (GRM) for the proposed South Rift Level (VI) Teaching and Referral Hospital Project is to provide a transparent, accessible, and structured process for receiving, recording, reviewing, and resolving grievances arising from project planning, construction, and operational activities. The GRM is intended to ensure that concerns raised by project-affected persons, neighboring communities, workers, and stakeholders are addressed promptly, fairly, and effectively in order to enhance community trust and minimize conflicts during project implementation.

Grievances arising from the project shall initially be reported through established local administrative and community leadership structures within the project area. Local leaders, village elders, community representatives, and ward administrators shall play an important role in facilitating dispute resolution and addressing concerns related to land, employment opportunities, environmental impacts, community health and safety, and other social concerns associated with the project. This first level shall form the primary tier of the GRM and will focus on resolving grievances amicably at the community level through dialogue and consultation.

Grievances that are not resolved at the community level shall be escalated to the Project Grievance Redress Committee (PGRC), which shall comprise representatives from the Ministry of Health, the contractor, local administration, community representatives, county government officials, and relevant sector agencies. The committee shall be responsible for reviewing complaints, conducting investigations where necessary, and providing appropriate resolutions within a specified timeframe.

Where grievances remain unresolved at the Project Grievance Redress Committee level, the matter shall be referred to the County Grievance Redress Committee under the supervision of relevant county administrative offices and government authorities. The committee shall provide an independent review of unresolved grievances and facilitate mediation between affected parties and the project proponent.

In cases where grievances are still unresolved after exhausting the administrative mechanisms, aggrieved parties shall have the right to seek legal redress through relevant judicial institutions including the Environment and Land Court, which shall serve as the final level of grievance resolution in accordance with the laws of Kenya.

The identified Grievance Redress Mechanism players for the proposed project shall include but not be limited to the following:

- x. Project Affected Persons (PAPs) and neighboring communities.
- xi. Community leaders and village elders.
- xii. Ministry of Health.
- xiii. National Environment Management Authority.
- xiv. County Government of Kericho County.
- xv. Local administration including Chiefs and Assistant Chiefs.
- xvi. Contractors and supervising consultants.
- xvii. Community Based Organizations (CBOs) and Faith Based Organizations (FBOs).
- xviii. Relevant national government agencies.
- xix. Environment and Land Court.

c. The GRM Process

The grievance mechanism is accessible to all affected parties, including vulnerable people. A Project grievance register and formalized grievance process will be developed together with the already selected hospital implementation committee. The process is structured according to recommended good practice, and comprises of the following six steps:

Step 1: Establishing and Publicizing Grievance Management Procedure. Step

2: Receive and Track Grievances

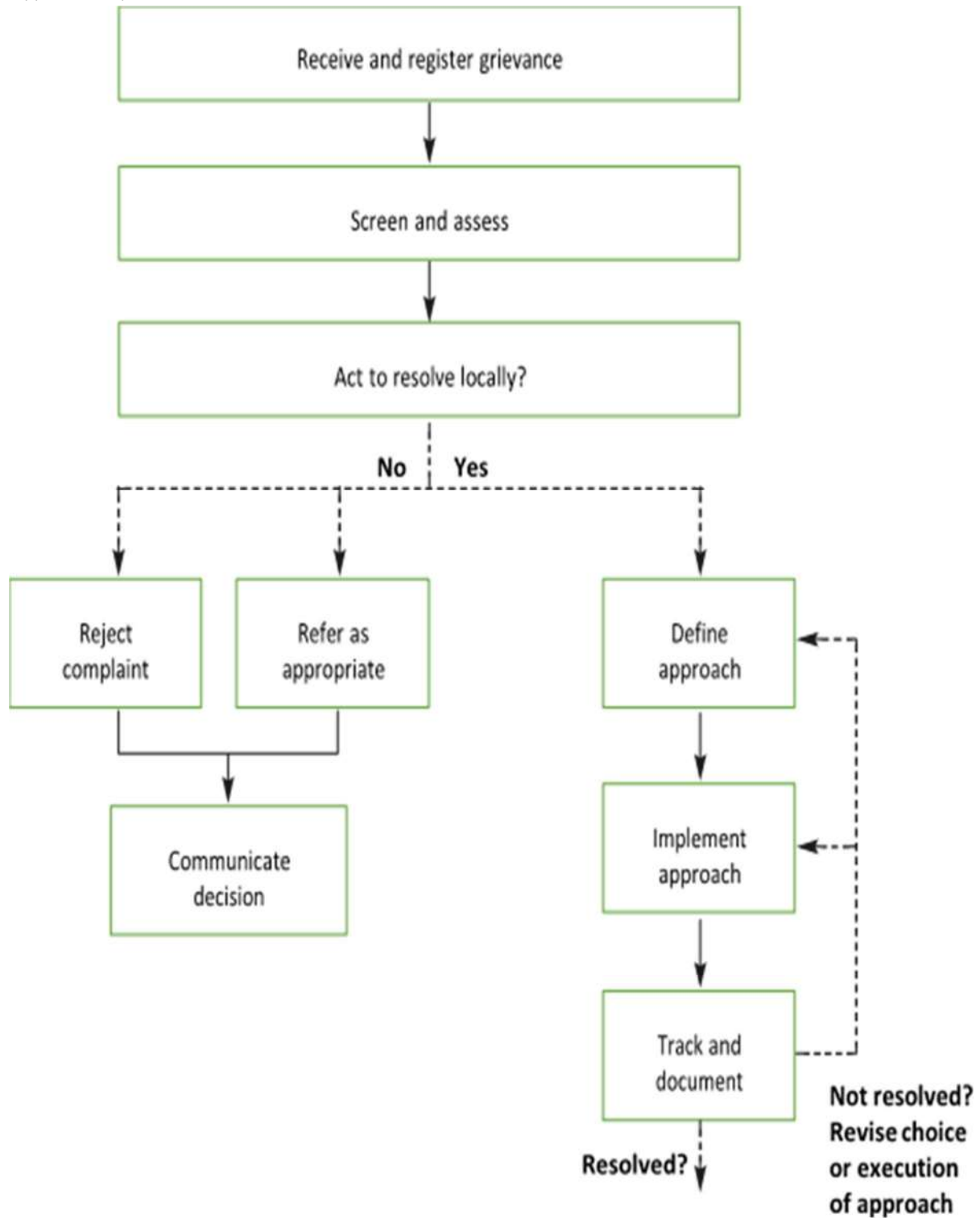
Step 3 Acknowledging Receipt of a Grievance

Step 4: Investigate Grievances

Step 5: Respond, Resolve and Close Out

Step 6: Monitor, Report and evaluate the grievances routinely

Typical Steps of Grievance Mechanism



d. Hearing of Complaints: where and by whom

Every complaint and appeal are heard by a GRC without any procedural technicality, but in a manner that is consistent with normal, traditional way of resolving contested matters minus any manifest bias and exclusionary practice. All hearings by a higher committee is open, unless the nature of the dispute is such as would warrant some restriction of public access to the proceedings, except that such restriction is very rare and then only in exceptional cases. A complainant shall have a right to prove his/her case entirely through the testimonies of others (without him/her testifying directly).

Every complaint and appeal are heard by a Grievance Redress Committee (GRC) without any procedural technicality but in a manner consistent with the normal, traditional way of resolving contested matters, without manifest bias or exclusionary practices. All hearings by a higher committee are open, unless the nature of the dispute warrants some restriction of public access to the proceedings, which is very rare and only in exceptional cases.

A complainant has the right to prove their case entirely through the testimonies of others, without testifying directly. The complainant usually speaks first, but the GRC may change the order of presentation if doing so would facilitate the ultimate resolution of the dispute, unless substantial prejudice would result.

All decisions by a GRC are explained orally at the end of the hearing and reflected in writing, regardless of conciseness. A copy of the decision is given to every party, and a copy is kept by the GRC.

i. Appeal Procedures

Grievance Intake Channels and Response Times

Grievance intake channels and response times. A grievance may be lodged in person at the site Community Liaison Office or the hospital administration office; in writing using the grievance form available at those offices, at the offices of the local administration and at the County Health Department; by telephone or SMS to the project grievance line; by email to the project grievance address; or anonymously through the suggestion boxes maintained at the site entrance and at the local administration offices. Grievances may be lodged in English, Kiswahili or the local language, and assistance with completing the form is available on request for complainants who cannot read or write. Confidential and SEA/SH-sensitive complaints may be made directly to the designated female and male focal points, bypassing the site management chain entirely. Response times are: acknowledgement within three (3) working days of receipt; resolution at community level within fourteen (14) working days; resolution by the Project Grievance Redress Committee within thirty (30) working days; and

determination by the County Grievance Redress Committee within forty-five (45) working days. Every grievance is entered in the grievance register on receipt, and the complainant is informed of the outcome in writing and of the right of appeal to the next tier and ultimately to the Environment and Land Court. Grievances are received by the designated Grievance Officer, Dr Collins Kipkoech, Medical Superintendent, Londiani County Level IV Hospital (telephone/SMS +254 715 323192; email kmhfl@health.go.ke; londianihospital@gmail.com), whose details are set out in full below and are posted at the site entrance, the hospital notice board and the offices of the Sub-County and Ward administration.

Designated Grievance Office and Contact Details

The following office is designated to receive, register and coordinate the resolution of grievances under this Plan. These details are to be posted at the site entrance, at the hospital notice board and at the offices of the Sub-County and Ward administration, and are to be stated on the grievance form and in all community information materials.

Item	Detail
Designated Grievance Officer	Dr Collins Kipkoech
Title	Medical Superintendent, Londiani County Level IV Hospital
Telephone / SMS	+254 715 323192
Email	kmhfl@health.go.ke; londianihospital@gmail.com
Physical address	Administration Office, Londiani Sub-County Hospital, Kericho County
Hours	Monday to Friday, 08:00–17:00; written, SMS and email submissions accepted at any time
Anonymous submissions	Suggestion boxes at the site entrance and at the Sub-County and Ward administration offices, cleared weekly by the Community Liaison Officer
Confidential SEA/SH channel	Direct submission to the designated female or male focal point, bypassing the site management chain; contact details issued separately to affected communities and workers
Acknowledgement	Within three (3) working days of receipt
Resolution — community level	Within fourteen (14) working days
Resolution — Project Grievance Redress Committee	Within thirty (30) working days
Determination — County Grievance Redress Committee	Within forty-five (45) working days
Right of appeal	To the next tier and ultimately to the Environment and Land Court

The SEP provides the right of appeal by any complainant to the next grievance level committee (higher) if dissatisfied with the decision made by the committee where the complaint is registered.

Grievances may be lodged at the site Community Liaison Office, at the hospital administration office, at the offices of the local administration, or through any of the intake channels set out in this section. The Community Liaison Officer attends grievance redress meetings and supports complainants in lodging and following up their grievances. There is no Resettlement Implementation Committee for this project.

viii. MONITORING AND REPORTING MEASURES FOR THE SEP

a. Monitoring Objectives

Monitoring and evaluation are key components of the implementation of the SEP. The SEP is an important measure of helping to satisfy stakeholder concerns and promoting transparency through involving stakeholders in monitoring the implementation of SEP, RAP/ VMGP, and other plans such as Gender Action and individual livelihood restoration plans. Such participation, and the flow of information generated through this process, also encourages local stakeholders to take a greater degree of responsibility for their environment and welfare concerning the project and to feel empowered that they can do something practical to address issues that affect their lives. Participatory monitoring also strengthens relationships between the project team and its stakeholders. The SEP M&E plan is linked to the project M&E framework. In the short term, based on a monthly engagement calendar and the weekly plan, a performance assessment for planned vs. actual engagement is compiled as part of the weekly and monthly progress reports.

The arrangements for implementing M&E are aligned with specific objectives of the SEP, including an assessment of:

- i. Whether the key stakeholders are fully engaged and there is general support for the Project; and
- ii. Whether communities have buy-in and are supporting the Project activities.

The specific objectives of participatory monitoring are to determine:

- iii. If affected individuals, households, and communities have the necessary information on issues that matter most to them, including stakeholder engagement and grievance resolution;
- iv. If the National and County Governments, national agencies, CSOs, business entities, and other stakeholders feel they have been sufficiently involved and are adequately informed about the Project; and
- v. If information was disseminated before and during the implementation of the project activities.

Additionally, social performance monitoring is a key part of communication monitoring to ensure:

- vi. Ongoing analysis of key issues identified through stakeholder engagement: in collaboration with the community liaison and safeguards officers, a summary of issues raised through every series of stakeholder engagement is turned into an action plan, as well as used to adapt messaging for future

engagements, to target engagements differently, etc.

- vii. Effectiveness of grievance and complaints management: in collaboration with the resettlement officer, monitor and analyze the frequency, type, and nature of complaints and grievances. One of the purposes of a grievance mechanism is to serve as an early warning tool that can identify issues before they become larger problem.

b. Monitoring Approaches

The SEP monitoring is done at three levels during the regular monitoring of the project at the implementation stage, by the PMU/PIU and by the African Development Bank (AfDB) during supervision and implementation support missions.

Methods used for the SEP monitoring include:

- ix. Reviewing the SEP during regular consultative meetings through input and feedback from the participants;
- x. Reports of meetings held with the various key stakeholders; and
- xi. Comparative assessment of stakeholder engagement before and after the roll-out of the SEP.

c. Monitoring and Evaluation Indicators

A list of proposed monitoring and performance/evaluation indicators includes, but is not limited, to:

- 8.0 Number and place of public consultation meetings held at the different levels of engagement – national, county, and community;
- 9.0 Type and number of materials produced and disseminated to the stakeholders;
- 10.0 Number of stakeholders in the database; and
- 11.0 Number of complaints received, resolved, and feedback given to the complainants.
- 12.0 Number of stakeholders reached within the reporting period;
- 13.0 Submission of weekly and monthly monitoring reports, including other frequency as required contractually; and Perceived satisfaction with the implementation of the SEP.

Indicators to Determine the Status of the SEP Implementation

Several indicators are used to determine the status of all activities implemented as presented in Table 6.1.

Table 6.1: SEP Implementation Indicators

Subject	Indicator	Variable
Consultation meetings	v. Meetings held	ix. No. of meetings held x. Gender distribution of meeting participants xi. List of participants xii. Meeting minutes and reports
Communication materials	- Status reports - Fact sheets - FAQs - Radio spots	• No. of status reports produced and disseminated • No. of fact sheets produced and disseminated • No. of FAQs produced and disseminated • No. of radio spots produced and broadcast
Use of social media platforms	• SMS platform • Email communication	➤ No. of participants on social media platforms ➤ No. of participants on the email list
Grievance Redress	➤ Cases received	➤ No. of Grievances ➤ Time taken to solve ➤ Channels used for redress

d. Reporting Requirements

The client (MOH) shall include a section on progress of SEP implementation in monthly and quarterly reports for submission to the financier.

13.1 REFERENCES

- *African Development Bank(ADB)- handbook on stakeholder consultation and participation in ADB operation(2001)*
- *Resettlement Policy Framework of African Development Bank (AfDB).*
- *Constitution of Kenya, 2010.*
 - *Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets. IFC, 2*

APPENDIX 9: EMERGENCY PREPAREDNESS AND RESPONSE PLAN (EPRP)

Establishes governance, command systems, and response procedures for all emergency scenarios.

SOUTH RIFT LEVEL VI TEACHING AND REFERRAL HOSPITAL

Kedowa/Kimugul Ward, Kipkelion East, Kericho County

Facility	South Rift Level VI Teaching and Referral Hospital (SRTRH)
Location	Plot L.R. No. Londiani/Township/186, Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County
Facility Type	700-Bed Teaching, Research & Trauma Referral Hospital
NEMA EIA License	NEMA/ENVIS/SR/LIC-03354 (Issued: 08/05/2026)
Proponent	Ministry of Health — State Department for Medical Services
Prepared By	
Date	May 2026
ERP Review Cycle	Annual (or following any incident)

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EXECUTIVE SUMMARY

The Emergency Response Plan (ERP) for South Rift Level VI Teaching and Referral Hospital provides a structured framework for preparedness, response, recovery, and continuity of critical hospital operations during emergencies and disasters. The plan establishes coordinated procedures to enable rapid and effective response to incidents that may disrupt healthcare delivery, threaten life, damage infrastructure, or compromise the hospital's ability to fulfill its mandate.

South Rift Level VI Teaching and Referral Hospital is being established in Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County, to serve the South Rift Region and surrounding populations in East Africa. The facility is intended to function as a national referral hospital, regional trauma centre, medical teaching institution, and research hub. The hospital will also play a critical role in reducing pressure on referral facilities and improving access to specialized healthcare services within the South Rift region.

The hospital is strategically positioned along a major transport corridor associated with frequent road traffic accidents and mass casualty events. Historical incidents in the Londiani–Kericho and Londiani–Muhoroni corridors have resulted in significant morbidity and mortality due to limited emergency and specialized response capacity. Consequently, this ERP places particular emphasis on trauma response, mass casualty management, disease outbreak preparedness, and continuity of specialized services.

The plan outlines emergency governance structures, command systems, risk identification, communication procedures, resource mobilization strategies, evacuation arrangements, and stakeholder coordination mechanisms. It applies to all hospital staff, contractors, students, patients, and external partners engaged in hospital operations. This document applies to all SRTRH staff, contractors, students, volunteers, patients, visitors, and external response partners. The ERP shall be reviewed periodically and updated to align with emerging risks, operational changes, national policies, and lessons learned from emergencies and simulation exercises.

CHAPTER 1: INTRODUCTION, POLICY FRAMEWORK AND HOSPITAL PROFILE

13.2 1.1 Purpose of the ERP

The purpose of this Emergency Response Plan is to:

- Protect life, property, and the environment.
- Maintain continuity of critical healthcare services.
- Establish a standardized emergency management structure.
- Ensure rapid and coordinated emergency response.
- Strengthen preparedness for mass casualty and outbreak scenarios.
- Ensure compliance with national and international emergency management standards.
- Facilitate rapid recovery and restoration of operations.

13.3 1.2 Scope

This ERP applies to all hospital operations, including:

- Clinical services
- Emergency and trauma care
- Diagnostic and laboratory services
- Research and teaching functions
- Utilities and engineering systems
- Security operations
- Waste management systems
- External coordination and referral functions

The plan addresses both internal and external emergencies including:

Emergency Category	Examples
Natural Hazards	Flooding, drought, storms, disease outbreaks
Technological Hazards	Fire, power failure, ICT failure, gas leak
Human-Caused Hazards	Mass casualty incidents, terrorism, unrest
Healthcare Emergencies	Patient surges, pandemics, supply shortages
Environmental Emergencies	Pollution incidents, wastewater failure

13.4 1.3 Hospital Profile

1.3.1 Facility Overview

South Rift Level VI Teaching and Referral Hospital is a proposed tertiary healthcare institution

under the Ministry of Health through the State Department for Medical Services. The facility will be located in Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County. The hospital has been designed to provide advanced referral services, emergency care, specialized treatment, teaching, research, and training services for the South Rift region and neighboring East African countries.

The South Rift region has experienced substantial population growth and increasing demand for specialized healthcare services. Current projections indicate a service population exceeding six million people within the coming years. Existing healthcare facilities within the region lack adequate capacity to provide specialized emergency and trauma care, resulting in frequent referrals to referral facilities outside the region.

The hospital's strategic location along the Northern Transport Corridor linking central Kenya to neighboring countries places it at the center of a high-risk environment characterized by frequent traffic-related emergencies and mass casualty incidents. Major highways including the Londiani–Kericho and Londiani–Muhoroni routes have recorded severe accidents involving large numbers of fatalities and injuries.

Key infrastructure will include:

- Multi-storey clinical complex
- Two basement levels
- Six upper clinical floors
- ICU/HDU and Neonatal ICU
- Trauma and emergency complex
- Medical teaching and simulation facilities
- ICT and data centre
- Wastewater treatment plant
- Medical gas systems
- NEMA-licensed incineration system
- Approximately 450 parking bays

1.3.2 Clinical Services

Upon operationalization, the hospital will provide:

- Trauma and Emergency Medicine
- Surgery and Neurosurgery
- Orthopaedics
- Internal Medicine
- Obstetrics and Gynaecology
- Oncology

- Nephrology and Dialysis
- Burns and Critical Care
- Psychiatry
- Paediatrics and Neonatal Care
- Cardiothoracic Services

1.3.3 Strategic Role

SRTRH will serve as:

- Regional trauma centre
- Referral facility for South Rift counties
- Teaching and research institution
- Public health emergency support facility
- Regional specialist referral hub

13.5 1.4 Guiding Principles

The ERP shall operate under the following principles:

1. **All-Hazards Approach:** A single scalable emergency management structure shall apply across all hazards.
2. **Life Safety Priority:** Protection of life shall take precedence over property and operational considerations.
3. **Continuity of Care:** Critical healthcare services shall continue during emergencies.
4. **Interoperability:** The ERP shall align with county, national, and regional emergency systems.
5. **Accountability:** All emergency actions shall be documented and reviewed.
6. **Environmental Responsibility:** Emergency operations shall comply with NEMA environmental requirements.

13.6 1.5 Legal and Regulatory Framework

This Emergency Response Plan has been developed within the legal and policy framework governing health service delivery, emergency preparedness, occupational safety, and disaster management in Kenya. The establishment of South Rift Level VI Teaching and Referral Hospital aligns with national commitments to improve accessibility, equity, and responsiveness in healthcare delivery while strengthening emergency preparedness and response systems.

This ERP additionally adopts internationally recognized principles of disaster preparedness and hospital incident management to ensure structured and coordinated emergency response.

The ERP derives authority from the following frameworks:

Framework	Relevance
Constitution of Kenya (2010)	Right to health and emergency protection

Framework	Relevance
Kenya Health Act, 2017	Health service obligations
Public Health Act	Disease control and outbreak response
Occupational Safety and Health Act (OSHA), 2007	Occupational safety and emergency obligations
Environmental Management and Coordination Act (EMCA), 1999	Environmental compliance
MOH EDRM Policy	Emergency preparedness framework
WHO Safe Hospitals Framework	Hospital resilience standards
NEMA License Conditions	Environmental emergency obligations
Disaster Risk Management frameworks	Building community resilience against recurrent hazards and disasters
Ministry of Health Emergency Preparedness Guidelines	Shift focus from reactive crisis management to proactive, multi-hazard disaster risk reduction
National Infection Prevention and Control Guidelines	Outline mandatory, evidence-based practices for all healthcare facilities to prevent Healthcare-Associated Infections (HAIs)

CHAPTER 2: HAZARD VULNERABILITY ASSESSMENT (HVA)

The proposed hospital recognizes that emergencies may arise from internal and external factors capable of disrupting healthcare operations. Hazard identification and risk assessment provide the basis for preparedness planning and resource allocation.

The risk environment for South Rift Level VI Teaching and Referral Hospital is significantly influenced by its regional referral role, trauma center mandate, teaching functions, and location along major transport routes.

Based on its geographical location, the proposed hospital is expected to receive large numbers of casualties resulting from recurrent road accidents occurring along major transport corridors serving the South Rift and East African region. Historical incidents have involved multiple fatalities and injuries requiring emergency intervention.

13.7 2.1 HVA Methodology

The hospital shall use a structured Hazard Vulnerability Assessment model based on:

Risk Score = Probability × Impact × Preparedness Gap

The facility's hazard ranking relies on the Kaiser Permanente Hazard Vulnerability Assessment scoring model. Each identified hazard is evaluated mathematically using specific parameters:

$$\text{Relative Risk (\%)} = \frac{\text{Probability} \times \text{Severity}}{\text{Max Possible Risk}} \times 100$$

Where Severity is calculated as:

Severity = Human Impact + Property Impact + Business Impact – Preparedness Gap

13.8 2.2 Hazard Inventory for SRTRH

2.2.1 Natural Hazards

1. **Flooding:** Site drainage and wastewater pooling risks linked to the sloping terrain of the Kedowa/Kimugul area.
2. **Disease Outbreaks:** Epidemic surges of cholera, typhoid, COVID-19/novel pathogens, and zoonotic vectors like Rift Valley Fever due to the livestock-adjacent agricultural catchment.
3. **Drought & Water Scarcity:** Extended dry seasons creating localized utility stress and increasing dependence on borehole systems.
4. **Seismic Activity:** Minor to moderate tectonic displacements linked to the geological context of the Great Rift Valley.

13.9 2.3 Technological & Industrial Hazards

1. **Fire:** Multi-storey building containment risks involving localized medical gases, fuel storage areas, and incinerator infrastructure.
2. **Explosion:** Over-pressurization or ignition within the medical gas manifold rooms, bulk

- LPG storage tanks, or generator fuel supply tanks.
3. **HAZMAT / Chemical Spills:** Uncontrolled releases of laboratory reagents, bulk pharmacy cytotoxics, generator fuel, or hazardous incinerator ash managed under NEMA Conditions 2.4 and 3.9.
 4. **Power Failure:** Standby generator mechanical or ATS electrical failure, directly threatening critical life-support systems across the ICU, theatres, NICU, and the vaccine cold chain.
 5. **Water Supply Failure:** On-site borehole pump failure or municipal supply line interruptions.
 6. **Medical Gas Failure:** Technical line dropouts or mechanical plants failure affecting centralized oxygen piping networks.
 7. **HMIS / ICT Failure:** Server crashes or network downtime affecting electronic patient medical records, tracking, and diagnostics.
 8. **Effluent Treatment Plant Failure:** Biological or mechanical breakdown of the bio-digester, posing environmental contamination risks and NEMA license violations.
 9. **Incinerator Malfunction:** Flue gas emissions breaches or ash pit containment failures under NEMA Conditions 3.4 through 3.9.

13.10 2.4 Human-Caused & Complex Hazards

1. **Mass Casualty Incident (MCI):** Multi-vehicle collisions and major traffic accidents along the high-risk Londiani corridor, causing a sudden influx of trauma patients.
2. **Civil Unrest:** Proximity to the transport corridor and Kericho town, exposing the facility to sudden crowd control issues and security demands.
3. **Active Security Threats:** Unauthorized armed individuals, active intruders, or hostage situations within the primary facility.
4. **Terrorism:** Explicit bomb threats or targeted explosive devices directed at public infrastructure.

13.11 2.5 Healthcare-Specific Hazards

1. **Patient Surge:** Sudden clinical demands that exceed the physical 1,000-bed baseline capacity.
2. **Healthcare Worker Strike:** Organized labor actions leading to mass staff absenteeism.
3. **Blood Supply Shortage:** Sudden depletion of the on-site blood bank during prolonged multi-casualty trauma events.
4. **Supply Chain Disruption:** KEMSA logistics failures resulting in stock-outs of essential pharmaceuticals and surgical consumables.
5. **Infection Control Failure:** Major outbreaks of healthcare-associated infections (HAIs)

within vulnerable clinical areas.

6. **Equipment Failure:** Simultaneous failures of life-support hardware, including mechanical ventilators, dialysis machines, or core imaging infrastructure.

Assessment considerations include:

- Human impact
- Operational disruption
- Infrastructure damage
- Environmental consequences
- Regulatory implications
- Recovery complexity

13.12 2.6 Priority Hazard Inventory

2.6.1 Mass Casualty Incidents (Highest Priority)

Due to SRTRH's proximity to the Londiani transport corridor, mass casualty incidents (MCIs) represent the highest operational risk.

Potential consequences include:

- Overwhelming trauma capacity
- Blood shortages
- ICU saturation
- Mortuary overload
- Media pressure
- Family reunification challenges

2.6.2 Fire and Explosion Risks

Key fire risk areas include:

- xiii. Medical gas manifolds
- xiv. Incinerator systems
- xv. Generator rooms
- xvi. Fuel storage facilities
- xvii. Electrical distribution rooms
- xviii. Laboratories

2.6.3 Infectious Disease Outbreaks

High-risk public health threats include:

- vi. Cholera

- vii. Rift Valley Fever
- viii. COVID-like respiratory outbreaks
- ix. Viral hemorrhagic fevers
- x. Healthcare-associated infections

2.6.4 Utility Failure Risks

Critical utility threats include:

- 14.0 Power outages
- 15.0 Medical gas interruption
- 16.0 Water shortage
- 17.0 ICT downtime
- 18.0 Wastewater system failure

2.6.5 Security Threats

Potential incidents include:

- xii. Armed intruder events

2.6.6 Civil unrest

- xiii. Terror incidents
- xiv. Crowd violence
- xv. Cybersecurity attacks

18.1 2.7 Risk Priority Matrix

Hazard Type	Probability (1-3)	Human Impact (1-3)	Operational Impact (1-3)	Preparedness Gap (1-3)	Risk Score (P×S)	Priority Ranking
Road Traffic MCI	3	3	3	2	21	High (Priority 1)
Facility Fire	1	3	3	2	16	High (Priority 2)
Power Failure	2	3	3	1	14	High (Priority 3)
Infectious Outbreak	2	3	2	2	12	Medium (Priority 4)
HAZMAT / Chemical Spill	2	2	2	2	10	Medium (Priority 5)

Hazard Type	Probability (1-3)	Human Impact (1-3)	Operational Impact (1-3)	Preparedness Gap (1-3)	Risk Score (P×S)	Priority Ranking
Borehole / Water Failure	1	2	3	1	8	Low (Priority 6)

Hazard	Probability	Impact	Preparedness Gap	Priority Ranking
Road Traffic MCI	Very High	Severe	Moderate	1
Fire Emergency	High	Severe	Moderate	2
Infectious Disease Outbreak	High	Severe	Moderate	3
Power Failure	High	Major	Low	4
Water Failure	Moderate	Major	Moderate	5
Security Incident	Moderate	Severe	Moderate	6
HAZMAT Incident	Moderate	Major	Moderate	7

18.2

18.3 2.8 Site-Specific Vulnerability Analysis

1. **Structural Vulnerabilities:** The two basement levels present a natural accumulation point for surface runoff during heavy downpours in Kedowa. The Class 2A incinerator is positioned near the rear perimeter, requiring strict wind-direction monitoring to prevent flue gas drift toward inpatient wards. Generator fuel storage tanks are located adjacent to clinical service corridors, presenting a localized fire risk.
2. **Operational Vulnerabilities:** Phased commissioning means the ERP must account for partial-capacity operations, where certain clinical wings or backup utility loops may not be fully operational.
3. **Geographic Vulnerabilities:** Located 256km from Nairobi, the hospital relies on the Kericho–Nakuru highway for specialized supply chains and technical engineering support. This distance can delay secondary logistics resupply during a regional crisis.
4. **Environmental Compliance Vulnerabilities:** Extreme emergency surges can strain waste segregation protocols. This strain increases the risk of medical waste mixing with general streams, exceeding permitted incinerator stack opacity limits, or breaching greenhouse gas (GHG) monitoring systems under NEMA Condition 3.22.

18.4 2.9 Capability Gaps and Mitigation Investments

Based on the vulnerability analysis, the following specific mitigation investments are recommended:

1. **Trauma Surge:** Deploy automated electronic patient tracking wristbands and expand temporary triage clearings
2. **Fire Risk:** Install zone-specific addressable fire containment loops and localized medical gas shut-off valves.
3. **Utility Security:** Implement automated dual-generator ATS switchgear and 72-hour dedicated fuel reserves.
4. **Environmental:** Install an automated continuous emissions opacity monitor on the incinerator stack.

18.5 2.10 Capability Gaps

Identified capability gaps include:

- ix. Limited surge bed conversion systems
- x. Need for expanded trauma cache inventory
- xi. Additional oxygen reserve systems
- xii. Expanded staff recall systems
- xiii. Additional emergency communication redundancy
- xiv. Advanced patient tracking systems
- xv. Expanded decontamination capability

18.6 2.11 Mitigation Priorities

Recommended investments include:

- xiii. Expanded trauma surge infrastructure
- xiv. Dedicated decontamination corridor
- xv. Enhanced HEOC systems
- xvi. Expanded blood storage capacity
- xvii. Additional backup generators
- xviii. Redundant ICT infrastructure
- xix. Additional fire suppression systems

CHAPTER 3: INCIDENT COMMAND SYSTEM (ICS) AND GOVERNANCE

18.7 3.1 Hospital Emergency Operations Centre (HEOC)

The Hospital Emergency Operations Centre (HEOC) shall serve as the central command node for all intelligence gathering, resource allocation, and operational escalation.

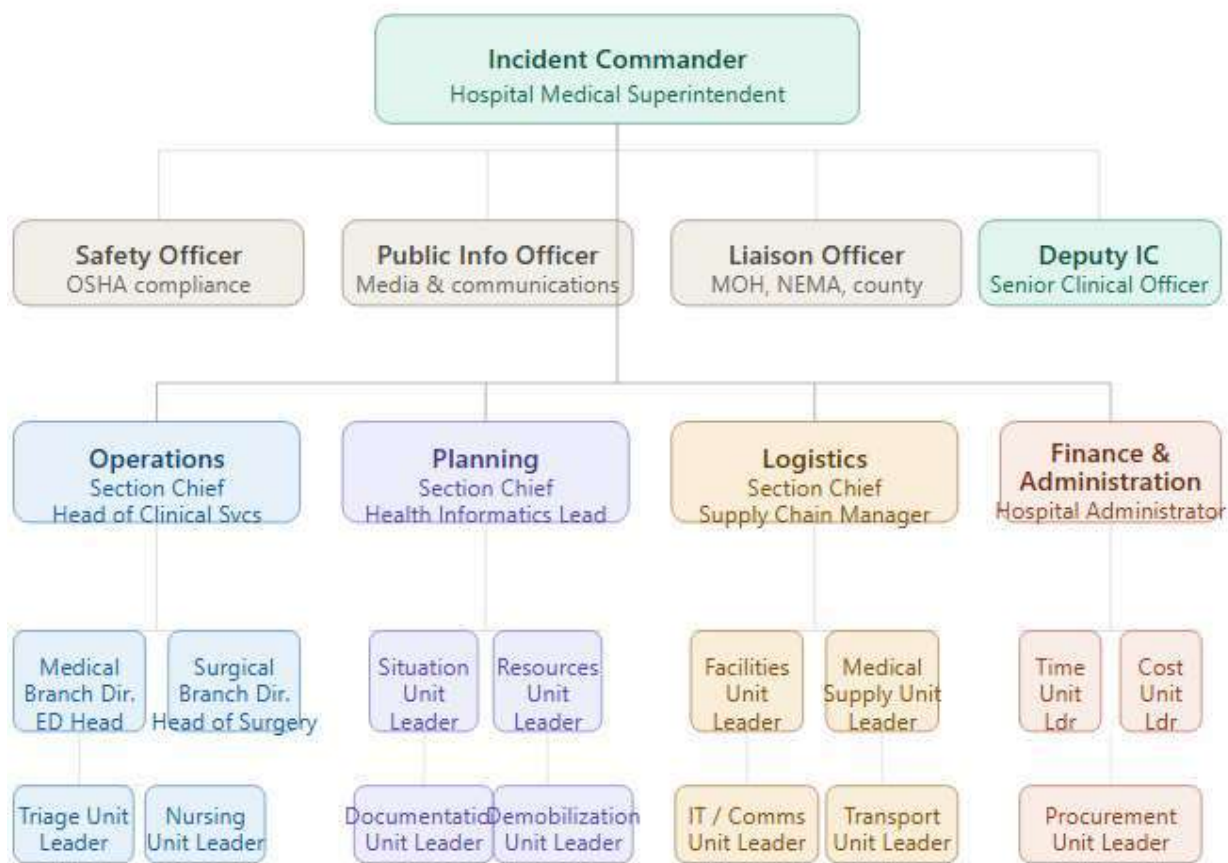
1. **Primary Location:** Ground Floor, West Wing administrative suite, situated next to the Trauma & Emergency Department.
2. **Backup Location:** First Floor, Medical Education Block, accessible via secondary stairwells if the primary site is compromised.

3.1.1 Minimum HEOC Equipment

- ✓ Emergency communication systems
- ✓ More than 12 handset VHF/UHF two-way radio base station,
- ✓ physical whiteboard patient tracking walls
- ✓ Incident status displays
- ✓ More than 5 independent computer terminals connected to a backup server loop
- ✓ laminated architectural master site layouts with facility maps and evacuation plans
- ✓ More than 5 complete sets of the physical ERP documentation
- ✓ Dedicated satellite phone terminal

18.8 3.2 Hospital Incident Command Structure

SRTRH shall operate under a standardized Incident Command System framework. Command loops scale based on the severity of the incident.



Activation levels

- Level 1 — Monitor: heightened awareness, HEOC on standby, routine operations continue
- Level 2 — Partial activation: HEOC partially staffed, resources pre-positioned, external notifications
- Level 3 — Full activation: HEOC 24/7, all ICS positions filled, MOH EOC and county notified

18.9 3.3 Core Roles and Responsibilities

1. **Incident Commander (IC):** Holds ultimate structural responsibility for all operational execution, strategic deployment, and fiscal authorization. This position is filled by the Hospital Medical Superintendent or their designated clinical alternate.
2. **Liaison Officer:** Serves as the primary external interface coordinating with the Ministry of Health, the Kericho County Government, NEMA, and emergency services. This role handles the mandatory 12-hour notification window for facility system malfunctions under NEMA Condition 4.2.
3. **Operations Section Chief:** Directs the execution of all hazard-specific tactical actions. This role is held by the Head of Clinical Services, who oversees specialized clinical branches

including Medical, Surgical, Paediatric, and Nursing teams.

4. **Logistics Section Chief:** Coordinates the continuous supply of materials, space, and utilities. This position manages the Estates Unit (facilities and water), Medical Supply Unit (pharmacy and blood reserves), and the IT/Communications Unit.

18.10 3.4 Role Profiles and Emergency Responsibilities

Every command position operates with a pre-validated one-page role profile card specifying immediate actions:

1. **First 15 Minutes:** Verify HEOC communication lines, confirm command structure activation level, and establish the initial incident log.
2. **Authority Limits:** The Incident Commander holds immediate spending clearance up to Kes. 5,000,000 during Level 3 activations for life-saving logistics. The Logistics Chief can reallocate general department stocks directly to the Emergency Department without standard procurement loops.
3. **Handover Protocol:** Incoming command staff must receive a structured situation report detailing current resource counts, active counts, and tactical priorities before assuming command.

Activation Level	Trigger Matrix	Core Operational Actions
Level 1: Monitor	Regional alerts, early highway accident notices, or projected severe weather changes.	• Heighten clinical surveillance across departments. • Place HEOC communication loops on standby. • Issue alert updates to all department heads.
Level 2: Standby	Verified highway accidents involving 5 or more casualties or minor localized utility disruptions.	• Staff the HEOC with core section leads. • Pre-position trauma and blood bank resources . • Suspend non-critical elective procedures.

Activation Level	Trigger Matrix	Core Operational Actions
Level 3: Full Activation	Mass casualties overwhelming the Emergency Department, severe fires, or extended utility failures.	• Open the HEOC 24/7 with all command roles filled. • Mobilize all available clinical staff. • Escalate coordination with the County CHMT and national MOH EOC.

De-escalation Criteria: Stand-down orders require the Incident Commander's signature following verification that patient care metrics have stabilized, structural areas are secure, and utility baselines are restored.

18.11 3.5 Inter-Agency Coordination Framework

The Liaison Officer coordinates external communications through established channels:

1. **Kericho County CHMT & Disaster Management Unit:** For regional ambulance coordination and staffing support.
2. **National Police Service (Kipkelion East):** Secures the main hospital access gates and assists with routing arriving ambulances.
3. **KeNHA Incident Coordination:** Provides early updates from accident scenes along the transport corridor.
4. **NEMA Emergency Hotline (0741101100 / 0736101100):** For mandatory reporting of any environmental pollution incidents within 24 hours per Conditions 4.2 and 4.3.
5. **KEMSA Emergency Resupply:** Leverages existing MOUs for rapid delivery of trauma kits and intravenous fluids during large-scale surges.

Depending on the level of emergencies, the proposed hospital shall coordinate with:

- Ministry of Health
- County Health Management Team
- Kenya Red Cross Society
- St John Ambulance
- County Fire and Rescue Services
- Kenya Power
- Water Resources Authority
- Referral hospitals

3.5.1 Incident Commander

Responsible for:

- ✓ Overall incident leadership
- ✓ ERP activation
- ✓ Strategic decision-making
- ✓ Resource authorization
- ✓ External coordination

3.5.2 Operations Section

Responsible for:

- ✓ Clinical operations
- ✓ Patient management
- ✓ Security coordination
- ✓ Evacuation operations
- ✓ MCI management

3.5.3 Planning Section

Responsible for:

- x. Situation assessment
- xi. Incident documentation
- xii. Resource forecasting
- xiii. Incident Action Plans (IAPs)

3.5.4 Logistics Section

Responsible for:

- ix. Supplies and equipment
- x. Transportation
- xi. Staff support
- xii. Communications systems
- xiii. Utilities support

3.5.5 Finance and Administration Section

Responsible for:

- ix. Cost tracking
- x. Procurement support
- xi. Human resource support
- xii. Compensation documentation

3.5.6 Safety Officer

Responsible for:

- xxv. Staff safety monitoring
- xxvi. PPE compliance
- xxvii. Hazard identification
- xxviii. Operational safety recommendations

3.5.7 Public Information Officer (PIO)

Responsible for:

- xviii. Media communication
- xix. Public statements
- xx. Rumour management
- xxi. Information coordination

3.5.8 Liaison Officer

Responsible for:

- xvi. Inter-agency coordination
- xvii. MOH and county coordination
- xviii. NEMA communication
- xix. Partner engagement

18.12 3.6 Emergency Activation Levels

Level	Description	Operational Response
Level 1	Minor Incident	Departmental management
Level 2	Moderate Incident	Partial HICS activation
Level 3	Major Incident	Full HICS activation

18.13 3.7 Activation Triggers

3.7.1 Level 1

- viii. Small localized fire
- ix. Minor utility interruption
- x. Limited patient surge

3.7.2 Level 2

- xiii. Moderate outbreak
- xiv. Multi-department disruption

- xv. Localized security incident
- xvi. Moderate casualty surge

3.7.3 Level 3

- ix. Mass casualty incident
- x. Major fire
- xi. Pandemic emergency
- xii. Structural collapse
- xiii. Terror attack

CHAPTER 4: HAZARD-SPECIFIC EMERGENCY RESPONSE PLANS

18.14 4.1 Mass Casualty Incident (MCI) Plan

Purpose: To provide a coordinated trauma surge response for incidents involving multiple casualties.

Operational Scope: Covers multi-vehicle highway accidents along the Londiani corridor.

Trigger Criteria: Direct notification of 5 or more severe casualties arriving simultaneously, or an official county disaster declaration.

4.1.1 Trigger Criteria

The MCI plan shall activate when:

- Five or more casualties arrive simultaneously
- County authorities declare an MCI
- Pre-alert is received from emergency responders
- Emergency Department capacity exceeds 120%

4.1.2 Immediate Actions (0 - 30 Minutes)

- Activate HICS.
- Notify all surgical and trauma teams.
- Open external triage area.
- Suspend elective theatre procedures.
- Activate blood bank emergency protocol.
- Establish a patient tracking system.
- Secure ambulance routes.

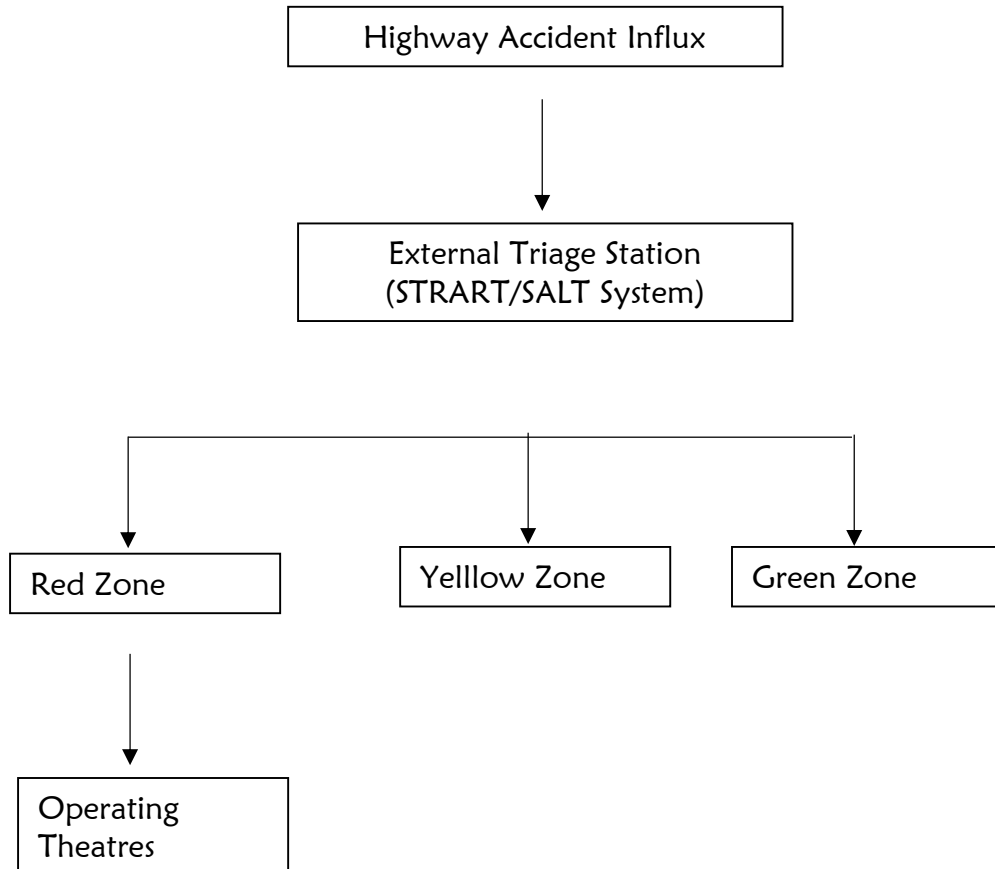
Command Activation: The Medical Superintendent activates Level 3 command, opens the HEOC, and issues a facility-wide intercom alert.

Surge Mobilization: The Nursing Branch Director activates the recall phone tree to bring on-call trauma teams back to the facility. All elective surgeries are suspended, and stable ward patients are moved to early discharge tracks to free up inpatient beds.

4.1.3 Triage System

The hospital shall utilize START/SALT triage:

Triage Zone Setup: The Emergency Department Head sets up an external casualty clearing station outside the main ED doors using START/SALT color-coded categories.



Triage Category	Priority	Colour
Immediate	Life-threatening but treatable	Red
Delayed	Serious but stable	Yellow
Minor	Walking wounded	Green
Expectant/Deceased	Unsurvivable or deceased	Black

4.1.4 Surge Capacity Strategy

Baseline Capacity:1,000 inpatient beds

Surge Measures:

- xiv. Convert recovery rooms to ICU overflow
- xv. Convert lecture halls to temporary wards
- xvi. Utilize outpatient spaces for low-acuity care
- xvii. Activate corridor care protocols
- xviii. Early discharge of stable patients

Target Surge Capacity:1,400 operational treatment spaces during full activation.

4.1.5 Family Assistance Centre

A Family Reception and Information Centre shall be established to:

- vii. Support reunification
- viii. Provide psychosocial support
- ix. Facilitate patient identification
- x. Coordinate information release

Sustained Response Actions (30 Minutes–12 Hours)

1. **Operating Theatre Escalation:** The Surgical Branch Director places all main theatres on emergency status, dedicating staff to trauma stabilization and neurosurgery.
2. **Blood Supply Logistics:** The Blood Bank initiates emergency Group O-negative release protocols and contacts the regional donor network to replenish stocks.
3. **Patient Identification:** Arriving patients are fitted with automated electronic tracking wristbands; if tracking networks go down, staff switch to sequential paper logs.
4. **Family & Media Management:** Social workers open a secured family reception centre in the Medical Education wing to manage identification and reunification. The Public Information Officer handles all press updates from a separate media briefing area.

Recovery & Compliance Actions

1. Clear non-critical corridors and transfer stable patients to Kericho County Referral Hospital under overflow agreements.
2. Collect and register all biomedical waste generated during the surge, routing it directly to the Class 2A incinerator in compliance with NEMA Condition 3.13.

18.15 4.2 Fire Emergency and Evacuation Plan

4.2.1 Fire Prevention Measures

The hospital shall maintain:

- xiii. Smoke detection systems
- xiv. Automatic sprinklers
- xv. Fire hydrants
- xvi. Portable extinguishers
- xvii. Fire compartmentalization
- xviii. Emergency exits and signage

4.2 Fire Emergency & Building Evacuation (Priority 2)

1. **Operational Scope:** Covers internal structural fires affecting clinical floors or basement systems.
2. **Trigger Criteria:** Activation of localized smoke detectors, drop in water loop pressure, or a physical alarm break.

Immediate Tactical Actions (0–30 Minutes)

1. **Local Containment:** Staff at the fire's origin deploy local extinguishers or hydrants if safe to do so.
2. **Alarm Cascade:** The HEOC issues evacuation orders over the main PA system, automatically contacting the County Fire & Rescue Services.
3. **Utility Isolation:** The Estates Manager isolates the medical gas manifold zone and generator fuel lines nearest the fire to prevent explosion risks.

4.2.2 RACE Fire Response Protocol

Step	Action
R	Rescue persons in immediate danger
A	Activate alarm
C	Contain fire by closing doors
E	Extinguish or evacuate

4.2.3 Patient Evacuation Priority

- xx. Ambulatory patients
- xxi. Wheelchair patients
- xxii. Bed-bound patients
- xxiii. ICU/HDU patients
- xxiv. NICU patients
- xxv. Patients in theatre

4.2.4 Fire Wardens

Each department shall designate trained fire wardens responsible for:

- Evacuation coordination
- Headcount verification
- Alarm activation
- Fire extinguisher deployment

Sustained Response Actions (30 Minutes–12 Hours)

1. **Phased Evacuation:** Nominated floor wardens direct patients along designated emergency stairwells toward outside assembly points. Patient movement follows clear clinical priorities:

Ambulatory —▶Wheelchair —▶Bed-bound —▶ICU/Ventilated/Neonatal

1. **Incinerator Shutdown:** If a fire occurs near the waste management yard, operators execute emergency incinerator shutdowns, isolate the main chimney stacks, and clear adjacent fuel stores.
2. **Headcount Verification:** Floor wardens compile headcount logs at designated assembly areas, reporting missing persons directly to the Safety Officer.

Recovery & Compliance Actions

1. Structural engineers conduct safety assessments before clearance is given to re-enter affected clinical wings.
2. The Liaison Officer logs the incident details and submits a formal pollution report to NEMA within 24 hours per Condition 4.3.

18.16 4.3 Infectious Disease Outbreak Response

4.3.1 Outbreak Response Objectives

- Rapid detection
- Isolation and containment
- Protection of staff
- Continuity of care
- Reduction of transmission

Operational Scope: Sudden spikes in highly infectious pathogens within the hospital's agricultural catchment.

Trigger Criteria: Two or more linked cases of high-consequence pathogens like cholera or Rift Valley Fever.

Immediate Tactical Actions (0–30 Minutes)

1. **Isolation Activation:** Clinical teams isolate suspected patients in negative-pressure rooms within the infectious disease ward.
2. **IPC Escalation:** The Safety Officer raises Infection Prevention and Control (IPC) protocols from Standard to Outbreak level, setting up dedicated PPE donning and doffing stations at ward entry points.

Sustained Response Actions (30 Minutes–12 Hours)

1. **Supply Deployment:** The Supply Chain Manager releases items from the facility's 90-day reserve PPE stockpile.
2. **Staff Screening:** Occupational health teams set up daily symptom screening checkpoints and provide prophylaxis for frontline clinical staff.
3. **Reporting Pathways:** The Liaison Officer transmits epidemiological data to the County Director of Health and the MOH Disease Surveillance network. Zoonotic cases like Rift Valley Fever are reported to KEPHIS within the required windows.
4. **Waste Management Controls:** All waste from isolation zones is classified as highly infectious bio-medical waste. It is placed in double-sealed bags and sent directly to the Class 2A incinerator under strict temperature controls, matching NEMA Conditions 3.13 and 3.15.

Recovery & Compliance Actions

1. Complete terminal deep-cleaning and chemical decontamination across all exposed

clinical areas.

2. Monitor waste logs to confirm complete, clean disposal of all contaminated materials.

4.3.2 IPC Escalation Levels

Level	Operational Status
Standard	Routine IPC measures
Enhanced	Increased surveillance
Outbreak	Isolation activation
Epidemic/Pandemic	Full outbreak operations

4.3.3 Isolation Measures

The hospital shall maintain:

- Isolation wards
- Controlled entry points
- Screening stations
- PPE stockpiles
- Dedicated outbreak teams

4.3.4 PPE Stockpile Targets

Minimum 90-day reserve for:

- 2 N95 respirators
- 3 Surgical masks
- 4 Gloves
- 5 Gowns
- 6 Face shields
- 7 Hand hygiene supplies

18.17 4.4 HAZMAT and Chemical Incident Response

4.4.1 Potential Hazardous Materials

- Laboratory reagents
- Cytotoxic medications
- Fuel and oils
- Medical gases
- Incinerator ash

- Cleaning chemicals

4.4.2 HAZMAT Response Priorities

- Protect life.
- Isolate affected area.
- Identify hazardous substance.
- Initiate decontamination.
- Notify authorities.
- Prevent environmental contamination.

Operational Scope: Industrial spills involving laboratory reagents, generator fuel, or incinerator ash.

Trigger Criteria: Bulk chemical leak exceeding 20 litres, or any visible breach of fuel storage tanks.

Immediate Tactical Actions (0–30 Minutes)

1. **Zoning Control:** The Safety Officer isolates the spill area, determines local wind direction to protect nearby wards, and sets up a decontamination corridor outside the spill zone.
2. **Incinerator Shutdown:** If an incinerator leak causes stack emissions to breach 20% opacity at 50 meters, operators initiate an immediate system shutdown per NEMA Condition 3.8.

Sustained Response Actions (30 Minutes–12 Hours)

1. **Containment Measures:** Response teams wear Level B or C PPE to apply neutralizers and absorbent booms around the chemical spill.
2. **Effluent Protection:** If the spill threatens the bio-digester, operators close emergency valves to route contaminated runoff into secure holding tanks, preventing damage to the wastewater treatment system.
3. **Regulatory Notification:** The Liaison Officer contacts the NEMA Emergency Hotline within 12 hours to report the malfunction, matching Condition 4.2 guidelines.

Recovery & Compliance Actions

1. Cleaned chemical waste and contaminated soils are packed into secured drums and sent to NEMA-approved hazardous waste sites per Condition 3.9.
2. Enter full details into the on-site pollution incident register for review by NEMA inspectors.

4.4.3 Decontamination Zones

Zone	Function
Hot Zone	Contaminated area
Warm Zone	Decontamination area
Cold Zone	Safe treatment area

18.18 4.5 Utility Failure Response Plan

4.5.1 Power Failure Response

Priority Power Loads:

- ICU/HDU
- Operating theatres
- NICU
- Blood bank
- Laboratory systems
- ICT systems

Generator Targets:

- vii. Automatic activation within 15 seconds
- viii. Minimum 72-hour fuel reserve
- ix. Monthly load testing

4.5.2 Water Failure Response

The hospital shall maintain:

- 4 Water storage reserves
- 5 Tanker supply agreements
- 6 Borehole backup systems
- 7 Critical water prioritization

4.5.3 Medical Gas Failure

Emergency actions include:

- 4 Cylinder reserve activation
- 5 Ventilator prioritization
- 6 Manual ventilation teams
- 7 Isolation of faulty manifold systems

Operational Scope: Interruptions to primary grid power, water lines, or central medical oxygen delivery networks.

Trigger Criteria: Main line dropouts lasting longer than 15 seconds.

Immediate Tactical Actions (0–30 Minutes)

1. **Backup Power Activation:** Backup generators must engage via automated ATS links within 15 seconds. The Estates Manager verifies that power routes successfully to critical areas, including the ICU, theatres, NICU, and blood bank cold chains.
2. **Gas Loop Transition:** If the main oxygen plant drops pressure, technicians switch over to localized cylinder reserve manifolds to maintain line pressures.

Sustained Response Actions (30 Minutes–12 Hours)

1. **Fuel Supply Management:** The Logistics Chief monitors the generator fuel levels, ensuring the facility maintains its 72-hour full-load backup fuel target. Any generator failures are escalated to NEMA within 12 hours under Condition 4.2 rules.
2. **Water Supply Backup:** If the main water line fails, the facility switches over to the authorized on-site borehole and activates rainwater harvesting arrays per NEMA Condition 3.17. Non-essential water use is limited to preserve core clinical functions.
3. **Paper Downtime System:** If IT networks or the HMIS fail, clinical teams transition to paper charts and manual logs to maintain tracking and prescriptions.

Recovery & Compliance Actions

1. Verify line stabilities before transitioning back to primary municipal water or grid power networks.
2. Document all generator run hours and fuel use to maintain compliance with emissions reporting under NEMA Condition 3.23.

18.19 4.6 Security Incident Response

4.6.1 Potential Security Threats

- Armed intrusion
- Bomb threats
- Violent patients or visitors
- Civil unrest
- Terror incidents

4.6.2 Lockdown Procedures

The Incident Commander may order:

- 6.0 Restricted entry
- 7.0 Controlled movement
- 8.0 Shelter-in-place
- 9.0 Security perimeter activation

4.6.3 Coordination Agencies

- National Police Service
- Anti-Terrorism Police Unit
- County Security Committees

18.20 4.7 Environmental Incident Response

4.7.1 Potential Environmental Emergencies

- x. Wastewater spills
- xi. Incinerator emissions exceedance
- xii. Fuel spills
- xiii. Biomedical waste overflow
- xiv. Chemical contamination

4.7.2 Environmental Reporting Requirements

Incident Type	Reporting Timeline
System malfunction	Within 12 hours
Pollution incident	Within 24 hours
Major environmental release	Immediate notification

CHAPTER 5: RESOURCE MANAGEMENT

18.21 5.1 Critical Resource Inventory

5.1.1 Emergency Medical Supplies

The hospital shall maintain emergency reserves for:

- Trauma medications
- Blood products
- Antidotes
- IV fluids
- Ventilator consumables
- Surgical supplies

18.22 5.2 Stockpile Targets

The Logistics Section Chief shall maintain stock targets scaled to handle a 1,000-bed capacity emergency surge:

Resource Category	Minimum Stock Target	Storage & Management Specifications
Trauma Pharmaceuticals	30-Day Emergency Reserve.	Emergency trauma meds, IV fluids, and blood products held in a separate pharmacy section.
Personal Protective Equipment	90-Day Outbreak Supply.	Tiered PPE kits (Levels A-D) organized by hazard risk in the main central stores.
Medical Equipment Reserve	Dedicated Emergency Backup.	Standby mechanical ventilators, defibrillators, infusion pumps, and sterile surgical sets.
Generator Fuel Reserve	72-Hour Full-Load Capacity.	Held in secured tanks with environmental bunds to prevent leaks.
On-Site Water Storage	48-Hour Clinical Operations.	Stored in elevated and underground tanks, fed by the authorized borehole loop.

5.2 KEMSA & Supply Chain Emergency Protocols

1. **Emergency Orders:** The Pharmacy Director can bypass standard purchase timelines to submit emergency supply requests directly to KEMSA during Level 2 or 3 activations.
2. **Alternative Channels:** If KEMSA routes are disrupted, the hospital uses emergency MOUs to source items directly from county medical stores or pre-vetted private distributors.
3. **Escalation Pathway:** Critical shortages of essential drugs or surgical consumables are escalated within two hours to the County CHMT and the national MOH logistics desk.

18.23 5.3 Surge Staffing Plan

The hospital shall maintain:

- Emergency recall trees
- Cross-training systems
- Volunteer rosters
- University partner support agreements
- Staff welfare arrangements

18.24 5.4 Staff Welfare Measures

- Rotational rest periods
- Feeding arrangements
- Psychological support
- Fatigue monitoring
- Accommodation support during prolonged incidents

5.3 Surge Staffing Plan

1. **Recall Mechanisms:** Department leads utilize structured telephone trees to recall off-call personnel during mass casualty events.
2. **Cross-Deployment:** The Nursing Chief can reassign clinical staff from outpatient or research areas to assist in the Emergency Department or ICU.
3. **Academic Resources:** As a teaching hospital, the facility can activate qualified medical interns and university clinical partners to expand support teams during extended crises.
4. **Staff Welfare:** Personnel working extended shifts are placed on a 12-hour maximum rotation cycle. The Safety Officer coordinates food supply lines, rest areas, and psychological first aid support.

5.4 Financial Resource Management

1. **Emergency Allocations:** Level 3 activations grant the Incident Commander authority to approve emergency spending up to Kes. 5,000,000. The Finance Section Chief handles petty cash and issues emergency purchase orders directly.
2. **Compliance Tracking:** The Finance team tracks all costs associated with environmental cleanup, pollution control, or emergency waste disposal separately. This financial tracking is included in post-emergency reports submitted to the Ministry of Health and the National Treasury.

CHAPTER 6: COMMUNICATIONS PLAN

18.25 6.1 Internal Communication Systems

Primary systems:

- 2.0 Hospital intercom system
- 3.0 HMIS messaging
- 4.0 Internal telephone network
- 5.0 Incident briefing system

Secondary systems:

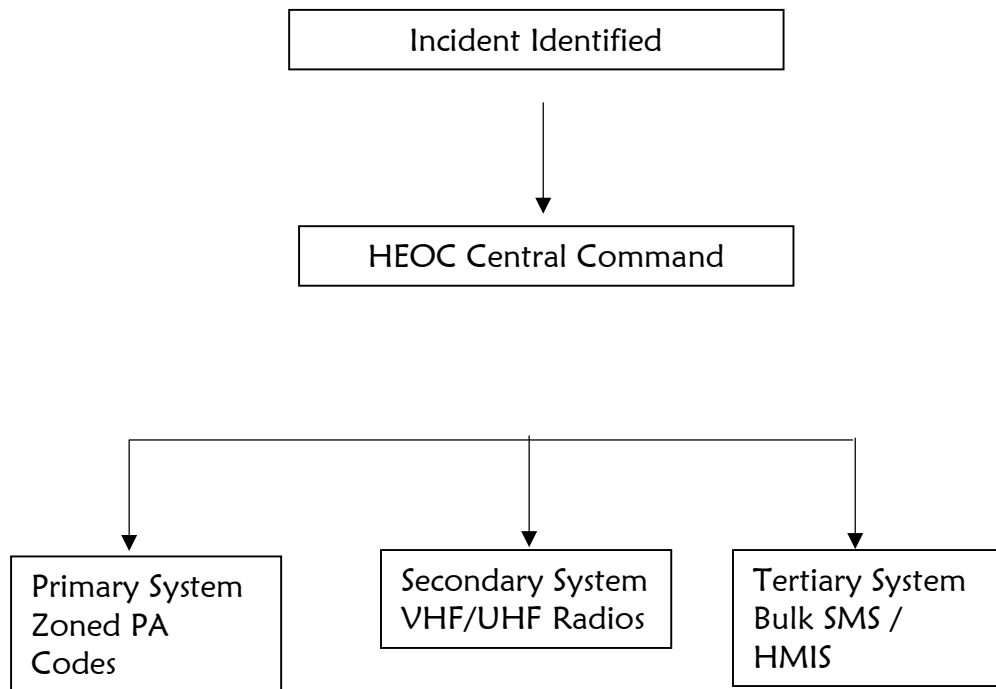
- 3 WhatsApp emergency groups
- 4 Signal coordination channels
- 5 SMS alert systems

Backup systems:

- 5.0 VHF/UHF radios
- 6.0 Satellite phones
- 7.0 Paper runners

The proposed hospital shall rely on redundant communication loops to ensure continuous messaging across all clinical and administrative units during an emergency.

1. **Primary System (Public Address & Intercom):** The main multi-storey clinical block features a zoned Public Address (PA) and intercom system. Emergency codes are broadcasted using standardized terminology to alert staff without causing panic among patients and visitors.
2. **Secondary System (VHF/UHF Two-Way Radios):** Handheld VHF/UHF radio sets are distributed across key tactical nodes, including the HEOC, Trauma/Emergency Department, Operating Theatres, Intensive Care Unit, Security Desk, and Estates/Facilities team. A dedicated repeater station on the roof ensures signal coverage across all basement levels and outbuildings.
3. **Tertiary System (Automated SMS & WhatsApp Cascades):** The Hospital Management Information System (HMIS) includes an integrated emergency broadcast module. This system can send instant, automated bulk SMS alerts to all registered staff devices based on pre-defined group lists.



6.1.1 Standardized Hospital Emergency Codes

To maintain operational security and clear communication, SRTRH shall use the following standardized emergency codes:

Emergency Code	Meaning / Incident Type	Immediate Staff Action Required
Code Red	Fire or Smoke	Proceed to designated fire stations, close smoke doors, and prepare for evacuation.
Code Blue	Medical Emergency / Cardiac Arrest	The specialized resuscitation team responds immediately to the broadcasted location.
Code Yellow	Mass Casualty Incident Surge	All emergency trauma teams assemble at the clearing station; stop elective admissions.
Code Amber	Infant or Child Abduction	Security locks down all exit gates, parking bays, and perimeter doors for inspection.
Code Black	Bomb Threat or Suspicious Object	Clear the immediate area; report details to Security; do not use two-way radios near the object.
Code Silver	Active Shooter / Armed Intruder	Run, Hide, Fight. Lock down wards and secure clinical access doors.

Emergency Code	Meaning / Incident Type	Immediate Staff Action Required
Code Orange	HAZMAT or Chemical Spill	Isolate the zone, shut down local ventilation, and deploy the chemical spill response team.
Code Grey	System or Main Utility Failure	Engineering teams activate backup procedures; clinical units switch to manual tracking.

18.26 6.2 External Communications

The Public Information Officer (PIO) will manage all external communications to maintain clear, accurate reporting and protect patient confidentiality.

1. **Media Relations Framework:** No hospital staff member, other than the Incident Commander or the designated PIO, will be authorized to speak to journalists or issue statements. The media briefing room in the Medical Education wing serves as the single point of contact for all press updates.
2. **Information Security & Privacy:** Patient identifiers, specific clinical details, and casualty lists are protected under the Kenya Health Act 2017 and data protection regulations. Casualty updates are shared using aggregated, anonymized figures approved by the Incident Commander.

18.27 6.3 Inter-Agency Communication Loops

The hospital shall maintain communication protocols with:

- Ministry of Health
- CHMT
- Emergency responders
- Referral facilities
- Utility providers
- Media organizations

The Liaison Officer shall manage communications with external emergency services using dedicated reporting channels:

1. **County Health Emergency Operations Centre (CHMT EOC):** Connected via a direct hotline to coordinate ambulance diversions and mutual-aid staffing.
2. **National Joint Disaster Operations Centre (JDOC):** Updates are shared via standardized Situation Reports (SITREPs) during large-scale regional emergencies.
3. **NEMA Emergency Notifications:** In compliance with NEMA License Conditions 4.2 and

4.3, any environmental pollution or system failure must be reported to the NEMA hotline within 12 hours, followed by a formal written report within 24 hours.

18.28 6.3 Public Information Management

Only the Public Information Officer or authorized spokesperson may release information.

Media Principles:

- Accuracy
- Timeliness
- Confidentiality
- Transparency
- Consistency

18.29 6.4 Situation Reporting

The following reports shall be used:

Report Type	Timeline
Initial SITREP	Within 1 hour
Operational SITREP	Every 6 hours
Executive SITREP	Every 24 hours
Final Incident Report	Within 7 days

CHAPTER 7: EVACUATION AND CONTINUITY OF ESSENTIAL SERVICES

18.30 7.1 Evacuation Authority and Triggers

The authority to order a partial or full evacuation of the 1,000-bed facility rests solely with the Incident Commander. If a sudden structural fire or explosion presents an immediate danger, floor wardens can initiate local evacuations of their specific zones while notifying the HEOC.

Evacuation Trigger Matrix

1. **Partial Evacuation:** Triggered by localized events like a kitchen fire, a minor chemical spill in a lab, or a water pipe burst affecting a single ward or wing.
2. **Full Evacuation:** Triggered by structural threats like an uncontained building fire, a significant bomb threat, major seismic damage, or a widespread toxic gas release.

18.31 7.2 Structural Evacuation Routes & Assembly Points

The main building features designated emergency exit stairwells equipped with fire doors and self-charging emergency lighting. Elevators are automatically disabled during fire alarms and must not be used for evacuation.

1. **Primary Assembly Point A:** The main open parking lot near the facility front entrance. This area is used for ambulatory patients, visitors, and general administrative staff.
2. **Secondary Assembly Point B:** The healing gardens located on the south side of the site footprint. This area is used for non-ambulatory patients and specialized clinical transfers.
3. **Hazard-Specific Assembly Point C:** The open field near the medical education block. This site is used if an incident involves the rear utility yard or the incinerator system.

18.32 7.3 Patient Evacuation Prioritization (Clinical Logistics)

Patient evacuations follow a strict clinical priority framework to ensure that vulnerable, high-dependency individuals receive appropriate support during transport:

Priority 1: Ambulatory (Green) —→ Priority 2: Semi-Ambulatory (Yellow) —→ Priority 3: Non-Ambulatory/Critical (Red)

18.33 7.4 Critical Functions

The following services shall receive continuity priority:

- Emergency Department
- ICU/HDU
- NICU
- Operating theatres
- Blood bank

- Laboratory services
- Pharmacy
- Dialysis services
- Obstetric services
- ICT and patient records

18.34 7.5 Continuity Strategies

7.5.1 Clinical Continuity

- Alternative treatment areas
- Prioritized patient care
- Emergency staffing pools
- Mutual aid referrals

7.5.2 ICT Continuity

- vi. Redundant servers
- vii. Cloud backups
- viii. Paper documentation procedures
- ix. Recovery systems

7.5.3 Utility Continuity

- 7 Generator backup systems
- 8 Emergency water reserves
- 9 Oxygen reserve systems

18.35 7.6 Special Patient Populations

7.6.1 Neonatal and Paediatric Patients

- xii. Incubator backup systems
- xiii. Transport incubators
- xiv. Dedicated evacuation teams

7.6.2 Dialysis Patients

- iv. Session prioritization
- v. Alternative referral arrangements
- vi. Emergency consumable reserves

7.6.3 Ventilator-Dependent Patients

- ✓ Manual ventilation backup teams

- ✓ Portable oxygen systems
- ✓ Portable ventilators

CHAPTER 8: RECOVERY AND RETURN TO NORMAL OPERATIONS

18.36 8.1 Post-Incident Demobilization

The Incident Commander issues the official stand-down order once the immediate physical, chemical, or clinical threats have been resolved. Demobilization follows a structured checklist:

1. **Accountability Check:** All deployed staff check out through their respective Section Chiefs to confirm complete safety logs.
2. **Equipment Retrieval:** Tactical gear, portable radios, and unused emergency medical kits are returned to central supply stores for inspection and cleaning.
3. **Waste Clearance:** Specialized cleaning crews collect any remaining hazardous or biomedical waste, routing it to the Class 2A incinerator or secured holding zones to maintain compliance with NEMA Condition 3.13.

18.37 8.2 Immediate Recovery Phase (0–72 Hours)

Recovery priorities include:

- ✓ Safety inspections
- ✓ Debris clearance
- ✓ Utility restoration
- ✓ Restocking critical supplies
- ✓ Staff welfare support
- ✓ Environmental containment

18.38 8.3 Medium-Term Recovery

The hospital shall:

- x. Restore deferred services
- xi. Repair damaged systems
- xii. Process insurance claims
- xiii. Conduct environmental assessments
- xiv. Restore staffing levels

18.39 8.4 After-Action Review (AAR)

An AAR shall be conducted within 14 days following:

- 19.0 Major incidents
- 20.0 Full-scale exercises
- 21.0 Significant operational disruptions

8.4.1 AAR Components

Component	Focus
Timeline Reconstruction	Sequence of events
Operational Review	Response effectiveness
Resource Assessment	Adequacy of supplies and staffing
Communication Review	Coordination effectiveness
Compliance Review	Regulatory adherence
Corrective Actions	Improvement priorities

21.3 8.5 Corrective Action Tracking

All identified gaps shall be:

- 10.0 Assigned responsible officers
- 11.0 Given implementation timelines
- 12.0 Monitored quarterly
- 13.0 Incorporated into ERP revisions

CHAPTER 9: TRAINING, EXERCISES AND PLAN MAINTENANCE

21.4 9.1 Training Framework & Competency Matrix

The hospital maintains a continuous training curriculum to ensure all personnel understand their roles within the Emergency Response Plan.

1. **General Staff Induction:** All new clinical, administrative, and support personnel complete a mandatory emergency response module during orientation. This training covers basic fire safety, building evacuation routes, and standard emergency codes.
2. **ICS Command Staff Specialization:** Nominated Incident Commanders, Section Chiefs, and Officers complete advanced Incident Command System training. This coursework focuses on resource logistics, emergency procurement, and inter-agency coordination.
3. **Specialized Tactical Training:** Frontline teams complete advanced technical training tailored to high-risk hazards:

21.5 9.2 Training Program

All staff shall receive:

- xi. ERP orientation
- xii. Fire safety training
- xiii. Incident command training
- xiv. IPC training
- xv. Evacuation training
- xvi. Mass casualty management training

21.6 9.3 Specialized Training

Advanced training shall include:

- ix. HICS certification
- x. Advanced trauma management
- xi. HAZMAT operations
- xii. Outbreak management
- xiii. Crisis communication

21.7 9.4 Exercise Schedule

Exercise Type	Frequency
Tabletop Exercise	Quarterly
Departmental Drill	Semi-Annual

Exercise Type	Frequency
Full-Scale Exercise	Annual
Fire Drill	Semi-Annual
MCI Simulation	Annual
Outbreak Simulation	Annual

21.8 9.5 Drill and Exercise Schedule

SRTRH runs regular practical exercises to test response capabilities, validate utility backups, and satisfy regulatory safety requirements:

Exercise Type	Frequency	Core Focus / Operational Target	Compliance Alignment
Tabletop Exercises	Every 6 Months	Command structure coordination, communication flow checks, and role validation.	MOH EDRM Policy
Functional Fire Drills	Annually	Floor warden mobilization, exit route clearings, and assembly point checks.	OSHA 2007 Regulations
Full-Scale MCI Drills	Every 2 Years	Simulated highway accidents involving real-time triage, surgical surges, and ambulance routing.	Kenya Health Act 2017
HAZMAT / Incinerator Drills	Annually	Containment spills, emergency system shutdowns, and emissions monitoring.	NEMA License Condition 3.8

21.9 9.6 Plan Review, Maintenance & Version Control

1. **Annual Review Loop:** The Safety Committee reviews the ERP annually to update staff contact directories, adapt to physical facility changes, and incorporate updated clinical guidelines.
2. **Post-Incident Adjustments:** The document is updated immediately following any real-world emergency that requires a Level 2 or Level 3 activation, using insights from the formal After-Action Review.
3. **Version Control Ledger:** All modifications are recorded in a central tracking ledger. Superseded copies are collected and destroyed to ensure only the approved version is available at active workstations.

CHAPTER 10: ANNEXES

21.10 10.1 Annex A: Emergency Contact Directory

The annex shall include:

- ICS leadership contacts
- Emergency responder contacts
- County emergency contacts
- NEMA emergency hotline
- Referral hospital contacts
- Utility provider contacts

21.11 10.2 Annex B: Site Maps and Infrastructure Diagrams

The annex shall include:

- Master hospital site map
- Evacuation maps
- Assembly points
- Medical gas shutoff points
- Generator locations
- HEOC location
- Decontamination corridor layout

21.12 10.3 Annex C: Quick Reference Cards

Quick-reference materials shall include:

- ICS role cards
- Fire response cards
- MCI triage cards
- Evacuation guides
- NEMA reporting guides

21.13 10.4 Annex D: Reporting Templates

Templates shall include:

- Incident reporting forms
- SITREP templates
- Patient tracking forms
- NEMA notification forms
- AAR templates

21.14 10.5 Annex E: MOUs and Service Agreements

The hospital shall maintain agreements with:

- Referral hospitals
- Blood suppliers
- Ambulance services
- KEMSA
- Universities
- Emergency response partners

21.15 10.6 Annex F: Inventory Checklists

Operational checklists shall include:

- PPE inventories
- Fuel logs
- Water reserves
- Generator maintenance logs
- Oxygen reserve inventories

21.16 10.7 Annex G: Regulatory Compliance Checklist

The compliance matrix shall map:

- NEMA conditions
- OSHA obligations
- MOH EDRM requirements
- Health Act provisions
- Environmental reporting timelines

APPROVAL AND AUTHORIZATION

This Emergency Response Plan is approved for implementation by South Rift Level VI Teaching and Referral Hospital and the Ministry of Health.

Prepared By
ERP Consultant

Signature
.....

Date
.....

Approved By
Ministry of Health

Signature
.....

Date
.....

APPENDIX 10: MEDICAL WASTE MANAGEMENT PLAN (MWMP)

Provides comprehensive protocols for the segregation, treatment, and disposal of all healthcare waste streams.

Republic of Kenya



MINISTRY OF HEALTH
CONSTRUCTION OF SOUTH RIFT LEVEL (VI) TEACHING AND REFERRAL
HOSPITAL ON PLOT L.R NO. LONDIANI TOWNSHIP/186,
KEDOWA/KIMUGUL WARD, KIPKELION EAST SUB-COUNTY, KERICHO
COUNTY

MEDICAL WASTE MANAGEMENT PLAN
JUNE 2026

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Executive Summary

This Medical Waste Management Plan (MWMP) for South Rift Level VI Teaching and Referral Hospital (SRTRH) has been developed in line with the National Health Care Waste Management Strategic Plan for Kenya. The plan is intended to guide hospital management, healthcare workers,

support staff, and relevant stakeholders in the proper planning, implementation, monitoring, and evaluation of healthcare waste management activities within the hospital and its surrounding community.

Level 6 hospitals provide highly specialized healthcare services, including inpatient and outpatient care, surgery, intensive care, laboratory services, radiology, maternity services, oncology treatment, mortuary services, and emergency care. These services generate significant quantities of hazardous and non-hazardous healthcare waste that require safe handling to minimize risks to human health and the environment.

The plan adopts a holistic approach to healthcare waste management through clear assignment of responsibilities, occupational health and safety measures, waste minimization strategies, segregation at source, safe transportation, treatment and disposal protocols, and documentation of best practices and innovations. It also aligns with national legal and regulatory requirements governing healthcare waste management in Kenya.

The management plan recognizes the importance of devolved healthcare services and emphasizes collaboration between the hospital administration, county government, national government agencies, private sector partners, and development stakeholders in ensuring sustainable healthcare waste management practices.

Key thematic areas addressed in this plan include:

- Strengthening the legal and regulatory framework to ensure compliance with national healthcare waste management standards.
- Standardization of waste segregation, collection, transportation, treatment, and disposal procedures across all hospital departments.
- Allocation of adequate financial resources to support implementation of healthcare waste management activities.
- Capacity building and continuous training of healthcare workers and waste handlers on safe healthcare waste management practices.
- Promotion of occupational health and safety measures to protect healthcare workers, patients, waste handlers, and the surrounding community.
- Adoption of environmentally friendly and sustainable waste treatment technologies suitable for Level 6 healthcare facilities.
- Establishment of monitoring and evaluation systems to track implementation progress, compliance levels, and performance indicators.

The plan further seeks to minimize environmental pollution, prevent transmission of infections, reduce occupational hazards, and promote sustainable waste management practices within the hospital environment.

Implementation of this Medical Waste Management Plan is expected to significantly improve healthcare waste handling practices, reduce risks associated with improper waste disposal, enhance environmental protection, and ensure compliance with national and international healthcare waste management standards over the implementation period.

Hospital Profile

The South Rift Level VI Teaching and Referral Hospital (SRTRH) is a proposed 1,000-bed public referral hospital to be constructed on Plot L.R. No. Londiani/Township/186, located in the Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County. The facility is situated at approximately latitude 0.5640°S, longitude 35.2818°E within the Londiani Township area of the South Rift region. The hospital is funded by the African Development Bank and will serve as the regional referral centre for the South Rift region, providing specialized healthcare services to the population of Kericho County and surrounding counties.

The SRTRH is a 1,000-bed facility, being the commissioned bed complement confirmed in the approved bed schedule and Clinical Service Plan. Estimated waste generation volumes are derived from this capacity. Key hospital services that will generate healthcare waste include: surgical theatres, intensive care units (ICU), maternity and neonatal wards, oncology units, radiology and nuclear medicine departments, clinical laboratories, pharmacies, emergency departments, mortuary services, and outpatient clinics.

21.17 Estimated Waste Quantities

Based on WHO benchmarks for Level 6 hospitals applied to the approved 1,000-bed commissioned capacity of the SRTRH, and assuming design occupancy, the estimated daily healthcare waste generation is as follows:

- General (non-hazardous) waste: approximately 1,000 to 1,400 kg/day

- Infectious and pathological waste: approximately 200 to 300 kg/day

- Sharps waste: approximately 20 to 40 kg/day

- Pharmaceutical waste: approximately 10 to 20 kg/day

- Chemical and cytotoxic waste: approximately 5 to 10 kg/day

These estimates will be refined during the detailed design and operationalization phases based on actual occupancy rates, patient throughput, and departmental capacity utilization of the SRTRH.

21.18 Waste Management Key Contacts

The following key contacts are responsible for oversight and compliance in healthcare waste management for the SRTRH:

- Kericho County Director of Public Health - responsible for regulatory oversight of healthcare waste management within Kericho County.

- NEMA Western Region Office - responsible for enforcement of EIA License conditions, environmental audits, and compliance monitoring for the SRTRH project.

- Kericho County Government - provides coordination support for solid waste disposal at licensed county facilities serving the Londiani/Kipkelion East area.

- SRTRH Hospital Waste Management Officer - designated hospital officer responsible for day-to-day oversight of waste segregation, collection, transportation, treatment, and disposal activities.

INTRODUCTION

21.19 1.1 Healthcare Waste Overview

Waste from healthcare settings ranges from general waste such as paper and food remain, to infectious waste such as syringes and needles to highly infectious waste such as anatomical body parts to special waste such as mercury from broken thermometers and body imaging films. The term health-care waste includes all the waste generated within health-care facilities, research centres and laboratories related to medical procedures (WHO, 2014). In addition, the Level 6 Hospital generates various categories of healthcare waste from specialized medical services, emergency care, laboratory operations, surgical procedures, intensive care units, maternity services, radiology departments, pharmacies, mortuary services, and outpatient clinics. It also includes similar types of waste originating from minor and scattered sources within the hospital premises, outreach programmes, and home-based healthcare services such as home dialysis, self-administration of insulin, wound care, and rehabilitative care.

The classification of healthcare waste for the Medical Waste Management Plan has been adopted in accordance with the World Health Organization (WHO, 2014) guidelines and includes the following categories:

Classification of Healthcare Waste

1. Infectious Waste

This refers to waste suspected to contain pathogens such as bacteria, viruses, parasites, or fungi in sufficient concentration to cause disease. In a Level 6 Hospital, infectious waste includes: Contaminated dressings and bandages, Laboratory cultures and specimens, Waste from isolation wards, Blood-soaked materials, used gloves, masks, and gowns, Swabs and disposable medical supplies contaminated with body fluids

2. Pathological Waste

Pathological waste consists of tissues, organs, body parts, blood, and other body fluids removed during surgery, autopsy, or laboratory procedures. Examples include: Human tissues and organs, Placenta and fetal remains, Blood bags and body fluids and Anatomical waste from theatres and mortuary units

3. Sharps Waste

Sharps are items capable of causing cuts or puncture wounds and pose a high risk of infection transmission. These include: Needles and syringes, Scalpel blades, Lancets, Broken glass ampoules and Surgical blades and infusion sets

4. Pharmaceutical Waste

This category includes expired, unused, contaminated, or damaged pharmaceutical products and vaccines generated from pharmacies, wards, and laboratories. Examples include: Expired medicines, Antibiotics and vaccines, Contaminated drug containers and Discarded ampoules and vials

5. Chemical Waste

Chemical waste consists of discarded solid, liquid, and gaseous chemicals generated during cleaning, disinfection, laboratory activities, and maintenance procedures. These include: Laboratory reagents, Disinfectants and solvents, Formalin and x-ray processing chemicals, cleaning agents and detergents and Battery acids and heavy metals

6. Cytotoxic and Genotoxic Waste

These are highly hazardous wastes generated mainly from cancer treatment and research activities. Examples include: Cytotoxic drugs used in chemotherapy, Contaminated materials from oncology wards and Genotoxic laboratory waste

7. Radioactive Waste

Radioactive waste is generated from diagnostic and therapeutic procedures involving radioactive materials. It includes: Unused radioactive substances, Contaminated laboratory materials, Radioactive diagnostic equipment residues and Waste from nuclear medicine departments

8. Non-Hazardous or General Waste

This refers to waste that does not pose biological, chemical, radioactive, or physical hazards and is similar to domestic waste. Examples include: Paper and packaging materials, Food remains, Plastics and office waste and Sweeping dust and garden waste

9. Pressurized Containers

These include containers holding gases under pressure that may explode if punctured or exposed to heat. Examples include: Gas cylinders, Aerosol cans and Cartridge containers

The Level 6 Hospital shall ensure that all healthcare waste is properly segregated at the point of generation using color-coded containers in accordance with national guidelines. Proper collection, storage, transportation, treatment, and disposal procedures shall be implemented to minimize environmental pollution, occupational risks, and public health hazards associated with healthcare waste.

Objective

The Medical Waste Management Plan for the proposed Level 6 Hospital funded by the African Development Bank has been developed to strengthen healthcare waste management systems through the protection of patients, healthcare workers, waste handlers, the surrounding community, and the environment from hazards associated with healthcare risk waste.

The plan is aligned with national healthcare sector priorities, environmental safeguards, and international best practices in healthcare waste management. It supports the Government of Kenya's commitment toward improving healthcare infrastructure and delivery systems while ensuring environmentally sustainable healthcare operations. The project further complements the objectives of development partners supporting health sector strengthening initiatives through promotion of safe and efficient healthcare waste management practices.

The Medical Waste Management Plan provides a framework for reinforcing institutional capacity within the Level 6 Hospital and strengthening healthcare waste management systems through adoption of Best Available Technologies (BAT) and Best Environmental Practices (BEP). The plan focuses on safe segregation, collection, transportation, storage, treatment, and disposal of healthcare waste generated from specialized services including surgical theatres, laboratories, oncology units, radiology departments, intensive care units, maternity wards, pharmacies, emergency departments, and mortuary services.

Proper implementation of the Medical Waste Management Plan will significantly contribute toward the delivery of quality healthcare services while safeguarding public health and the environment. The plan is also expected to support the achievement of the Sustainable Development Goals (SDGs), particularly:

SDG 3: Good Health and Well-Being

SDG 6: Clean Water and Sanitation

SDG 12: Responsible Consumption and Production

SDG 13: Climate Action

The plan recognizes that all efforts aimed at improving healthcare service delivery must also prioritize environmental protection and occupational safety. Effective healthcare waste management is therefore critical in preventing the spread of communicable diseases, minimizing occupational injuries, controlling environmental pollution, and reducing public exposure to hazardous healthcare waste.

Implementation of the Medical Waste Management Plan requires collaboration among various stakeholders including:

- National Government ministries and regulatory agencies
- County Government health departments
- Hospital management and healthcare workers
- Private sector waste management service providers
- Development partners and donor agencies
- Professional councils and healthcare associations
- Community representatives and non-governmental organizations

Harmonization and enforcement of standardized healthcare waste management systems across all departments within the Level 6 Hospital is essential for effective implementation of the plan. The support provided by development partners, including the African Development Bank, together with other international agencies such as the World Health Organization and the United Nations Development Programme, plays a critical role in providing financial and technical assistance necessary for strengthening healthcare waste management infrastructure and capacity.

For many years, healthcare waste management has received inadequate attention despite being an important component of infection prevention and control, occupational health and safety, environmental conservation, and sustainable healthcare delivery. This Medical Waste Management Plan therefore seeks to establish effective mitigation measures to reduce risks associated with hazardous healthcare waste and ensure compliance with applicable environmental and public health standards throughout the operation of the Level 6 Hospital.

2. Roles and Responsibilities

Effective implementation of the Medical Waste Management Plan in a Level 6 Hospital requires a coordinated approach involving hospital management, healthcare workers, waste handlers, department heads, and external service providers. Clearly defined roles and responsibilities ensure accountability, compliance with legal requirements, and efficient management of healthcare waste throughout its lifecycle.

21.20 2.1 Hospital Management

The hospital management bears the overall responsibility for implementation and supervision of the Medical Waste Management Plan within the Level 6 Hospital. Due to the large scale and specialized nature of services offered at Level 6 facilities, management must ensure adequate institutional, technical, and financial support for healthcare waste management activities.

The responsibilities of hospital management shall include:

- Providing adequate financial and material resources for healthcare waste management activities.
- Establishing a Healthcare Waste Management Committee to oversee implementation of the waste management plan.
- Ensuring compliance with national environmental laws, public health regulations, occupational safety standards, and hospital policies.
- Procuring waste segregation containers, safety boxes, PPE, transportation trolleys, treatment technologies, and emergency response equipment.
- Supporting continuous staff training and awareness programs on healthcare waste management and infection prevention.
- Facilitating periodic waste audits, inspections, and monitoring activities.
- Ensuring availability of licensed waste treatment and disposal facilities or contractors where applicable.
- Promoting environmentally sustainable waste management practices through adoption of Best Available Technologies (BAT) and Best Environmental Practices (BEP).

21.21 2.2 Waste Management Officer

The WMO will be responsible for the day-to-day operation and monitoring of the waste management system. It is therefore essential that he or she has direct access to all members of staff. He or she should be directly responsible to the County Public Health officer. He or she is responsible for the county hospitals waste management officers stationed in health facilities and work in close liaison with other heads of preventive and promotive health services at the county, notable is the sanitation officer, food quality and control officers

Specific responsibilities include:

- Supervising waste segregation, collection, transportation, treatment, and disposal activities.
- Conducting routine inspections and audits in all hospital departments.
- Monitoring waste handling practices and ensuring compliance with color-coding systems.
- Maintaining records on waste generation, transportation, treatment, and disposal.
- Coordinating waste minimization and recycling programs.
- Investigating waste-related incidents, accidents, and spillages.

- Ensuring waste storage areas remain clean, secure, and compliant with safety standards.
- Liaising with environmental agencies, county authorities, and licensed waste contractors.
- Maintain documentation of all reported cases of harm and complains and redress mechanisms both by health workforce and community.

21.22 2.3 Department Heads

Department heads are responsible for ensuring proper implementation of healthcare waste management procedures within their respective units such as laboratories, theatres, wards, radiology departments, oncology units, pharmacies, and intensive care units.

Their responsibilities include:

- Supervising healthcare workers to ensure proper waste segregation at source.
- Monitoring compliance with waste management procedures and PPE use.
- Ensuring waste containers are available and properly labeled within departments.
- Reporting shortages, incidents, or equipment failures related to waste management.
- Supporting departmental staff training and awareness initiatives.

21.23 2.4 Healthcare Workers

Healthcare workers generate most of the healthcare waste within the Level 6 Hospital and therefore play a critical role in ensuring proper waste management practices.

Their responsibilities include:

- Segregating waste correctly at the point of generation.
- Placing waste in designated color-coded containers.
- Using appropriate PPE during handling of infectious materials.
- Minimizing waste generation where possible.
- Reporting needle-stick injuries, spillages, and unsafe practices immediately.
- Adhering to infection prevention and occupational safety procedures.

21.24 2.5 Cleaning Staff and Waste Handlers

Cleaning personnel and waste handlers are directly involved in collection, transportation, and temporary storage of healthcare waste and are therefore highly exposed to occupational risks.

Their responsibilities include:

- Collecting and transporting waste safely using designated equipment.
- Wearing appropriate PPE at all times during waste handling.
- Cleaning and disinfecting waste containers, trolleys, and storage areas regularly.
- Ensuring waste bags are sealed properly before transportation.
- Reporting damaged containers, spillages, or unsafe conditions immediately.
- Maintaining cleanliness and hygiene of waste storage facilities

3 Waste Segregation Procedure

Waste segregation is one of the most important components of healthcare waste management in a Level 6 Hospital. Proper segregation minimizes environmental contamination, reduces treatment costs, prevents infection transmission, and enhances occupational safety.

Healthcare waste shall be segregated at the point of generation using standardized color-coded containers in accordance with national healthcare waste management guidelines.

Waste Segregation Categories

Waste type	Container Colour
General waste	Black
Infectious waste	Yellow
Sharp waste	Yellow Safety box
Pharmaceutical waste	Brown
Chemical Waste	Brown
Radioactive waste	Specialized lead-lined containers

21.25 Segregation Requirements

The following procedures shall be followed:

- Waste bins shall be clearly labeled and strategically placed in all departments.
- Sharps containers shall be puncture-proof, leak-proof, and tamper-resistant.
- Waste containers shall not be filled beyond three-quarters capacity to prevent overflow and injuries.
- Infectious and non-infectious wastes shall never be mixed after segregation.
- Posters and signage illustrating segregation procedures shall be displayed in all waste generation areas.
- Segregation compliance shall be monitored routinely through inspections and audits.

4. Waste Collection and Internal Transportation

Collection Frequency

Waste collection schedules shall be designed to prevent accumulation and reduce infection risks:

- xix. Infectious waste shall be collected daily or more frequently where volumes are high.
- xx. General waste shall be collected at least once daily.
- xxi. Sharps containers shall be removed immediately once they reach three-quarters capacity.
- xxii. High-risk departments such as theatres, laboratories, and isolation wards may require more frequent collection schedules.

Collection Procedure

Waste handlers shall:

- 22.0 Wear appropriate PPE including heavy-duty gloves, masks, aprons, and safety boots.
- 23.0 Seal waste bags securely before removal from departments.
- 24.0 Use designated color-coded trolleys or carts for transportation.
- 25.0 Follow designated collection schedules and routes.
- 26.0 Avoid manual compression of waste bags.

Internal Transportation Rules

To minimize risks during internal transportation:

- xvi. Waste shall never be dragged along floors.
- xvii. Separate routes shall be designated for waste transportation where possible.
- xviii. Waste trolleys shall be cleaned and disinfected regularly.
- xix. Manual handling shall be minimized through use of wheeled transport systems.
- xx. Waste transportation shall avoid patient care and food preparation areas where possible.

26.1 4.1 Temporary Waste Storage

Healthcare waste awaiting treatment or disposal shall be stored in secure temporary storage areas designed to minimize environmental and public health risks.

Requirements for Waste Storage Areas

Storage facilities shall:

- xvi. Be secure and access-controlled.
- xvii. Be well ventilated and easy to clean.
- xviii. Have impermeable floors with proper drainage systems.
- xix. Be protected from pests, rodents, rainwater, and scavengers.
- xx. Be clearly labeled with warning signs and hazard symbols.
- xxi. Have adequate lighting and water supply for cleaning purposes.

Storage Duration

- xx. Infectious waste shall not be stored beyond 24–48 hours depending on climatic conditions.
- xxi. Pathological waste shall be refrigerated if immediate treatment or disposal is not possible.
- xxii. Radioactive waste shall be stored according to radiation safety requirements.

26.2 4.2 Waste Treatment and Disposal

Healthcare waste generated within the Level 6 Hospital shall undergo treatment and disposal

using environmentally sound and legally approved methods.

Infectious Waste

Treatment methods may include:

- ✓ Autoclaving for sterilization of infectious materials.
- ✓ Microwave disinfection technologies where available.

Sharps Waste

Sharps shall:

- ✓ Be collected in safety boxes immediately after use.
- ✓ Undergo treatment through encapsulation.
- ✓ Never be manually sorted or reused.

Pharmaceutical Waste

Pharmaceutical waste management shall include:

- ✓ Returning expired medicines to suppliers where applicable.
- ✓ Proper documentation and inventory control.

Chemical Waste

Chemical waste shall:

- xiv. Be neutralized where appropriate.
- xv. Be handled according to Material Safety Data Sheet (MSDS) requirements.

Pathological Waste

Pathological waste shall be disposed through:

- xiv. High-temperature Microwave
- xv. Approved pathological burial methods where applicable.

General Waste

General waste shall:

- xiii. Be recycled where feasible.
- xiv. Be transported to licensed municipal disposal sites.

Radioactive Waste

Radioactive waste shall:

- xxix. Be managed in accordance with national radiation protection regulations.
- xxx. Be stored safely to allow radioactive decay where necessary.
- xxxi. Be handled only by authorized personnel.

5 Waste Minimization Measures

The Level 6 Hospital shall implement waste minimization strategies aimed at reducing waste generation and environmental pollution.

Measures shall include:

- xxii. Rational procurement and inventory management practices.
- xxiii. Use of reusable materials where safe and appropriate.
- xxiv. Digitalization of records to reduce paper waste.
- xxv. Recycling programs for plastics, paper, and cardboard.
- xxvi. Reduction of pharmaceutical wastage through stock monitoring systems.

Occupational Health and Safety Measures

Healthcare waste management activities expose workers to biological, chemical, and physical hazards. Appropriate occupational health and safety measures are therefore essential.

PPE Requirements

Personnel handling healthcare waste shall use:

- xx. Heavy-duty gloves
- xxi. Face masks or respirators
- xxii. Protective aprons or gowns
- xxiii. Safety boots
- xxiv. Eye protection where necessary

Hygiene Practices

The hospital shall enforce:

- xi. Hand washing after waste handling.
- xii. Prohibition of eating or drinking in waste handling areas.
- xiii. Vaccination of waste handlers against Hepatitis B and Tetanus.

Incident Management

- xvii. Needle-stick injuries shall be reported immediately.
- xviii. Spill response procedures shall be implemented promptly.
- xix. Exposure incidents shall be documented and investigated thoroughly.

26.3 5.1 Spill Management Procedure

Infectious Waste Spills

The following procedures shall be followed:

- xiv. Restrict access to the spill area.
- xv. Wear appropriate PPE.
- xvi. Cover spill using absorbent materials.
- xvii. Apply approved disinfectant solution.
- xviii. Collect contaminated materials using suitable tools.
- xix. Dispose waste appropriately.
- xx. Clean and disinfect the affected area thoroughly.

Chemical Spills

Chemical spill management shall include:

Following MSDS guidance.

- Using chemical spill kits.
- Evacuating affected areas where necessary.

- Reporting major spills immediately.

26.4 5.2 Training and Awareness

Continuous staff training is essential for effective implementation of the Medical Waste Management Plan.

Training programs shall cover:

- Waste segregation procedures
- Infection prevention and control
- Safe waste handling practices
- Emergency response procedures
- Proper use of PPE
- Spill management procedures

Training shall be conducted:

- During staff induction
- Periodically (at least annually)
- Whenever procedures or regulations are updated

Monitoring and Record Keeping

The hospital shall maintain comprehensive records including:

- xi. Waste quantities generated
- xii. Transportation manifests
- xiii. Waste treatment certificates
- xiv. Incident and accident reports
- xv. Staff training attendance records
- xvi. Waste inspection and audit reports

Regular monitoring activities shall include:

Segregation compliance inspections

- xix. Storage facility inspections
- xx. Contractor performance evaluations
- xxi. Environmental monitoring where necessary

Emergency Preparedness

The Level 6 Hospital shall establish emergency preparedness measures for healthcare waste-related emergencies.

Potential emergencies include:

- Fire outbreaks at waste storage facilities
- Chemical spills
- Infectious disease outbreaks
- Radiation incidents
- Waste transportation accidents

Emergency response equipment shall include:

- xxvi. Fire extinguishers
- xxvii. Spill response kits
- xxviii. First aid kits
- xxix. Emergency showers and eyewash stations
- xxx. Emergency communication systems

Regular emergency drills and simulations shall be conducted to enhance preparedness and response capacity among staff and emergency response teams.

6. Environmental and Regulatory Compliance

The Level 6 Hospital shall ensure that all healthcare waste management activities are undertaken in full compliance with applicable national environmental, public health, occupational safety, and healthcare regulations. Compliance with legal and regulatory requirements is essential in minimizing environmental pollution, preventing disease transmission, protecting healthcare workers and the public, and ensuring sustainable healthcare waste management practices.

Due to the large volume and hazardous nature of healthcare waste generated in a Level 6 Hospital, strict adherence to national laws, standards, and guidelines governing healthcare waste management shall be maintained throughout waste generation, segregation, storage, transportation, treatment, and final disposal processes.

The hospital shall establish an internal compliance monitoring system to ensure that all healthcare waste management operations conform to legal obligations and recognized best environmental practices.

26.5 Compliance with National Environment Management Authority (NEMA) Regulations Waste Management 2024

The hospital shall comply with all environmental regulations and guidelines issued by the National Environment Management Authority relating to healthcare waste management and environmental protection.

Compliance requirements shall include:

- Obtaining all necessary environmental licenses, permits, and approvals required for waste treatment, transportation, storage, and disposal activities.
- Ensuring proper segregation, collection, transportation, treatment, and disposal of healthcare waste in accordance with approved environmental standards.
- Conducting Environmental Impact Assessments (EIA) and environmental audits where required for waste treatment facilities such as incinerators and autoclaves.
- Preventing environmental contamination of air, soil, and water resources arising from healthcare waste handling activities.
- Ensuring emissions from waste treatment technologies comply with prescribed air quality and emission standards.
- Managing hazardous waste through licensed waste handlers and disposal facilities approved by NEMA.
- Maintaining records of waste generation, transportation manifests, treatment certificates, and disposal records for regulatory review.
- Implementing pollution prevention and waste minimization strategies to reduce environmental impacts.
- Reporting environmental incidents, spillages, or accidents to the relevant authorities where required.

26.6 Compliance with NEMA EIA License Conditions (NEMA/ENVIS/SR/LIC-03354)

The South Rift Level VI Teaching and Referral Hospital (SRTRH) is bound by the conditions of EIA License NEMA/ENVIS/SR/LIC-03354 issued by the National Environment Management Authority for the construction of the hospital on Plot L.R. No. Londiani/Township/186,

Kedowa/Kimugul Ward, Kipkelion East Sub-County, Kericho County. Key waste management conditions imposed by the license include:

Installation of a Class 2A incinerator for the disposal of medical waste generated within the hospital premises.

The incinerator chimney must be a minimum of 10 metres above ground level and must clear the highest point of any surrounding building by at least 3 metres, to ensure adequate dispersion of emissions and compliance with air quality standards.

All healthcare waste management activities must be carried out in compliance with the Environmental Management and Coordination (Waste Management) Regulations 2006, the National Environmental Management Authority (NEMA) Guidelines, and any other applicable national standards.

Waste management records, treatment certificates, and disposal manifests must be maintained and made available for inspection by NEMA or the Kericho County Government upon request.

Coordination with Kericho County Public Health Department and the NEMA Western Region office for periodic compliance inspections and environmental audits.

26.7 Compliance with Directorate of Occupational Safety and Health Services (DOSHS) Requirements 2007

The hospital shall comply with occupational safety and health requirements established by the Directorate of Occupational Safety and Health Services to protect healthcare workers, waste handlers, contractors, patients, and visitors from occupational hazards associated with healthcare waste management.

Occupational safety compliance measures shall include:

- 8 Provision and mandatory use of appropriate Personal Protective Equipment (PPE) for all personnel involved in waste handling activities.
- 9 Conducting occupational risk assessments for waste handling operations and treatment facilities.
- 10 Ensuring safe handling, transportation, storage, and treatment of hazardous healthcare waste.
- 11 Establishing procedures for reporting and management of needle-stick injuries, chemical exposure, infections, burns, and other occupational incidents.
- 12 Providing vaccination programs for healthcare workers and waste handlers against Hepatitis B, Tetanus, and other occupationally related infections.
- 13 Conducting regular staff training on occupational health and safety procedures.
- 14 Installing emergency response equipment including first aid kits, fire extinguishers, eyewash stations, and spill response kits.
- 15 Maintaining safe working conditions within waste storage areas, treatment facilities, and transportation systems.
- 16 Ensuring proper ventilation, lighting, signage, and restricted access in hazardous waste handling areas.
- 17 Conducting routine workplace inspections and safety audits to identify and address potential hazards.

The hospital shall also establish an Occupational Health and Safety Committee responsible for monitoring compliance and promoting a culture of safety within the facility.

26.8 Compliance with the Public Health Act

The Level 6 Hospital shall comply with the provisions of the Public Health Act relating to sanitation, infection prevention, disease control, and protection of public health.

Public health compliance measures shall include:

- Maintaining hygienic conditions in all healthcare waste generation, storage, transportation, and treatment areas.
- Preventing accumulation of waste that may attract disease vectors such as rodents, insects, and scavengers.
- Ensuring infectious waste is handled and disposed of safely to prevent spread of communicable diseases.
- Maintaining proper drainage and wastewater management systems within waste handling areas.
- Implementing infection prevention and control measures in accordance with national healthcare guidelines.
- Ensuring healthcare waste does not contaminate food preparation areas, water sources, public spaces, or patient care environments.
- Conducting regular cleaning and disinfection of waste containers, transportation trolleys, and storage facilities.
- Monitoring healthcare waste management practices to prevent public nuisance and environmental health risks.
- Supporting disease surveillance and emergency response measures during outbreaks and public health emergencies.

The hospital shall work closely with county public health officers to ensure regular inspections and compliance with public health requirements.

The hospital shall further ensure that all outsourced waste management contractors possess valid NEMA licenses and comply with national environmental regulations.

26.9 Compliance with the Environmental Management and Coordination Act (EMCA) 2003

The hospital shall comply with the provisions of the Environmental Management and Coordination Act, which serves as the principal legal framework for environmental management in Kenya.

Compliance under EMCA shall include:

- Integration of environmental protection measures into all healthcare waste management activities.
- Ensuring environmentally sound treatment and disposal of hazardous healthcare waste.
- Prevention and control of pollution arising from waste treatment technologies such as incinerators.
- Proper management of wastewater, emissions, ash residues, and chemical waste.
- Conducting environmental audits and submitting reports as required by law.
- Promoting sustainable resource use and waste minimization practices.
- Ensuring safe disposal of waste without causing adverse environmental impacts.
- Adhering to prescribed standards for noise, air quality, water quality, and hazardous waste management.
- Implementing corrective measures for any identified environmental non-compliance

issues.

The hospital shall further establish internal environmental monitoring programs to assess compliance levels and identify opportunities for continuous improvement in healthcare waste management practices.

Institutional Compliance and Continuous Improvement

To strengthen regulatory compliance, the Level 6 Hospital shall:

- Develop and implement Standard Operating Procedures (SOPs) for healthcare waste management.
- Conduct regular internal compliance audits and inspections.
- Maintain updated legal and regulatory registers.
- Appoint designated officers responsible for environmental and occupational safety compliance.
- Facilitate continuous staff training on legal and regulatory obligations.
- Collaborate with regulatory agencies, county governments, and development partners.
- Allocate adequate financial and technical resources for compliance activities.
- Review and update the Medical Waste Management Plan periodically to align with emerging regulations, technologies, and best practices.

Through effective environmental and regulatory compliance, the Level 6 Hospital will promote safe healthcare waste management practices, reduce environmental and public health risks, strengthen occupational safety, and ensure sustainable healthcare service delivery.

7. MONITORING AND EVALUATION

The hospital shall establish a monitoring and evaluation framework to assess implementation of the Medical Waste Management Plan. Periodic audits and reviews shall be conducted to improve healthcare waste management performance. Monitoring is the process of regularly reviewing achievements towards the goal. In order to carry out monitoring and evaluation activities, critical issues are; the goals, objectives, targets, inputs, outputs and indicators must be clearly defined. An effective monitoring and evaluation system needs monitoring structures with appropriate staff, a good information network system, and appropriate reporting formats/ registers and procedures. The HCW expected to be delivered at the various levels of services provision provide the bench marks of expected outputs. Fundamentally, monitoring should be established from the beginning as part of the planned activities. Monitoring involves comparing what is actually happening with what was planned. On the other hand, evaluation asks whether we succeeded or failed to meet stated goals, whether we used resources appropriately, and whether our actions will have long-term results. The aspects to be monitored and evaluated on health care waste management should be identified based on the injection safety and medical waste management policy guidelines and then National Environment Management Authority (NEMA) standards. Information on key aspects of the implementation process of the action plan of HCWM. This process shall provide the understanding of how activities are progressing. Monitoring should provide information for incremental planning and for regular feedback about the progress of the project to stakeholders, implementers and the health facilities benefiting from the Action Plan. On the other hand, process evaluation is the periodic assessment of the value of what a project or programme has achieved in relation to planned activities and overall objectives and can help in providing solutions that can then be implemented. Process evaluations for the waste management should be conducted at strategic intervals in planned five of the project lifecycles. Process monitoring and evaluation therefore are often seen as the most important type of monitoring and evaluation activity for project managers, as it helps to identify successful aspects that can be continued or expanded as well as deficiencies that can be reworked and the means of addressing them. The M & E framework encompassing all required tools for HCWM in level 6 hospital should therefore be developed and disseminated to all counties and Health records Information Offices (HRIOS).

In this context therefore, it is important for the National Steering Committee for HCWM to;

- 8 Develop monitoring and evaluation plan and tools that can be integrated into existing M & E systems.
 - 9 Determine indicators of achievement.
 - 10 Develop a tool for auditing.
 - 11 Develop an oversight plan in a devolved system of governance.
 - 12 Develop a simple reporting format on what to monitor in order to create a feedback process.
- Determine and execute a plan for follow-up assessment to measure improvements against earlier assessments. Stakeholder participation in the analysis and interpretation of findings from process evaluation, including the formulation of conclusions and linkages with future plans, is critical to ensure that results become accepted and used.

When the entire required framework will be in place, it will be critical to ensure that all the indicators be integrated into the National Health Management Information System (HMIS). This

therefore requires that the Unit responsible for HCWM both at the National and County levels coordinates closely with HMIS.

26.10 7.1 Operational Research

Operational research is applying analytical methods to researches and surveys in health care waste and other wastes in order to inform decision makers in HCWM. This is very critical as it helps inform policy and practice in HCWM. It is therefore recommended that the National Steering Committee on HCWM identifies operational research gaps and encourages research and training institutions to prioritize. Critical also will be to mobilize resources both from public and [private stakeholders for purposive researches and surveys of key areas across the waste management stream.

Research areas will include;

- 8 Air emissions from incinerators to surrounding people and environment
- 9 Effect of bottom ash from incineration to the surrounding environment
- 10 Non burn technologies effectiveness,
- 11 Rapid assessment on gaps in HCWM at Hospital.

8.CONCLUSION

The Medical Waste Management Plan provides a comprehensive framework for the safe and environmentally sound management of healthcare waste generated by the proposed Level 6 Hospital funded by the African Development Bank.

Proper implementation of this plan will minimize environmental pollution, reduce occupational and public health risks, strengthen infection prevention and control measures, and ensure compliance with national and international healthcare waste management standards.

The hospital management, healthcare workers, waste handlers, contractors, and regulatory agencies shall work collaboratively to ensure effective implementation and continuous improvement of healthcare waste management practices within the facility.

REFERENCES

1. Environmental Management and Coordination (waste Management) Regulations) 2006.
2. Ministry of Health Kenya, 2007, National Policy on Injection Safety and Health Care Waste Management.
3. MoH, 2001, Kenya National Guidelines on Safe Disposal of Pharmaceutical Waste.
4. The Public Health Act, Chapter 242 Laws of Kenya.
5. MoH, Kenya, 2007, National Standards and Guidelines on Injection safety and Medical Waste management.
6. Health Care Without-Harm, 2001, Non-Incineration Medical Waste
7. Treatment Technologies, A Resource for Hospital Administrators, facility managers, Health Care Professionals, Environmental Advocates, and Community Members.
8. The Radiation Protection Act, Chapter 243 Laws of Kenya.

9. National Guidelines for Safe Management of Health Care Waste, 2011, MOH (K)
10. National Health Care Waste Management Strategic Plan (2015 – 2020), MOH (K)
11. Health Care Waste Management Training Guide, 2015, MOH (K)
12. National Health Care Waste Management Plan (2008 – 2012), MOH (K)
13. National Infection Prevention and Control Guidelines for Health Care Services in Kenya, 2014, MOH (K)
14. MoH, 2001, Kenya National Guidelines on Safe Disposal of Pharmaceutical Waste.
15. Health Care Without-Harm, 2001, Non-Incineration Medical Waste. Treatment Technologies, A Resource for Hospital Administrators, Facility managers, Health Care Professionals, Environmental Advocates, and Community Members.

APPENDIX 11: REVIEW COMMENTS RESOLUTION LOG

This log records the comments received on the draft Environmental and Social Impact Assessment, the response made, the action taken and the location of the revision in this report. It is self-contained: no cross-reference to a separate document is required to establish how any comment was resolved.

Part A — Comments on the draft ESIA

No.	Comment received	Response and action taken	Location
A1	The Executive Summary should carry the project description, associated facilities, key significant impacts, public participation and stakeholder engagement, key mitigation commitments and consultation outcomes.	The Executive Summary was rebuilt to carry each of these, together with a summary of the Environmental and Social Management Plan and the consultation outcomes.	Executive Summary
A2	The impact significance methodology was not stated.	The magnitude, duration, extent, reversibility and likelihood framework is set out with its scoring bands and applied consistently to every rated impact.	Chapter 6
A3	Cumulative impact assessment was absent.	A cumulative impacts assessment has been added, addressing the concurrent development of the companion facility at Bungoma and other developments within the area of influence.	Chapter 6
A4	Institutional capacity and roles were not assessed.	An institutional capacity assessment has been added, setting out roles, capacity findings and strengthening measures for each institution.	Chapter 3
A5	References and the certification page were incomplete.	Both have been completed; the certification page names the Lead Expert and the Associate Expert with their NEMA registrations.	Document Authentication; References
A6	Bed capacity required a single stated design basis.	A commissioned complement of 1,000 beds is used throughout the ESIA, ESMP, MWMP, SEP and EPRP, sourced to the approved bed schedule and the Clinical Service Plan. Waste quantities are derived from WHO unit rates applied to that figure.	Executive Summary; Appendix 10
A7	Outstanding baseline surveys required an explicit position.	The traffic, biodiversity and household socio-economic studies are stated as deferred to detailed design, each with a defined scope, a named responsible party and defined timing, and each carried as a line item in the ESMMP.	Baseline chapter — “Baseline Studies Deferred to Detailed Design”
A8	Grievance contacts and the redress mechanism required completion.	The designated grievance office, named officer, telephone, email, physical address, hours, anonymous and confidential SEA/SH channels, acknowledgement and resolution timeframes and the right of appeal are set out in full.	Appendix 5; Appendix 8
A9	Gender aspects required strengthening.	Gender and vulnerable-group provisions are carried through the baseline, the impact assessment, the ESMP and the Stakeholder Engagement Plan, including provisions on sexual exploitation, abuse and harassment.	Chapters 4 and 6; Appendix 8
A10	The consultant CVs referenced in the appendix were not attached.	The curricula vitae, NEMA certificates of registration and practising licences of all ten experts are reproduced in full — 84 pages. The study team table was restated to agree with the certificates.	Appendix 3

Part B — Comments on the Stakeholder Engagement Plan

No.	Comment received	Response and action taken
B1	Boilerplate text from an unrelated project was present.	All boilerplate removed and the text rewritten to this project.
B2	Incorrect safeguard references were cited.	References corrected to the African Development Bank Integrated Safeguards System (2023) Operational Safeguards.
B3	A duplicated paragraph appeared in the engagement section.	The duplication removed.
B4	The disclosure record was incomplete.	The disclosure commitment now states the date and the channels through which the Plan is disclosed.
B5	Grievance intake channels and response times were not stated.	Channels, acknowledgement and resolution timeframes and the escalation route are set out in full.

Part C — NEMA Terms of Reference Approval conditions

No.	Condition	How it is discharged	Location
C1	Inclusive and detailed stakeholder engagement and public participation with Project Affected Persons under Regulation 17, with evidence of analysis and incorporation of public comments in the final report.	A public participation meeting was convened by notice under Regulation 17 and held on 16 April 2026 at the proposed project site. The minutes, the signed attendance register and photographs of the site and the meeting are reproduced, and the issues raised are analysed and carried into the impact assessment and the ESMP.	Appendix 1; Appendix 2
C2	Submission of a duly signed ESIA study report prepared by a team of experts.	The report carries the Document Authentication and Certification page and the full study team with NEMA registrations and practising licences.	Document Authentication; Appendix 3

Part D — Status

All comments recorded above are closed. No comment received on the draft remains outstanding at the date of this revision.