THE REPUBLIC OF UGANDA

MINISTRY OF WATER AND ENVIRONMENT

NATIONAL GUIDELINES FOR STRENGTHENING COMPLIANCE WITH ENVIRONMENTAL SAFEGUARD REQUIREMENTS IN DEVELOPMENT PROJECTS.

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MINISTRY OF WATER AND ENVIRONMENT
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TABLE OF CONTENTS

FOREWORD

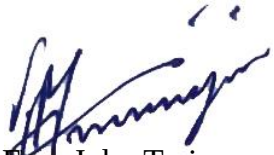
The Government of Uganda places great emphasis on development and acknowledges the importance of infrastructure development for the improvement of service delivery for the people. Despite efforts to integrate environment safeguard requirements in development projects, degradation of the environment remains a major threat to Uganda's economic and sustainable development path. Whereas developments/investments are important to the development of the country, unsustainable developments pose risks to the environment and these risks have to be addressed by the Ministries, Agencies, Local Governments, and private sector developers during the project's lifecycle.

Investments that fail to acknowledge the importance of environmental management can cause significant damage to not only the communities at that location but also the surrounding ecosystems. These negative impacts manifest in form of air pollution, contamination of waters bodies and land. This in turn cause damage to ecosystems such as forests, rivers, lakes, streams, wetlands and wildlife among others resulting in associated economic losses.

This document is designed to provide Ministries, Agencies, Local Governments, and private sector developers and contractors with guidelines on how to implement sound practices that minimize negative environmental impacts, eliminate health risks and a nuisance to communities where such investments are located.

These guidelines provide pro-active approaches to development and as such, users and their prospective contractors involved in the development of infrastructure and provision of services are encouraged to use these guidelines carefully.

I urge all sectors, Ministries, Agencies, Local Governments and private sector and social institutions to embrace the entire process of mainstreaming and operationalize the guidelines. I look forward to effective integration of environment and climate change issues into planning, budgeting and decision making at all levels



Eng. John Twinomujuni

For: PERMANENT SECRETARY

ACRONYMS/ABBREVIATIONS

ESMF	_	Environmental and Social Management Framework
ESS	_	Environmental and Social Safeguard
ESIA	_	Environment and Social Impact Assessment
ESHS	_	Environment Social, Health and Safety
GHGs	_	Greenhouse Gas Emissions
MAAIF	_	Ministry of Agriculture, Animal Industry and Fisheries
MWE	_	Ministry of Water and Environment
MEMD	_	Ministry of Energy and Mineral Development,
MFPED	_	Ministry of Finance, Planning and Economic Development
NWSC	_	National Water and Sewerage Corporation
NDPIII	_	National Development Plan III
NEMA	_	National Environment Management Authority
NFA	_	National Forestry Authority
TPM	_	Top Policy Management
UNMA	_	Uganda National Meteorological Authority
UGIFT	_	Uganda Inter-Governmental Fiscal Transfers

EXECUTIVE SUMMARY

The government of Uganda in addressing its development challenges, places great importance on environmental management as evidenced in the numerous policies and laws instituted to guide the sustainable use of natural resources. Important of these is the National Environment Management Policy under which environmental management issues are based with further guidance from other legal frameworks including the National Environment Act 2019, National Environment (Environmental and Social Assessment) Regulations, 2020 developed by the National Environment Management Authority (NEMA) and International Financial Institutions (IFI).

The purpose of these Guidelines is to guide Ministries, Agencies, Local Governments, and private sector developers and contractors (detailed in 1.4) to effectively address the environmental/climate change and social issues for all projects and programs to minimize negative impacts on the environment and beneficiary communities during projects/programs implementation. These *Guidelines* serve as an administrative directive to guide users in: integration of environmental and climate change concerns in all stages of project development and at all levels of government with the full participation of all relevant stakeholders as means of minimizing environmental and social risks and impacts; specifying appropriate roles and responsibilities, and outline the necessary reporting procedures for managing and monitoring environmental concerns including compliance with relevant laws; and enhancing capacity of users to mainstream environment and climate change concerns across all sectors. Application of the guidelines will require tailoring them to particular site conditions and making adjustments if the measures listed are unsuitable to the site.

The guidelines are in line with the legal provisions in the National Environment Act, 2019, which requires that before the commencement of construction works/project implementation, different sectors are required to adhere with the following environmental and social safeguard requirements:- conduct Environment, Social and Climate Change Screening; prepare the necessary Environmental Safeguards documents/ instruments (such as Project Briefs, Environment and Social Management Plans, Environment and Social Impact Assessments) based on the results of the Screening exercise and commensurate with the potential risks and impacts.

Thereafter integrate Environment, Social, Health and Safety (ESHS) requirements into the designs, Bills of Quantities (BoQs), bidding and contract documents where applicable; implement the mitigations measures in the instruments. Ensure proper management of wastes;

conservation of biodiversity and cultural sites; storm water management; site stabilization and erosion control; management of chemicals; water source protection; climate change mitigation and adaptation; grievance redress; social health and safety and stakeholder engagement. Conduct monitoring and reporting during project implementation and project completion and closure. Implement decommissioning and restoration plans for projects and associated auxiliary structures (stockpiles, borrow pits, quarries and camps). Ensure continuous monitoring during the operation phase of the project for sustainability.

SECTION 1: INTRODUCTION

1.1 Background to the Environmental Guidelines

The government of Uganda in addressing its development challenges, places great importance on environmental management as evidenced in the numerous policies and laws instituted to guide the sustainable use of natural resources. Important of these is the National Environment Management Policy under which environmental management issues are based with further guidance from other legal frameworks including the National Environment Act 2019, National Environment (Environmental and Social Assessment) Regulations, 2020. Other key existing laws and policies relating to environmental management are prescribed in the Uganda Constitution (1995), the Resettlement Policy, National Climate Change Policy (2015), National Gender Policy (2007), Equal opportunities Policy (2008), National Land Policy (2013), Water Policy (1997) among others.

Important to note is the supplementary guidelines from donor-specific policies such as the World Bank Environment and Social framework, and other development partners and International Financing Institutions Environment and Social policies and Standards. These environmental guidelines recognize the numerous laws and policies and have been developed to give guidance on how to plan and implement investments/projects by government, private and development partners while putting under consideration the environment and social safeguards.

The Guidelines also recognize the social, health and safety concerns of development projects and these are addressed by the Ministry of Gender Labor and Social development Guidelines on Social, Health and safety Safeguards, 2020 and other related laws.

1.2 Purpose of the Guidelines

The purpose of these *Guidelines* is to guide users (detailed in 1.4) to effectively address the environmental/climate change and social issues for all projects and programs to minimize negative impacts on the environment and beneficiary communities during projects/programs implementation.

1.3 Objectives of the Guidelines

These *Guidelines* serve as an administrative directive to guide environmental management by developers as they carry out development projects. Specifically, the Guidelines aim at the following;

1. To guide integration of environmental and climate change concerns in all stages of project development and at all levels of government with the full participation of all relevant stakeholders as means of minimizing environmental and social risks and impacts.
2. To specify appropriate roles and responsibilities, and outline the necessary reporting procedures for managing and monitoring environmental concerns including compliance with relevant laws.
3. To enhance capacity of users to mainstream environment and climate change concerns across all sectors.

The Guidelines provide a framework within which due diligence obligations can be met and environmental damage can be avoided.

The Guidelines are not prescriptive or detailed. Their application will require tailoring them to particular site conditions and making adjustments if the measures listed are inappropriate to the site.

The guidelines shall be used in line with other applicable guidelines such as National Climate change mainstreaming guidelines, Social Health and Safety guidelines among others.

1.4 Users of the Guidelines

The users of the guidelines shall include but not limited to the following:

i Ministries, Agencies and Local Governments;
ii Private sector;
iii Contractors;
iv Development partners;
v Local Community;
vi Policy-makers;
vii Civil Society Organizations (NGOs, CBOs, FBOs)

SECTION 2: POLICIES, LEGAL AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT IN UGANDA

2.1 Policy and Legal Framework

These Guidelines are anchored in the various laws and policies that promote environmental management as summarized in the table below.

2.1.1 Policy Framework for Environmental Management.

Policy	Description
The National Environment Policy – 1994	The policy seeks to enhance the health and quality of life of all people in Uganda and promote long-term, sustainable socio-economic development through sound environmental and natural resource management and use
The National Water Policy – 1999	The policy provides guidance on development and management of the water resources of Uganda in an integrated and sustainable manner, so as to secure and provide water of adequate quantity and quality for all social and economic needs, with full participation of all stakeholders and mindful of the needs of future generations
National Policy for the Conservation and Management of Wetlands resources – 1995	The policy provides for, among others, important policy standards that Environmental Impact Assessment, and audit procedures is a requirement for all activities to be carried out that will have an impact on wetlands. Furthermore, the policy aims at maintaining an optimum diversity of uses and users and consideration for other stakeholders when using a wetland
National Forestry Policy – 2014	The policy stresses the ecological and socio-economic importance of protecting the country's forest resources. Implementation of the policy is the responsibility of the National Forestry Authority (NFA), which also provides guidelines for management of forest reserves, community forests, and private forests. The forest policy entails provisions for safeguards and conservation of forests so as to ensure sufficient supplies of forest products, protect water resources, soils, fauna, and flora
National Climate Change Policy – 2014	The goal of the policy is to ensure a harmonised and coordinated approach towards a climate-resilient and low-carbon development path for sustainable development in Uganda. The overarching objective of the policy is to ensure that all stakeholders address climate change impacts and their causes through appropriate measures, while promoting sustainable development and a green economy
National Gender Policy – 2007	The overall goal of this policy is to mainstream gender issues in the national development process in order to improve the social, legal/civic, political, economic and cultural conditions of the people of Uganda, particularly women
The National Energy Policy – 2002	The goal of the policy is to meet the energy needs of Uganda's population for social and economic development in an environmentally sustainable manner. The policy recognizes linkages between the energy sector and other sectors such as environment, water resources, agriculture, land use, forestry, economy, industry, education, health, and transport
National Biodiversity and Social Offset Strategy - 2019	This is a framework for managing the impacts of developments on biodiversity, determined through the EIA/ESIA process. The purpose of the strategy is to ensure No Net Loss or Net Gain of biodiversity and associated social outcomes from development projects, thereby securing future economic growth, reconciling competing demands for land use, and enhancing the environment and its benefits for people for the long term. The strategy intention is to ensure that residual impacts of developments are remedied, as required by the National Environment Act, No. 5 of 2019, as well as to stem and to some extent reverse the loss of biodiversity in the country.

Policy	Description
National Oil and Gas Policy for Uganda 2008	The policy provides for the protection of the environment conservation of biodiversity. It calls for balancing the environment, human development and biodiversity to ensure sustainable development. It provides that it is the responsibility of licensed oil companies to protect the environment where they work or any other areas in the country impacted by their operations.
National Policy for Disaster Preparedness and Management , 2010	The policy provides that environmental degradation is one of the human induced disasters. It stipulates the actions and measures to address disasters including the formulation of laws against environmental degradation including the need for EIAs.
The National Agricultural Policy, 2013	It provides that government will ensure that key agricultural resources including soils and water for agricultural production are sustainably used and managed to support production.
The Uganda National Land Use policy, 2013	The policy aims to ensure sustainable, utilization, protection and management of environmental, natural and cultural resources on land for national socio-economic development.

2.1.2 Legal framework for Environmental Management in Uganda

The National Environment Act, 2019 is the principal law governing environmental management and conservation in Uganda.

Legislation	Description and key provisions
The Constitution of the Republic of Uganda, 1995	The Uganda Constitution of 1995 states in articles 39 and 41 that everyone has a duty to maintain a sound environment. Every person in Uganda has a right to a healthy and clean environment and as such can bring legal action for any pollution or disposal of wastes. It also stipulates that Parliament shall by law provide measures intended to protect and preserve the environment from abuse, pollution and degradation
The National Environment Act, No.5 of 2019	The Environment Act of 2019 stipulates the principles of environmental management and the rights to a decent environment; institutional arrangements; functions of NEMA and the Lead Agencies; environmental planning at national and lower levels; Management of the green Environment; Sound Management of chemicals; Control of Pollution; Management of Waste; Environmental and Social Impact Assessments; Establishment of Environmental Standards; Environmental Compliance and Enforcement; Environmental Information and literacy; judicial proceedings and international obligations. Environment Regulations to support implementation of the Act, include among others: National Environment (Waste Management) Regulations, 1999 under the National Environment Act 153, 1995 National Environment (Wetlands, River banks and Lakeshores Management) Regulations, 2000 r the National Environment Act Cap 153, 1995 National Environment (Noise Standards and Control) Regulations, 2003 National Environment (Environmental Impact Assessment) Regulations, 1998
The Water Act CAP152	The Act provides for the use, protection and management of water resources and supply in Uganda It provides for orderly development and use of water resources for purposes other than domestic use, such as the watering of stock, irrigation, agriculture, industrial, commercial and mining purposes, energy, navigation, fishing, preservation of flora and fauna and recreation in ways which minimizes harmful effects to the environment

Legislation	Description and key provisions
The Land Act, Cap 227 of 1998	This Act provides for the tenure, ownership and management of land. Under Section 44 the Government or the local government shall hold land in trust for the people and protect natural lakes, ground water, natural streams, wetlands and any other land reserved for ecological purposes for the common good of the citizens of Uganda
The Local Government Act, CAP 243, 1997	This Act provides for governance and devolution of central government functions, powers and services to local governments that have their own political and administrative set-up to ensure good governance and democratic participation. Reiterates the position in the Constitution to provide for the participation of local government in decision-making and management of ecosystems
The National Forestry and Tree Planting Act, 2003	Its goal is to create an integrated forest sector that will facilitate the achievement of sustainable increases in economic, social and environmental benefits from forests and trees by all the people of Uganda Under section 32 of this Act, activities prohibited in Forest Reserves are listed, and allowed only with a licence issued by National Forestry Authority (NFA), and include tree cutting, clearance or occupation of land, contracting or re-opening of tracks
The Public Health (Amended) Act, 2023	The Act provides local authorities with administrative powers to take all lawful, necessary and reasonably practicable measures for preventing the occurrence of, or for dealing with any outbreak or prevalence of, any infectious communicable or preventable disease to safeguard and promote the public health and to exercise the powers and perform the duties in respect of public health conferred or imposed by this act or any other law
The Physical Planning Act, 2010	The Act was passed to consolidate the law on physical planning in order to make the whole country a planning area

Relevant environmental regulations

i. The Water Resources Regulations, 1998;
ii. The Water (Waste Discharge) Regulations, 1998;
iii. The Environmental Impact Assessment Regulations, 2020;
iv. The National Environment (Audit) Regulations, 2020;
v. The National Environment (Waste Management) Regulations, 2020;
vi. Petroleum (Waste Management) Regulations, 2019
vii. The National Environment (Standards for Discharge of Effluent into water or on land) Regulations, 1999;
viii. The National Environment (Wetlands, Riverbanks and Lake Shores Management) Regulations, 2000;
ix. The National (Management of Ozone Depleting Substances and Products) Regulations, 2020;
x. The National Environment (Noise Standards and Control) Regulations, 2003;
xi. The National Environment (Mountainous and Hilly Areas Management) Regulations 2000;
xii. The National Environment (Minimum Standards for Management of Soil Quality) regulations, 2001

2.2 Institutional Framework

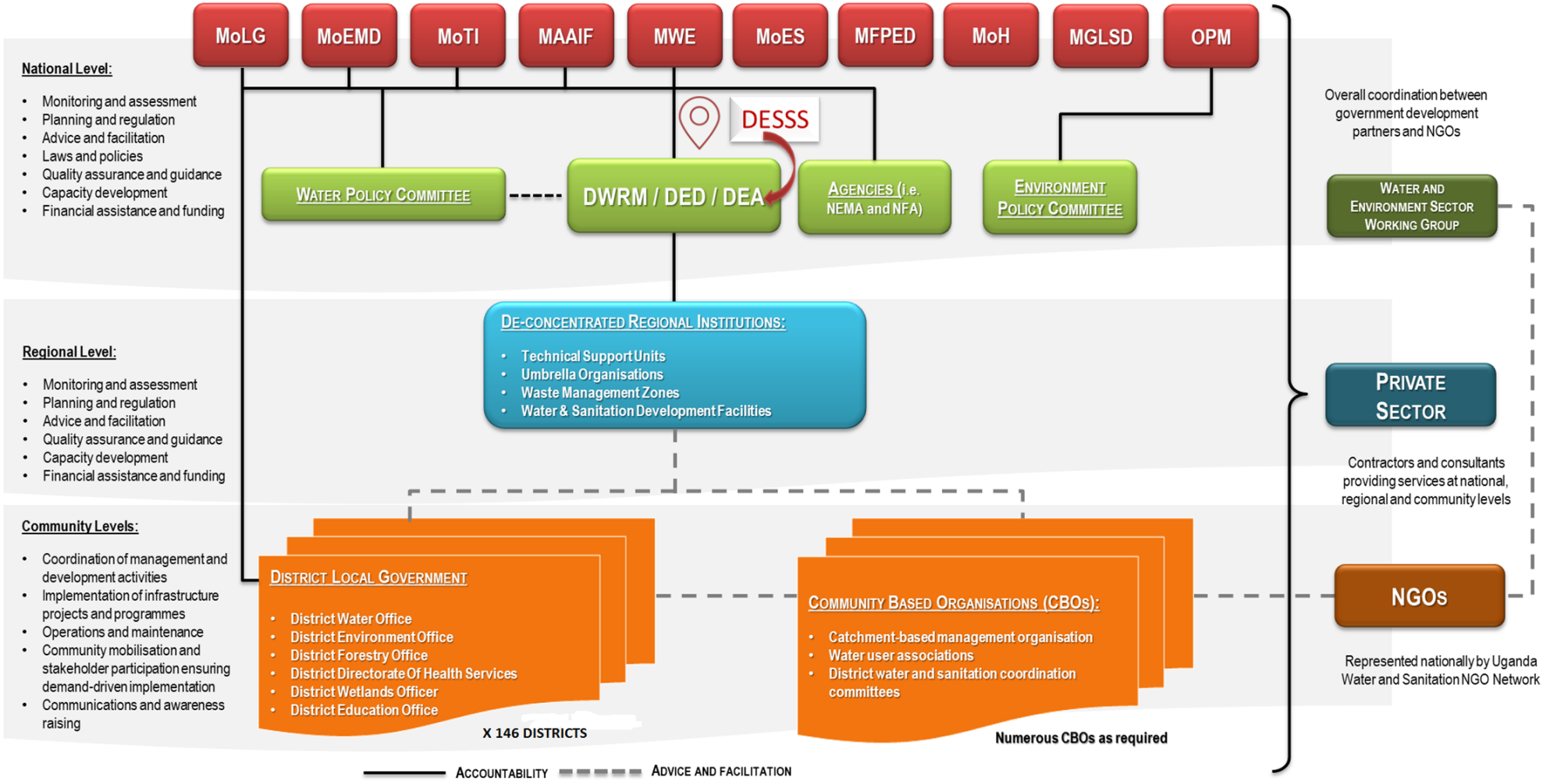
The Ministry of Water and Environment is comprised of three Directorates i.e. Directorate of Water Resources Management (DWRM), Directorate of Water Development (DWD) and the Directorate of Environmental Affairs (DEA). Additionally, the Ministry is supported by stand-alone departments in support to the technical departments namely the Finance and Administration, Water and Environment Sector Liaison, Policy and Planning and the Climate Change Department.

The Ministry of Water and Environment has affiliate semi-autonomous Institutions including the National Water and Sewerage Corporation which is a public/state-owned utility providing water supply and sewerage services in large urban towns, the National Forestry Authority mandated to manage Central Forest Reserves and supply high-quality forestry-related products and services, the National Environment Management Authority responsible for ensuring sound environmental management practices for sustainable development as well as the Uganda National Meteorological Authority (UNMA) responsible for monitoring weather and climate, maintaining a climate database and providing regular advisories on the state of the weather and climate to government and any other clients including Agriculture sector, transport, disaster preparedness and the public.

Other key stakeholders include the Local Governments, Development Partners, Civil Society Organizations, Private Sector and Local Governments are key implementers in the delivery of services in the sector.

The sector is guided by the Top Policy Management (TPM) headed by the Senior Minister and assisted by two Ministers of State for Water and Environment respectively. In addition is the Water and Environment Sector Working Group (WESWG) that is chaired by the Permanent Secretary, assisted by two co-chairs persons representing Water and Sanitation donor group and Environment and Natural Resources donor group. The WESWG is responsible for the overall sector coordination, resource mobilization and allocation as well as reviewing progress. The Water and Sanitation Sub-Sector Working Group (WSSWG) and the Environment and Natural Resources Subsector Working Group (ENR-SWG) are responsible for the sector planning and priority setting, implementation, monitoring, supervision and management of their respective subsectors in support to the WESWG.

Table 1: Below shows the Institutional Framework for Environment Management in Uganda



SECTION 3: GUIDELINES FOR ENVIRONMENTAL MANAGEMENT

3.1 Introduction

These *Environmental Guidelines* are aimed at ensuring that all projects/programs minimize unnecessary harm to the environment, public health or vulnerable communities. The users must ensure that all projects and programs designed and implemented directly or through other organizations, agencies and lower local governments conform to the following environmental and social guidelines as applicable.

These guidelines cover environment safeguard requirements at four phases in the project cycle including; initiation, planning, execution, and closure as shown in the table below. Monitoring and Evaluation is a continuous process through the various phases of the project.

Phase	**Step**	**Environment Safeguard requirements**
Initiation	Step 1	• The Environment Officer (s) participate in development and site selection for projects. • Ensure that environment related activities in District Development Plans (DDPs) and project profiles are budgeted for. • Conduct Environment Screening and • Develop a Screening Report, Project Briefs, Environment and Social Management Plans, Environment and Social Impact Assessments (in line with schedule 4 and 5 of the NEA 2019) based on the results of the Screening exercise and commensurate to the potential risks and impacts
Planning	Step 2	• Integrate Environment, Social, Health and Safety (ESHS) requirements into the designs, Bills of Quantities (BoQs), bidding and contract documents. • During bidding process, the contractor's ESHS personnel are part of pre-bid site inspection. • The bidder complies with all conditions in the standard bidding document before bid submission. • Ensure that ESHS personnel participates in bid evaluation among others.

		• Ensure that all necessary permits, licenses, and certificates are in place before work commences.
Execution	Step 3	**Implement the mitigations measures in the instruments, Conduct Monitoring and reporting during project implementation** • ESHS team form part of the project implementation committee. • During implementation, the Contractor/Developer employs ESHS personnel to cater for safeguard requirements. • ESHS team ensure continuous monitoring and reporting. • ESHS personnel participates in preparation of interim payment certificates
Closure	Step 4	• The contractor Implements approved decommissioning measures including site remediation and restoration. • Additionally, all project auxiliary facilities (including site camps, material storage yards, construction material source points/ quarries/ borrow pits) should be decommissioned and site reinstated. • The environment officer issues an environment compliance certificate before final payment.

In line with the legal provisions in the National Environment Act, 2019, before the commencement of construction works/project implementation, different actors are required to adhere safeguard requirements at different phases of the project development cycle as detailed below:

3.2 Initiation Phase

Integrating environmental and social aspects in the project initiation phase ensures that measures to avoid, minimize, rectify, reduce and offset environmental, social, health and safety (ESHS) risk and impacts are incorporated into the project design and work schedule. This approach is more cost-effective than establishing controls once the project commences. The step by step processes during this phase are presented below.

3.2.1 Environment Screening

The Environment, Social, Health and Safety personnel participate in development and site selection for projects. Once a site has been selected, it is necessary to conduct environment screening that identifies which parts of the environment may be negatively affected during construction activities. Screening is the first step in the environmental and social impact assessment.

Purpose of environment screening	Helps to determine the appropriate extent and type of environmental assessment required i.e., whether the project requires to undertake a full ESIA/ project brief/ Environmental and Social Management Plan (ESMP) as per schedule 4 and 5 in NEA (detailed in annex 2A)
Actions	All projects for different sectors should be subjected to environment screening before commencement.
Responsible	Responsible environment officer undertakes screening using the environmental screening from (annex 1)
Timing	Initiation phase
Indicators	Environment & Social Screening Reports

3.2.2 Preparation of necessary environment and social safeguard documents

Through the Environmental Screening Report, the Environment Officer in consultation with the relevant technical officers will recommend on the Scope of Environmental and Social Assessment to be carried out i.e. either as a Project Brief/ Environmental and Social Management Plan or Environment and Social Impact Assessment (ESIA) as follows:

a. Preparation of the Project Brief/ Environmental and Social Management Plan

The Environmental and Social Management Plan (ESMP) is a step after Screening for low impact projects. It contains all aspects of a project's environmental management and should be prepared by the project developer before work commences on any project. ESMPs help highlight how impacts on the environment will be mitigated, including requirements for monitoring and reporting, institutional arrangements, performance indicators, implementation schedule and cost estimates for implementing the ESMP.

Projects required to undertake a Project Brief are highlighted in Schedule 4 of the National Environment Act, 2019 (Please refer to Annex 2A). A Project Brief should be costed and embedded in the Bills of Quantities.

Purpose of ESMP	ESMPs help highlight how impacts on the environment will be mitigated, including requirements for monitoring and reporting, institutional arrangements, performance indicators, implementation schedule and cost estimates for implementing the ESMP.
Action	• Ensure implementation and monitor the Environment and Social Management Plan • Update the Plan to meet new risks or where inspections, monitoring or audit reveal that measures are ineffective. • Update the plan to achieve ongoing improvement.
Responsibility	Project developer
Timing	Initiation phase
Indicators	Reviewed reports, copy of ESMP/ project brief submitted to NEMA ESIA Certificate of Conditions of Approval.

Table 2: Sample Template for Environment and Social Management Plan

Sector	Program	Potential Impacts (Positive/ Negative)	Mitigation Measures	Indicators	Responsibility of implementing party	Time Frame	Estimated Cost

b. Environmental and Social Impact Assessment (ESIA) for Projects

The projects required to undertake ESIA are listed in Schedule 5 of the National Environment Act, 2019 (Please refer to Annex 2C). The ESIA is prepared and submitted to NEMA for review and consideration.

Purpose of ESIA	The ESIA is done to identify or obtain information and evaluate the environmental and social impacts, risks or concerns of a given project or activity.
Action	Carry out an Environmental and Social Impact Assessment for projects with high-level impacts.
Responsibility	Environmental Practitioner registered and certified by NEMA on behalf of the Project developer
Timing	Initiation phase
Indicators	Copy of the ESIA report submitted to NEMA and ESIA Certificate with Conditions of Approval

3.3 Planning Phase

This phase in project development ensures that the environmental and social mitigation measures identified during assessments are adequately budgeted for effective implementation.

3.3.1 Integration of ESHS requirements into designs, bills of quantities (BoQs), bidding and contract documents.

During the planning phase of the project, mitigation costs from the ESMP are integrated into the Bills of Quantitates (BoQs) which then inform the project bidding and contract documents. During bidding process, the contractor's ESHS personnel shall be part of pre-bid site inspection and the bidder is required to comply with Instructions to Bidders (ITB) within the bid documents and ESHS personnel be part of bid evaluation.

Purpose of integrating mitigation costs in BoQs	To ensure that the environmental and social mitigation measures identified during assessments are adequately budgeted for effective implementation.
Action	Prepare a well costed ESMP and ensure it's embedded in the bidding documents, contracts, BOQs and designs.
Responsibility	Engineer/Procurement Officer/Environment Officer
Timing	Planning
Indicators	Sub-project ESMP prepared cost and embedded into the bidding and contract documents.

3.3.2 Permits, Licenses and Certificates

There is a need to acquire all relevant permits, licenses and certificates in accordance with recommendations from assessments before the commencement of projects. Examples of permits include Wetlands user permits, water abstraction permits, waste water discharge permits, waste storage and management permits, etc.

3.4 Execution phase

During the execution phase of the project, implement the mitigation measures in the instruments and conduct regular monitoring and reporting.

3.4.1 Implementation of mitigation measures

Effective Implementation of mitigation measures identified during the assessments and as reflected in environment safeguard instruments and contract documents is undertaken at this phase in a timely manner. At this phase, ensure ESHS team form part of the project implementation committee, the Contractor/Developer employs ESHS personnel to cater for

safeguard requirements and ensure continuous monitoring and timely reporting as per the template provided in table 4 below.

At this phase, mitigation measures to be implemented can include noise and air quality management, waste generation and its management, etc. Note that these measures may vary depending on the nature of the project.

Purpose of implementation of mitigation measures.	To minimize negative impacts of development projects on human and environment health. It is also intended to avoid associated costs arising from non-compliance.
Actions	Environment safeguards implementation, supervision, certification, inspection,
Responsibility	Environment officer, CDO, Contractor E&S staff
Timing	Execution
Indicators	Reports (progress, monitoring and inspection, incident, etc.), Environmental and Social Certifications.

3.4.2 Monitoring

Monitoring is important in keeping both ENR targets and specifically the costed ESMP on course. This calls for a well-designed monitoring plan for tracking progress. The process of monitoring needs to follow up the set targets and underline emerging issues that may not have been previously planned for. A monitoring and evaluation team should be set up made of officers from the different departments both at MALGs and sector level. The team should also develop indicators to monitor progress registered by comparing the prevailing state of ENR with the before state. A sample monitoring matrix is provided in Table 2. The unit or focal person for ENR should take lead in supporting both the formation and support of the multi-disciplinary monitoring team in conducting assessments, documentation and report generation, providing feedback to relevant units and following up areas of action.

Monitoring should be done at all phases of project development with accompanying reporting and implementation of recommendations. The Environment Officer will conduct regular monitoring (at least monthly) of projects to ascertain the implementation of Environment Safeguards in compliance with the laws.

Table 3: Sample monitoring plan Matrix

Impact	Mitigation measure	Monitoring indicator	Location	Monitoring methods	Time frame/ frequency	monitoring party	Cost

Source: **MWE 2019**

The changes in environmental quality before, during and after project implementation need to be documented. It is highly recommended that monitoring reports be made on a monthly basis. This will provide information for the subsequent quarterly and annual reports.

3.4.3 Reporting

Reporting is important in providing and documenting information and progress on mainstreaming. Project monitoring is conducted to ensure compliance with the laws, regulations and standards and the specific conditions for project approval. Monitoring is specifically useful to determine whether the mitigation measures are being implemented as required and further establish their sufficiency and effectiveness. Monitoring further helps identify unforeseen impacts of the project for identification of alternative mitigation measures. Projects should conduct environmental compliance audits in accordance with the National Environment (Audit) Regulations, 2020.

It is expected that MALGs will prepare and submit quarterly reports to NEMA and Ministry of Water and Environment. The reports should indicate areas of progress using verifiable indicators, gaps and what is being done to fill such gaps. These reports should have been discussed within the MALGs and later at sector level particularly during the Joint sector Reviews. The EO shall produce monthly monitoring reports that include activities undertaken; the level of compliance; gaps and agreed to actions (Refer to sample checklist for monitoring in Annex 5). The E & S monitoring reports will be shared with NEMA annually.

A sample reporting format is provided below.

Section	Content
1.0	Cover page: Name of Sector/MALG, Project Name, period of report, Year, Title of Submitting Officers
2.0	Background
3.0	Institutional Environment Management Supportive frameworks and mandate

4.0	ENR issues within the sector/MALG during the planned period.
5.0	Key planned ENR management activities and performance indicators for the planned period. Also detail the resources approved versus what was provided
6.0	Current progress with respect to set performance parameters, indicators and targets
7.0	Gaps and areas of underperformance if any
8.0	Emerging issues and lessons learnt
9.0	Proposed measures to manage and fill gaps identified
10.0	Recommendations and conclusion
11.0	Appendices

3.4.4 Personnel for Environment Management

An Environment Officer shall be appointed to manage environmental concerns and to monitor all activities within their jurisdiction in compliance with the requirements in the National Environment Act, 2019. the Environment Officer shall be responsible for the preparation and regular update and supervision of the Environmental and Social Management Plan (ESMP). The environment officer shall, within their jurisdictions, certify implementation of environmental safeguards before payments are made.

There should be a qualified officer recruited by the developer to oversee the implementation of environmental safeguards on each development project. The EO shall be part of the project implementation team responsible for conducting routine supervision.

3.4.5 Certification for payments

To ensure contractor compliance with safeguard requirements, interim and final payment certificates should be approved by the accounting officer only where the Environment Officer has monitored and certified compliance with the mitigation measures included in the works contract by issuing an environmental compliance certificate for projects within their jurisdiction.

3.4.6 Examples of environmental aspects for monitoring and reporting

a) Waste generation and its management

It is important to establish waste management priorities at the outset of implementation of activities. This is based on an understanding of potential environmental, health and safety risks and impacts of the waste generated.

Types of Waste: Hazardous (healthcare waste, agrochemical waste, radioactive waste, etc.) and non-hazardous waste (domestic)

- Observe waste management hierarchy that considers prevention, reduction, reuse, recovery, recycling, removal and finally disposal
- Prepare a site waste management plan that conforms to the requirements of the National Environment (Waste Management) Regulations, 2020and the Project Environment and Social Management Plan.
- Ensure licenses for waste management are obtained from NEMA where applicable.
- The site waste management plan shall include a description of waste handling procedures including collection, storage, treatment (where required), transportation and disposal.
- Ensure that there is no open burning of waste material and that contractors closely adhere to the site waste management plan.
- Under no circumstances shall waste accumulate as this causes a nuisance or health risk due to the propagation of pests and disease vectors.
- Engage licensed waste handlers to transport and dispose of the hazardous waste (Where applicable)
- Maintain a good housekeeping routine and ensure that materials are protected from being eroded/washed away by the weather elements
- Conduct routine awareness with staff/contractors on sound management of waste.
- Put in place an emergency preparedness and response and spill control plan for the use and management of Hazardous waste.
- There should be the use of material safety data sheets (MSDSs) to guide on the use of chemicals and routine training conducted where required.

b) Conservation and protection of the cultural sites

- To protect and conserve the cultural heritage components found during project implementation following the Museum's and Monuments Act, 2023
- Ensure protection of the physical-cultural resources including any chance findings.

c) Dust and Air quality management

- The objective is to ensure there is no health risk to communities and workers; or loss of amenity due to the emission of dust, exhaust gases to the environment.
- Possible sources include; on-site excavation and movement of earth materials, haulage trucks, exposure of bare soil and soil piles to wind etc.
- Implement a dust prevention strategy, developed at the project planning stage.
- Take dust suppression measures (water sprinkling), such as promptly watering exposed areas when visible dust is observed.
- Install wind fences wherever appropriate.
- Ensure that all vehicles and machinery are fitted with appropriate emission control equipment, maintained frequently and serviced to the manufacturers' specifications.

- Cordoning/ hoarding off the sites
- Ensure wet crushing at the crushers during quarrying activities
- Cover haulage trucks to avoid dust
- Install air quality monitoring equipment for PM,
- Install pollution control equipment to clean air.

d) Conservation of biodiversity - flora/fauna

- Consider biodiversity in the project site selection since some species area endangered, endemic, threatened, near extinction.
- Projects and programs should be designed and implemented in a way that avoids significant or unjustified reduction or loss of biological diversity or the introduction of known invasive species.
- Consider the mitigation hierarchy; avoid, reduce, mitigate, offset.
- Ensure proper management anddisposal of spoil material from clearance/excavations to avoid introduction of invasive species.

e) Noise management.

During project implementation, there are several activities that are likely to generate noise and vibrations which may have an impact on the nearby communities and workers. Therefore, it's important to put in place measures to protect against the impacts of Noise and vibrations.

- Possible Sources include noise and vibrations from earthmoving and excavation equipment, quarrying, blasting, concrete mixing, cranes etc.)
- Ensure that noise/vibration levels meet statutory requirements and acceptable standards as stipulated in the National Environment (Noise Standards and Control) Regulations 2003.
- All noise nuisances should be reduced wherever possible from vehicles, fixed machinery within the site, blasting, general construction activities, and from movements of vehicles servicing the site.
- Schedule activities during normal working hours (between 7 am and 5 pm).
- Where noise is likely to pose a risk to the surrounding community either by normal works or working outside of normal working hours or on weekends, develop a public notification and noise management plan
- Using noise control devices e.g. temporary noise barriers & deflectors for impact and blasting activities, & exhaust muffling devices for combustion engines
- Buffering of equipment at the site
- Use of PPE like ear muffs
- Zoning of areas with the high noise level

- Put in place signage to alert people about high noise levels and the required PPE for workers.

f) Stormwater management.

- Managing stormwater on sites (includes any surface run-off and flows resulting from precipitation, drainage, flooding or other sources)
- The objective is to minimize the generation of contaminated stormwater and to reverse the negative effects of stormwater flooding and associated impacts e.g. Soil eroded during land disturbance can wash away and contaminate stormwater.
- Containing stormwater and removing pollutants is the primary purpose of stormwater management.
- Stormwater should be managed as a resource, either for groundwater recharge or for meeting water needs of the facility through water harvesting.
- There should be drainage system in place to direct stormwater and mechanisms for erosion protection.
- Oil-water separators and grease traps should be installed and maintained as appropriate at workshops, parking areas, fuel storage and containment areas to minimize the quantity of uncontaminated stormwater entering cleared areas.

g) Soil Erosion Control and Management

During project development, there are various activities that can result in soil erosion and these include land use change, clearance of vegetation for construction, poor agricultural practices, poor drainage and management of storm water, uncontrolled excavation. Such activities affect the structural integrity of soil hence making it susceptible to agents of soil erosion. Uncontrolled erosion can lead to excessive sedimentation and pollution of in water courses and related effects on aquatic biodiversity. Therefore, it's important to put in place measures to;

- Install erosion and sediment control measures, if possible before construction commences and appropriate site conditions.
- Schedule measures to avoid and reduce erosion by phasing the work program to minimize land disturbance in the planning and design phase.
- Establish an adequate inspection, maintenance and cleaning program for sediment runoff control structures.
- Ensure that contingency plans are in place for usual storm events.
- Continually assess the effectiveness of sediment control measures and make necessary improvements.
- Minimize vegetation clearance and replant vegetation after construction.

h) Climate Change mitigation and Adaptation

- In designing and implementing projects, there is need to ensure that projects do not result in any significant or unjustified increase in greenhouse gas emissions or other drivers. There is need to ensure that the effects of climate change are guarded against (climate proofing of investments)
- It is recommended that there should be training in climate change mitigation and adaptation.
- It's important to use more climate sustainable and climate-resilient technology like solar-powered equipment;

i) Water resources use and protection

- Water is an important resource for various activities during project implementation e.g. for construction, agriculture, industry, etc. Water sources include surface water (lakes, rivers, streams, wetlands, etc.) and ground water (boreholes, springs, shallow wells, etc.). However, non-regulated utilization may lead to water shortage, pollution, loss of habitats, and sometimes depletion of the water resource, among others.
- Depending on the intended use and volumes, a developer shall obtain relevant water use Permits and Licenses in accordance with the Water Act, Cap 152.
- Collection of baseline data and routine water quality monitoring.
- Ensure proper planning and management of water sources as per guidelines by MWE.
- Undertake an evaluation of in stream flow requirements (IFR) for river downstream of works.
- Minimize conflicts among in water resource use by strengthening or establishing water user committees,
- Consider reduction in abstraction rates during low rainfall months when rainfall and aquifer recharge is low
- Surface water use/quality
- Maintain or improve the quality of surface water to ensure that existing and potential uses, including ecosystem maintenance, are protected.
- Protect surface water resources from contaminated runoff from workshops and plant operation areas by providing stormwater drains, sumps, and linings.
- Propose measures to manage and/or mitigate impacts on surface water resources
- Groundwater quality
- Protect groundwater resources from contaminated runoff from workshops and plant operation areas by providing stormwater drains, sumps, and linings.
- Strategically locate boreholes to avoid contamination from external sources
- Undertake groundwater quality monitoring.
- Community awareness and training to prevent pollution.

- Provide excess water spillways and concrete sumps around boreholes.
- Dispose of all hazardous waste in an approved disposal site.
- Do not construct pit latrines close to domestic supply boreholes or rivers. A minimum distance of between 50-100 meters should be observed
- Line all sumps, dams, stockpile sites etc. that may contain solids or liquids, which could pollute the soil and groundwater.
- Maintain or improve the quality of the groundwater to ensure that existing and potential uses, including ecosystem maintenance, are protected.

Other considerations are;

- Should consider undertaking hydrology tests to protect the catchment area
- Water source protection plans and budgets should be in place to ensure that the water sources are sustainable.
- Put in place systems for rainwater harvesting
- Ensure the formation of water user committees with consideration for gender.

j) Stakeholder engagement and information disclosure

- Effective stakeholder engagement can improve environmental and social sustainability of projects, enhance project acceptance and make a significant contribution to successful project design and implementation. Developers shall be required to develop a Stakeholder Engagement Plan to ensure meaningful and inclusive stakeholder engagement throughout the project cycle.
- Ensure meaningful and inclusive participation of communities in development programs/projects
- Hold meetings, dialogues and engagements and disclosures for programs/projects throughout the life cycle for transparency.
- Ensure communities are sensitized about the construction activities, impacts & mitigations.
- Refer to the Social, Safety and Health Safeguards Implementation Guidelines for Local Governments, Ministry of Gender, Labor and Social Development, 2020

k) Grievance Redress Management

A Grievance Redress Mechanism is important in resolving conflicts that may arise during and post-project implementation. Respective Local Governments are required to delegate staff at District Level to be responsible for:

- Coordinating the establishment of Grievance Redress Committees (GRC) at respective Local Government levels, construction sites and in communities surrounding the sites.

- Training the GRCs on their mandates to ensure their functionality
- Publicizing the grievance redress mechanisms to ensure that aggrieved parties know where to report and get redress.
- Refer to the Social Safety and Health Safeguards Implementation Guidelines for Local Governments, Ministry of Gender, Labor and Social Development, 2020

l) Social, Health and Safety considerations

The purpose is to avoid harm, damage and associated risks to communities and workers Action Ensure the following:

- Ensure contractors have on-site competent staff to handle Occupational Health and safety issues
- Contractors should have in place an Occupational, Health and Safety Plan, to address occupational risks/hazards to workers during project implementation.
- Use of appropriate Personal Protective Equipment (PPE) at worksites
- Have a first aid kit to manage accidents/incidents
- Maintain an accident/Incident register
- Proper and adequate signage on sites to guide workers and those visiting the site the rules and regulations.
- Proper traffic management at the sites to control traffic flow and the carriage trucks should be covered not to pollute the environment
- Proper storage of construction materials which is operated by key personnel and should be kept under lock.
- Sanitation and hygiene: provide toilet facilities for both men and women, provide handwashing facilities with soap and washrooms where applicable
- Safety of Occupants: The buildings constructed should have lighting arresters for the safety of the people.
- Ensure that construction sites are hoarded off to minimize entry of unauthorized persons.
- Contractors are required to conduct safety training for workers and hold regular Tool Box meetings
- Maintain clean construction/project sites
- Provide clean drinking water and sanitation facilities for respective sex of workers.
- Ensure lightning arresters on the buildings constructed for the safety of occupants
- Comply with the Ministry of Health Standard Operating Procedures for COVID-19 prevention and response.

- Refer to the Social Safety and Health Safeguards Implementation Guidelines for Local Governments, Ministry of Gender, Labor and Social Development, 2020

NB: All the above indicators should be tracked by the contractor and the Local Governments should monitor to ensure that this is being done etc.

3.5 Decommissioning phase

3.5.1 Project Completion and Closure

Decommissioning means the process of safely ceasing operations resulting in complete or part removal or substantial change in use of a facility or permanently disposing or abandoning a facility or operation in a manner that is not deleterious to human health or the environment. Submission of a preliminary decommissioning plan to NEMA may be a requirement from a developer of a project as part of a project brief or environmental and social impact statement.

Before final closure of a project or completion of activities, NEMA in consultation with the relevant lead agency may require the developer to undertake decommissioning in accordance with an approved decommissioning plan (submitted at least 12 months or shorter) and international best practices.

The environment officer shall monitor the decommissioning to ascertain the level of compliance. Additionally, all project auxiliary facilities (including site camps, material storage yards, construction material source points/ quarries/ borrow pits) should be decommissioned and site reinstated.

3.6 Additional Requirements

3.6.1 Acquisition and management of auxiliary sites and their decommissioning

It's important to properly acquire auxiliary sites with considerations of ownership (land sales agreements, Memorandum of Understanding among others before the extraction phase) and any other regulatory requirements such as permits where necessary. The proper acquisition helps prevent and control community, environmental, health and safety impacts that may occur during project implementation and at the end of the project cycle or due to expansion or modification of existing facilities.

<u>Ownership/Acquisition</u>

- Ensure proper acquisition of sites with evidence of ownership
- Acquire approvals from NEMA/Environmental Officer and any other relevant authority before using the sites.
- Ensure restoration of the sites after the project life cycle

Use of Auxiliary sites

- Ensure Environment & Social safety and Health measures at active sites; quarries, borrow pits, stockpiles (including sanitation, latrine, signage and welfare of workers etc.)
- Fence/hoard off the sites to minimize entry of unauthorized persons and accidents at the sites.
- Noise and dust pollution should be minimized to reduce nuisance in the surrounding environment.
- Occupational health and safety of workers should be emphasized to protect workers from occupational hazards.
- Traffic management at the sites to control traffic flow
- Carriage trucks should be covered not to pollute the environment
- Minimize the number of stockpiles, and the area and the time stockpiles are exposed.
- Locate stockpiles away from drainage lines, at least 10 meters away from natural waterways and where they will be least susceptible to wind erosion.

Decommissioning of Auxiliary Sites

- There should be a plan and budget for the decommissioning and restoration of the auxiliary sites (borrow areas, quarries, camps, stockpiles) to minimize degradation of the environment.
- All project auxiliary facilities (including site camps, material storage yards, construction material source points/ quarries/ borrow pits) should be decommissioned and sites reinstated to the satisfaction of the Environment Officer.
- Encourage progressive restoration of auxiliary sites i.e. borrow areas, quarries and camps, stockpile yards etc.
- Supervise restoration of exhausted auxiliary sites
- Ensure landscaping of project sites; Revegetate and plant appropriate trees and grass which are not invasive to the surrounding environment.

Responsibility District Environment Officer/CDOs

Timing Pre-Construction/Planning, Construction Phase & Post construction/ Operation phase

Indicators *Acquisition* - MoUs, Lease Agreements, permits to use,

Safeguards during Use - Fence, safety/Location signs, waste bins etc.

Decommissioning – Decommissioning and restoration Plans,
decommissioned and restored Sites (landscaped sites, trees and Grass planted)

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Annex 1: ENVIRONMENTAL SCREENING FORM

Please type or print clearly, completing this form in its entirety. You may provide additional information on a separate sheet of paper if necessary. Kindly note that the information you are to provide is required by Section 19of the National Environment Act, 2019 (to be filled by the Environment focal point person at sub-county level or Environment officer at the District/ Municipal level)

PROJECT DETAILS:
Name of the Project……
The sector of the Project…….
User Department…..….....
Location Coordinates …….…….....
Village..... Parish.....

Lower Local Government/ District where the project is located.....

1. **Brief Project Description**
   a) Please provide information on the type and scale of the project (project area, area of required land, the approximate size of total building floor areas, etc) …….
   b) Will the project/ facility require auxiliary facilities? YES …..No …..If YES, please include the type of auxiliary /ancillary facilities required ……

2. **The Natural Environment**
   c) Describe the land formation, topography, vegetation in/adjacent to the project area (*e.g. is it a low lying land, waterlogged, rocky, swampy or wetland, etc.,)*
   Estimate and indicate whether vegetation might need to be cleared ……..
   d) Are there any environmentally sensitive areas or threatened species that could be adversely affected by the project (specify below)?

   i Forest Yes……No …….. ii. Wetlands Yes …..No …….. iii. Water Yes ……No …….. iv. Habitats of endangered species protected by laws Yes ……No …….. v. Land Yes ……No …….. vi. Others (describe). (e.g cultural sites, burial places, etc.,) Yes …..No ……..

3. **Wetland System**
   a) How far is the nearest wetland from the project site? ……km
   b) Will the project adversely affect a wetland system? Yes…….No ……

4. **Rivers and Lakes Ecology**

Is there a possibility that due to construction and operation of the project the river and lake ecology will be adversely affected? Attention should be paid to water quality and quantity; the nature, productivity and use of aquatic habitats, and variations of these over time. Yes ……No ……..

5. **Geology and Soils**

Based on visual inspection or available literature, are there areas:

a) Of possible geologic or soil instability? Yes ……..No ……

b) Does that have risks of large scale increase in soil salinity? Yes …….No ……

6. **Ground Water**

Will the project require groundwater? Yes …….No …….

If yes, does the project have plans for catchment protection?……

7. **Air pollution**

Will the project release pollutants into the atmosphere? Yes …….No …….

8. **Noise Pollution during Construction and Operations**

Will the operating noise level exceed the allowable noise limits? Yes ……No ……

9. **Solid or Liquid Wastes, including Medical Waste**

a) Will the project generate solid or liquid wastes, including medical waste? Yes/No If "Yes", how will it be handled? ……..

b) Will the project involve latrines, septic, soak pit or sewerage systems? Yes…No.

c) What is the estimated distance of the pit latrine from the nearest water source? (Please note that the distance should not be less than 50 meters?……..

10. **Access and Use of Local Resources**

a) Will the project affect access to natural resources? Yes ……No …….

b) Will there be additional demand for local resources (e.g. water supply, sanitation facilities, health centres, lodging, etc.)? Yes ……..No ……

11. **Pesticides, Insecticides, Herbicides or any other Poisonous or Hazardous Chemicals**

a) Will the project require the use of such chemicals? Yes …..No ……..

b) If "Yes", how will the chemicals be handled? ……

12. Petroleum-based Fuels or Bi-products

a) Will the project use petroleum-based fuels? Yes ……No ……..

b) Will the project use petroleum-based bi-products like bitumen? Yes ……..No …….

13. Health and Safety

a) Will the project safeguard worker's health and safety? Yes …….No …….. If yes, specify the measures in place to safeguard human health and safety.

b) Will the project activities affect the community's health and safety? Yes….No …. If yes, specify the measures in place to safeguard human health and safety.

14. Climate Change

a) Is the project location susceptible to earthquakes, landslides, flooding, erosion, or extreme weather conditions that could affect the project? Yes….. No…….

b) If YES, does the project have measures in place to mitigate or adapt to the negative consequences of climate change? ……

15. Historical, Archaeological or Cultural Heritage Site

a) Based on available sources, consultation with local authorities, local knowledge and/or observations, could the sub-project alter any historical, archaeological or cultural heritage site or require excavation nearby? Yes …..No ……..

b) If YES, provide an additional description, possible alternatives reviewed and /or appropriate mitigation measures considered ……..

16. Land use, Resettlement and/or Land Acquisition

a) Are there any land use plans on or nearby the project location, which will be negatively affected by project implementation? YES/No……

b) Will involuntary resettlement, land acquisition, or loss, denial or restriction of access to land and other economic resources be caused by the project implementation? Yes …No

17. Loss of Crops, Fruit Trees and Household Infrastructure

Will the project result in permanent or temporary loss of crops, fruit trees and household infrastructure (such as granaries, outside toilets and kitchens, etc.)? Yes ….. No ……..

18. Landscape/Aesthetics

Is there a possibility that the project will adversely affect the aesthetic attractiveness of the local landscape? Yes …….No ……..

19. Vulnerable people

a) Will the project employ the local community? Yes…..No …..

b) Will the project displace historically disadvantaged people? Yes ……No …….

c) Will the project sensitize on HIV and AIDS? Yes …….No …….

d) Will women and youth be considered for employment? Yes ……No ……

e) Will the project lead to gender-based violence? Yes …….No …….

f) Will the project lead to violence against children? Yes …….No …….

g) Will the project employ child labour? Yes ……..No…….

20. Grievance Redress

h) Will the project have a grievance redress mechanism? Yes ……No ……..

EVALUATION

1.	**Produce significant amount of pollutants: Yes [ ] No [ ]**
2.	**Type of pollutants (if yes in 1): Air [ ] Water [ ] Ground [ ]**
3.	**Negative impacts in large scale: Yes [ ] No [ ]**
4.	**Irreversible destruction of fragile system: Yes [ ] No [ ]**
5.	**Depletion, displacement or extinction of protected species: Yes [ ] No [ ]**
6.	**Negative impacts whose mitigation requires consultation: Yes [ ] No [ ]**
7.	**Negative cumulative impacts in foreseeable future: Yes [ ] No [ ]**
8.	**Noncompliance to social policy: Yes [ ] No [ ]**
9.	**Need for further studies: Yes [ ] No [ ]**

RECOMMENDATIONS:

Based on the above screening results, the following recommendations are made;

Before construction/civil works can commence, the following safeguard documents must be prepared (tick as relevant)

a) ESIA …….

b) Project Brief …….

c) ESMP …….

d) RAP ……

Prepared By:……

Signature:……

Designation:……

Date:…….

Annex 2A: PROJECTS WHICH REQUIRE PROJECT BRIEFS SCHEDULE 4, PART 1 OF THE NATIONAL ENVIRONMENT ACT, 2019)

Sections 49(1) & (2), 112(1), (2) & (3), 176 (1), 177(1) and (2).

PROJECTS FOR WHICH PROJECT BRIEFS ARE REQUIRED TO BE SUBMITTED TO NEMA.

1. Transport, transportation equipment and related infrastructure.

a) Rehabilitation of public roads and airstrips not passing through fragile ecosystems.
b) Construction of community access roads.
c) Construction of private roads of more than 6 meters in width, including private roads joining national roads, except those passing through fragile ecosystems.
d) Temporary roads for access to infrastructure facilities, being roads of more than 10km.
e) Construction of parking lots for public use with the capacity to hold at least 50 vehicles.
f) Construction of tourism tracks in protected areas.
g) Water transport facilities using small vessels such as barges.
h) Creation of access waterways of less than 10 kilometres.
i) Rehabilitation of existing structures within ports or harbours; excluding development and construction of new structures.
j) Support facilities for activities under paragraphs (a) to (i).

2. Communications facilities.

Repair and upgrade of communications installations, equipment and related facilities.

3. Exploration and power generation, transmission and distribution infrastructure.

a) Generation of power from solar PV power plants of at least 2 megawatts for commercial purposes.
b) Hydropower generation plants up to 1 megawatt where—
    i. Impacts are low and can readily be mitigated;
    ii. The footprint of construction works has limited area;
    iii. Limited amounts of water are to be abstracted;
    iv. Labour requirements are low;
    v. Duration of construction works is less than 2 years;
    vi. The site is not in an environmentally sensitive area or a fragile ecosystem.
    vii. The requirement for associated infrastructure such as camps, access roads and dumpsites is limited.
c) Electricity distribution lines of a voltage above 11kVupto a maximum of 33kV.
d) Power transmission lines and other means of electrification of between 10 kilometres to 15 kilometres in length where—
    i. The lines do not pass through an environmentally sensitive area.
    ii. The labour requirement is low; up to 20 persons per tower spot.
    iii. The duration of construction works is less than 1 year.
    iv. The line is not in an environmentally sensitive area.

e) Support facilities to paragraph (a) to (d).

4. Utilization of water resources and water supply.

a) Abstraction or utilization of surface water for agricultural, industrial or urban use of more than 400 m3/day but less than 1000 m3/day.
b) Abstraction or utilization of groundwater of less than 1000 m3/day.
c) Construction of gravitational water scheme of between 400 m3/day and 1000 m3/day, except where the water source is too small to sustain the gravity water scheme or the ecosystem is fragile and sensitive.
d) Diversion of water from a river or stream, where the water discharged is less than 400m3/day.
e) Support facilities to (a) to (d).

5. Housing and urban development.

a) Construction of planned settlements or housing estates covering at least 2.5 acres but not more than 5 acres.
b) Construction and expansion of public health centres III and IV, private health centres and clinics or their equivalent.
c) Establishment of cemeteries of 2,500 m2/more or up to 2 acres.
d) Places of worship.
e) Recreation centres; including playgrounds, tennis courts and football pitches to be located near wetlands or sensitive ecosystems.
f) Washing bays outside environmentally sensitive areas.
g) Support facilities to paragraphs (a) to (f).

6. Agriculture, livestock, range management and fisheries.

a) Irrigation of between 5 to 20 hectares.
b) Small scale livestock rearing of between 10 to 50 heads of livestock when situated in an urban area.
c) Construction of feedlots in densities of between 500 and 999 cattle livestock units and 1000 units for other livestock.
d) Installations for the intensive rearing of birds or pigs with—
    i. 1,000 or more birds per facility situated within an urban area and 5,000 poultry per facility situation outside an urban area or in a peri-urban area; or
    ii. 100 or more pigs per facility situated within an urban area and 200 pigs per facility situated outside an urban area or in a peri-urban area.
e) Installations for the intensive rearing of dogs with—
    i. 50 or more dogs per facility situated within an urban area; or
    ii. 100 or more dogs per facility situated outside an urban area.
f) Support facilities to (a) to (e).

7. Food and beverage industry.

a) Brewing, distilling or malting of beer, wine, waragi and other spirits for commercial purposes of a capacity of between 500 litres and 1000 litres per day.
b) Production of non-alcoholic drinks of 500 litres and 1000 litres per day.
c) Confectionery or bakeries for commercial purposes.
d) Manufacture of herbal and food supplements, employing more than 50 people.
e) Any other small-sized food and beverage processing facilities.

8. Nature conservation areas.

a) Creation of wildlife protected area buffer zones and corridors.
b) Creation of buffer zones for environmentally sensitive areas.
c) Creation of community wildlife conservation areas in situ.
d) Creation of wildlife sanctuaries.
e) Creation of community conservation areas outside protected areas.
f) Support facilities to (a) to (e).

9. Hotel, tourism and recreational development.

a) Establishment of community tourism areas.
b) Development of tourism or recreational facilities in an area of less than one hectare.
c) Permanent racing and test tracks for motorized vehicles in an area of less than half a hectare.
d) Bandas, tents and campsites for touristic purposes.
e) Access gates and entrances to protected areas.
f) Construction of administration, educational and research infrastructure in protected areas of a capacity of less than 50 persons.
g) Support facilities to (a) to (f).

10. Metallurgy.

Foundry and forging.

11. Mining industry and mineral processing.

a) Reconnaissance and geophysical surveys.
b) Geochemical sampling, pitting and trenching.
c) Support facilities to (a) to (b).

12. Extraction of non-mineral products.

a) Extraction of sand, murram and clay of between $2m^3$ and $5m^3$ per day
b) Stone extraction and quarrying of less than $5m^3$ per day.

13. Petroleum activities and operations.

a) Upstream:

i. Reconnaissance. ii. Well appraisal. iii. Geophysical and geotechnical surveys except for seismic surveys. iv. Well testing, if not covered under the Environmental Impact Statement.

v. Plug and abandonment activities.

b) Midstream:
Rehabilitation of facilities.

c) Downstream:
Construction of not more than 2 fuel pumps and ancillary facilities.

14. General.

a) Activity out of character with its surroundings.
b) A structure of a scale not in keeping with its surroundings.
c) Minor land-use changes in areas with slopes of more than 20%; including housing construction.
d) Other activities as advised by the Authority in liaison with the lead agency.

Annex 2B: PROJECT BRIEFS TO BE SUBMITTED TO THE LEAD AGENCY SCHEDULE 4 OF THE NATIONAL ENVIRONMENT ACT, 2019

Screening checklist for projects to be handled by lead agencies in consultation with the Authority.

1. Transport, transportation equipment and related infrastructure.

a) Opening up of community access and feeder roads.
b) Construction of drainage channels.
c) Upgrading of community access and feeder roads to bitumen standards.
d) Temporary roads for access to infrastructure facilities, being roads of less than 10km.
e) Construction of walkways and cycle-ways if done separately from road construction plans
f) Small bridge construction.
g) Swamp road improvement which involves the installation of culverts.
h) Construction of parking lots for public use with the capacity to hold between 30 to 50 vehicles.
i) Support facilities to (a) to (h).

2. Exploration and power generation, transmission and distribution infrastructure.

a) Electricity distribution lines of a voltage of less than 11kV.
b) Infrastructure at anchoring sites for electricity distribution lines.
c) Support facilities to (a) to (b).

3. Utilization of water resources and water supply.

a) Construction of community water points.
b) Construction of small scale gravitational flow schemes.
c) Extension of piped water in town councils.
d) Support facilities to (a) to (c).

4. Housing and urban development.

a) Construction of planned settlements or housing estates that cover at least 1 acres but not more than 2.5 acres.
b) Land allocation for change of land use.
c) Construction of district, urban council and sub-county administrative blocks.
d) Construction of public facilities, including schools and functional adult learning centres.
e) Construction of Health Centre II.
f) Establishment of recreational facilities; including green spaces and tree planting.
g) Construction and expansion of day-care facilities and nurseries located near sensitive ecosystems.
h) Support facilities to (a) to (g).

5. Agricultural investments, livestock, range management and fisheries.

a) Construction of agro-processing facilities.
b) Construction of watering points and treatment facilities.
c) Establishment of farming demonstration sites.
d) Construction of livestock slaughter slabs.
e) Establishment of community markets.
f) Construction of biomass energy conservation projects.
g) Support facilities to (a) to (f).

6. Forestry.

a) Selective removal of single tree species over an area of 4 acres.
b) Firewood extraction and harvest of non-wood forest products.
c) Establishment of plantations of between 250ha and 500 ha.
d) Support facilities to (a) to (c).

7. Metallurgy.

(a) Artisanal mechanical workshops and mechanical works.

(b) Blacksmith and fabrication work.

8. Extraction of non-mineral products.

Extraction of sand, murram and clay of less than 2m3 per day.

9. Waste management facilities.

a) Construction of sanitary and waste collection facilities at administrative headquarters, academic institutions and health centres.
b) Construction of waste bunkers and collection sites.
c) Temporary waste storage facilities for garbage.
d) Construction of public sanitary facilities.
e) Support facilities to (a) to (d).

Note: Any reference to screening reports or project proposal under any law for projects covered by this Part shall be construed to mean a project brief.

Annex 2C: PROJECTS WHICH REQUIRE ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT

SCHEDULE 5 OF THE NATIONAL ENVIRONMENT ACT, 2019): *Sections 49(1) & (2), 113(2) & (3), 176(1), 177(1), 126(2) & (3) and 181(2).*

1. Transport, transportation equipment and related infrastructure.

a) Construction of public roads not being community access roads, including—
   i. Enlargement or upgrade of existing public roads.
   ii. Construction of flyovers. iii. Construction of terminals.
   iv. Construction of parking facilities, including bus and taxi parks.

b) Construction of roads to aid specific projects, including petroleum in-field roads.

c) Construction of private roads of more than 6 meters in width, including private roads joining national roads that pass through fragile ecosystems or involve resettlement.

d) Construction of inland container ports.

e) Construction of large mechanical workshop and vehicle inspection centres, with a capacity of 50 or more vehicles.

f) Construction of commercial public roadside resting facilities.

g) Construction of new railway lines and related facilities or improvement works to existing railway lines and related facilities.

h) Construction of underground and other tunnels for transportation purposes.

i) Construction of tramways and cable cars.

j) Air transport facilities including—
   i. Construction, expansion or upgrade of aerodromes, airports or airfields.
   ii. Construction, expansion or upgrade of heliports or helipads.

k) Water transport facilities including—
   i. Construction of new, or expansion of shipyards, ports and harbour facilities, jetty and pier development for loading and unloading connected to the land. ii. Creation of access waterways of more than 10 kilometres. iii. Facilities used in building and repairing all types of ships above 4,000 tones displacement. iv. Marinas.

l) Support facilities to (a) to (j).

2. Communications facilities.

a) Construction of communications installations, equipment and related facilities.

b) Construction and expansion of communications towers; including satellite stations.

c) Construction of lighthouses and watchtowers.

d) Support facilities to (a) to (c).

3. Exploration and power generation, transmission and distribution infrastructure.

a) Generation of power from solar PV power plants of more than 2 megawatts.

b) Exploration and generation of geothermal resources.

c) Thermal power generation and other combustion installations.

d) Wind power generation farms of a capacity of at least 10 megawatts.

e) Generation of power from peat.
f) Generation, storage or distribution of electricity from gas and steam energy.
g) Hydro-power generation facilities; including dams with an installed capacity of more than 1 megawatt, or where conditions in Schedule 6 Part 1 paragraph 3(b) have not been met.
h) High voltage electricity transmission lines.
i) Power transmission lines and other means of electrification of more than 15 kilometres in length.
j) Electricity distribution lines of a voltage of more than 33kV or where conditions in Schedule 5 Part 1 paragraph 3(c) have not been met.
k) Electrical substations.
l) Construction of facilities or infrastructure for nuclear reaction, including—
    i. Energy generation.
    ii. Production, enrichment, processing and re-processing.
    iii. Storage or disposal of nuclear fuels or radioactive products.
m) Support facilities to (a) to (l).

4. Utilization of water resources and water supply.

a) Abstraction or utilization of surface water for agricultural, industrial or urban use of more than 1000 m3/day.
b) Abstraction or utilization of groundwater of more than 1000m3/day.
c) Diversion of water from a river or stream, where the water discharged is more than 400m3/day or 30% of Internal Renewable Water Resources over the river catchment.
d) Dredging of a river or lake.
e) Underground storage of water of 10,000m3 or more.
f) Bulk water transfer from one catchment or water body to another.
g) Flood control schemes.
h) Construction of valley dams and valley tanks where the threshold is 1,000,000 m3 or more.
i) Construction of water pipelines of more than 20 kilometres in length or with a capacity of more than 500,000 m3 per day of water.
j) Construction of large scale gravitational water schemes of more than 1000 m3/day or where the ecosystem is fragile and sensitive.
k) Support facilities to (a) to (j).

5. Housing and urban development.

a) Construction of planned settlements or housing estates covering at least 5 acres.
b) Establishment or expansion of development zones, industrial estates and industrial parks.
c) Construction and expansion of public and private hospitals.
d) Construction and expansion of educational and research institutions.
e) Shopping centres and other commercial complexes covering a floor area of 2500/10,000m2 or more.
f) Construction of warehouses.

g) Support facilities to (a) to (f).

6. Agricultural investments, livestock, range management and fisheries.

a) Large scale cultivation of 20 hectares and more.
b) New biological pest and disease control measures.
c) Large scale application of agro-chemicals for disease and pest control.
d) Large scale irrigation of more than 20 hectares.
e) Construction of feedlots in densities that exceed 1000 cattle livestock units and 2000 units for other livestock.
f) Construction of facilities for commercial aquaculture of 200,000kilos per year or an area of one hectare.
g) Establishment of industrial or commercial fish processing plants.
h) Establishment of fish cages for commercial production.
i) Establishment of aquaculture parks.
j) Support facilities to (a) to (i).

7. Food and beverage industry.

a) Brewing, distilling or malting of beer, wines, waragi and other spirits for commercial purposes of a capacity of at least 1000 litres per day.
b) Production of non-alcoholic drinks of at least 1000 litres per day.
c) Milling facilities with a capacity of at least 1000kilograms per day, including for grains, cereals, pulse feeds and other agro- products.
d) Manufacture and refining of vegetable and animal oils and fats.
e) Processing of dairy products.
f) Abattoirs /slaughterhouses and meat processing plants.
g) Production of canned foods.
h) Sugar factories and jaggeries.
i) Support facilities to (a) to (h).

8. Nature conservation areas.

a) Creation of wildlife protected areas.
b) Upgrades to protected areas of community wildlife conservation areas or community conservation areas outside protected areas.
c) Introduction of new or alien wildlife species; including micro-organisms to local ecosystems.
d) Degazettement of wildlife protected and management areas.
e) Commercial exploitation of wild fauna and flora within and outside protected areas, including the setting of extractive off-take quotas for trade and sport hunting.
f) Establishment of hunting blocks and areas for sport hunting.
g) Re-introduction, introduction and translocation of wildlife.
h) Wildlife farming, including ranching and breeding.
i) Creation of zoos and other captive wildlife management facilities.
j) Habituating wild animals for tourism and other purposes.
k) Support facilities to (a) to (j).

9. Forestry.

a) Gazetting or degazetting of forest reserves.
b) Conversion of forested land to other land uses within catchments and watersheds.
c) Introduction of new tree species.
d) Commercial charcoal production.
e) Extraction of rubber and resins.
f) Establishment of plantations of more than 500 ha.
g) Support facilities to (a) to (f).

10. Hotel, tourism and recreational development.

a) Construction of luxury tented camps, lodges, hotels, resort and beachfront facilities, subject to buffer zones protected by law.
b) Development of tourism or recreational facilities in areas of more than one hectare.
c) Construction of accommodation similar to paragraph (a) other than bandas, tents and campsites and construction of other tourism or recreation facilities in wildlife or forest protected areas or near wetlands or other ecologically sensitive areas.
d) Development of golf courses and associated facilities provided that golf courses will not be constructed in protected areas.
e) Establishment of zip lines, canopy walks, cable cars, hot air balloons, paragliding, bungee jumping or related infrastructure.
f) Demolition or significant change of historical buildings, archaeological sites, national monuments and related tourism sites.
g) Establishment of water-based tourism or recreational facilities, including houseboats, cruises or related facilities.
h) Permanent racing and test tracks for motorized vehicles in an area of more than half a hectare.
i) Construction of administration, educational and research infrastructure in protected areas of a capacity of more than 50 persons.
j) Support facilities to (a) to (i).

11. Wood industries.

a) Manufacture of veneer and plywood.
b) Manufacture of furniture and medium density fibre products.
c) Stationary sawmill and shingle mill products industries.
d) Wood preservation facilities.
e) Manufacture of pulp, paper and sand-board mills.

12. Textile industry.

a) Pre-treatment or dyeing of fibres and textiles.
b) Filature fabric, ginning or carpet mills using dyes (by utilizing chemical or vegetable dyes and bleaching agents).
c) Denim or garment industry products and washing facilities.
d) Industrial type facilities where wool or angora is wrapped, de-oiled and bleached.
e) Manufacture of all fibre garments.

13. Tanning and leather industry.

a) Establishment and expansion of hides and skins processing facilities (tanneries).
b) Manufacture of leather and leather products.

14. Chemical industry.

a) Manufacture, formulation or re-packaging of industrial chemicals.
b) Manufacture, formulation or re-packaging of agro-chemicals.
c) Manufacture, formulation or re-packaging of public health chemicals and products.
d) Manufacture, formulation or re-packaging of pharmaceutical products.
e) Battery manufacture and recycling.

15. Metallurgy.

a) Manufacture and assembly of motorized and non-motorized transport products.
b) Boiler-making and manufacture of reservoirs, tanks and other sheet containers.
c) Manufacture of non-ferrous products.
d) Manufacture of aluminium, iron, steel and related products.
e) Electroplating.

16. Electrical and electronics industry.

Manufacture and assembly of electrical and electro-mechanical products.

17. Mining industry and mineral processing.

a) Mineral exploration.
b) Mining of metal and non-metal minerals.
c) Processing of minerals, including smelting and refining of ores.

18. Manufacturing of non-metallic products.

a) Manufacture of rubber products.
b) Manufacture of glass, glass-fibre and glass-wool.
c) Manufacture of plastic materials.
d) Manufacture of tiles and ceramics.
e) Production of kaolin and vermiculite.
f) Manufacture of bricks and brick products for commercial purposes.

19. Assembling plants.

(a) Assembling of motor vehicles, motorcycles and bicycles.
(b) Assembling of other equipment for commercial purposes.

20. Extraction of non-mineral products.

(a) Extraction of sand, murram and clay of at least $5m^3$ per day. (b) Stone extraction and quarrying of more than $5m^3$per day.

21. Petroleum operations.

a) Upstream—

i. Geophysical and geotechnical surveys for seismic activities. ii. Exploration, including drilling, construction, installation and operation of drilling rigs and related facilities.

iii. Field development and production activities, including—

a. Construction of onshore drilling pads.

b. Development of drilling construction, installation and operation of onshore drilling rigs and their facilities.

c. Construction, installation and operation of central processing facilities.

d. Construction, installation and operation of in-field pipelines and flow-lines.

e. Construction, installation and operation of fixed platforms and mobile platforms.

iv. Construction of facilities, including storage facilities, central processing facilities and, pipelines.

v. Construction, installation and operation of accommodation and materials bases, including the extension of camps.

vi. Offshore platforms for petroleum and natural gas.

vii. Construction and installation of water abstraction facilities.

viii. Decommissioning of petroleum facilities and activities.

ix. Any other facility or activity for exploration, development, production, transportation, storage and cessation of activities or decommissioning of facilities.

b) Midstream—

i. Construction of petroleum refinery, conversion plants and other petroleum processing plants.

ii. Storage facilities for petroleum and petroleum products.

iii. Construction and installation of facilities, including pipelines, storage facilities and camps.

iv. Transmission of chemicals, petrochemicals and petroleum in bulk.

v. Decommissioning of midstream facilities and operations.

c) Downstream—

i. Construction or major modification of installations or facilities of the petroleum supply chain including— a. Petroleum product depots.

b. Fuel filling stations and fuel service stations.

c. Facilities for refilling and storage of liquefied petroleum and natural gas.

ii. Petrochemical plants; including asphalt plants.

iii. Transmission of petrochemicals and petroleum products.

iv. Construction of other facilities for the transportation, processing, supply, storage, distribution, wholesale, retail sale and sale to industrial consumers of petroleum products and related activities.

v. Decommissioning of installations and facilities used in the petroleum supply chain.

22. Waste management facilities.

a) Transportation of hazardous waste.
b) Hazardous waste storage and treatment facilities.
c) Construction of waste management facilities, including—
    i. Landfills.
    ii. Incineration plants.
    iii. Recovery/re r cycling plants.
    iv. Composting plants.
    v. Wastewater/effluent treatment plant.
    vi. Sewage treatment plants.
d) Facilities for the disposal of asbestos.
e) Storage or disposal of nuclear and radioactive waste.
f) Sewage treatment plants.

23. General.

a) Installations for the capture of carbon dioxide streams for geological storage from installations covered by this Schedule, or where the total yearly capture of carbon dioxide is 1.5 megatonnes or more.
b) Tobacco processing and storage.
c) Facilities for manufacture of medical and veterinary equipment.
d) Aerial spraying using chemicals.

Annex 3: Sample Environmental Monitoring Checklist

DISTRICT/MUNICIPALITY: ……..……..

PROJECT NAME: …….GPS LOCATION: …….

ENVIRONMENT MONITORING CHECKLIST				
S. No	**Environment Safeguard**	**Verification indicators**	**Yes/No/ N/A**	**Explanatory Notes**
Planning Stage				
1.	**Environment Assessment and Management instruments**	Was Environmental and social Screening/ Project Brief/ ESIA done before the commencement of civil works?		
		Were appropriate safeguard documents developed (PB/EMP, EIA)		
		Is there a costed EMP in place?		
		Was NEMA certificate obtained?		
		Is there an approved Contractor Environment & Social Management Plan (ESMP)?		
		Were necessary permits obtained and displayed on-site?		
		Tenancy agreement and approval of BPs, quarries, and other auxiliary sites?		
2.	**Bidding/ Contracting**	Were key ESHS risks identified in assessments included in the bid and contract documents?		
		Are the ESHS costs in the B.O.Q?		
		Is there competent ESHS staff for contractors per the evaluated bid?		
		Is there an ethical code of conduct? Was it signed by employees?		
Construction Stage				
3.	Waste Management Clearing of sites	Is there a waste management system on site for Hazardous/Solid waste, medical waste, wastewater, etc. (Sorting, recycle, reuse etc.)		
		Are wastes properly treated and disposed of following NEMA regulations?		
		Has waste been segregated and disposed of in separate bins? Availability and Use of bins for the collection of wastes (separate labelled bins as per the type of waste)		

ENVIRONMENT MONITORING CHECKLIST				
S. No	**Environment Safeguard**	**Verification indicators**	**Yes/No/ N/A**	**Explanatory Notes**
		Are the waste bins being emptied/cleaned regularly?		
		Are there any trash/garbage scattered on-site?		
		Is construction waste disposed to designated/ gazetted dumping sites/landfills by a registered waste management company;		
		Are used material (scrap metal, tires etc.) hauled offsite for recycling/reuse?		
		Any oil spills and/or other chemical spills observed in campgrounds?		
		Proper Disposal of topsoil and excavated material		
4.	Stormwater and Erosion management	Is there adequate stormwater drainage, Erosion and Sediment Control Management procedures/measures?		
		Any puddles/patches of rainwater in site/ campgrounds?		
		Have clogged drains/ditches been cleaned regularly?		
5.	Noise management	Are there any activities that generate excessive noise at camp and work sites?		
		Is there proper Noise Control?		
6.	Dust management	Are there any activities that generate dust emissions at worksites and campsite?		
		Is there proper Dust control?		
7.	Erosion control	Are Erosionand SedimentControl Management procedures implemented		
		Is there proper stormwater drainage?		
		Swamp and wetland protection		
8.	Involvement of stakeholders	Are in charges of schools, health centres, representatives of the Management Committees involved in routine monitoring of EMP implementation & compliance?		
9.		Any other risks highlighted in ESMP or ESIA-NEMA certificate		
10.	Grievance Redress Mechanism	Any environmental issues for redress?		
11.	Monitoring	Is regular monitoring undertaken by the District Environmental officer (reports, feedback on actions)?		

ENVIRONMENT MONITORING CHECKLIST				
S. No	**Environment Safeguard**	**Verification indicators**	**Yes/No/ N/A**	**Explanatory Notes**
		Were the recommendations from previous monitoring/action plan implemented?		
Water /Irrigation Projects				
12.		Are any agrochemicals management plans prepared?		
		Are there records of the Material Safety data sheets?		
		Are adequate measures taken to prevent soil contamination of irrigated lands by agrochemicals, heavy metals and other hazardous substances?		
		Are considerations given to water pollution of the surrounding water bodies, such as wells, streams, rivers and groundwater by effluents or leachates from agricultural lands?		
		Are adequate use/ disposal standards for fertilizers and agrochemicals established?		
		Is a framework established to increase awareness of the standards among farmers?		
		Are there any silt fences and sediment traps established on either side of riverbank? Any visible signs of sedimentation of the river from construction work?		
		Is there any bank erosion from construction work?		
		Are there any trash/garbage scattered in worksite?		
		Are construction vehicles washed in the river?		
		Are there any oil spills on river/riverbank?		
		Are there any excavations with stagnant water on either side of river banks?		
		Are there any portable toilets for workers at construction worksite near the river?		
		Observations on dead fish, amphibians etc in river upstream/downstream areas?		
		Any instream dams or other physical barriers created to prevent sedimentation due to instream dredging/construction work?		
COMPLETION/DECOMMISSIONING STAGE				
13.	Decommissioning	Decommissioning and restoration plans in place and fully implemented (including tree planting and landscaping) (Plans approved by		

ENVIRONMENT MONITORING CHECKLIST				
S. No	**Environment Safeguard**	**Verification indicators**	**Yes/No/ N/A**	**Explanatory Notes**
		D/M TPC and consultant)		
14.	Environmental compliance	Annual Environmental audit conducted, nonconformities identified, and corrective actions implemented within the defect liability period (Audit report & status of implementation of the corrective actions)		
		Quarterly returns of Monitoring Reports to NEMA		
		Preparation of Annual Environmental Reports		
		Environment Officer signs off the Environmental and Social Compliance certificate before payment of contractor invoices and following site inspection to ascertain Environment compliance.		

Proposed sector specific mitigation intervention matrix

Annex 4: Energy and Mineral Development Sector

Intervention area	Environment Issues/impacts	Mitigation measure Action required	Performance indicator
Energy Thermal and hydropower stations, power transmission and distribution lines etc	▪ Location, land acquisition ▪ Degradation of fragile ecosystems ▪ Water uptake and abstraction-fracking ▪ Pollution of water sources/contamination as a result of operations ▪ Noise pollution and vibration, air pollution, dust, flaring, GHG emissions, ▪ Landscape deformation (pits) ▪ Health & safety issues (workers and community) ▪ Social disruptions (school dropouts, displacements) ▪ Cultural and heritage sites destruction ▪ Biodiversity loss ▪ Waste generation-disposal issues ▪ Connectivity-degradation out of oil, electricity networks, electric poles, etc ▪ High tarrifs on energy and limited alternatives	▪ Resettlement action plans ▪ Alternative energy saving technologies ▪ Tree planting ▪ Catchment management plans ▪ ESIAs ▪ Compliance monitoring and enforcement ▪ Restoration of degraded environment ▪ Offsetting initiatives ▪ Recruit waste handlers and managers ▪ Restoration program	▪ No. of people using improved technologies ▪ No. of trees planted ▪ No. of projects with ESIAs ▪ No. compliance and enforcement operations conducted ▪ Proportion of restored environment around utility networks ▪ No of registered waste handlers

Mining and mineral development	▪ Location ▪ Land acquisition ▪ Pollution: water, air, sound ▪ Social disruptions; displacement ▪ Biodiversity loss ▪ Land scape changes; soil erosion, burrow pits, ▪ Geological disruptions ▪ Water uptake ▪ Illegal extraction of minerals ▪ Use of heavy metals in mining; mercury for gold	▪ Compensation resettlement action plans ▪ Conduct EIAs ▪ Initiate offsetting schemes ▪ Restoration programmes ▪ Water recycling	▪ No. mining licenses ▪ No of project compensated persons ▪ No of RAPs developed ▪ Vegetation cover within project area ▪ No of offset projects ▪ Volume of recycled water

Annex 5: Water and Environment Sector

Intervention area	Environment Issues/impacts	Mitigation measure Action required	Performance indicator
▪ **Forest management**	▪ Deforestation and illegal logging ▪ Land use change (Forest cover degradation, infrastructure, encroachment) ▪ Degazetting forest reserves ▪ Forest fires ▪ Introduction of new and exogenous species ▪ Protection of threatened species ▪ Forest governance (particularly those outside NFA&UWA)	▪ Strict enforcement and penalties ▪ Demarcation, mapping and ▪ titling of all forest reserves ▪ Fire tolerant species and buffer zoning ▪ Adherence to degazetting procedure ▪ Regeneration and offsetting ▪ Sustainable use of forests for livelihood	▪ Amount of penalty fees collected ▪ Prosecuted cases ▪ Density of fire tolerant species ▪ Demarcation exercises conducted, titled forest reserves ▪ Legally degazetted reserves ▪ Proportion of naturally regenerating species versus other ▪ Programmes on sustainable forest use

▪ **Water resources development and management**	▪ Catchment and watershed degradation ▪ Land acquisition and clearance; pipes, extension ▪ Unsustainable Water abstraction ▪ Unpermitted bulk water transportation ▪ Water runoff, flooding ▪ Water pollution/contamination, chemicals, fertilizers, lead ▪ Fecal sludge management-chemicals, transportation etc. ▪ Discharge of effluent ▪ Transboundary water resource use/ issues ▪ Poor draining ▪ Capacity gaps ▪ Invasive species	▪ Conduct ESIAs ▪ Catchment management plans ▪ Water abstraction permits ▪ Establish flood control, mechanisms, check dams, harvesting watershed management etc ▪ Adoption of regulations on effluent discharge ▪ Integrated Water Resource Management ▪ capacity building, O&M plans	▪ No of ESIAs for water projects ▪ No of water use permits issued ▪ Water in and outflow rates ▪ No of watershed/catchment management plans in place ▪ Biochemical oxygen demand – No of O&M plans developed
▪ **Environment and climate change**	▪ Decrease of Land cover degradation ▪ Wetland encroachment/degradation ▪ Pollution, noise, air, water ▪ Waste Management ▪ Deteriorating water and quantity quality ,Invasive species, Fire outbreaks ▪ Mainstreaming in sectors	▪ Enforcement and prosecutions ▪ Pollution monitoring and enforcement teams ▪ Catchment and watershed management ▪ Fire control zones	▪ Density of land cover ▪ No of prosecutions ▪ Noise and air quality levels (PM) ▪ Fire tolerant species ▪ No of catchment management plans developed ▪ PH levels

Annex 6: Lands, Housing and Urban Development

Intervention Area	Environment Issues/impacts	Mitigation measure Action required	Performance indicator
Lands	▪ Protection and management of publicA land ▪ Land acquisitions, give-aways, evictions ▪ Issuance of titles in wetlands and vital eco systems ▪ Land/soil degradation ▪ Physical planning, Land/building carrying capacity, ▪ Gender considerations in building	▪ Monitoring and compliance enforcement ▪ Cancelling titles in fragile eco ▪ system” ▪ Monitoring and compliance enforcement	▪ Number of plans that meet environmental standards ▪ Monitoring & enforcement operations conducted ▪ No of cancelled titles ▪ Percentage buildings with gender sensitive considerations
Housing	▪ Land acquisition and displacement ▪ Construction material acquisition and transportation ▪ Inadequate standard housing and overcrowding ▪ Biodiversity loss, wetland encroachment, birds, sand mining ▪ Land scape changes ▪ Hygiene and sanitation ▪ unplanned settlements (slums) ▪ Pollution-noise ▪ Waste generation	▪ Enforce the land act, urban and physical planning guidelines ▪ Initiate resettlement plans ▪ Design restoration programmes ▪ Apply the urban planning guide ▪ Adhere to noise control standard ▪ Waste management methods	▪ Level of implementation of existing guidelines ▪ No of resettlement action plans ▪ Proportion of restored environment ▪ Noise levels ▪ Volume waste collected

Urban Development	▪ Lack of physical planning for islands ▪ Urban planning around fragile ecosystems ▪ Informal settlements and slums ▪ Waste generation and management problems ▪ Social considerations in designs; gender, vulnerable people	▪ Develop physical plans for islands ▪ Restrict developments/plans around ecosystems ▪ Support waste recovery and management	▪ No Islands with physical plans ▪ Volume of waste collected and recycled ▪ Volume waste collected ▪ No of buildings/infrastructure

Annex 7: Agricultural Sector

Intervention Area	**Environment Issues/impacts**	**Mitigation measure**	**Performance indicator**
Agriculture; crops	▪ Water uptake, Irrigation ▪ Pesticides and agro chemicals & fertilizers ▪ Land acquisition, encroachment and clearing ▪ GHG emissions, equipment ▪ Loss of biodiversity-agriculture extensions ▪ Protection of indigenous crop varieties ▪ Introduction new and endogenous crop ▪ varieties	▪ Introduce advanced irrigation technologies ▪ Apply the fertilizer policy and promote organic fertilizers ▪ Conduct ESIAs ▪ Promote carbon sequestration and GHG emission reduction(tree planting)	▪ Volume of water recycled ▪ Adoption rates of advanced irrigation technology systems ▪ Proportion of farmers using high quality ▪ pesticides chemical and fertilizers ▪ No of RAPs developed, ▪ Projects in titled land ▪ Level of GHG emissions ▪ No of projects with ESIAs & EMPs ▪ No of offset projects

Fishing	▪ Establishment of aquaculture production systems in wetlands and in lakes ▪ Cage fish farming- fish feeds, fish escapes from farms, importations ▪ Invasion of exotic water weeds, fish and other water animals ▪ Illegal fishing ▪ Destruction of fishing breeding sites ▪ Water contamination /quality	▪ Conduct EIAs ▪ Develop guidelines for fish farming ▪ Enforcement and strict penalties ▪ Pollution monitoring and enforcement teams ▪ Watershed management plans	▪ No of EIAs conducted ▪ Existence of guidelines on fish farming ▪ No of prosecutions ▪ No of watershed management plans developed
Animal Husbandry, live stock management	▪ Water uptake, dams, boreholes construction, pasture ▪ Pesticides and agro chemicals & feeds ▪ Land acquisition, encroachment and clearing ▪ GHG emissions, equipment ▪ Loss of biodiversity-agriculture extensions ▪ Protection of exogenous breeds ▪ Conflicts over ENR	▪ Introduce advanced irrigation technologies ▪ Regulate animal feeds market ▪ Conduct ESIAs ▪ Promote carbon sequestration and GHG emission reduction(tree planting) ▪ Promote peace and harmony	▪ Volume of water recycled ▪ Adoption rates of advanced irrigation technology systems ▪ Proportion of farmers using high quality breeds, pesticides, chemicals and feeds ▪ No of RAPs developed, ▪ Level of GHG emissions ▪ No of projects with ESIAs & EMPs ▪ No of offset projects ▪ No of conflicts reported

Annex 8: Works and transport Sector

Intervention Area	Environment Issues/impacts	Mitigation measure Action required	Performance indicator
Works and Transport Roads, bridges, airways and water transport construction and maintenance, construction works Transport operations	▪ Location, land acquisition ▪ Degradation of fragile ecosystems ▪ Water uptake and abstraction ▪ Pollution of water sources/ contamination as a result of operations ▪ Noise pollution and vibration, air pollution, dust, , GHG emissions, ▪ Landscape deformation (pits) ▪ Health & safety issues (workers and community) ▪ Social disruptions (school dropouts, pregnancies, displacements) ▪ Cultural and heritage sites destruction ▪ Biodiversity loss (national parks) ▪ Waste generation-disposal issues	▪ Resettlement action plans ▪ Alternative energy saving technologies ▪ Tree planting ▪ Catchment management plans ▪ ESIAs ▪ Compliance monitoring and enforcement ▪ Landscape preservation and revegetation; ▪ Restoration of degraded environment ▪ Offsetting initiatives ▪ Recruit waste handlers and managers ▪ Restoration program ▪ Installing gully traps ▪ Improved technologies ▪ Water recycling ▪ Planned offsets ▪ Provision of protective gear ▪ Cleanup and disposal of waste materials.	▪ No. of people using improved technologies ▪ No. of trees planted ▪ No. of projects with ESIAs ▪ No. compliance and enforcement operations conducted ▪ Proportion of restored environment around utility networks ▪ No of registered waste handlers ▪ No of trees planted ▪ Proportion installed ▪ Expenditure on noise reduction ▪ Volume of water recycled ▪ % workers with protective gear

Annex 9: Tourism, Trade and Industry Sector

Intervention Area	Environment Issues/impacts	Mitigation measure Action required	Performance indicator
Tourism	▪ Location; hotels ,restaurants ▪ Invasive species in protected areas ▪ Infrastructure within tourism sites ▪ Biodiversity loss ▪ Animal-human conflicts ▪ Poaching and illegal trade ▪ Waste management ▪ Carbon/GHG emissions	▪ Monitoring, inspection audits ▪ promote healthy plant community and control movement of infested soils/gravel ▪ Conduct ESIAs ▪ Restoration ▪ Demarcation and set up of barriers ▪ Enforcement and prosecutions	▪ % of tourism structures in fragile eco systems ▪ Number or portion of area of invasive species ▪ No of infrastructural projects in tourism areas ▪ No of reported animal-human con- ▪ flicts ▪ Amount of waste collected/disposed ▪ Level of GHG emissions
Trading related activities Wholesale and retail trade, Hotel and restaurants	▪ Poor and substandard products-imported and local ▪ Safety, hygiene and sanitation ▪ Energy consumption ▪ Location-biodiversity loss ▪ Pollution; noise,water,air ▪ Waste management	▪ Inspections, enforcement and prosecution ▪ Registered of products ▪ Banning and confiscation of products ▪ Awareness creation of standards and quality	▪ % certification of products ▪ No of inspections conducted ▪ Level of safety, state of hygiene ▪ Adoption rates of energy saving systems ▪ Levels of pollution ▪ Amount of waste collected/disposed ▪ No of awareness creation campaigns

Industry **Agro processing, manufacturing**	▪ Location, residences, wetlands ▪ Land acquisition and displacement ▪ Air, water and noise pollution ▪ Waste disposal ▪ Occupation health & safety ▪ Biodiversity loss ▪ Substandard/destructive equipment and technologies and products eg kaveera ▪ Sourcing for materials ▪ Hazardous substances and chemicals ▪ Emissions, GHG, CFCs,	▪ Promote use of industrial parks ▪ Resettlement action plans ▪ Planting trees ▪ use of improved technologies ▪ use of proper waste disposal methods ▪ adhering to use of protective gears ▪ improved occupational health and working conditions	▪ No of industries in industrial parks ▪ No fo RAPs ▪ No of projects with EIAs ▪ No of trees planted ▪ air quality indicators ▪ Level of adoption of improved technology ▪ Safety levels in industries

Annex 10: Social services and public sector

Intervention Area	Environment Issues/impacts	Mitigation measure/ Action required	Performance indicator
Health	▪ Construction works ▪ Medical waste and health care waste, Other waste management, ▪ Environmental disease outbreaks ▪ Epidemics management ▪ Equipment and facilities-radioactive emissions ▪ Occupation health & safety	▪ Proper disposal/incineration ▪ Personal protective equipment ▪ Disease surveillance ▪ Conduct SEIA	▪ % disposal facilities VS generating centres ▪ % staff with protective gear ▪ Disease breaks/incidences ▪ % projects with approved EIA
Education	▪ Construction operations ▪ Waste management, ▪ Curriculum orientation ▪ safety, hygiene and sanitation ▪ Land degradation ▪ Biomass energy consumption ▪ Safety issues (fire, lightening and other hazards ▪ Poor waste disposal timber for furniture ▪ Poor management of construction debris" ▪ Poor hygiene & sanitation ▪ Soil erosion & Water runoff from roofs	▪ Replanting of trees & grassing ▪ Installing detection& protective equipment ▪ Proper disposal of waste ▪ "disposing debris in gazette areas" ▪ Promoting good practices ▪ Replanting of trees & grassing	▪ Number of trees planted ▪ Type and n umber of equipment ▪ installed ▪ Proportion of waste properly disposed ▪ rate of disposal in gazette areas ▪ Level of hygiene and sanitation ▪ Level of integration of ENR issues into curriculum

Public Administration and Management	▪ Disproportionate use of ENR by internally displaced people and refugees ▪ Inadequate resource allocation towards government ENR priorities ▪ Trans boundary issues/ environmental cooperation ▪ Policy reversals and contradictory communications ▪ Political will and support ▪ Disasters and emergencies ▪ Inadequate capacity-human resources for ENR activities ▪ Motivation of recruited of ENR officers ▪ Implementation of ENR presidential directions	▪ SEA and ESIAs for refugee settlements ▪ Identification of capacity gaps in environment sector ▪ Tracking implementation of environment programmes ▪ Citizen participation and engagement in policy processes ▪ Strengthen disaster and emergence coordination mechanisms ▪ Improve the welfare and working conditions of ERN officers ▪ Institute a system of tracking implementation of presidential directives	▪ No of SEAs&ESIAs conducted ▪ No of recruited ENR officers ▪ Level of citizen participation in ENR management ▪ Level of implementation of ENR presidential directives ▪ Level of involvement and representation of citizens in ENR activities

Local Government	▪ Limited personnel/ capacity to manage the decentralised ▪ ENR ▪ Low staffing of ENR Department ▪ Low levels of community participation in ENR management ▪ Non-operational of DECs and LECs ▪ Restoration of degraded fragile eco systems ▪ Management and enforcement of ENR concerns ▪ Lack of supportive ordinances an bye-laws	▪ identification of capacity gaps in ▪ environment sector tracking implementation of environment programmes citizen participation and engagement in policy processes ▪ Develop Ordinances & bye-laws to ▪ Assess compliance to ENR targets	▪ Number of new staff recruitments to ▪ ENR ▪ Number Community engagement for a ▪ Number of constituted and operational DECs ▪ Proportion of restored degraded environment systems ▪ Number of enforcement operations ▪ Percentage of local governments with ordinances, bylaws and level of execution ▪ levels of compliance to ENR laws and regulations

Annex 11: Justice Law, order sector

Intervention Area	Environment Issues/impacts	Mitigation measure/ Action required	Performance indicator
Administration of justice and Law	▪ ENR related conflicts with local communities ▪ Capacity and awareness issues on the gravity of environmental crime ▪ Delayed and limited access to justice on ENR issues & ENR corruption cases ▪ Protection and addressing environmental human rights & rights of nature ▪ Unabated environmental cases ▪ &crimes ▪ Low levels of knowledge on environment issues by justice, law order section ▪ Weak laws with respect to fines, penalties and deterrence	▪ Recruiting and expanding environment officers within the sector ▪ Setup of environment desk ▪ Capacity building and training in environment issues/case ▪ Environmental case logs	▪ New recruitments related to environment and CC within the sector ▪ No of environmental desks/FPPs/ ▪ Units in place ▪ No of training sessions

Order and security	▪ Poor compliance and weak enforcement of ENR laws ▪ Designated environmental force ▪ Limited personnel for enforcement ▪ Lack of required equipment for enforcement ▪ Low levels of knowledge on environment	▪ Recruiting more environment officers within the sector ▪ Setup of environment desk ▪ Capacity building and training in environment issues/case ▪ Provision of equipment; vehicles etc	▪ New recruitments related to environment and CC within the sector ▪ No of environmental desks/FPPs/ ▪ Units in place ▪ No of training sessions ▪ No and nature of equipment provided

Annex 12: Accountability sector

Intervention Area	Environment Issues/impacts	Mitigation measure/ Action required	Performance indicator
Accountability Economic management and financial services	▪ Mobilization and disbursement of environmental funds ▪ Unsustainable utilization of ENR for economic growth ▪ Inadequate incentives for effective private sector investment in ENR, ▪ Inadequate public investment in ENR and value addition ▪ Limited environmental auditing ▪ Limited environmental data & surveys ▪ Limited environmental fiscal reforms to deter degradation ▪ Inadequate utilization of ENR information ▪ Capacity to internalize environmental issues ▪ Control of Environmentally unfriendly products ODS ▪ Waste management and pollution control	▪ Mobilize funds and other resources for ▪ Environment ▪ Allocate adequate resources for environment ▪ Operationalize the ENR statistical plan ▪ Deploy economic instruments for ENR ▪ Capacity building ▪ Undertake environmental literacy programs targeting finance officers, investors and business ▪ Monitoring of ENR activities for accountability and value creation	▪ Amount allocated to ENR subsector ▪ No of economic projects with ESIAs ▪ No of private sector players – incentives ▪ Nature and type of ENR data collected ▪ No of economic instruments develop ▪ Allocation of funds/environment levy to ENR ▪ Number of trained officers/people ▪ No of environmental literacy programmes undertaken ▪ No of ENR monitoring activities conducted

Annex 13: Science, Technology and innovation sector

Intervention Area	Environment Issues/impacts	Mitigation measure Action required	Performance indicator
Information, and communication	▪ Transmitters/masts, radiation equipment ▪ Diseases-radiation related ▪ E waste pollution ▪ Unlicensed operators ▪ Degradation of environment around ICT networks ▪ Waste management ▪ Communication networks expansion	▪ Installing improved technologies ▪ Improving E waste collection mechanism ▪ Environmental-compliant licensing ▪ Restoring environment/networks ▪ Licensing and regulation	▪ Licensed/approved equipment/technologies ▪ Level of E waste collections ▪ No of licensed ICT companies and approved equipment ▪ Restorations/campaigns
Science and technology	▪ Location ▪ Degradation of environment to provide raw materials ▪ Collection and management of environmental data	▪ Installing improved technologies ▪ Environmental-compliant licensing ▪ Restoring environment/networks ▪ Licensing and regulation ▪ Vetting of data collection projects	▪ No of licensed ICT companies and approved equipment ▪ Restorations/campaigns ▪ No. of studies approved (ethical clearance)

Annex 14: Cross sectoral issues

Intervention Area	Environment Issues/impacts	Mitigation measure Action required	Performance indicator
All sectors	▪ Pollution, air, sound/noise, water ▪ Procurement; materials, product type, sources and disposal ▪ Irresponsible consumption and use; water, power, food, fuel, communication ▪ Improper waste management ▪ Illegal use of products; banned plastic carrier bags, jerry etc ▪ Limited participation in environmental events and campaigns ▪ Budget allocation for ENR mainstreaming-	▪ Installing improved technologies ▪ Environmental awareness and public education ▪ Waste management; sorting, ▪ collection, recycling ▪ Responsible consumption-zero waste ▪ Environmentally benign procurement ▪ Outlaw/prohibition of use of banned products and substances	▪ Extent of use of improved technologies ▪ Level of waste collections ▪ Participation; No of events in a year ▪ Volumes of waste generated ▪ % budget allocated to ENR issues ▪ Number of policies reinforcing outlaw of banned products

Annex 15: Implementation roles

Roles	Actors/responsible party
* Over sight leadership, planning, guidance, technical and capacity building	* Ministry of Water and Environment
* Coordination, collaboration and follow up	* National Environment Management Authority
* Monitoring, evaluation and assessment of progress and compliance	* NEMA, NPA, MWE and MFPED
* Resource mobilization and allocation	* MFPED, line Ministries, Agencies and Local Governments
* Planning and management of mainstreaming initiatives and actions	* line Ministries, Agencies and Local Governments