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MINISTRY OF LANDS, PUBLIC WORKS, HOUSING AND URBAN DEVELOPMENT
State Department for Housing and Urban Development

Kenya Informal Settlements Improvement Project Phase II
(KISIP II)

Environment and Social Management Framework
(ESMF)

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Version	Date	Author	Purpose of Issue
1.0	September 2019	MoTIHUD	Draft Updated ESMF for the proposed KISIP II for World Bank and other stakeholder review; and to guide consultations.
2.0	October 2019	MoTIHUD	Revised Draft Updated ESMF for the proposed KISIP II, incorporating review comments and feedback from consultations. For World Bank review.
3.0	November 2019	MoTIHUD	Final Draft of Updated ESMF for the proposed KISIP II, incorporating RSA comments, for World Bank approval for disclosure.
4.0	February 2023	MoLPWHUD	Revised Environmental and Social Management Framework to incorporate AfD financing, and Executive Order No. 1 of 2023 on Organization of Government

List of Abbreviations

AfD	Agence Francaise de Developpment (French Agency for Development)
AIDS	Acquired Immuno Deficiency Syndrome
CPTED	Crime Prevention through Environmental Design
EMCA	Environmental Management and Coordination Act
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
GDP	Gross Domestic Product
GoK	Government of Kenya
HIV	Human Immuno Deficiency Virus
IDA	International Development Association
KeNHA	Kenya National Highways Authority
KeRRA	Kenya Rural Roads Authority
KIHBS	Kenya Integrated Housing and Budget Survey
KISIP	Kenya Informal Settlements Improvement Project
KURA	Kenya Urban Roads Authority
NEAP	National Environment Action Plan
NEMA	National Environment Management Authority
NGEC	National Gender and Equality Commission
OP	Operational Policies
RMLF	Roads Maintenance Levy Fund
RPF	Resettlement Policy Framework
SDGs	Sustainable Development Goals
SEC	Settlement Executive Committee
USD	United States Dollars

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Executive Summary

Overview

This document is the Updated Environmental and Social Management Framework (ESMF) for Phase II of the Kenya Informal Settlements Improvement Project (KISIP). The ESMF will ensure that project activities are compliant with the relevant stipulations of national policies, regulations and legislations as well as the World Bank Safeguards Policies and Procedures. The World Bank safeguard standards and procedures shall apply to AfD financing. The objective of the ESMF is to set out the principles, rules, guidelines and procedures for assessing the environmental and social impacts of KISIP interventions and monitoring of compliance to ensure that environment and social are sustainably managed in all aspects of the project.

ESMF Objectives

The objective of this Environmental and Social Management Framework (ESMF) is to ensure that any adverse environmental and social impacts are avoided or appropriately mitigated and compensated for where necessary. The ESMF is based on the World Bank's environmental and social safeguard policies as well as Kenyan laws and policies.

The ESMF provides an overview of relevant World Bank Safeguards Policies and Government of Kenya regulations and documents the baseline conditions, potential environmental and social impacts and mitigation measures, environmental assessment procedures, institutional roles, and compliance monitoring of all project components and subcomponents to ensure full compliance with the applicable guidelines.

Project Objective

The project objective is to improve access to basic services and tenure security of residents in participating urban informal settlements and strengthen institutional capacity for slum upgrading in Kenya.

Project Components

KISIP II will comprise the following four components.

Component 1: Integrated Settlement Upgrading

KISIP II has built on the lessons learned from KISIP I and has combined tenure regularization and infrastructure into one integrated upgrading approach. This approach aims at saving both money and time, ensuring better coordination between the two interventions in a settlement, and deepening the project's overall impact on the participating communities by supporting tenure regularization and infrastructure upgrading in the same communities. Thus, two main interventions have been identified under this component: (i) tenure

regularization; and (ii) infrastructure upgrading. Settlements will benefit from one or both interventions depending on the initial condition of the settlement.

Component 2: Socio-Economic Inclusion Planning

This component will support the development of community-level socio-economic plans. The plans intend to identify together with the communities their socio-economic needs and then address how best the needs can be met. These plans will determine activities that will take place in new or existing community centers and will also determine how best to raise awareness on the benefits of public spaces and green zones, and proper solid waste disposal and how to provide these within the settlements. Vulnerable community members will be prioritized as key beneficiaries in these plans. Through county social development and community development officers, KISIP II will link vulnerable community groups, including those at risk of violence, to existing World Bank and GoK Safety nets programs.

Component 3: Institutional Capacity Development for Slum Upgrading

The Project will support institutional and policy development at national and county levels. Activities will include supporting the review of the 2005-2020 National Slum Upgrading and Prevention Strategy; the development of county-specific slum upgrading and prevention strategies; developing financing mechanisms for slum upgrading at county level; and developing strategies to plan for urban growth, prevent crime and violence and to ensure adoptive planning in informal settlements.

Component 4: Program Management and Coordination

This component will finance activities of the National Project Coordination Teams (NPCTs) and the County Project Coordination Teams (CPCTs) related to national and county-level project management and coordination, including planning, surveying, engineering, fiduciary (financial management and procurement), environmental and social safeguards compliance and monitoring, monitoring and evaluation (M&E), and communication and community development.

Project Environmental and Socio-Economic Baseline

The specific location of all project activities is not known at this time, but it is expected to be in major urban centers where informal settlements, meeting the KISIP selection criteria are located. Chapter Four of this report describes the overall baseline conditions of Counties that participated in KISIP I in terms of bio-physical environment, as well as the socio-economic context. Existing environmental and socio-economic conditions will, in many cases, provide a basis for predicting impacts of the sub-projects. The KISIP intervention will be implemented within the legally recognized way leaves, meaning that they will not have any direct effects on private land and sensitive ecosystems.

Policy Legal and Institutional Framework

The ESMF has analyzed the Government of Kenya (GoK) policy and legal framework, and the World Bank Policies relevant to the KISIP II in terms of environmental management. The Project triggers the safeguards policy on Environmental Assessment (OP/BP 4.01). The World Bank procedures for managing environmental and social risks will be applicable for AfD financing. The project will also be heavily influenced by the provisions of the Environmental Management and Coordination Act, Cap 387.

Stakeholder Consultations

The development of this ESMF involved field visits and consultations with key stakeholders and communities in selected towns and settlements that participated in KISIP I. The stakeholders consulted included KISIP PCT, the World Bank, safeguard officers from select Counties, Council of Governors, Member of Settlement Executive Committees (SEC) and Grievance Redress Committees (GRC), County Administration (e.g. ward administrator), Ministry of Interior (chiefs or assistant chief), other opinion leaders (e.g. Members of County Assembly or their representatives), and Community Based Organisations. Direct consultations with beneficiaries for a select number of settlements were also done.

Potential environmental and social impacts associated with design and implementation of sub-projects under KISIP were identified during the consultation process, and mitigation measures proposed. The discussions around the ESMF drew focus on the reasons for updating the document, legal and policy underpinnings, potential project impacts, mitigation and enhancement measures and the environmental and social assessment processes for KISIP intervention. The institutional arrangements for the implementation of the Updated ESMF were discussed, with an emphasis on the larger role of the County Governments in KISIP II, and more involvement of SEC and GRC.

Project Potential Environmental and Social Impacts

It is expected that sub-projects to be implemented under KISIP2 will primarily be in the infrastructure upgrading and planning and tenure regularization spheres with low to medium rating for risks and impacts. This ESMF however envisages that most project impacts will be manageable if the requirements of the ESMF are adhered to.

Monitoring and Mitigation Measures

In order to address these potential adverse impacts, the environmental and social screening process proposed under this ESMF will be applied in such a way as to ensure that potential negative impacts are averted or mitigated, and positive impacts are enhanced. The activities envisaged under the KISIP Project are of low-risk type. However, each sub-project will be subjected to a reasonable level of environmental and social screening to;

- Verify whether the projects meet the qualification criteria;

- Check if the proposed activity by the beneficiary requires further environmental assessments such as ESIAs/or ESMPs;
- Identify the key potential environmental and social risks and impacts;
- Review the proposed intervention at early stage to ensure that it adopts environmental guidelines, criteria and good practices;
- Provide environmental guidance for preparing simple ESMP by the project beneficiaries if appropriate.

Further, in all selected project sites, Grievance Redress Management System and GRM Committees will be set up to receive and respond to any grievances that may be raised by project beneficiaries. The design of the GRM system and GRM Committees will build on the experience and lessons learned from KISIP I.

Budget for implementing this ESMF

As the specific sub-projects have not been identified and designed at the time of appraisal, this ESMF recommends an indicative budget per sub-project that gives key cost drivers. These costs should be integrated into the overall sub-project budget spread over the project period. This will ensure that the ESMF has significant 'clout' within the operation of the projects and is not sidelined. The costs should include costs for the preparation and approvals of Environmental and Social Impact Assessments, implementing mitigation measures in the ESMPs, capacity building, monitoring for compliance, and stakeholder participation.

The following is an indicative budget for the preparation and implementation of Environmental and Social Impact Assessments for individual sub-projects.

No.	Activities	Approx. cost (USD)
1	Preparation costs for ESIA	10,000.00
2	Mitigation costs	150,000.00
3	Monitoring for compliance costs	20,000.00
4	Capacity building costs	50,000.00
5	Grievance redress	20,000.00
6	Community meetings/consultations	30,000.00
	Total	250,000.00

CHAPTER ONE:INTRODUCTION

1.1 Project Background

The Government of Kenya with support from the World Bank and AfD (French Agency for Development) is implementing the Kenya Informal Settlements Improvements Project II (KISIP II) to consolidate the gains made under KISIP I and enhance the benefits of the project to more people in informal settlements. This Second phase of the Kenya Informal Settlements Project (KISIP II) will build on the successes and lessons learned from KISIP I, but also introduce new interventions to deepen its overall impact. It will support the interventions that have been successful under KISIP I, namely: tenure regularization, infrastructure upgrading, and institutional strengthening. Unlike KISIP I, however, the proposed project will include new approaches and new activities to strengthen its impact on the participating communities.

A new approach is to support tenure regularization and infrastructure upgrading in the same communities through one integrated planning approach, aimed at saving both money and time and ensuring better coordination between the two interventions. In addition, the project will include activities to link vulnerable people (elderly, orphans, disabled, and others) of informal settlements to government programs aimed at reducing poverty and vulnerability, and to link at-risk youth to programs focused on building skills and creating opportunities for (self-) employment. KISIP II will include activities to prevent crime and violence.

KISIP II will support the government's housing agenda, one of top four priorities under the current administration. Cross-country experience shows that strengthening security of tenure and investing in infrastructure in informal settlements induces significant private investment in housing and businesses. Indeed, many of the informal settlements that have benefited from upgrading under KISIP 1, have experienced an investment boom, with new multi-story buildings replacing poorly constructed informal housing units.

1.2 Project Description[1]

1.2.1 Project Objectives

The proposed project development objective is to improve access to basic services and tenure security of residents in participating urban informal settlements and strengthen institutional capacity for slum upgrading in Kenya. This will be achieved by investing in

[1] Refer to the Project Appraisal Document for a detailed project description.

infrastructure based on plans developed in consultation with beneficiary communities; by supporting planning, surveying and issuance of land documents for residents of informal settlements; and by strengthening capacity of county administrations to deliver on their mandates.

1.2.2 Project Components

The proposed project will comprise the following four components.

Component 1: Integrated Settlement Upgrading

KISIP II has built on the lessons learned from KISIP I and has combined tenure regularization and infrastructure into one integrated upgrading approach. This approach aims at saving both money and time, ensuring better coordination between the two interventions in a settlement, and deepening the project's overall impact on the participating communities by supporting tenure regularization and infrastructure upgrading in the same communities. Thus, two main interventions have been identified under this component: (i) tenure regularization; and (ii) infrastructure upgrading. Settlements will benefit from one or both interventions depending on the initial condition of the settlement.

Subcomponent 1.1: Tenure regularization

Tenure regularization to enhance tenure security is a focus of the Government of Kenya to alleviate poverty. The National Land Policy 2009 recognizes the need for tenure security for all Kenyans, including residents of informal settlements. KISIP II will support the chain of activities required to regularize tenure for people living on uncontested public lands. These activities include: (i) development of a local physical plan for the settlement, which lays out land parcels and infrastructure (roads, etc.); (ii) surveying with physical placement of beacons (pegging) to demarcate the parcels as per the plan; (iii) preparation and issuance of letters of allotment based on the survey plan; and finally (iv) issuance of titles.

Based on experiences from KISIP I, differentiated approaches to tenure regularization have been incorporated into KISIP II design based on different characteristics of settlements especially density. Moreover, KISIP II will follow the experience of KISIP I to minimize displacement of residents in planning using 'adoptive' planning[2] approach to

[2] Adoptive planning is a term developed by the Government of Kenya in response to the KISIP1 experience where the extent of displacement from using standard planning standards were found to be extensive. Adoptive planning is an approach that **adopts** to the prevailing situation in the affected settlement, and emphasizes parcel boundaries and road widths that adhere as much as possible to the existing situation on the ground. For example, in standard planning regulations, a road size would be planned to a width of 9m. Application of these standard regulations in informal settlements would lead to massive impacts and displacements and prohibitive compensation and replacement costs. Adoptive planning introduces flexible standards including one-way roads of 4m to provide for adequate accessibility while reducing the impacts. Under KISIP1, adoptive planning has reduced displacement in some cases upto 85%.

minimize displacement of residents in informal settlements. Adoptive planning is an approach that lays out infrastructure and plots in close alignment with the existing layout of the settlement. Under KISIP I, adoptive planning has reduced displacement by up to 85 percent in some settlements, compared with what would have occurred had the normal standards been applied. It is expected that use of the adoptive approach in KISIP II will result in minimal displacement.

Component 1.2: Infrastructure Upgrading

KISIP I has supported an integrated package of investments to comprehensively upgrade settlements, covering 36 informal settlements in 11 urban centers, benefiting 1.2 million people. KISIP II will support the same types of investments: roads, bicycle paths, pedestrian walkways, street and security lighting, vending platforms, solid waste collection and sorting, storm water drainage, water and sanitation systems, public parks, and green spaces. The menu will also include investments related to prevention of crime and violence, including but not limited to community centers. Like the first phase of KISIP, the second phase will support an integrated package of investments to comprehensively upgrade settlements.

Under KISIP II, most of the infrastructure will contribute to climate resilience and the project will have substantial climate change adaptation and mitigation co-benefits. It is expected that KISIP II funds will be similarly allocated ensuring that most of the financing for infrastructure will be towards climate resilient infrastructure. Additionally, counties who benefitted from high-mast lighting have requested for energy efficient options in KISIP II as the cost of keeping the lights on has been high[3]. KISIP II will implement energy efficient options in lighting.

Component 2: Socio-Economic Inclusion Planning

This component will support the development of community-level socio-economic plans. The plans intend to identify together with the communities their socio-economic needs and then address how best the needs can be met. These plans will determine activities that will take place in new or existing community centers and will also determine how best to raise awareness on the benefits of public spaces and green zones, and proper solid waste disposal and how to provide these within the settlements. Vulnerable community members will be prioritized as key beneficiaries in these plans. Through county social development and community development officers, KISIP II will link vulnerable community groups, including those at risk of violence, to existing World Bank[4] and government safety nets programs.

[3] In Mombasa, each mast is costing approximately KES 13,000-15,000 (US$130-150) per month. Nakuru spends approximately KES 18 million (US$ 180,000) per month on all its street lighting.

[4] These are the National Safety Nets Program for Results (Additional Financing P161179), the Kenya Social and Economic Inclusion Project (P164654) and the Kenya Youth Employment and Opportunities Project (KYEOP) (P151831).

This component will be implemented only in settlements undergoing infrastructure upgrading so as to provide both socio-economic and infrastructure benefits to the same community. As financing will be limited in the project, these plans will focus on increasing access to opportunities (e.g. job skills training) rather than financing the opportunities themselves. Social infrastructure could be financed under component 1.

KISIP II will include activities to prevent crime and violence in informal settlements. These activities will include (a) participatory crime and violence mapping to identify hotspots; (b) investment in infrastructure to make hotspots safer (such as in lights, gates, rehabilitation of public spaces, and others following the principles of Crime Prevention Through Environmental Design (CPTED); and (c) investment in facilities such as community centres, where programs for youth skills development and conflict mediation could take place. Work on participatory violence mapping piloted under KISIP I provides a robust methodology to integrate CPTED into planning and design of infrastructure projects. Technical assistance to counties to integrate violence prevention in urban development plans and strengthen local coordination on the provision of services for violence prevention will also be considered.

Component 3: Institutional Capacity Development for Slum Upgrading

The Project will support institutional and policy development at national and county levels. Activities will include supporting the review of the 2005-2020 National Slum Upgrading and Prevention Strategy; the development of county-specific slum upgrading and prevention strategies; developing financing mechanisms for slum upgrading at county level; and developing strategies to plan for urban growth, prevent crime and violence and to ensure adoptive planning in informal settlements.

KISIP II will develop activities to build capacity of the teams at the national and county levels mandated to implement the Strategy. KISIP II will also support technical assistance, training, workshops and learning events, experience sharing and peer-learning activities with other counties, and other capacity building activities aimed at enhancing the ability of national, county, and community teams to exercise their roles and responsibilities. Fiduciary and contract management capacity building/support will also be provided. Capacity building plans for each level of government will be developed.

Component 4: Program Management and Coordination

This component will finance activities of the National Project Coordination Teams (NPCTs) and the County Project Coordination Teams (CPCTs) related to national and county-level project management and coordination, including planning, surveying, engineering, fiduciary (financial management and procurement), environmental and social safeguards compliance and monitoring, monitoring and evaluation (M&E), and communication and community development.

1.2.3 Project Scope

KISIP I was initially implemented in 15 towns located in 14 counties. Under revised guidelines, after mid-term review, the 15 counties were at liberty to propose activities in informal settlements in other towns within their jurisdiction. As a result, the number of towns participating in the project grew. In KISIP II, however, all Counties are eligible to participate under a certain criterion.

In preparation for KISIP II, KISIP I financed the preparation of detailed designs and bidding documents for upgrading plans for 39 settlements in six counties (Nairobi, Kilifi, Kakamega, Kisumu, Nakuru, Mombasa). Implementation of these plans will ensure that KISIP II is able to provide relatively quick and high-impact results. An additional 17–20 settlements in other counties will also benefit from infrastructure upgrading. However, not all counties will be able to access the funds, and clear criteria will be developed during preparation that allow selection to be made on technical grounds. Alternatively, the funds can be allocated for integrated settlement planning for tenure regularization and infrastructure, allowing the development of a pipeline for future investment.

All counties will be eligible for support for integrated settlement planning for tenure regularization and infrastructure. KISIP II is expected to support about 74 settlements from KISIP I (which have benefited from tenure regularization) with detailed designs and bidding documents for settlement upgrading plans. It will support an additional 75 settlements with integrated planning for both tenure regularization and infrastructure. All counties will be eligible for support under this component. However, detailed eligibility criteria will be established to ensure that the work has a high impact. Such criteria could include, overall population of the settlement, density of the settlement, and assurance that settlement is on government land, which the government is willing to release for tenure regularization.

1.2.4 Expected Project Benefits

The project's expected benefits will arise from investments in infrastructure and from tenure regularization. Although a cost-benefit analysis for KISIP I investments has not yet been done, analysis done for similar investments in urban areas in Kenya and in other countries showed significant benefits for the types of investments KISIP I and II are supporting. Examples are as below.

1. **Benefits of investments in urban roads.** The benefits associated with improved roads are (a) travel time savings; (b) travel cost savings; (c) reductions in vehicle operating costs; (c) enhanced access to jobs, markets, health facilities, schools, and other services at lower cost than otherwise available (reflected in enhanced land values); and (d) promotion of economic growth in the region through enhanced trade, increased efficiency, and higher productivity. The economic rate of return for urban

roads under various World Bank-supported projects in Africa ranged from 18 to 33 percent.

2. **Benefits of drainage systems.** Benefits include (a) reduced number of days of work lost due to flooding; (b) reduced property damage (buildings, roads, furniture, appliances, household goods); (c) increased property values; (d) reduced loss of income from businesses whose hours are curtailed and access reduced; (e) improved travel times on streets that used to flood; (f) lower maintenance costs for vehicles; and (g) reduced costs of illness associated with exposure to polluted and stagnant water. Analysis done for the Kenya Municipal Program showed that investments in a drainage system that considered only reduced number of days lost from work generated an internal rate of return of 32 percent.

3. **Benefits of investments in street lighting.** Benefits of street lighting include (a) increased perception of safety, (b) reduced accidents, and (c) and increased ability to do business after dark. People interviewed for the beneficiary analysis of KISIP I noted that they felt a greater sense of security at night and were now walking along streets with lights, rather than taking motorized transport to their destinations. Some participants pointed out that accidents between vehicles and between vehicles and pedestrians had declined. Some mentioned that business hours had expanded and that the appearance and liveability of the urban centre had improved.

4. **Benefits of tenure security**. Benefits of tenure security include (a) increased investments in housing and businesses, (b) increased labour-force participation, and (c) improved health due to reduced stress from fear of displacement and expropriation. People interviewed for the beneficiary analysis of KISIP I noted that they felt much reduced stress and were planning to invest in their properties.

1.2.5 Institutional Arrangements

Implementation of KISIP will involve a three-tier institutional arrangement (National, County and Community).

a) National level: The project will be implemented by the KISIP I Project Coordination Team (NPCT) that has over the years developed a good level of awareness and improved capacity to address Environmental and Social (E&S) risks. Whereas, the KISIP National Coordinator has overall responsibility for project management, on a day-to-day basis, general responsibility for environmental and social safeguards management will be discharged by the Head of Safeguards Section. It is proposed that the Safeguards Team will be composed of:
    1) Head of Environmental and Social Safeguards to provide overall coordination of all safeguard issues and be responsible for reporting both to the National PCT and the World Bank.

2) Social Safeguards Officer who will be responsible for managing all the social impacts and issues of the project including RAP preparation, implementation and monitoring in collaboration with the Counties.
3) Environmental Safeguards Officer who will be responsible for managing environmental issues and impacts of the projects including ensuring the preparation, implementation, monitoring and reporting of ESIAs/ESMPs in collaboration with the Counties.
4) Community Development Officer who will ensure full participation of communities in safeguards management.

b) County level: The county governments will be the executing agencies of the project. They will establish County Project Coordination Teams (CPCTs) which mirror the PCT in personnel. Unlike KISIP I, the Counties will play an enhanced role in safeguards management. They will be in charge of implementation of RAPs and ESIAs where applicable. To enable them perform these enhanced roles, they are expected to enhance their capacity. The County Safeguards Team will mirror the National Team, but in addition, it is recommended to have additional personnel to handle community liaison and grievance redress.

c) Community level: Communities will form Settlement Executive Committees (SECs) to provide an interface between the communities and the project. This approach has been successful in promoting community participation in KISIP I. The SECs provide an important link and avenue through which the community can participate in safeguards management. Moreover, communities will form community-level grievance redress committees to improve access to simple, appropriate, and effective grievance redress mechanism.

In addition, task mapping and capacity assessment of those responsible for implementation of safeguards in both the NPCT and the participating Counties will be conducted. The findings will inform measures to strengthen staffing and safeguards capacity. Moreover, the National Safeguards team will use their experience in KISIP I to mentor and build capacity of the County Teams.

Third party monitoring will be considered, given the large number of settlements and counties in which KISIP II will be engaged in, including those with unknown capacities to manage environmental and social risks.

The detailed roles and responsibilities of the national, county and community institutions are provided in the Project Operations Manual (POM).

CHAPTER TWO: ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

2.1 Introduction

The KISIP I ensured that environmental and social issues were adequately identified and addressed in all its project interventions. To achieve this, an Environment and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF) were prepared, approved and disclosed at the Ministry and WB websites prior to the commencement of the project and formed part of the financing agreement. The ESMF provided guidance on the identification, integration, and management of environmental issues throughout the project design cycle; while the RPF provided guidance on mitigating the likely impacts associated with land acquisition and displacement.

A review of implementation of these frameworks during the life of KISIP I identified several challenges and gaps among them:

a) The frameworks were short in providing comprehensive guidance on all anticipated safeguard issues and processes. A major shortcoming was that the frameworks were based more on the infrastructure component and did not adequately provide for the impacts from planning and surveying component.
b) There were capacity shortfalls at the both KISIP National and County levels, as well as among Consultants and Contractors. Capacity deficits in safeguards that led to delays in project implementation.
c) Inadequate policy, legal frameworks especially for dealing with displacements.
d) Weak implementation monitoring and reporting and continuous improvement.

KISIP II is designed as a sequel to KISIP I with fundamentally the same interventions. KISIP I ESMF is therefore applicable with modification. It has therefore been updated to take into consideration the challenges, lessons learnt, and adequately cover the expanded scope under KISIP II. This will help KISIP II in managing Environment and Social issues in its operations systematically and while effectively building on the experiences of KISIP I. This review and update has been based on the World Bank Safeguard Policies, GoK laws and legal framework, experiences from KISIP I, and best global practices from other projects and programs. The World Bank Safeguard standards and procedures shall be applicable to AfD financing.

2.2 Purpose of the ESMF

The implementation of project components will include significant amount of construction work and thus has a potential to trigger adverse environment and social impacts in the process. Moreover, land tenure regularization should protect critical natural resources and provide essential community environmental resources. In order to deal with such unwarranted impacts, preparation of an Environmental and Social

Management Framework (ESMF) for the project has been undertaken. The ESMF incorporates the principles of due diligence in managing potential environmental and social risks. Although the general thrust and broad project interventions are well understood, the precise details of the majority of investments are sub-projects which are yet to be defined in terms of their type, exact location, materials used, etc. Therefore, it is not possible to ascertain the precise location and nature of impact at this stage.

The framework describes the principles, objectives and approach to be followed in avoiding, minimizing and mitigating the adverse environmental and social impacts that are likely to arise as a result of the implementation of the various activities under the Project. It also outlines the indicative management measures required to effectively address or deal with the key issues that have been identified. The required institutional arrangements for implementing the ESMF have also been outlined as a part of this framework.

2.3 Objectives of this ESMF

The key objective of the ESMF is to provide a framework for systematic and effective identification and management of environmental and social issues for KISIP II. The specific objectives include to:

a) Identify various environmental and social issues and impacts relating to KISIPs mandate and enhance positive and sustainable environmental and social outcomes associated with Project implementation;
b) Establish a mechanism to determine and assess potential environmental and social impacts of proposed KISIP works/ activities and set out mitigation, monitoring and institutional measures to be taken during implementation and operations of the sub-projects, in order to eliminate their adverse environmental and social impacts, offset them, or reduce them to acceptable levels;
c) Support the integration of environmental and social aspects associated with the numerous subprojects into the decision-making process;
d) Establish clear directives and methodologies for the environmental and social screening of project activities that will be supported by KISIP;
e) Develop Environment and Social Management Plans (ESMPs) and guidelines to address impacts for the proposed infrastructure investments within the resettled communities;
f) Ensure compliance with applicable GoK laws, regulations, and policies along with the safeguard policies of the World Bank;
g) Define appropriate institutional arrangements for the implementation and monitoring of ESMF.

2.4 Methodology used to update the ESMF

The development of KISIP I ESMF involved the review of all relevant project documents, policy, legal and institutional framework, and World Bank Safeguard Policies. This was augmented by field visits and consultations with key stakeholders and communities in the

participating towns and settlements. Potential environmental and social impacts associated with design and implementation of sub-projects under KISIP were identified through application of standard procedures. Measures or interventions necessary to minimise, reduce, avoid or offset identified adverse impacts were then identified based on which, a generic Environmental and Social Management Plan (ESMP) for the programme was formulated as the core output. Monitoring requirements were identified to ensure compliance in implementation of the ESMP interventions. This included an assessment of the capacity of diverse stakeholders to fully execute responsibilities in project implementation.

The updating of the ESMF for KISIP II, entailed the following tasks:

a) An identification of the successes, challenges and gaps experienced while implementing KISIP I and recommendation for remedial measures
b) Analysis of the design and scope of the proposed KISIP II and identification of any new or additional potential environmental and social impacts
c) A review of the environmental management procedures and implementation strategies to ensure consistency and alignment among obligations, responsibilities, procedures
d) An update of the bio-physical environment, environmental and socio-economic settings where projects will be built
e) An update of the potential environmental and social impacts of the proposed project activities
f) An update of the monitoring and evaluation provisions of the ESMF detailing how the safeguard provisions will be implemented, monitored, sampled, evaluated and reported
g) Enhancement of the projects' review and approval processes, and establishment of integrated safeguard provisions in the subproject cycles
h) A review of Kenya's regulatory, institutional and policy framework; the World Bank's environment and social safeguards that may be triggered by the project
i) An assessment of the capacity of diverse stakeholders to fully execute their safeguard responsibilities in project implementation

Based on the experience of KISIP I and global best practices, this ESMF has recommended institutional, procedural, and operational changes and guidance to address the following:

- Incorporating clauses for strengthening the implementation of the ESMPs into contracts for works.
- Strengthening Environmental and Social Risk Screening procedures
- Procedures for handling Environment, Health, and Safety issues
- Monitoring and reporting on the implementation of ESMPs to ensure compliance and facilitate adaptive management of environmental and social risks

- Procedures for preparing site-specific Environmental and Social Management Plans (ESMPs)

- Institutional arrangements to ensure the ESMF is implemented effectively.
- Mechanism to update the ESMF based on the actual implementation as well as to reflect contextual changes.

2.5 Applicability of the ESMF

The ESMF framework needs to be integrated into the preparation and implementation stages of the various sub-projects and components. It is an essential ingredient aligned with the project/sub-project activities and is to be followed through the entire project cycle from planning, including site identification, design, implementation, and operation/maintenance.

2.6 Revision/Modification of the ESMF

The ESMF will be a "live document" enabling revision, when and where necessary. It is possible that certain aspects not envisaged at this stage of the project preparation are not included or covered in sufficient detail within this document. Unexpected situations and/or changes in the project or sub-component design would therefore be assessed and appropriate management measures will be incorporated by updating the ESMF. Such revisions will also cover and update any changes/modifications introduced in the legal/regulatory regime of the country/ state. However, under normal circumstances, the ESMF will be reviewed during the mid-term review cycle of the project to assess the need for updating/revision. Also, based on the experience of application and implementation of this framework, the provisions and procedures would be updated/modified as appropriate in consultation with the World Bank and the line agencies/departments.

2.7 Limitation of the ESMF

This Environment and Social Management Framework has been developed in line with applicable World Bank's Operational Policies (OPs) and is based on the national and state laws and regulations, as applicable at the time of preparation of this document. Any proposed modifications in the laws, regulations or guidelines that were notified as "draft" at the time of preparation of this document have not been considered.

2.8 Requirements for Public Disclosure

OP 4.01 requires that this ESMF report must be disclosed as a separate and stand-alone report by the Executing Agencies and the World Bank, as a condition for World Bank Appraisal of the projects. In keeping with this requirement, and the further detail set out in, the draft report will firstly be made publicly available to project-affected groups in Kenya by placing a public notice in a national newspaper, uploading it on the Ministry's website and making the report available at the County offices. This measure will also satisfy the EMCA 1999 requirement that EIA reports are disclosed and be subjected to

review by the public. Following revisions, the ESMF will be officially submitted to the World Bank for disclosure prior to project appraisal.

CHAPTER THREE: POLICY, LEGAL AND INSTITUTIONAL FRAMEWORKS

This chapter outlines the policy, legal, regulatory and institutional framework for Environmental Management in Kenya including requirements of the World Bank which call for compliance by all KISIP-supported activities. There is alignment in the requirements for the management of environmental and social risks between World Bank and AfD. Consequently, for AfD financing, the World Bank standards and procedures shall apply.

3.1 The Policy Framework

3.1.1 Vision 2030

Kenya Vision 2030 is the current national development blueprint for period 2008 to 2030 and was developed following on the successful implementation of the Economic Recovery Strategy for Wealth and employment Creation which saw the country's economy back on the path to rapid growth since 2002. The objective of the vision 2030 is to transform Kenya into a middle-income country with a consistent annual growth of 10 % by the year 2030. The 2030 goal for urban areas is to achieve "a well-housed population living in an environmentally-secure urban environment." This is to be achieved by bringing basic infrastructure and services—roads, street lights, water and sanitation facilities, storm water drains, footpaths, and others—to informal settlements. KISIP thus directly contributes to achieving this goal of the Vision 2030. By strengthening tenure security in informal settlements, the KISIP will also foster private investment in housing and in businesses. The government's Third Medium-Term Plan 2018–2022 (MTP III), the latest five-year program to implement the Vision 2030, also specifies improving urban informal settlements as a priority. One of its flagship projects is installation of physical and social infrastructure in slums in 20 urban areas to make them formal settlements, permit construction of permanent houses, and attract private investment. The proposed KISIP II will directly contribute to this goal of MTP III.

3.1.2 Sessional Paper No. 3 of 2009 on National Land Policy

The National Land Policy was formulated with the aim of securing rights over land and provide for sustainable growth, investment and reduction of poverty in line with Government overall development objectives. The policy offer a framework of policies and laws designed to ensure the maintenance of a system of land administration and management that will provide:

(a) All citizens with opportunity to access and beneficially occupy and use land;
(b) Economically viable, socially equitable and environmentally sustainable allocation and use of land;
(c) Efficient, effective and economical operation of land markets;

(d) Efficient and effective utilisation of land and land-based resources; and
(e) Efficient and transparent land dispute resolution mechanisms.

3.1.3 Sessional Paper No. 3 on National Housing Policy for Kenya

The overall goal of the Housing Policy is to facilitate the provision of adequate shelter and a healthy living environment at an affordable cost to all socio-economic groups in Kenya in order to foster sustainable human settlements. This will minimize the number of citizens living in shelters that are below the habitable living conditions. It will also curtail the mushrooming of slums and informal settlements especially in the major towns.

3.1.5 Sessional Paper No. 6 of 1999 on Environment and Development

Following the first National Environment Action Plan (NEAP) in 1996, Sessional Paper No. 6 on environment and development was developed in 1999 to harmonize environmental and developmental goals to achieve sustainable development. It contained comprehensive strategies and appropriate guidelines for the government to act.

The key objectives of the Policy include: -

- To ensure that from the onset, all development policies, programmes and projects take environmental considerations into account,
- To ensure that an independent environmental impact assessment (EIA) report is prepared for any industrial venture or other development before implementation,
- To come up with effluent treatment standards that will conform to acceptable health guidelines.

Under this paper, broad categories of development issues have been covered that require a "sustainable development" approach. These issues relate to waste management and human settlement. The policy recommends the need for enhanced re-use/recycling of residues including wastewater, use of low or non-waste technologies, increased public awareness and appreciation of a clean environment. It also encourages participation of stakeholders in the management of wastes within their localities.

3.1.6 National Policy on Water Resources Management and Development

The National Policy on Water Resources Management and Development (1999) enhances a systematic development of water facilities in all sectors for promotion of the country's socio-economic progress. It also recognizes the by-products of this process as wastewater. It therefore, calls for development of appropriate sanitation systems to protect people's health and water resources from institutional pollution. The policy provides for charging levies on wastewater on the basis of quantity and quality. The "polluter-pays-principle" applies in which case parties contaminating water are required to meet the appropriate cost of remediation. The policy provides for establishment of standards to protect water bodies receiving wastewater. The project design should take into account all environmental components and resource conservation.

3.2 Regulatory Framework for Environmental Management in Kenya

3.2.1 Constitutional Provisions

Kenya's new Constitution 2010 has strong provisions on the environment. With regard to environment, Section 42 of the Constitution states as follows: -

> Every person has the right to a clean and healthy environment, which includes the right—
>
> (a) to have the environment protected for the benefit of present and future generations through legislative and other measures, particularly those contemplated in Article 69; and
>
> (b) to have obligations relating to the environment fulfilled under Article 70.

Article 43 (1) of the Constitution of Kenya, 2010 states that
Every person has the right—
(a) to the highest attainable standard of health, which includes the right to health care services, including reproductive health care;
(b) to accessible and adequate housing, and to reasonable standards of sanitation;
(c) to be fee from hunger, and to have adequate food of acceptable quality;
(d) to clean and safe water in adequate quantities;
(e) to social security; and
(f) to education.
(2) A person shall not be denied emergency medical treatment.
(3) The State shall provide appropriate social security to persons who are unable to support themselves and their dependants.
In Sections 69 and 70, the Constitution has *inter alia* identified National Obligations in respect of the environment and Enforcement of Environmental Rights respectively as follows: -

Section 69 (1): The State shall—

(a) ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits;

(b) work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya;

(c) protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities;

(d) encourage public participation in the management, protection and conservation of the environment;

(e) protect genetic resources and biological diversity;

(f) establish systems of environmental impact assessment, environmental audit and monitoring of the environment;

(g) eliminate processes and activities that are likely to endanger the environment; and

(h) utilise the environment and natural resources for the benefit of the people of Kenya.

(2) Every person has a duty to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.

Section 70 provides for enforcement of environmental rights thus: -
(1) If a person alleges that a right to a clean and healthy environment recognized and protected under Article 42 has been, is being or is likely to be, denied, violated, infringed or threatened, the person may apply to a court for redress in addition to any other legal remedies that are available in respect to the same matter.
(2) On application under clause (1), the court may make any order, or give any directions, it considers appropriate—

(a) to prevent, stop or discontinue any act or omission that is harmful to the environment;
(b) to compel any public officer to take measures to prevent or discontinue any act or omission that is harmful to the environment; or
(c) to provide compensation for any victim of a violation of the right to a clean and healthy environment.

(3) For the purposes of this Article, an applicant does not have to demonstrate that any person has incurred loss or suffered injury.

Essentially, the New Constitution has embraced and provided further anchorage to the spirit and letter of EMCA 1999 whose requirements for environmental protection and management have largely informed Sections 69 through to 71 of the Document. In Section 72 however, the new constitution allows for enactment of laws towards enforcement of any new provisions of the Supreme Law.

3.2.2 The Environment Management and Coordination Act (EMCA) 1999 (Amended 2015) and its tools

The most pertinent and overriding statute that will be evoked is the Environmental Management and Coordination Act (EMCA 1999). EMCA 1999 was enacted in 2000 to harmonize environmental legislation previously scattered among 77 national laws. EMCA 1999 was updated in 2015 to - align its provisions to the Constitution of Kenya 2010. Section 29 of the EMCA 1999 that established the District and Provincial Environment Committees was repealed by Section 18 of the Amendment Act. The committees have been replaced by the County Environmental Committees whose obligation under the Act are: management of the environment affairs at the County level by developing County environment strategic action plan every five years and any additional functions prescribed under the Act or as assigned by the Governor by notice in the gazette.

National Environmental Complaints committee replaced the Public Complains Committee. Section 20 of the Amendments Act outlines the functions of the National Environmental Complains Committee which are to investigate allegations or complains related to the environment; prepare annual reports on the state of the environment and undertake public interest litigation on behalf of the citizens in environmental matters.
As the principal environmental legislation in Kenya, EMCA sets the legal framework for environmental management basically as follows: -

(i) Requirement for Environmental Impact Assessments for all new projects

Section 58 of the Environmental Law requires that an Environmental Impact Assessment (EIA) study precede all development activities proposed to be implemented in Kenya. The Act further requires that EIA studies so designed, be executed in accordance with the Guidelines for Conduct of EIAs and Environmental Audits (Kenya Gazette Supplement No. 56 of 13th June 2003) as published by the National Environmental Management Authority (NEMA).

(ii) Requirement for Annual Environmental Audits

In order to mitigate and control environmental damage from ongoing projects, Sections 68 and 69 EMCA require that all ongoing projects be subjected to annual environmental audits as further expounded in Regulation 35 (1) and (2) of Legal Notice 101 of June 2003.

To operationalize EMCA 1999, a number of subsidiary legislation (Regulations) have been developed, key among them:

a) Environmental Management and Coordination Act (Water Quality Regulations, 2006)

The Regulations provides for sustainable management of water resources including prevention of water pollution and protection of water sources (lakes, rivers, streams, springs, wells and other water sources). It is an offence under Regulation No. 4 (2), for any person to throw or cause to flow into or near a water resource any liquid, solid or gaseous substance or deposit any such substance in or near it, as to cause pollution.
Regulation No. 11 further makes it an offence for any person to discharge or apply any poison, toxic, noxious or obstructing matter, radioactive waste or other pollutants or permit the dumping or discharge of such matter into the aquatic environment unless such discharge, poison, toxic, noxious or obstructing matter, radioactive waste or pollutant complies with the standards for effluent discharge into the environment. Regulation No. 14 (1) requires every licensed person generating and discharging effluent into the environment to carry out daily effluent discharge quality and quantity monitoring and to submit quarterly records of such monitoring to the Authority or its designated representatives.

b) Environmental Management and Coordination Act (Waste Management Regulations, 2006)

The regulations provide details on management (handling, storage, transportation, treatment and disposal) of various waste streams including: domestic, hazardous and toxic, pesticides, biomedical, and radioactive wastes.

Regulation No. 4 (1) makes it an offence for any person to dispose of any waste on a public highway, street, road, recreational area or in any public place except in a designated waste receptacle.

Regulation 5 (1) provides categories of cleaner production methods that should be adopted by waste generators in order to minimize the amount of waste generated and they include: improvement of the production processes, monitoring the product cycle from beginning to end, and incorporating environmental concerns in the product design and disposal.

c) Environmental Management and Coordination Act ((Environmental (Impact Assessment and Audit)) Regulations of 2003

These regulations operationalize the requirements for environmental impact assessment (EIA) and environmental audits (EA) under EMCA 1999 by providing for:

- Procedures for preparation, submission and approval of EIA and EA reports
- Screening of projects for environmental and social impacts
- Procedures for licensing projects
- Registration of EIA/EA experts
- Contents of the EIA and EA reports
- Public participation in the EIA and EA processes
- Participation of lead agencies in the EIA and EA process
- Variation, transfer, surrender and cancellation of EIA licenses
- Monitoring
- Strategic Environmental Assessment (SEA) for programs, policies and plans.

d) Environmental Management and Coordination (Noise and Excessive Vibration Pollution Control Regulations, 2009)

The Regulations control pollution from excessive noise and vibrations to protect human health. Part II section 3(I) of these Regulations states that: no person shall make or cause to be made any loud, unreasonable, unnecessary or unusual noise which annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment. Part II Section 4 also states that: except as otherwise provided in these Regulations, no person shall (a) make or cause to be made excessive vibrations which annoy, disturb, injure or endanger the comfort, repose, health or safety of others and the environment; or (b) cause to be made excessive vibrations which exceed 0.5 centimetres per second beyond any source property boundary or 30 metres from any moving source.

Part III, Section 11(1) states that any person wishing to (a) operate or repair any machinery, motor vehicle, construction equipment or other equipment, pump, fan, air-conditioning apparatus or similar mechanical device; or (b) engage in any commercial or industrial activity, which is likely to emit noise or excessive vibrations shall carry out the activity or activities within the relevant levels prescribed in the First Schedule to the Regulations. Any person who contravenes this Regulation commits an offence. Section 13(1) states that no person shall operate construction equipment (including but not limited to any pile driver, steam shovel, pneumatic hammer, derrick or steam or electric hoist) or perform any outside construction or repair work so as to emit noise in excess of the permissible levels as set out in the Second Schedule to these Regulations. These purposes include emergencies, those of a domestic nature and /or public utility construction.

Section 14 relates to noise, excessive vibrations from construction, demolition, mining or quarrying sites, and states that: where defined work of construction, demolition, mining or quarrying is to be carried out in an area, the Authority may impose requirements on how the work is to be carried out including but not limited to requirements regarding (a) machinery that may be used, and (b) the permitted levels of noise as stipulated in the Second and Third Schedules to these Regulations. It further states that the relevant lead agency shall ensure that mines and quarries where explosives and machinery used are located in designated areas and not less than two kilometres away from human settlements and any person carrying out construction, demolition, mining or quarrying work shall ensure that the vibration levels do not exceed 0.5 centimetres per second beyond any source property boundary or 30 metres from any moving source.

3.2.3 Sectoral Legislations

County Government Act, 2012

The County Government Act, 2012 repealed the Local Government Act.
The Act provides for the role of the County government in planning in urban areas or cities. Under section (37) of the Act, a county executive committee shall—
(a) monitor the process of planning, formulation and adoption of the integrated development plan by a city or municipality within the county;
(b) assist a city or municipality with the planning, formulation, adoption and review of its integrated development plan;
(c) facilitate the coordination and alignment of integrated development plans of different cities or municipalities within the county and with the plans, strategies and programmes of national and county governments; and
(d) take appropriate steps to resolve any disputes or differences in connection with the planning, formulation, adoption or review of an integrated development plan.

The County Government Act mandates County Governments to carry out spatial planning within their counties. Section 110 provides that a spatial plan for the county should contain a strategic assessment of environmental impact of the spatial development framework.

The County Government is obligated to provide a clean and safe environment within its area of jurisdiction.

Public Health Act Cap 242

This Act aims at achieving a clean environment free of any nuisance so as to promote public health and safety. This is applicable in this project as a number of the proposed projects will directly and/or indirectly improve the health of the residents.

For the interpretation of the Act, Section 15 (IX) indicates that any noxious matter or wastewater discharged from any premises, such as a building constitutes a nuisance. The act also stresses that no person shall cause a nuisance to exist on any land or premise occupied by him. Because of the above, the Act acknowledges that it shall be the duty of all local authorities (County Governments) to take all lawful measures for maintaining their district at all times in a clean and sanitary condition for remedy of any nuisance or condition liable to be injurious to health.

The Water Act, 2016

The Water Act provides for the establishment of a legal and institutional framework for:
a) the management, conservation, and control of water resources, and for the acquisition and regulation of rights to use water;
b) the regulation and management of water supply and sewerage services; and

c) related purposes

It prohibits activities that may cause pollution of water sources for domestic, industrial, agricultural or recreational use.

Section 25 of the Act requires a permit to be obtained for among other uses of water from a water resource, discharge pollutant in a water resource. Section 75 and sub section 1 allows a licensee for water supply to construct and maintain drains, sewers and other works for foul water arising or flowing upon land for preventing water belonging to the licensee or which he is authorized to take from being polluted. However, if the proposed works affect or is likely to affect any body of water in the catchments, the licensee shall obtain consent from the water resources management Authority.

Section 76 states that no person shall discharge any trade effluent from any trade premise into sewers of a licensee without the consent of the licensee upon application indicating the nature and composition of the effluent, maximum quantity anticipated, flow rate of the effluent and any other information deemed necessary.

Underground water sources are likely to be polluted by seepage of construction waste contaminants and drains-water from the building. Construction work also potentially uses a lot of water.

Physical Planning Bill, 2017

The objects of the Act are to provide the principles, procedures and standards for the preparation and implementation of physical development plans at the national, regional, county, urban, and rural and cities level and provision of the procedures and standards for development control and the regulation of physical planning and land use.

The Bill proposes to establish the National Physical Planning Consultative Forum comprising of 16 members, including the Cabinet Secretary in charge of matters related to physical planning, economic planning, Environment, Roads and Infrastructure, social and community development and the Cabinet Secretary in charge of culture. Their role is to provide a forum for consultation on the National Physical Development Plan, to promote effective coordination and integration of physical development planning and sector planning and to give advice on the mobilization of adequate resources for the preparation and implementation of physical development plans & strategies.

The functions of the National Land Commission in relation to the Act would be to monitor and oversee physical planning in Kenya, to prepare status reports on the preparation and implementation of physical development plans in Kenya and to develop monitoring framework and formulate oversight parameters for physical planning.

It also proposes the establishment of National Director of Physical Planning who shall advise and be responsible for physical development planning. For one to be appointed

as a National Director of Physical Planning, one has to be a citizen of Kenya, to be registered as a planner under the Physical Planners' Registration Act, 1996 and must possesses a postgraduate degree in urban and regional planning or related discipline from a recognized university. It is the responsibility of National Director of Physical Planning to advise the government on strategic physical planning matters that impact the whole country and to formulate national physical planning policies, guidelines and standards.

The Occupational Safety and Healthy Act, No. 15 of 2007 (Revised 2010)

The Occupational Safety and Healthy Act, No. 15 of 2007 (Revised 2010), provides for the safety, health and welfare of workers and all persons lawfully present at workplaces. Under the Act, the employer as per section 6 has responsibilities among others to:

- Provide and maintain plant and systems and procedures of work that are safe and without risks to health
- Ensure safety and absence of risks to health in connection with the use, handling, storage and transport of articles and substances
- Provide information and training on safety and health
- Carry out appropriate risk assessments
- Take immediate steps to stop any operation or activity where there is an imminent and serious danger to safety and health

Kenya Roads Board Act

The Kenya Roads Board was established in July, 2000 by the Kenya Roads Board Act, Act No. 7 of 1999. The main object for which the Board was established is to oversee the road network in Kenya and thereby co-ordinate its development, rehabilitation and maintenance and to be the principal adviser to the Government of the Republic of Kenya on all matters related thereto. The Board has the responsibility of managing revenues arising from the Roads Maintenance Levy Fund (RMLF).

Roads Act 2007: The legal and institutional aspects of the new road sub-sector policy were subsequently incorporated in the Kenya Roads Act 2007 which provides for the establishment of three independent Road Authorities namely:

(i) **Kenya National Highways Authority (KeNHA)** responsible for the administration, control, development and maintenance of all class A, B and C roads in Kenya.

(ii) **Kenya Rural Roads Authority (KeRRA)** responsible for rural and small town roads including class D, E roads and Special Purpose Roads.

(iii) **Kenya Urban Roads Authority (KURA)** is significant to KISIP as it takes charge of all City and Municipal Roads. This is the Authority that LAs will co-ordinate with in the design and implementation of investments targeting improvement of roads.

The Authorities fall under the Ministry of Transport and Infrastructure, which will retain the role of policy formulation, and general oversight of public roads including regulatory aspects such as technical standards.

Legislations pertaining to land reservation and Ownership: The entire regime of laws relating to land has been explored under the Resettlement Policy Framework.

National Gender and Equality Commission Act 2011

The over-arching goal for NGEC is to contribute to the reduction of gender inequalities and the discrimination against all; women, men, persons with disabilities, the youth, children, the elderly, minorities and marginalized communities. This Act will be applicable during for beneficiary groups and in workforce-related activities in the KISIP sites.

Public Procurement and Disposal Act 2005

The purpose of this Act is to establish procedures for procurement and the disposal of unserviceable, obsolete or surplus stores and equipment by public entities to achieve the following objectives -

i. to maximize economy and efficiency;
ii. to promote competition and ensure that competitors are treated fairly;
iii. to promote the integrity and fairness of those procedures;
iv. to increase transparency and accountability in those procedures; and
v. to increase public confidence in those procedures;
vi. to facilitate the promotion of local industry and economic development.

All procurement under KISIP will be subject to this statute.

Land Act, 2012

It is the substantive law governing land in Kenya and provides legal regime over administration of public and private lands. It also provides for the acquisition of land for public benefit. The government has the powers under this Act to acquire land for projects, which are intended to benefit the general public.

This Act provides for the procedure to be followed during compulsory acquisition of land by the Government and the just compensation which should be paid promptly and in full to all persons whose interest in land has been affected.

HIV and AIDS Prevention and Control Act 2011

The object and purpose of this Act is to (a) promote public awareness about the causes, modes of transmission, consequences, means of prevention and control of HIV and AIDS; (b) extend to every person suspected or known to be infected with HIV and AIDS full protection of his human rights and civil liberties. The Act provisions will be applied during Project implementation phase where the contractor will be required to create awareness on prevention and management among workers and community at large.

The Urban Areas and Cities Act 2011

This Law passed in 2011 provides legal basis for classification of urban areas (City) when the population exceeds 500,000; a municipality when it exceeds 250,000; and a town when it exceeds 10,000) and requires the city and municipality to formulate County Integrated Development Plan (Article 36 of the Act).

Physical Planning Act 1996 (286) Revised in 2012

Section 16 of the Physical Planning Act (Chapter 286) provides that the Director may prepare a regional physical development plan. The plan shall consist of inter alia, a statement of policies and proposals with regard to the allocation of resources and the locations for development within the area. The Act requires the Director to invite any person interested to make representations to do so within sixty days of the publication of the plan. On approval of the local physical development plan no development shall take place on any land unless it is in conformity with the plan.

Section 24 provides for the Director to prepare also a local physical development plan whose purpose is to guide and coordinate development and for the control of the use and development of land. Physical planning thus provides a mechanism for the assessment of options and establishment of policy objectives and goals. These provisions notwithstanding, the physical planning process has so far not been used to elaborate policy options for development. This omission does not however detract from the potential of the physical planning process to facilitate the identification and regulation of policy options for resource development and use

Public Participation Bill of 2016

The Bill is an Act of Parliament that provides a general framework for effective public participation and to give effect for the constitutional principles of democracy. The purpose of the act includes promotion of democracy and public participation of the people according to Article 10 of the Constitution, promote community ownership for public decisions and promote public participation and collaboration in governance processes. Therefore, adequate consultations were held within target Counties as discussed in Chapter (5) of this ESMF.

Sexual Offences Act 2006

An Act of Parliament that makes provision about sexual offences aims at prevention and the protection of all persons from harm from unlawful sexual acts and for connected purposes. Section 15, 17 and 18 focuses mainly on sexual offenses on minor (children).

Labour Relations Act 2012

An Act of Parliament to consolidate the law relating to trade unions and trade disputes, to provide for the registration, regulation, management and democratization of trade unions and employers organizations or federations, to promote sound labour relations through the protection and promotion of freedom of association. This act will be applied by labour force on site in addressing disputes related to working conditions.

Child Rights Act (Amendment Bill) 2014

This Act of Parliament makes provision for parental responsibility, fostering, adoption, custody, maintenance, guardianship, care and protection of children. It also makes provision for the administration of children's institutions, gives effect to the principles of the Convention on the Rights of the Child and the African Charter on the Rights and

Welfare of the Child. The contractor under this Project will be required to comply to provisions of the Act during Project implementation.

County Government Act No. 17 of 2012

The preamble to the Act gives overriding object and purpose of the Act. It states that, 'An Act of Parliament to give effect to Chapter Eleven of the Constitution; to provide for county governments' powers, functions and responsibilities to deliver services and for connected purposes. Part II elaborate on the functions and powers of the county government, emphasizing its constitutional authority to enter into contracts, acquire and hold and dispose of assets, and delegate functions, such as through sub-contracts and partnerships. Part VI considers the foci and administration of decentralization to the sub-county level, including to urban areas and cities.

Part VIII focuses on Citizen Participation stating that "citizen participation in county governments shall be based upon reasonable access to the process of formulating and implementing policies, laws, and regulations, including the approval of development proposals, projects and budgets, the granting of permits and the establishment of specific performance standards" (87(b)); and "promotion of public private partnerships, such as joint committees, technical teams, and citizen commissions, to encourage direct dialogue and concerted action on sustainable development" (87(f)).

On the aspect of public communication and access to information, the county governments are vested to "undertake advocacy on core development issues such as agriculture, education, health, security, economics, and sustainable environment among others" (94(c)).

The County Government Act, 2012, provides the basis for spatial plans as statutory requirements in the county. The Act stipulates a 10-year spatial plan be developed by each county to provide for:-

(a) Spatial depiction of the social and economic development programme of the county as articulated in the integrated county development plan;
(b) A clear statement of how the spatial plan is linked to the regional, national and other county plans; and
(c) A clear clarification on the anticipated sustainable development outcomes of the spatial plan.

Legislations Relating to Physical Cultural Property

The administration of Kenya's cultural heritage is informed by the Kenya National Policy on Culture and Heritage (NPCH) and by the provisions of articles 11, 40, and 69 of the Kenya Constitution (Republic of Kenya 2010). At the practical level, the National Museums and Heritage Act, Cap 216 and less importantly both the Environmental Management and Co-ordination Act, Cap 387 and the Land Act 2012 operationalize the

management of Kenya's cultural heritage. Others include Cap 19 (the Public Archives and Documentation Service Act of 1991) and Cap 509 (Kenya's Industrial Property Act of 2001).

The National Museums and Heritage Act, (Cap 216), mandates the National Museums of Kenya as the institution to protect, preserve, and control the use of Cultural Heritage in the country. The Act repealed the then Antiquities and Monuments Act cap 215. The Act provides for the control, establishment, development and management of national museums and the protection, identification, transmission and conservation of the natural and cultural heritage of Kenya.

Under the Act, an object or area of cultural, historical, or scientific significance, can be declared as protected. In accordance with Cap 216, archaeological sites may not be destroyed, excavated or altered without an exploration/excavation permit issued by the cabinet secretary or designate.

A chance find of previously unknown heritage resources e.g. graves, shrines, archaeological sites, etc. encountered during project construction or operation will be managed according to a Chance Find Procedure (Annex 12). The Chance Find Procedure, is a process that prevents chance finds from being disturbed until an assessment by a competent specialist is made and actions consistent with the requirements are implemented. This procedure will be applicable to all activities conducted by project personnel, including contractors, which have the potential to uncover a heritage item/site. The procedure details the actions to be taken, the roles and responsibilities, and the response times required from both project staff, and any relevant heritage authority.

The Environmental Management and Coordination Act, requires project proponents to undertake Environmental Impact Assessment (EIAs) for proposed projects. For projects, with potential impact on cultural and heritage sites, a cultural and heritage impact assessment is required as part of the EIA.

3.4 Relevant International & Regional Conventions

Kenya is a signatory to several international instruments on environmental management. These are summarized in Table 3.1 below

Table 3.1: International Environment Instruments / Obligations Applicable to Kenya

Convention	Objective
Sustainable Development Goals	The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. **Relevant SDGs:** SDG 1: No poverty SDG 6: Clean water and sanitation SDG 10: Reducing inequality SDG 11: Sustainable cities and communities SDG 13: Climate action
The African Convention on the Conservation of Nature (1968)	To encourage individual and joint action for the conservation, utilization and development of soil, water, flora and fauna for the present and future welfare of mankind, from an economic, nutritional, scientific, educational, cultural and aesthetic point of view.
The Ramsar Convention (1971) on wetlands of International Importance	To stop the progressive encroachment on and loss of wetland now and in the future, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational values.
The Protection of World and Cultural Heritage convention (1972)	To establish an effective system of collective protection of the cultural and natural heritage of outstanding universal values.
The Convention on the conservation of migratory species of wild animals (1979).	To protect those species of that migrate across or outside national boundaries
The Vienna Convention for the protection of the Ozone Layer (1985)	To protect human health and the environment against adverse effects resulting from modification of the ozone layer

Convention	Objective
Montreal Protocol on Substances that deplete the Ozone layer (1987)	To protect the ozone layer by taking precautionary measures to control global emissions of substances that depletes it.
The Basel Convention on the trans-boundary Movement of Hazardous Wastes and their disposal	To reduce trans-boundary movements of waste subject to a minimum consistent to the environmentally sound and different effects of such wastes and to minimizing the amount and toxicity of hazardous wastes generated and ensuring their environmentally sound management
Convention on Biological Diversity- (CBD 1992)	To promote diversity and sustainable use and encourage equitable sharing of benefits arising out of the utilization of genetic resources
United Nations Framework Convention on Climate Change (UNFCCC, 1992) and the Paris Climate Agreement 2016	An international Treaty adopted in 1992 that came into force in 1994. The objective of of UNFCCC is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. The Paris Climate Agreement 2016, operationalizes UNFCCC whose long term goal is to keep the increase in global temperatures to well below 2 degrees above pre-industrial levels, and to pursue efforts to limit the increase to 1.5 degrees, to substantially reduce impacts of climate change.

3.5 World Bank's Safeguard Policies

The World Bank's Safeguard policies are designed to help ensure that projects proposed for Bank financing are environmentally and socially sustainable. These operational policies are as shown in Table 3.2. These policies are in alignment with AfD requirements and shall also apply to AfD financing.

Table 3.2 Triggering of World Bank Safeguard Policies

Policy	Triggered	Discussion
OP 4.01: Environmental Assessment	Yes	The project triggers the Environmental Assessment safeguard. The project is assigned Category B, based on the results of the screening of the potential project activities.
OP 4.04: Natural Habitats	No	The policy will not be triggered but relevant mitigation measures should be applied if project activities are identified to have direct or indirect impacts on natural habitats or forests.
OP 4.36: Forestry	No	

OP 4.09: Pest Management	No	Project is not supporting agriculturally based interventions.
OP 4.11: Physical Cultural Resources	Yes	A number of culturally significant assets could be found in the project area and therefore consistent with OP 4.11, the Physical Cultural Resources is triggered and steps to safeguard this issue are integrated into the ESMF, including a set of chance find procedures (Annex 12.
OP 4.10: Indigenous Peoples	No	The project activities will be located within informal settlements, where population does not match the criteria for identification of indigenous or vulnerable and marginalized groups.
OP 4.12: Involuntary Resettlement	Yes	Both integrated planning for tenure security and infrastructure upgrading interventions have potential for involuntary resettlement. A standalone document to guide the process of involuntary resettlement and compensation (Resettlement Policy Framework) is prepared and publicly disclosed.
OP 4.37: Safety of Dams	No	The project will not finance dams.
OP 7.50: Projects in International Waterways	No	No interventions planned with direct impact on international waters.
OP 7.60: Projects in Disputed Areas	No	Projects will not be located in disputed areas.

Of the 10 Safeguard Policies, only OP 4.01 (Environmental Assessment), OP 4.12 (Involuntary Resettlement) and OP 4.011 (Physical Cultural Resources), and OP 4.10 (Indigenous Peoples) are deemed relevant to the KISIP in which respect, a highlight of their requirements is briefly provided below. For a full description of all WB safeguard policies, the reader should refer to www.worldbank.org. World Bank Group Environment, Health and Safety Guidelines[5] are also relevant to this project.

(i) Environmental Assessment (OP 4.01)

OP 4.01 requires Environmental Assessment (EA) for projects proposed for Bank financing to ensure that they are environmentally sound and sustainable, and as a basis for decision making. Under OP 4.01 projects are screened and assigned either of four categories each of which requires different levels of environmental assessment as follows:-

- *Category A:* A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse, or

[5] WB Environment, Health and Safety Guidelines: https://www.ifc.org/ehsguidelines

unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works.

- *Category B:* A proposed project is classified as Category B if it's potential adverse environmental impacts on human populations or environmentally important areas—including wetlands, forests, grasslands, and other natural habitats—are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for Category A projects.
- *Category C*: A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project.
- *Category FI:* A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary in subprojects that may result in adverse environmental impacts.

The KISIP has been classified as environmental category B and under an Environmental and Social Management Framework (ESMF) has been prepared in compliance with OP 4.01.

(ii) Involuntary Resettlement (OP 4.12)

OP 4.12 requires that a Resettlement Action Plan (RAP) be prepared for all projects that anticipate displacement of both settlements and livelihoods. Though minimal if any displacement is anticipated from KISIP activities, an RPF has nonetheless been prepared and issued as Volume Two to the ESMF with the following objectives: -

i) To provide a policy, legal and institutional framework for responding to all displacement impacts occasioned by activities undertaken under KISIP. This policy covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by either (a) the involuntary taking of land resulting in relocation or loss of shelter; loss of assets or access to assets; or loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or (b) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.
ii) To offer choices among, and identify technically and economically feasible resettlement alternatives; and,
iii) To put in place modalities for providing prompt and effective compensation at full replacement cost for loss of assets attributable directly to the project and provide support during the transitional period to enable the affected people to improve or at least restore their pre-impact living standards.

(iii) Triggers to other WB safeguard policies:

Projects will be screened for impacts on indigenous people (Vulnerable and Marginalized Groups). As a precaution, a separate Vulnerable and Marginalized Groups Framework (VMGF) has been prepared to provide for mitigation measures against adverse impacts

on indigenous people as a result of project activities. A precautionary approach will also be adopted for OP 4.04 on Natural Habitats and OP 4.36 on Forestry through screening.

3.5.1 Alignment of WB and GoK Policies

The comprehensive framework for environmental assessment provided by EMCA, is consistent with World Bank safeguard policies. Both the World Bank safeguards and GoK laws are generally aligned in principle and objective: -

- Both require Environmental Assessment before project implementation (which includes an assessment of social impacts).
- Both require public disclosure of EIA reports and stakeholder consultation during preparation.
- While OP 4.01 of World Bank stipulates different scales of EIA for different category of projects, EMCA requires EIA for all sizes of projects, which require to be scoped as applicable.
- Where EMCA requires Strategic Environmental Assessments, OP 4.01 requires that an Environmental Assessment be conducted depending on the project category while an ESMF should be prepared for Programmes.
- EMCA recognizes other sectoral laws while WB has safeguards for specific interests.
- The Bank requires that stakeholder consultations be undertaken during planning, implementation and operation phases of the project which is equivalent to the statutory annual environmental audits required by EMCA.

In Kenya, it is a mandatory requirement under EMCA 1999 for all development projects (Schedule Two) to be preceded by an EIA study. Thus, under the Laws of Kenya, environmental assessment is fully mainstreamed in all development process consistent with World Bank policies. It is anticipated that projects to be supported under KISIP will be quite small in scale. However, since EMCA provides no minimum size threshold, all projects will be screened at identification stage so as to determine level of environmental assessment required under EMCA. Further, in order to fully insure against triggers to WB safeguard policies, individual investments will be screened against each policy as part of the EIA Study.

3.6 Inter-Sectoral Coordination in Environmental Protection

Among other functions, EMCA mandates NEMA to regularly review and gazette standards and regulations for environmental quality as a way of guiding activity in all sectors. Further, in recognition that EMCA is an umbrella law coordinating diverse sectoral statutes, all of which are still in force, the Legal Notice 101 of EMCA requires that the respective sectors be consulted as 'Lead Agencies' in making decisions pertaining to environmental assessment for projects in respective sectors. Therefore, to ensure that NEMA does not approve projects that contradict sector policies and legislation, all EIA reports are subjected to review by the relevant sectors in their capacity as Lead Agencies whereby, their opinions have a strong bearing on the final decision arrived at by NEMA.

Going by EMCA requirement for investments to comply with sectoral laws, this ESMF requires that all KISIP projects to be subjected to EIA Studies in line with Section 58 of EMCA and its Legal Notice 101. As part of the EIA, all Lead Agencies will be consulted as per requirements of LN 101 in order to ensure that sectoral concerns are taken care of in the resultant EMPs.

CHAPTER FOUR: SOCIO-ECONOMIC AND ENVIRONMENTAL BASELINE

4.1 Physical and Climatic Baseline

KISIP I initially worked in 15 urban centres in 14 Counties. After mid-term review of the project, the 14 counties were at liberty to include informal settlements in other towns in their jurisdiction provided they meet the specified criteria. With this amendment, KISIP I, and especially interventions in planning and surveying for tenure security expanded to more towns. With KISIP II, all counties and urban centres are eligible provided they meet a certain criterion that is yet to be determined.

The counties and urban centres involved in KISIP cut across diverse biophysical and socio-economic profiles which cannot be summarised through a generic description. In sections below therefore, baseline data specific to each urban area and cities that KISIP is currently working in is presented in matrix form alongside the key features. This will be updated once the exact urban centres for KISIP II are determined.

Table 4.1 provides the bio-physical baseline data for the 15 initial urban areas and cities, while Figure 4.1 provides their geographical locations.

General trends can be observed as follows: -

Altitude: Both Mombasa and Malindi are coastal towns with altitudes generally in the range of less than 20m above sea level and generally very hot and humid climates. On the other extreme are Nyeri and Kericho towns with altitudes in the range of 2000m above sea level which coupled with location on the easterly slopes of Aberdare and Mau ranges respectively confers a humid climatic regime characterised by heavy annual rainfall.

Climatic regime: Most of the urban areas and cities under KISIP have semi-humid to humid climatic regimes characterised by torrential rainfall concentrated in two wet seasons, and which poses huge challenges in the removal and disposal of urban runoff. Though Garissa Town has an arid climatic regime, it still has to cope with huge quantities of intermittent urban runoff whose poor handling can cause havoc on the easily erodible soils which are dominated by sandy clays and sandy loams.

Table 4.1: Biophysical Baseline Data for the KISIP Urban areas

Town/City	Altitude[m]	Rainfall [mm]	TEMP (oC)	Eo(mm)	P/Eo	Climate Designation
Nairobi	1795	825	23.4	1402	0.59	semi-humid
Nakuru	1870	981	27.7	1742	0.56	semi-humid
Mombasa	57	1049	32.6	2167	0.48	semi-humid

Town/City	Altitude[m]	Rainfall [mm]	TEMP (oC)	Eo(mm)	P/Eo	Climate Designation
Malindi	91	1096	30.9	2106	0.52	semi-humid
Kakamega	1700	1565	29	1478	1.06	Humid
Naivasha	1936	627	27.3	1857	0.33	semi-arid
Thika	1549	1004	27.3	1805	0.55	semi-humid
Nyeri	1815	1023	25.8	1438	0.71	sub-humid
Garissa	138	352	36.7	2712	0.12	very arid
Machakos	1573	775	27.3	1873	0.41	semi-humid
Kitui	1151	1060	30.0	1592	0.67	semi-humid
Embu	1508	1364	26.3	1573	0.86	Humid
Eldoret	2084	1124	26.2	1155	0.97	Humid
Kisumu	1149	1323	30.8	2290	0.57	semi-humid
Kericho	2184	1884	20.8	1220	1.54	Humid

Soil resources: Soil resources are largely a function of the local geology; climatic regime and drainage (see
below). The local geological material is either of basement complex, sedimentary or volcanic origin and interacts with the local climate and drainage to yield soils ranging from sandy clay loams which have excellent drainage and agricultural properties to black cotton soils which are the most difficult for both engineering and agricultural use.

Table 4.2: Features of soil resources in the KISIP focal areas

No.	Town/City	Geology	Climatic regime	Drainage	Soil type
1	Thika	Volcanic	Semi humidk	Poor	Red clay loams on well drained sites, black cotton soils and plan soils on poorly drained sites
2	Eldoret	Volcanic	Sub humid	Good	Red clay loams
3	Machakos	Basement	Semi-arid	Good	Sandy clay loams
4	Nyeri	Volcanic	Humid	Good	Clay loams
5	Nairobi City	Volcanic	Sub humid	Good/ Poor	Clay loams on good drainage, black cotton on poorly draining sites
6	Mombasa	Sedimentary	Humid	Poor	Sandy loams
7	Malindi	Sedimentary	Semi-humid	Poor	Sandy loams
8	Embu	Volcanic	Humid	Good	Clay loams
9	Kitui	Basement	Semi-arid	Good	Sandy clay loams
10	Naivasha	Sedimentary	Semi-arid	Poor	Sandy loams to loam
11	Nakuru	Sedimentary	Sub-humid	Poor	Black cotton soils
12	Kakamega	Volcanic	Humid	Good	Clay loams
13	Garissa	Basement	Semi-arid to arid	Good/ poor	Sandy clays
14	Kisumu	Sedimentary	Humid	Good/ poor	Black cotton
15	Kericho	Volcanic	humid	Good	Clay loams

Note: * Provincial boundaries have since been dissolved and replaced with 47 counties under the new constitution as indicated in the above map

Figure 4.1: Distribution of KISIP Counties and Towns

Protected areas/ resources: A list of ecologically sensitive resources so far identified within the KISIP focal area is given in

Table **4.3** below. Quite clearly, there are numerous resources that the KISIP design and implementation process should remain sensitive to. EIA studies in respective investments will map out and document such resources to rule out their being impacted by proposed investments.

Table 4.3: List of Ecologically Sensitive Areas in some KISIP Urban Areas

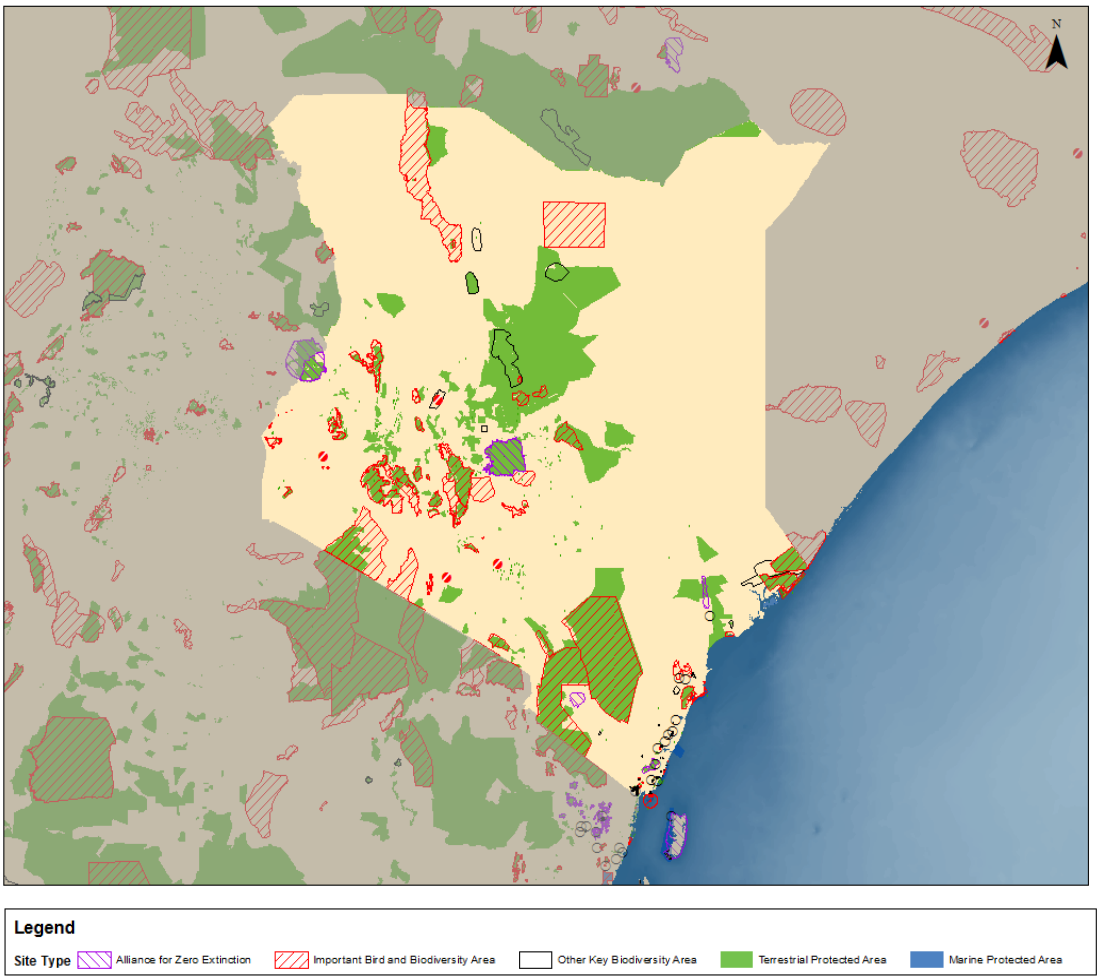
	Municipality	Protected Natural / Ecological Resources	Relevant GOK statute under which resource is protected
1	Thika	Thika and Chania rivers both suffer over-abstraction and sewage pollution.	Water Act 2016
		Mugumo Gardens	National Monuments and Antiques Act
2	Eldoret	Eldoret town is drained by several streams which are heavily polluted by solid and liquid waste effluent from both the commercial and industrial areas.	Water Act 2016
3	Machakos	Machakos lacks room for expansion. Current expansion into hilly areas causing accelerated land degradation, Town cited on a water catchment area hence accelerated contamination of surface and groundwater resources.	Water Act/ EMCA 2015
4	Nyeri	The two rivers draining Nyeri town are heavily polluted by sewage and solid waste Kabiruini Forest is suffering encroachment.	Water Act Forest Act 2014
		Paxtu-gardens is a national monument	National Monuments and Antiques Act,
5	Nairobi	Ngong, Karura and Arboretum forests Nairobi National park Nairobi, Mbagathi, Rwaka, Karura and Mathare rivers all suffer huge pollution from solid waste and liquid effluent from slum areas Problem of solid waste and traffic congestion.	Forests Act 2005 Wildlife Management and Conservation Act Water Act
		National Museum, Old PCs Office, Uhuru Gardens, Jeevanjee gardens, etc.	National Monuments and Antiques Act,
6	Naivasha	Lake Naivasha shoreline Lake water exploited for horticulture. Local ground water overexploited for irrigated agriculture.	Water Act 2002, RAMSAR Site

	Municipality	Protected Natural / Ecological Resources	Relevant GOK statute under which resource is protected
7	Mombasa	Indian Ocean Coastline Groundwater in Main land north is heavily contaminated by soak pits Raw sewage is discharged into public beaches within the coral limestone area.	Water Act
		Fort Jesus, Kengeleni, Makinon Market, Old Town	National Monuments and antiques Act
8	Malindi	Malindi Marine Nature Reserve, Arabuko Sokoke Forest The coastline is threatened by non-controlled development while the ground water suffers contamination by sewage discharge through soak pits.	Wildlife Management and Conservation Act, International Biosphere Programme Forests Act 2005/ Wildlife Management and Conservation Act
		Old DCs Office, Vasco da Gama pillar, Gedi Ruins, Portuguese Chapel.	National Monuments and Antiques Act
9	Embu	Rupingazi and Kapingazi Rivers Njukiini Forest Both rivers are contaminated by sewage overflow from the municipal treatment plan causing prevalence of waterborne diseases.	Water Act 2016 Forests Act 2005
10	Kitui	Kitui Town has a pristine forest vegetation. Main problems are contamination of numerous stream that drain the town by both solid effluent, oils and grease from open air garages and sewage effluent from the slum area,	
11	Nakuru	Nakuru town is situated in the catchment area of the Lake Nakuru National Park which is world renowned for its flamingos. The lake park suffers contamination by solid and liquid effluent from the town and its industrial area.	Wildlife Management and Conservation Act 2013
12	Kakamega	Masinde Muliro Gardens located in the Center of Kakmega is protected under the National Monuments Act.	National Monuments Act
13	Garissa	Main problem at Garissa is accumulation of solid waste more so plastics which are quite a menace in the town.	

	Municipality	Protected Natural / Ecological Resources	Relevant GOK statute under which resource is protected
14	Kisumu	Lake Victoria shoreline The Impala Park	Water Act, Nile Treaty, RAMSAR Site Wildlife management and conservation Act, 2013
		National Museum, Jomo Kenyatta gardens	National Monuments Act
15	Kericho	Kericho is situated on a hilly ground in a high rainfall area. High surface runoff generated from the town routinely washes off solid waste into the local rivers which drain into L. Victoria.	

Key Biodiversity Areas (KBAs): KISIP IIs geographical coverage is countrywide. A number of protected areas and Key Biodiversity Areas (KBAs) may be found in the project area or in the project's area of influence. This needs to be taken into account to ensure the protection of these areas against adverse project impacts. Figure 4.2 shows the location and the overlap between Key Biodiversity Areas and Protected Areas. Table 4.3 above also highlights some of the protected areas in some of the target towns.

Figure 4.2: Overlap of KBA and Protected Areas in Kenya


N
Legend
Site Type
Alliance for Zero Extinction
Important Bird and Biodiversity Area
Other Key Biodiversity Area
Terrestrial Protected Area
Marine Protected Area

4.5 The Socio-Economic Baseline

Table 4.4 summarises the core socio-economic features specific to respective KISIP Municipalities. Commentaries as follows:

The people: With the exception of Nairobi and Mombasa which are largely cosmopolitan, all other municipalities are dominated by respective local communities.

Population: The population of Kenya was estimated at 45.8 million in 2017, with an inter-censual population growth rate of 2.9 per cent and is expected to reach 52 million in 2020 and about 65 million by 2030(KIHBS, 2015). Based on 2019 population projections from the Kenya National Bureau of Statistics (KNBS), the population of KISIP municipalities has been analysed (table below) with Nairobi leading with 2, 750,547 people while Mombasa comes a very distant second with 799,668 people. Figure 4.3 shows the population of municipalities. Thus, based on the population alone, the challenge to provide adequate infrastructure such as drainage, paved and unpaved walkways, cycle paths and roads, sewage disposal, water supply and sanitation infrastructure and solid waste management etc. starts to emerge and on the converse, the potential environmental and social hazards posed by non-provision of the same start emerging. Size of population alone is a very powerful indicator of the demand for services.

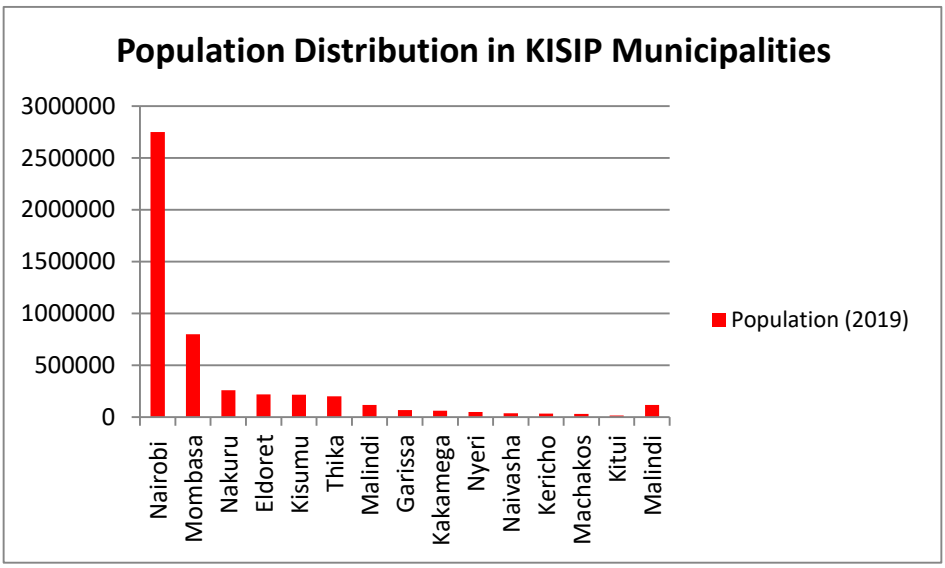


Figure 3: Population distribution in KISIP Municipalities

Source: KNBS
*These towns have been administrative capitals for the provinces which have since been abolished under the Kenya Constitution, 2010.

Figure 4.3: Population of Towns/Cities

Other socio-economic data are provided in
Table 4.4 below.

Table 4.4: Basic socio-economic features of the KISIP Focal Area

No.	Town/ City	2019 Population	Unique features
1		200,000-	Thika in Kiambu County is Kenya's Industrial Town situated at the confluence of both Thika and Chania rivers. The County is characterized by open grasslands and large-scale coffee estates all of which avail extensive opportunities for expansion. Thik river, a tributary of Tana River and Chania River are the main rivers traversing the County.Thika is today one of the fastest growing towns in Kenya but is critically constrained by inadequacy of water supply as both the Thika and Chania rivers have been extensively diverted to supply commercial agriculture and the city of Nairobi. Thika has one huge slum- Kiandutu situated next to the Industrial area
2	Eldoret	218,446	Uasin Gishu County is located on a plateau and has a cool and temperate climate. Uasin County together with the neighbouring Trans Nzoia are considered Kenya's bread basket, due to the large scale maize and wheat plantationsEldoret town located in the Uasin Gishu County enjoys a high national profile complete with a Central Bank, International airport, 2 universities, a referral hospital and is traversed by an international highway and railway line. The Town suffers poor drainage on account of location on a plateau while the international highway through town causes huge traffic pile-ups which inconvenience all including non-motorised road users.
3	Machakos	31,971	Machakos is situated about 40 km from Nairobi in a depression surrounded by heavily settled Hill Masses. The County is semi-arid and produces drought-resistant crops. Though it started off as an administrative outpost, it is now a busy commercial hub serving a large agricultural hinterland but also acts as a dormitory town for workers in Nairobi and Athi River.

No.	Town/ City	2019 Population	Unique features
			It suffers problems of waste disposal and has a huge traffic congestion problem.
4	*Nyeri	51,084	Nyeri serves a busy agricultural hinterland re-known for tea, coffee, daily and tourism. It has several slum villages, 2 of which sprawl along the Chania River. Nyeri is a rapidly expanding town. None of the slums have any organised sewage or solid waste management system. Location on sloping ground imposes a severe storm flow problem which threatens the slum residents.
5	Nairobi	2,750,547	Kenya's Capital City is situated in Nairobi County at the transition between the Kapiti Plateau and S. Eastern slopes of Aberdares. Nairobi is the national commercial, industrial and administrative hub on which account it attracts thousands of job seekers annually. Nairobi has several mega slums-the most famous of which are Kibera and Mathare and is drained by numerous streams originating in the raised ground to the west and south but all of which pass through the city. Environmental challenges are numerous; - solid waste management in residential areas, a congested dump yard, flooding during rainy season, lack of organised sewage system in slum areas, etc.
6.	Naivasha	38,366	Located at the Rift Valley about 90km from Nairobi, Naivasha is in the rift valley and has emerged as a popular tourist attraction because of wildlife sanctuaries and camping sites. Naivasha is also popular to investors who have developed large scale horticulture and floriculture farms for export produce. These farms are the biggest employer in Naivasha. The drainage for Naivasha is the Lake Naivasha, which is also a source of water for the flower farms as well as habitat for the flamingos. The depletion of water levels and pollution of the lake have been the biggest environmental challenge so far.
7	Mombasa	799,668	Mombasa County is unique owing to its location on an island on the Indian Ocean Coastline. The island and adjoining mainland support a thriving commercial and industrial economy driven by tourism, oil trade and the Kilindini harbour and associated commodity handling and transport business. Mombasa suffers inadequate drainage and sewerage coverage and has no

No.	Town/ City	2019 Population	Unique features
			mechanism to handle non-motorised transport. The Town however hosts numerous cultural heritage sites such as Fort Jesus, Kengeleni, Makinon Market, Vasco Dagama Pillar, Old Town, and Old Harbour among others. Core concerns include conflict between NMTs and MTs at Likoni Ferry, Nyali Bridge, Makupa Causeway among others, a huge drainage problem and lack of organised sewage in most residential estates.
8	Malindi	118,265	Malindi is a coastal town situated in North coast in Kilifi County. Kilifi boasts of numerous cultural heritage sites including the Malindi Museum which alongside a well-established Swahili Culture account for a thriving tourist trade. suffers inadequate drainage, traffic congestion, lack of sewage system and an escalating solid waste menace.
9	*Embu	34,922	Though Embu is the administrative capital of the expansive Eastern province, its lacks industries and other activities that would underpin a robust commercial sector. Embu town is situated on sloping ground drained by numerous tributaries of the Rupingazi river and is quite constrained for land for expansion as clearly manifested by the downtown location of the sewage treatment plant. Management of NMTs in Embu is a major problem.
10	Kitui	15,954	This is the southernmost outpost in Eastern province and therefore locally important as administrative, commercial and service centre to the adjoining hinterland. Service delivery in this town is largely inadequate especially to the largely informal settlements that dominate local housing.
11	*Nakuru	259,903	The administrative capital of the expansive Rift Valley Province is situated on an alluvial fan that slopes gently in the direction of L. Nakuru. The local economy is supported by a modest manufacturing sector, huge farming interests combining both large and small scale farms in the hinterland, tourism and commerce. Nakuru's rapid expansion means that existing facilities are always under pressure while informal settlements are ever in need of basic services.
12	*Kakamega	63,426	This administrative capital for Western province is devoid of large scale industries on account of which,

No.	Town/ City	2019 Population	Unique features
			the economy is mainly supported by small scale production of sugarcane, tea and food crops. Kakamega is amongst the Kenyan towns where urban non-motorised transport started and is deeply rooted though poorly managed. Informal settlements and trade are also quite rife especially towards the main bus terminals.
13	*Garissa	67,861	Garissa combines the dual roles of administrative capital to which it also serves as the gateway on account of location of the banks of River Tana. The town suffers inadequate housing while facilities for drainage and waste management remain quite poor.
14	*Kisumu	216,479	Kisumu is the administrative capital for Nyanza province and also Kenya's most prominent town on L. Victoria. Kisumu has a huge population which however outstrips the local economy's capacity to employ on which account employment is quite high. Kisumu has a huge population of slum dwellers resident in Nyalenda, Kondele, Mamboleo among others and support a thriving informal trade featuring sale of second hand clothes, foodstuffs, and non-motorised transport-mainly bicycle taxis (bodabodas). Basic infrastructure such as drainage, sewage and solid waste management are lacking especially in the informal settlement areas, some of which are situated in swampy areas that suffer seasonal water-logging.
15	Kericho	35,748	Kericho municipality comprises of nine wards and is located to the South West of Kenya on the highlands to the west of the Great Rift Valley. The Town's hinterland is home to the best of Kenyan Tea which is world famous for its brightness, attractive color, brisk flavor and textures of fragrant leaves. With a high altitude and virtually daily rains, Kericho Municipality is within the ecosystem of Kenya's best known water catchment area, the **Mau Forest**. The town is drained by several rives which form tributaries of the Sondu on which the Sondu-Miriu water project is based.

*These towns are the administrative capitals for the Counties which have since been abolished under the Kenya Constitution, 2010.

CHAPTER FIVE: STAKEHOLDER CONSULTATIONS

5.1 Overview

The updating of this ESMF has drawn heavily from consultations held with key stakeholders. The process geared towards getting feedback especially from stakeholders who were involved in KISIP I on the implementation of safeguards to enhance the positive aspects and address the negative aspects. In sections below, the methodology, objectives, findings, and recommendations from the Stakeholder consultations is highlighted. The record of the consultations is presented as Annex 13, and constitute part of this ESMF.

5.2 Objectives

Stakeholder consultations for the draft safeguards instruments comprising the ESMF were carried out at the County level, and settlement level with community leadership and with residents. The objectives of the consultations were:

- To disseminate information to stakeholders on the proposed design elements of KISIP II;
- To provide a platform for project stakeholders to air their views, concerns and recommendations on the draft safeguards instruments for incorporation into the final instruments;
- By providing an opportunity for project stakeholders to participate in the conceptualization of KISIP II, enhance the sense of community ownership of the project and ensure sustainability;
- To identify perceived project impacts in relation to KISIP I, and devise measures in the instruments for enhancing the positive impacts and mitigating negative impacts;
- To identify and build consensus on stakeholders needs and expectations and translate these into project goals for effective strategy development in the safeguards instruments.

There is need to hold further consultations especially in the new urban centres and settlements that will be participating in KISIP for the first time, and update this ESMF, once the full geographical scope of the project is defined.

5.3 Requirements for Stakeholder Consultations

The need for stakeholder consultations is enshrined in the Constitution of Kenya 2010, which guarantees the right to information and public participation. Article 1(2) of the Constitution of Kenya, 2010 provides that all sovereign power belongs to the people of Kenya. Public participation is therefore a direct exercise of sovereignty. Article 10 (2) indicates that public participation is among the national values and principles of governance. Article 33 further guarantees the freedom of expression including the

freedom to seek, receive or impart information or ideas, while Article 35 provides for the right to access information. It guarantees every citizen the right to access information held by the state. Article 174 (c), gives powers of self-governance to the people can derive direct benefit from meaningful public participation. Article 174 (d) build on 174 (c) by recognizing the rights of communities to manage their own affairs and to further their development.

The provisions of the Constitution on stakeholder engagement are supported by World Bank Operation Safeguards Policy (OP 4.01) on Environmental Assessment in sub-sections 15 to 19. Sub-section 15 on Public Participation states that for all Category A and Category B projects proposed for IBRD or IDA financing, during the EA process, the borrower is supposed to consult project affected groups and local nongovernmental organizations (NGOs) about the project's environmental aspects and takes their views into account. Sub-Section 16 on information disclosure provides for meaningful consultations between the borrower and project-affected groups and local NGOs. The sub-section stipulates that the borrower is to provide relevant material in a timely manner prior to consultation and in a form and language that is understandable and accessible to the groups being consulted.

Other local laws emphasize the need for stakeholder engagement. The County Government Act (2012) in Part 2 Section 6 states that in exercising its powers or performing any of its functions a county government shall ensure efficiency, effectiveness, inclusivity and participation of the people. The Environmental Management Coordination Act (EMCA), 1999 amended in 2015 in Part 2 of EMCA 1999, consist of General principles: (a). principle of public participation in the development of plans, policies and processes for the management of the environment, while the Urban Areas and Cities Act (2011) in sub-section 2 provides for citizen fora as a 'forum for citizens organized for purposes of participating in the affairs of an urban area or a city.'

5.4 Methodology

Direct consultations were held at three levels namely: -

Technical Consultations: The ESMF Team held a technical consultative meeting involving the KISIP National PCT, the World Bank team and the Council of Governor's on the 26th August 2019. The key elements of the draft ESMF were presented for comments and critiqued for improvement. The Team discussed the proposed project components for KISIP II, proposed institutional arrangements, tentative interventions, safeguards provisions, all of which served to conceptualize the scope and thinking behind KISIP II.

County Level Consultations: County level consultations were held with Environmental and Social officers of the 14 Counties that participated in KISIP I namely, Kisumu, Kakamega, Kwale, Kericho, Nakuru, Uasin Gishu, Nairobi, Garissa, Kitui, Machakos, Embu, Mombasa, Kilifi and Kiambu. The Officers converged in Nairobi on the 26th and

27th September 2019, for a highly interactive two-day consultation workshop on the draft safeguards instruments.

Settlements Level Consultations: Targeting the communities, and in order to have a representative sample of the fourteen counties and 137 informal settlements that KISIP I is working in, a sample of three counties i.e. Nairobi, Machakos and Nakuru (Naivasha) was drawn. Out of these, 11 settlements were selected for the consultations.

Table 5-1: Settlements Consulted

No	County	Settlements
1	Nairobi	Embakasi Village, KCC, Kahawa Soweto, Kayole Soweto, Redeemed.
2	Nakuru	Kihoto, Kamere, Kasarani, Karagita
3	Machakos	Kariobangi, Mjini/Swahili
	Total	11

The 11 settlements include those that have benefited from infrastructure upgrading as well as those that benefitted from tenure regularisation. One (1) settlement has benefitted from both interventions. In addition, these include a mix of settlements where all interventions are complete and handed over, while others have ongoing works either form Infrastructure or tenure regularisation. These settlements are therefore considered to mirror other settlements within KISIP 1.

Settlement Consultations were at two levels:

a) Consultations with leaderships and key stakeholders. This included: Settlement Executive Committees, Grievance Redress Committees, County Administration (e.g. ward administrators), Ministry of Interior (chiefs or assistant chiefs), and other opinion leaders (e.g. Members of County Assembly or their representatives), and Community Based Organisations, among others.
b) Consultations with residents in informal settlements: In addition, a public meeting with residents was held in 2 Settlements in Machakos and Nakuru Counties.

During the County Officers workshop and in the community leaders (SEC/GRC) meetings, the proposed sub-projects for KISIP II were shared, as well as the requirements for the KISIP II ESMF. It was explained that KISIP II requires additional safeguards instruments in the form of the Stakeholder Engagement Framework and the Vulnerable and Marginalized Groups Framework, to strengthen the management of project impacts. The discussions around the ESMF drew focus on the reasons for updating the document, legal and policy underpinnings, potential project impacts, mitigation and enhancement measures and the environmental and social assessment processes for KISIP intervention. The institutional arrangements for the implementation of the Updated ESMF were

discussed, with an emphasis on the larger role of the County Governments in KISIP II, and more involvement of SEC and GRC.

The plenary session was centered on key consultation points pertaining to potential project impacts, mitigation and enhancement measures and implementation arrangements, capacity needs for ESMF implementation and suggested enhancement measures and modalities of compliance monitoring, while allowing the stakeholders to ask questions and raise any other matters of concern in relation to the project. Apart from the County Officers consultation meeting, which was held in English, all other meetings were held in Swahili.

5.5 Meeting Schedules

Table 5-2 below presents the schedule of meetings for stakeholder consultations.

Table 5-2: Breakdown of Meetings/workshops participants

Meeting	Date	Participants	Gender	
			Male	Female
Introductory meeting/ County KISIP PCT and Environmental and Social Safeguards Officers consultation	26th & 27th September 2019	• County Government of Nairobi, Kisumu, Garissa, Machakos, Nyeri, Uasin Gishu, Kiambu, Naivasha, Embu County KISIP representatives and County Environmental and Community Development Officers • KISIP National representatives • Housing Secretary • World Bank GRM Consultants	15	23
Nairobi County and Community leaders Meeting (held at Kenya Bankers)	1st October 2019	• County Government of Nairobi KISIP team • SECs from KCC, Kayole Soweto, Kahawa Soweto, Embakasi village, Redeemed settlements • GRCs from KCC, Kayole Soweto, Kahawa Soweto, Embakasi village, Redeemed settlements • KISIP National Representatives • World Bank GRM Consultants • Chiefs/Assistant Chiefs • County Administration • MCA Kahawa West • P.A to MCA Savannah	29	19

Machakos County and Community leaders meeting in Machakos (held at Villa Conference)	2nd October 2019	• County Government of Machakos KISIP • KISIP National representatives • SEC Members from Swahili and Kariobangi settlements • GRC Members from Swahili and Kariobangi settlements • PA MCA • CEO, Hope Disability Network • World Bank GRM Consultants	24	16
Public meeting in Kariobangi settlement, Machakos	2nd October 2019	• County Government of Machakos KISIP • KISIP National representatives • Consultant • SEC and GRC Members from Kariobangi settlement • Members of the Public (Kariobangi settlement) • World Bank GRM Consultants	10	11
Nakuru County and Community leaders meeting in Naivasha (held at Masada Resort)	3rd October 2019	• County Government of Naivasha • KISIP National representatives • SEC Members from Kihoto, Kamere, Kasarani and Karagita settlements • GRC Members from Kihoto, Kamere, Kasarani and Karagita settlements • Chiefs • CBOs representatives • Personal Assistant to MCA Karagita	28	15
Public meeting in Kihoto settlement, Naivasha	3rdt October 2019	• County Government Naivasha • KISIP National representatives • SEC and GRC from Kihoto settlement • Community members	14	10

5.6 Outcome of the Stakeholder Consultation Process

The full record of the stakeholder consultations is presented in a separate volume as Annex 13 and constitute part of this ESMF. The subsequent sections below however provide a summary of stakeholder reactions and issues/ concerns raised by each of the consulted groups.

5.6.1 Stakeholder Identification

The community identified the following parties as key stakeholders who should be consulted in KISIP interventions:

Table 5-3: Stakeholder Categories for KISIP II

Stakeholder Category	Name of Stakeholder
Political Sector	Governor, Member of Parliament, Members of County Assembly, Ward Representatives
County Government	Council of Governors, County Executive, County Assembly, Departments of Lands, Roads, Water, Environment, Social Services, Urban Development, Public Health Town managers, Town/City Boards, village elders
National Government	Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works National Treasury Ministry of Lands and Physical Planning Ministry of Interior
County National Administration	County Commissioners, Deputy/Assistant County Commissioners/ chiefs and Sub Chiefs
Road Agencies & Railways	KURA, KeNHA, KERRA
Water Agencies	WRA, Water Works Agencies, Water Services Providers (WSP), WRUAs
Community	Residents, SECs, GRCs, Community Based Organizations (CBOs), NGOs, Faith Based Organizations (FBOs), Neighbourhood Associations
Regulatory Agencies, Parastatals, and Commissions	National Environment Management Authority (NEMA) National Construction Authority (NCA) NLC, Kenya power, Kenya Railways, Survey of Kenya, Mines and Geology, Kenya Forest Services
Contractors and Consultants	To be identified later at tender stage

5.6.2 Positive Project Impacts

During consultations, the following positive impacts of KISIP I interventions were highlighted:

- **Improved Accessibility-** The paved roads have eased access into the settlements. Previously the roads would become impassable during the rainy season. In Kayole, for example, the community mentioned that it has become easy to take patients to Mama Lucy Hospital in case of emergencies.
- **Improved Sanitation and Hygiene Standards**-residents have benefitted from the new connections to the main water supply and have witnessed improved health and hygiene at household level. Cholera cases have also reduced as a result of improved drainage of waste that would previously remain stagnant in the unlined side drains. Reduced dust means less respiratory diseases.
- **Improved Security**-The settlements are well lit by the flood lighting therefore, residents feel safe walking at night and businesses operate until late hours.
- Improved **tenure security** for the residents.
- **Land Appreciation**-Upgrading of infrastructure in the settlements has made the area more appealing, leading to a rise in land prices.
- **Improved Livings Standards**- living standards in the settlements improved due to a combination of factors including reduced dust emission from the road, fewer incidence of water-borne illnesses, and more conducive environment to carry out business. In Nairobi, housing standards have improved in the settlements.
- **Employment and Improved Livelihoods**: Project provided some employment while flood lights have enabled thriving businesses at night. Rent has also gone up earning owners more income.
- **Gendered impacts in livelihood improvement**: Most of the businesses now operating at night belong to women due to improved security.
- **Improved aesthetics:** Infrastructure and associated requirements e.g. clearing of some unplanned structures improved aesthetics in the settlement. Roads now promoted better planning i.e. no haphazard building
- Infrastructure led **to improvements in health and reduced hazards** associated with dust and others. Access to clean water reduced waterborne diseases. Improved drainage channels have improved drainage of storm water in the settlement reducing risk of flooding.
- Infrastructure attracted better and **improved housing** e.g. high rise buildings – change in the type of building been put up.
- **Increased interaction and relations** between various groups in the settlement due to the project and its institutional framework e.g. SEC which brought different groups together and working together for long period.

5.6.3 Negative Impacts

The following negative impacts were highlighted from the consultations:

- **Accessibility Challenges-** based on community sentiments, accessibility within the settlement during construction is an issue. Contractors often do not provide safe access to buildings and routing/ diversions for vehicular and human traffic. Moreover, persons living with disability and the elderly, have unique accessibility challenges during and after construction, which need to be considered.
- **Clogged Drainage Systems -** Drainage is clogged with solid wastes from homesteads and small businesses, while in other cases, the drains are clogged with construction debris from plots under development.
- **Safety Concerns** – There is need to make the constructed roads safer for the community through proper design, signage, guard rails, and bumps. There were reported accidents due to motorbikes over-speeding in the settlement as a result of improved roads. Roads also attract children and have turned into playgrounds for kids.
- **Gentrification:** As property values rise, some project beneficiaries unable to keep up with changing environment are forced to sell out (surrounded by too many high rise buildings but can't put up such).
- **Pollution from dust** during construction especially as most contractors don't pour water.
- The infrastructure should be friendly to persons living with disabilities.
- Noise during construction.

5.6.4 Information Disclosure

- There should be frequent and meaningful engagement between the County Government and the community at the grass root levels, to enable the Counties to be informed of issues affecting them.
- Issues raised with County Government and Contractors should be escalated to KISIP NPCT and feedback given within a reasonable time.
- Community requested for project designs to be shared with them prior to implementation to allow room for their input as a way of preventing some potential adverse impacts.
- Project handovers should not be a boardroom affair but rather be publicly undertaken and involve the community.
- Monitoring and evaluation of on-going works should involve the community.

- Hold regular community meetings to review progress and obtain feedback.
- Include a resource Centre for the project. Alternatively have a shelf in another resource Centre/possibly even in Huduma Centre to help disseminate project information. County Departments of information should be involved.

5.6.5 SEC and GRC

The two committees are effective but some lapses in resolving grievances escalated to contractor and KISIP County/National were cited. SEC/GRC-There is a need for KISIP to strengthen the working relationship of SEC/GRC with contractors. Suggestions were made to formally introduce the parties to each other at commencement of the projects and ensure sustainability through participation in site activities, namely, monthly progress review site meetings and regular monitoring of project impacts.

GRC was found to be more active due to the large number of grievances arising from interaction with contractors. The stakeholders proposed that the capacity of the SEC and GRC be enhanced in the following ways:

- Facilitation of airtime, provision of stationery, office space
- Participation in exchange programmes with better performing SEC/GRC for benchmarking
- Clearly define role of SEC and GRC and assign the independent activities to avoid duplication and conflict of leadership
- Regularly monitor constitution and effectiveness of SEC and GRC, and if there is a vacancy created by circumstances such as death, fill the vacancy for proper functioning.
- Frequent and meaningful engagement between the County Government and the community at the grass root levels to enable the County to be informed of issues discuss and to address them adequately.
- Clear channel of communication to be established between SEC/GRC, County and contractors.
- Regular training and capacity building of SEC and GRCs,
- Regular Participation of SEC and GRCs in Project monthly meetings

5.6.6 County Safeguards Capacity

Although Counties have environment and community development officers, they have limited knowledge of social safeguards. There is therefore need for specialised/ tailored safeguards training for the county staff. Training to target a larger number due to staff turnover and re-shuffling. Training should aim at institutionalising safeguards for use even in other County projects. In addition, there should be clear guidelines to counties on the composition of the team and the required professions.

5.6.7 Contractor/County/Community Relations

There existed problematic relations with little regard for SEC/GRC by contractors. Issues were often left unresolved. A formal introduction meeting of the Contractor to the SEC and GRC was suggested to set the ground for a cordial working relationship.

5.6.8 Operation and Maintenance

There was overall poor maintenance of the infrastructure by the counties and communities. For example, street lights and roads put up using large sums of money but lights no longer work largely because power bills are not paid yet the same lights had billboards that the counties can use to generate revenue. The bill boards are not in use. Storm water drainage channels are also blocked by wastes.

There was lack of clarity on whom to report break down in the same infrastructure after handover and in some cases, lack of clarity if the facilities had been handed over especially roads. Street lights handover seemed more clear as community was trained in monitoring. There was a recommendation therefore to improve the framework contracts with clauses that county will maintain the infrastructure.

5.6.9 VVulnerable groups/persons

There are no vulnerable and marginalized groups as defined in the VMGF. However, vulnerable groups in the sense of the RPF exist. Street children were one group often left out of the interventions, but which they could benefit from. Proposed infrastructure menu can include rehabilitation centres or livelihood projects for them.

5.7 Recommendations

Based on the consultations, this ESMF makes a number of recommendations:

1. Consultations during project planning and implementation need to involve as diverse stakeholders as possible, as per project requirements at the time, and in a timely manner.

2. Enhance the capacity of the personnel working on safeguards at both the national and county levels as well as the SECs and GRCs through appropriate training and supportive facilities.

3. SEC/GRC Roles and responsibilities need to be better clarified to avoid conflict and duplication. Their performance must be evaluated regularly with the aim of strengthening them.

4. There is need for a dedicated grievance officer on the ground to track the grievances progress and provide feedback to the various committees/levels. KISIP PCT should have a dedicated grievances officer for follow up at county and national level.

5. Put in measures for Operation and Maintenance of infrastructure early in the project design, and implementation.
6. Community involvement should be strongly considered during project commissioning.
7. Involve beneficiary communities in monitoring the implementation of safeguards.
8. Training on safety awareness was inadequate and needs enhancement and budgeting in contracts. There should be itemised budgetary allocation in contracts for training on HIV and safety aspects, among others. A health and safety committee incorporating the county should be provided in the projects.

CHAPTER SIX: ENVIRONMENT AND SOCIAL ASSESSMENT PROCESS

6.1 Overview

The sections below illustrate the stages of the environmental and social assessment for sub-projects projects financed under KISIP II. The process involves screening, assessment, review and approval of subprojects to be implemented. All projects proposed under KISIP will be subject to statutory requirements of EMCA 1999. Section 58 of EMCA requires all projects falling under the Second Schedule to be screened towards preparation of Project Reports for review by NEMA. The statutory EIA procedure in Kenya as stipulated in Legal Notice 101 is outlined in sections below and illustrated in Fig. 5.1 below.

All environmental assessment for KISIP projects will be undertaken by NEMA -approved experts or firm of experts.

6.2 Screening

This ESMF requires that all potential projects be screened for social and environmental impacts. The Screening results will determine the requisite environmental and social assessments and mitigation plans (ESIAs, RAPs, VMGPs) for individual projects to be developed.

The objectives of screening projects for environmental and social impacts include:

a) To determine the scale and scope of potential environmental and social impacts of the proposed projects early on in the project design;
b) To determine the level of environmental and social assessment required to mitigate against the likely impacts. This ensures that the proposed projects undergo the right level of assessment thereby saving money and time.
c) To determine the applicability of the World Bank safeguard polices and Government of Kenya policies and laws to ensure compliance
d) Provide a basis of determining the eligibility or appropriateness of the proposed projects early even before feasibility studies so that only projects which require rigorous analysis to determine viability are taken forward to the feasibility stage.

If screening establishes the sub-project has:

a) environmental impacts that needs to be mitigated, then an Environmental and Social Impact assessment will be conducted
b) Displacement impacts on people, assets, and livelihoods that needs to be mitigated, then a Resettlement Action Plan will be conducted in accordance with Op 4.12, and the Project's Resettlement Policy Framework (RPF)
c) Impacts on vulnerable and marginalized groups (VMGs) that meet the criteria of OP 4.10, then a Vulnerable and Marginalized Groups Plan (VMGP) will be prepared.

The systematic approach to screening is outlined in sections below.

6.3 Pre-EIA Screening Procedure

The purpose of pre-EIA screening is to get an overview of the nature, scale and magnitude of impacts in order to determine firstly whether projects fall under the Second Schedule of EMCA which outcome will determine requirement or otherwise for statutory impact assessment. If projects are deemed to fall under the Second Schedule, pre-screening will also identify the scope of Environment Impact Assessment (EIA) to be subsequently undertaken. As well, pre-EIA screening will determine and establish applicability of the Bank's safeguard policies and will therefore influence development of Terms of Reference for follow up EIA and RAP studies. The tool for Pre-EIA Screening is a Checklist to be administered to candidate projects at the conceptual design stage to facilitate early documentation of would-be impacts based on which decisions on project viability will be taken. Screening will proceed as follows using a screening check list (Annex 3); -

Step One: Apply Part A of Pre-EIA Checklist to ascertain applicability of Second Schedule of EMCA 1999. If project does not fall within Second Schedule, then it does not merit EIA and the filling of Table 5.1 alone will be adequate.

Step Two: For projects identified under Schedule Two of EMCA, apply Part B, C and D of the Pre-EIA Checklist to document site characteristics, identify likely social and environmental impacts. Ascertain and record applicability of World Bank Safeguard Policies.

Step Three: Preliminary Analysis of Impacts: Based on observed triggers to impacts, local statutes and WB SGPs, a decision is made on the scale of Impact Assessment required i.e. whether investigations will target Project Report or full EIA study. An early determination of requirement of full cycle EIA has been known to save considerable time for proponents. This analysis is undertaken by the Environmental and Social Safeguard Consultant and reviewed and approved by KISIP CPCT at county level first and then the KISIP NPCT.

Step Four- Preparation of TORs for subsequent EIA: The ToRs for the conduct of environmental and social assessments (EIAs and RAPs) will be part of the TORs for the consultancy on socio-economic surveys, development of settlement upgrading plans, feasibility studies, detailed design and preparation of bid documents or independent as the case may be. For project proceeding to full study EIA, the Terms of Reference will be prepared by the ESIA Lead expert licensed by NEMA as such, and approved by NEMA before the start of the full study EIA. The ToRs and the resulting ESIA Study reports will also need to be approved by the World Bank.

For Project Report level assessment, EIA will start once the SUPs have been approved. The systematic procedure for developing Project Reports is outlined in section 5.2 below.

For projects proceeding to full cycle EIA stage, the Lead Expert will prepare TORs for full Cycle EIA Studies (Scoping) which will be forwarded to NEMA for approval.

6.4 Statutory EIA Process in Kenya:

6.4.1 ESIA Project Reports

This Project Report stage is equivalent to EMCA requirements under Legal Notice 101 of June 2003. The focus and scope of a Project Report are defined in Regulation 6, 7 and 8 of Legal Notice 101. Section 6 of part 1 of the LN 101 stipulates that "An application for an Environmental Impact Assessment License shall be in the form of a Project Report in the form set out in the First Schedule to these Regulations, and the applicant shall submit the application together with the prescribed fee to the Authority". Section 7(1) of Part 11 of the Legal Notice 101 specifies the contents of the project report.

Project Reports are normally prepared as a means of informing NEMA of the proposed development such that after review of the report, NEMA advices on the need or otherwise for a full EIA. However, section 10(2) of Part II of Legal Notice 101 allows for approval of proposed projects at the Project Report Stage and has been effectively used by NEMA to grant Environmental Licenses to small projects without requiring a full EIA.

In line with this requirement, KISIP through Consultants will prepare and submit Project Reports to NEMA. The Project Report as required by Legal Notice 101 of EMCA is a preliminary EIA report which NEMA uses sometimes to License small projects. However, based on the Project Report, if NEMA determines that further EIA is required, then a full study leading to development of an Environmental Impact Assessment Study Report will be undertaken.

Internal review and submission of Project Report to NEMA:
The Draft Project Report will be discussed extensively at with the community and the County and approved. The improved draft is then presented to KISIP PCT for review and approval. Upon review and approval, the consultant will incorporate comments and finalize the report and submit to NEMA as per Regulation 8 of Legal Notice 101.

NEMA makes decision on the need or otherwise of further EIA: Based on the Project Report submitted and internal review process, NEMA will make decision on the requirement or otherwise for further EIA Studies. The same decision will be communicated to KISIP.

Table 7-1 below illustrates the typical process and time taken to process a Project Report through NEMA as per Legal Notice 101 of EMCA. The statutory review period is maximum 45 days effective the date of receipt of a Project Report by NEMA.

Table 7-1: Typical EIA Project Report Process

Step	Action	Actor	Time requirement
One	Submission of Project Report to NEMA. NEMA will acknowledge receipt and allocate it a reference No.	Consultant NEMA	
Two	NEMA provides the Project report to relevant lead agencies requests for comments	NEMA	Within seven days
Three	Lead agencies review and give comments to NEMA. May involve field visits.	Lead Agencies	21 days from date of receipt of report from NEMA.
Four	Project report review by NEMA	NEMA	30 days after receipt of PR.
Five	Communication of findings		45 days after receipt.

Typical outcomes of review of Project Reports from NEMA are likely to be:

a) *Project is approved.* Where NEMA and Lead Agencies ascertain that a project report has disclosed adequate mitigation for identified impacts, the project is approved by NEMA upon which, conditions attached to grant of an Environmental License are issued. Once these are fulfilled, an Environmental License is also issued subject to conditions which will be specific to the scheme in question. Among these is the requirement that the design should not be altered without approval by NEMA. As well, an audit report is required of each project after the first year of completion.
b) *Project Report does not disclose adequate mitigation measures or information.* In this case, the proponent will be required to undertake a full cycle EIA.
c) *Project Report discloses potential for major irreversible adverse impacts.* In this case, NEMA may not approve the project. Such a proponent has the right to appeal to the National Environment Tribunal within 14 days of receipt of the verdict.

If no further EIA Study is required:

In the event that further EIA is not required, Section 10(2) of Part II of Legal Notice 101 allows for approval of proposed projects at the Project Report Stage and has been effectively used by NEMA to grant Environmental Licenses to small projects without requiring a full EIA. Thus in line with this regulation, NEMA can grant an Environmental Licence, based on which construction can proceed.

6.4.2 Procedure for Full Cycle EIA Studies under EMCA

A full cycle EIA study could ensue from either of two processes: -
(i) The proponent in consultation with NEMA can make decision to proceed to full cycle EIA study or: -
(ii) NEMA could review the Project Report and demand a full cycle EIA as per LN 101.

In the event that a full EIA will be required, NEMA will require that a Scoping Study be undertaken which basically requires preparation of detailed TORs for the study. The purpose of the scoping study is to determine the diversity (scope) and severity of impacts anticipated so as to determine the scope of investigations needed and the requisite skills for the EIA study. The scoping study will be undertaken by a Lead Expert and submitted to NEMA for review. Upon review of the Scoping Report (TORs), NEMA will require further action as follows:

a) A Full Cycle EIA be undertaken as per regulations 18 to 24 of Legal Notice 101 of EMCA. A major requirement at this stage is the need to subject the EIA report to public review.
b) Public Review of the ESIA Report: This will entail exposure of all the EIA documents at strategic points within the project's area of influence so as to allow all stakeholders to read and understand how they stand to be affected by the project. The public review period lasts a minimum of 60 days and has to be advertised twice in local dailies that are widely read in Kenya, and are often supplemented by public meetings where the project is explained to local stakeholders. Upon expiry of the public review period, the ESIA team will organise the written comments either into an additional chapter or a volume to the ESIA report. This chapter will clearly explain how each of the comments and concerns have been addressed and resolved.
c) A RAP Report be prepared for investments where displacement is deemed to be a major impact. In the event of such requirement, the RAP report will be prepared as per guidelines contained in Volume Two of this Report.

The culmination of EIA process in Kenya is the grant of an Environmental Licence to the project by NEMA.

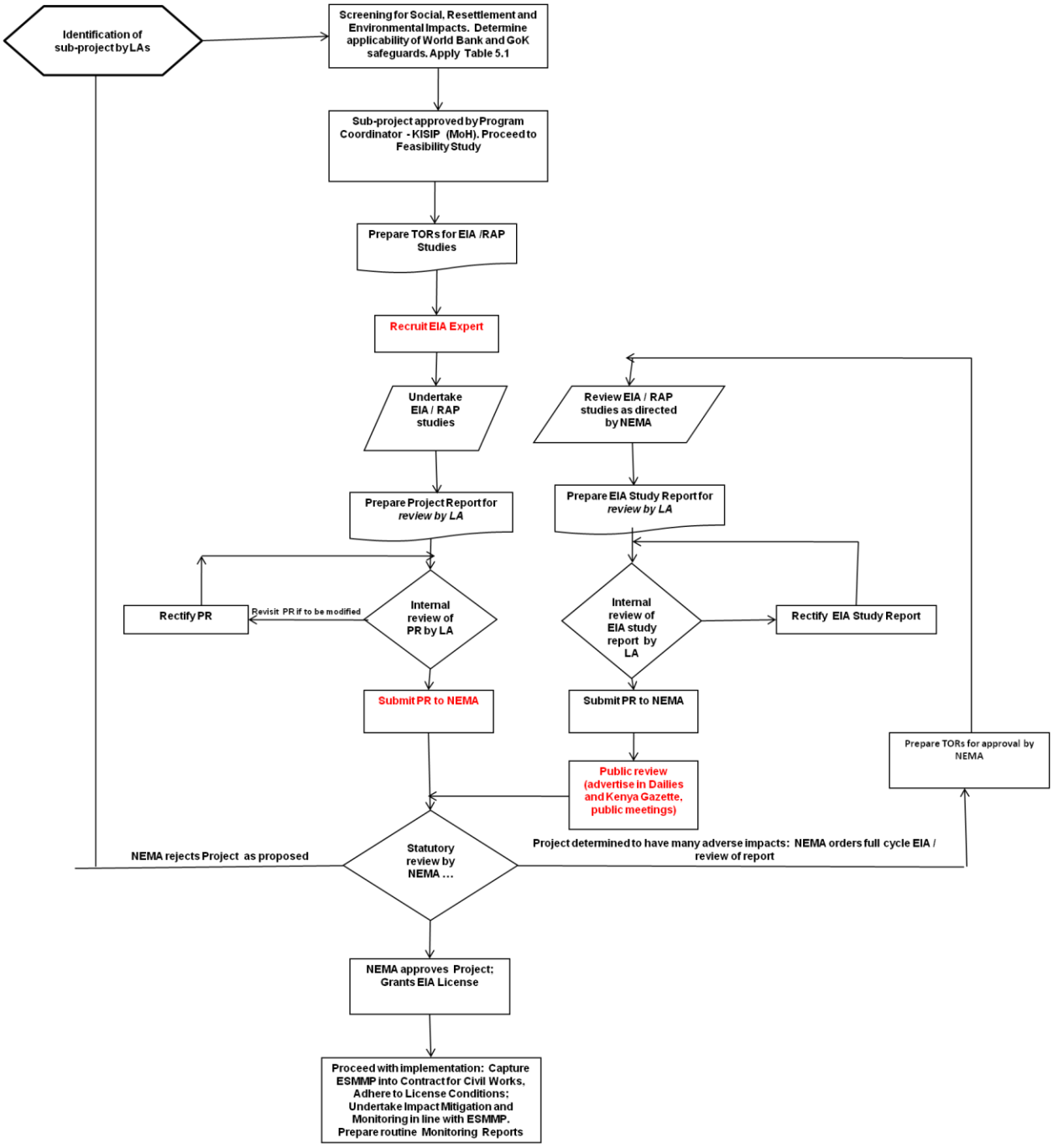


Figure 6.1: Schematic presentation of the Environmental and Social Screening process within the KISIP*

*Entries in red imply that some financial expenditure will be incurred

6.5 Expected outputs of the EIS process for KISIP projects

Regardless of the stage at which environmental licensing is concluded, screening must develop an Environmental and Social Management Plan (ESMP) for each Investment.

This is the tool that will guide identification, mitigation and monitoring of impacts during the development cycle of each investment. While a generic ESMP for the KISIP is provided in Chapter Eight below, those developed for respective investments will be actual based on identified impacts. As well, given that KISIP targets to support communities to address felt concerns in their neighbour, most of which have environmental bearing, as an output, the ESIA process will develop an ESMP for respective projects. Each ESMP will identify a set of mitigation, monitoring, and institutional measures to offset or reduce adverse social and environmental impacts to acceptable levels. The plan also should include actions needed to implement these measures. Specifically, the EMP:-

- Will identify and summarize all anticipated significant adverse environmental and social impacts;
- Describe with technical details each mitigation measure, including the type of impact to which it relates and the conditions under which it is required, together with designs, equipment descriptions, and operating procedures, as appropriate;
- Provides linkage with any other mitigation plans (e.g., for involuntary resettlement, indigenous peoples, or cultural property) required for the project.
- Identify **monitoring** criteria with monitorable methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and
- The ESMP will also prescribe institutional arrangements with clarity on responsibilities for mitigation and monitoring measures.

For all the above three aspects (mitigation, monitoring, and capacity development), the EMP will provide (a) an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and (b) capital and recurrent cost estimates (c) sources of funds for implementing the EMP. All these cost estimates should be integrated into the total project cost estimates. The EMP will be integrated into the project's overall planning, design, budget, through direct linkage to project contracts and funding allocation in the BOQs.

6.6 Adequacy of Kenyan EIA System in addressing WB requirements

Though not a requirement under EMCA, scoping will screen all projects for applicability of WB SGPs. Should scoping identify presence of communities falling under Indigenous Peoples, then an Indigenous Peoples Management Plan will be prepared in line with OP 4.10. Thus, for purposes of this ESMF, the EIA process administered by NEMA as stipulated by EMCA and its tools (Legal Notices) provides an adequate mechanism for arriving at informed decisions on the net social and environmental worth of projects as proposed. For this to be achieved, the EIA process must be concluded before detailed design stage. Further, in the view of this ESMF, the EIA process administered in Kenya allows for full resolution of all potential triggers to WB SGPs.

CHAPTER SEVEN: ANALYSIS OF ALTERNATIVES

7.1 The Nature of Alternatives

This section expounds on the process behind decisions made in regard of KISIP investments as currently packaged. Decisions considered here include; - choice of towns and cities, selection of priority settlements within counties, priority projects, choice of technology, etc.

7.2 The Selection of KISIP Towns and Cities

The selection of KISIP counties (towns and cities) to participate in the project will be based on an agreed criterion that is yet to be developed and finalized. This ESMF will need to be updated once the criterion is finalized.

7.3 Criteria for Prioritizing Informal Settlements for KISIP Support

This will also need to be updated, but in general based on the criteria for KISIP I:

Need to eliminate economic differentials: KISIP is by design biased towards support to informal settlements. The motivating criterion is to improve quality of life in informal settlements towards building equality and attaining both local and globally accepted standards for quality of life. Given this consideration, KISIP also targeted settlements where residents are most disadvantaged.

Compliance with Kenyan law: At Municipality level, the choice was between informal settlements whereby decision was informed by a couple of criteria the most overriding of which is compliance to national law and the need to insure against adverse social and environmental impacts as secured by WB SGPs. In this respect, informal settlements that exist contrary to Kenyan law such as those occurring in riparian areas, wetlands, etc. were avoided as these would call for entire relocation rather than upgrading.

Land tenure status: A settlement must be located on land that is owned by the government or on land with clear ownership status.

Settlement size and density: Development aims at maximizing impact in which case, all other factors being constant, larger and denser settlements will receive priority to ensure that as many people as possible benefit from the investments.

Scale of potential displacement of residents: Physical upgrading of the settlement should not entail large-scale displacement (and, thereby, relocation) of residents.

Proximity to trunk infrastructure: To maximize settlement coverage within a limited budget and to ensure that participating settlements receive connections to citywide infrastructure networks and maintenance systems, in the initial years of project

implementation, settlements that are in close proximity to core trunk infrastructure (such as roads and trunk lines for water, sewage or electricity) will receive priority.

Community readiness to participate: Participation by a community is voluntary, and will depend on its willingness to follow a participatory process to identify priority activities. To qualify, communities will have to (a) mobilize and form settlement committees, and (b) approve a community resolution. Once a settlement has been identified as eligible using the other criteria, community leaders will be consulted regarding the interest of the community in participating. The community will then need to appoint a CPMC that will spearhead development of a vision for the settlement and preparing settlement upgrading plans to realize it.

Ecological considerations: The settlement should not be located in an ecologically fragile area or contaminated sites that are not fit for human settlements. KISIP II cannot be used to regularize settlements in hazardous areas nor provide infrastructure in such areas.

7.4 Choice Between Conflicting Needs

Harmony with local planning priorities: Counties are charged with directing and shaping development within areas of jurisdiction in line with the Physical Planning Act and the County Government Act. Thus, based on the PDPs, Counties prioritise interventions based on the perceived development needs e.g. the need to provide roads to open up areas for residential development, or to attract higher quality housing development, etc.

Need to address community felt needs: In the case of KISIP, identification of investments was also a reflection of the community felt needs whereby selection of investments was guided by given principles namely: -

- The service should be selected from the agreed investment menu.
- The investment should be a priority specified in the physical upgrading plan developed by the residents of the informal settlement through a participatory process.
- The chosen infrastructure investments should be economically justifiable
- Arrangements for operations and maintenance must be sound and give confidence that service delivery will be sustainable.
- Environmental and social impacts of infrastructure investments are positive.
- Budget and per hectare cost must be within agreed limits.

7.5 Choice Between Technologies

Choice of technology is normally an engineering decision informed by consideration of site conditions, availability of appropriate materials, labour versus capital intensive policy, budgetary provisions, requirements for Operation and Maintenance, etc. Investments proposed for KISIP are still at identification stage in which case, decisions regarding the choice of technology are yet to be made. However, at the ESIA stage, the choice of entire design will be subjected to review to ensure that the selected technology offers a combination of technical feasibility, economic viability and socially acceptability.

CHAPTER EIGHT: POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

8.1 Overview

KISIP is largely an intervention at Social and Environmental Mitigation. From the NEAP process of 1994, unemployment, poor access to services (housing, water and sanitation, transport, waste disposal, etc.), exposure to diseases, crime, insecurity, etc. emerged as some of the main challenges facing majority of the urban population in Kenya. Indeed, the fieldwork undertaken as part of this ESMF process confirmed prevalence of the same within KISIP towns. This study also observed inadequacy of infrastructure such as roads, drainage, bridges, etc., lack of recreation facilities, exposure to hazards of flooding, dust, etc. to be major concerns in the informal settlements and these are the challenges that undermine quality of life and hence become priority candidates for resolution under KISIP. The purpose of this chapter is to screen KISIP interventions to ensure that they do not aggravate already existing concerns.

Impact analysis for KISIP was attempted at two levels (i) analysis of broad impacts of project as designed and, (ii) analysis of impacts associated with implementation of specific interventions. Findings are summarised in sections 8.2 and 8.3 below.

8.2 Broad Iimpacts of KISIP Design

Impact analysis firstly sought to assess the overall strategic impacts of KISIP as designed based on evaluation of potential effects of the overall goal and components (sub-goals) of the Programme. The overall observation is that, the KISIP goal targets to impact people's lives positively through improving the quality of their lives and this is immensely positive. As well, all components have potential to confer highly positive multiple benefits which would contribute to achievement of national planning goals. However, sustenance of the long-term positive impact will require that measures be put in place to insure against trends that would erode the goals. This is the essence of the generic Environmental Management Plan (EMP) that is outlined in sections below.

Table 8.1: General Impacts of KISIP Design

Screening level	Narrative	Potential impact	Persistence
Project goal	Improve living conditions in informal settlements	Highly positive and will contribute to national development goals	Measures required to secure long-term effects
Intervention One	Infrastructure upgrading	Highly positive with multiple benefits Some negative impacts related to construction.	Measures required to secure long-term sustainability
Intervention	Integrated planning to	Highly positive with	Measures

Two	enhance tenure security	multiple benefits Social impacts from possible displacements/relocations	required to secure long-term sustainability
Intervention Three	County institutional strengthening	Highly positive impacts	Measures required to secure long term sustainability
Intervention Four	Project management and national capacity building Planning for growth	Highly positive with multiple benefits	Measures required to secure long term sustainability

8.3 Impacts from KISIP Interventions

8.3.1 Background to Impact Assessment

In this section, potential impacts of KISIP II investments anticipated are analysed. Impact assessment for KISIP was informed by the understanding that: -

i) Investments proposed under KISIP target concerns at informal settlement level where the strategy is to mitigate trends that degrade the quality of life;
ii) Investments anticipated are quite small in scale and skills and capital required for their operation should be within reach of informal settlement residents.
iii) Based on review of project documentation and discussion with diverse stakeholders, the common concerns in Informal settlements and possible means to their resolution have been identified. These are the same concerns whose resolution has provided the basis for the Environmental Management Plan unveiled starting from Table 7.2 below.

8.3.2 Approach to Impact Assessment

Potential impacts highlighted in sections below are based on observations made on sites targeted for KISIP projects. Preliminary impact prediction is based on consideration of the potential interaction between civil works and the local baseline environment and later on refined through application of available tools and checklists. In particular, impact prediction in this study drew heavily on two Tools namely: - The *Checklist of Environmental Characteristics developed by the Department of Environmental Affairs of the Republic of South Africa and the Reference Guidelines for Environmental Assessments (which incorporates the Leopold Matrix) developed by USAID/REDSO/WCA – Abidjan.*

In order to gauge the nature and scope of impacts, the magnitude, significance, and acceptability of predicted impacts were evaluated with a view to determining whether observed adverse impacts are significant enough to warrant mitigation. To achieve this,

predicted impacts were analysed against parameters such as geographic spread, persistence, potential for reversibility, cumulative tendency, and potential to trigger secondary impacts, among others. Impacts were weighted on the scale of P, 2P, O, N, 2N to signify Positive, strongly Positive, Neutral, Negative, strongly Negative impacts respectively. Outcome of the generic analysis of impacts from investments proposed under KISIP is presented in summary form in 2 below followed by brief descriptions under relevant headings.

Table 7.2: Matrix for Generic Impact prediction

Community concern	Proposed intervention	Likely impacts /hazards from intervention	Impact category and scale	Persistence
Insecurity	Installation of security lighting	Enhanced visibility	2P	Can be long-term
		Land fixing by power posts	N	Long-term
		Possible theft of accessories	N	Long-term
Poor accessibility	Provide motorable access roads and bridges and footpaths	Improved movement and service delivery	2P	Can be long-term
		Impacts of construction and civil works	N	Short-term
		Recovery of encroached road reserves	P	Can be long-term
		Displacement of livelihoods	N	Long-term
Inadequate water supply	Provide water supply based on communal pipe stands/ water kiosks	Benefits associated with access to clean water supply	2P	Can be long-term
		Economic spinoffs	P	Can be long-term
		Minor displacement of properties to lay pipeline	N	Short-term
		Impacts of construction and civil works	N	Short-term
		Hazards associated with effluent water from public watering points	N	Long-term

Community concern	Proposed intervention	Likely impacts /hazards from intervention	Impact category and scale	Persistence
		Possibility of spread of waterborne diseases from contaminated piped water	N	Long-term
Inadequate access to sanitation	Provision of adequate public toilets	Health and social benefits accruing from access sanitation facilities	2P	Can be long-term
		Displacement of properties to create space for toilets	N	Long-term
		Impacts of construction and civil works	N	Short-term
		Disease spread from non-maintained toilets	2N	Long-term
		Foul smell from non-maintained toilets	N	Long-term
Inadequate management of solid waste	Community-based waste management based on centralised receptacles/	Benefits associated with garbage management	P	Can be long-term
		Minor displacement to create space	N	Long-term
		Impacts of construction and civil works	N	Short-term
		Rodents/ garbage spoilage associated with poor maintenance /management	N	Long-term
Inadequate drainage	Provide drainage canals	Shielding of property from flood inundation and other adverse impacts	2P	Can be long-term
		Construction stage impacts	N	Short-term
		Hazards of accidents	N	Long-term

Community concern	Proposed intervention	Likely impacts /hazards from intervention	Impact category and scale	Persistence
		from open canals		
		Hazards of WBD vectors in non-maintained canals	N	Long term
	Need to provide trunk drainage	Hazards as above. Construction stage impacts can be severe	2N	Long-term
Encroachment on public facilities	Reclamation of public utility land	Public access to services such as recreation, access etc	P	Can be long-term
		Displacement of livelihoods and property	N	Long term
		Threat of secondary loss of reclaimed land	N	Long term
		Antagonism and public discord	N	Short-term
Menace of domestic animals	Implement Municipal bylaws	Elimination of nuisances	P	Can be long-term
		Loss of means to livelihood	N	Long-term
		Public antagonism and discord	N	Short-term
Exposure to fire hazard	Participatory decongestion programme including provision of access roads	Benefits of access to fire control service s	P	Can be long-term
		Displacement of property and livelihoods	N	Long-term
		Public antagonism and discord	N	Short-term
	Need to extend water supply and install supply points (Hose points)	Impacts as above	N	Long-term
Unplanned settlements	Spatial planning	Possible displacements of people and livelihoods	N	Long-term

Community concern	Proposed intervention	Likely impacts /hazards from intervention	Impact category and scale	Persistence
Insecure tenure	Surveying and titling	Secure land tenure	P	Long-term
		Possible displacements of people and livelihoods	N	Long-term
Sexual Exploitation and Abuse (SEA) of community members by project workers	training of all workers on SEA prohibitions and consequences Provide follow-up services to survivors and disciplinary measures for workers	Public and Civil societies aggression towards the Project	N	Long-term
Labour Influx to the Project area	Community engagement in management of labour related matter	Public and Civil societies aggression towards the Project	N	Long-term
	contractual obligations for the contractor to adhere to the mitigation of risks against labour influx			
Children rights abuse by contractor and labour force on site	Children Protection Strategy that will ensures minors are protected against negative impacts associated by the Project	Public and Civil societies aggression towards the Project	N	Long-term
Spread of communicable diseases and HIV/AIDS infection	training on spread and awareness materials for Information, Education and sensitisation of workers	Elimination of disease burden to community	N	Long-term

Community concern	Proposed intervention	Likely impacts /hazards from intervention	Impact category and scale	Persistence
Violation of Human Rights, and gender requirement by Contractors	Mainstream Gender Inclusivity in hiring of workers and entire Project promotion of human rights, including gender equality and equity in Employees Code of conduct	Gender disparity elimination	N	Short-term

8.3.3 Observed trends in impact presentation

From the generic matrix for impact analysis (Table 8.2 above), several trends emerge as follows: -

i) **Up to 11 interventions are possible within KISIP:** Under KISIP, up to 11 potential interventions have been identified towards resolution of 9 concerns common to informal settlements. However, out of the 11 possible interventions, only 9 calls for investment in physical structures while the other 2 call for non-structural inventions such as implementation of bylaws etc.

ii) **In spite of small scale, projects have huge potential benefits:** Given that all interventions target resolution of local concerns and felt needs, in spite of their small size, the potential benefits are quite huge. Majority of projects occasion category 2P (highly positive) impacts.

iii) **The bulk of adverse impacts are quite minor in scale:** Without exception all projects will occasion adverse impacts. However, the scale of impacts is quite small (category N) owing to the small-scale nature of projects.

iv) **Extension of trunk infrastructure has huge potential impacts:** Provision of drainage facilities and fire control services may, in some cases, require extension of trunk drainage and high-pressure water supply mains both of which are capital expenditure projects with potential to occasion major adverse (category 2N) impacts. This is the only incidence where major adverse impacts could be anticipated.

v) **All positive benefits are vulnerable to erosion:** The project has potential to confer long-term positive benefits to target beneficiaries. However, the benefits could be lost to vices associated with non-management, non-maintenance, etc. all of which call for creation of strong community-based groups to own, operate and manage the schemes so as to secure the intended long-term benefits. As will appear in sections below, effective implementation of the projects will require extensive mobilisation and capacity building for target beneficiaries.

8.3.4 Category of Adverse Impacts

Potential Positive Impacts and Benefits

Positive impacts from investment will manifest as follows: -

Better understanding of the baseline environment: KISIP towns have been sensitised on the potential impacts of proposed investments as a result of which there is better awareness and understanding of issues of concern. As well, as a result of the ESMF process and attendant EIA studies, a database on the environmental baseline of all KISIP towns and cities will be assembled. This will contribute to environmentally sustainable planning.

Creation of employment and business opportunities for local residents: Construction projects are labour intensive and it is expected that they will be contracted to local groups as happens under the Kazi Kwa Vijana programme in which case local residents who seek employment will have opportunities for gainful engagement. Consultants will also benefit from the short-term opportunities occasioned by the Feasibility Studies; design and supervision work on the sub-projects.

Construction of footpaths, bike paths, roads and vendor platforms: The construction of foot and cycle paths, roads and vending platforms will improve the aesthetics of the project areas. The presence of vending platforms will offer better business operating conditions for the small-scale entrepreneurs. Since the construction of roads will be built to the required standards, incidents of emergency vehicles not being able to access areas of distress will be minimised. Depending on the extent of paving, soil erosion and dust in the areas will be reduced, hence reduction in respiratory diseases that are brought about by dust.

Reduction in traffic accidents: Investment in footpaths, bike paths and roads will reduce interaction between human and vehicular traffic and thus minimise incidence of traffic accidents. The same will reduce time wasted on congested informal settlements roads.

Benefits of provision of street lighting: The main benefit will be lighting of the project areas in the night, thus offering better view of the routes and the surrounding areas to road users. Business persons will also be in a position to operate for long hours into the night while insecurity will be minimised.

Solid waste management and collection: A system of solid waste management will go a long way in reducing litter and waste pile up in the informal settlements. This coupled with environmental awareness through CBOs, will ensure that the residents handle the waste responsibly. To implement waste management and collection concerted efforts between the communities will need to put in place systems that will be sustainable in

order to avoid accumulation of waste. Options in cost recovery will have to be evaluated.

Strom water drainage infrastructure and maintenance equipment: Storm water drainage systems and maintenance of the same, coupled with improved road system and solid waste management will ensure that storm water is evacuated fast enough and that stagnant water does not collect.

Water supply and sanitation infrastructure: Availability of potable water supply implies that there will be less incidents of water borne diseases, thus improved health to the residents. Cleanliness too will be enhanced. The time that is spent fetching water will be greatly minimised and there will now be more time available to engage in more value adding activities.

Reclamation of public utility land: Reclaimed land will offer recreational and meeting facilities for the target residents while being available for provision of other services.
Emergency preparedness and response: In informal settlements, incidences of fire break have disastrous effects on property and sometimes live. Efforts by emergency service provides to respond to distress calls are many a times hindered by lack of access roads to the fire or even to water supply mains. Thus, by improving access and installing running water and fire hydrants in informal settlements, fire management will be much easier, and this could translate to positive gains for local residents.

Potential Adverse Impacts from Construction Activity

The section below discusses the adverse impacts anticipated from implementation of settlement-level infrastructure projects. Common impacts such as those from construction activity have been lumped together so that only those specific to sub-projects are discussed separately.

All civil works as proposed under KISIP investment has potential to generate impacts as listed below: -

- **Displacement Impacts:** Some of the projects, and especially infrastructure related projects, require reserved areas. This implies that there will be need, and in a number of areas, to displace the people who have encroached the road reserves, or in case of areas that do not have PDPs, some individuals may fall within the areas to be designated as road reserves. Such persons may be displaced permanently or for short durations of time. It is thus the most severe impact. Displacement will lead to individuals losing their dwellings, shelters, businesses and enterprises if they have encroached or located in an area or path that may be targeted for development.
- **Occupational health and safety concerns:** Construction crew is normally exposed to occupational safety and health hazards with the risks of suffering injuries, fatalities and illnesses related to the work environment. Occupational safety and health hazards will mainly be encountered in the use of equipment and

implements, inhalation of dust, exposure to high noise level, poor ergonomics etc. These hazards, especially dust and noise are likely to impact on persons not directly working on the project sites.

- **Sanitation concerns from construction workers:** Concentration of humanity in the construction activity will of necessity be accompanied by increased demand for sanitation which if not provided could see build-up of human waste in any bushes within vicinity of the construction site.
- **Potential conflict over job sharing:** Opportunities for employment are always associated with influx of speculative job seekers who would normally be resented by the local labour-force. And unless this is properly handled, conflicts and confrontation can ensue leading to negative publicity to the sub-projects, delays and political interference.
- **Obstruction of temporary access:** Other than displacement and OHS related issues, it is expected that temporary obstruction of access routes to peoples' businesses, homes and institutions will take place during the construction.
- **Incidence of HIV/AIDS:** The presence of construction crews, particularly in the case of migrant labour, leads typically leads to an increase in the incidence of sexually transmitted diseases including HIV/AIDS.
- **Conflicts related to Labour Influx in the Community:** This impact is triggered during Project Construction Phase due to the Project attracting various categories of workers from local, national and international markets in search for job opportunities, this ultimately result to pressure on environment and social setting of the project area.
- **Potential for exploitation of child labour:** The possibility of contractor children abuse is through hiring of child labour, also labour force on site might abuse children within the Project area through sexual advance that could lead to early pregnancies and school dropout including exposure to communicable diseases such as HIV and AIDS.
- **Violation of Human Rights, and gender requirement by Contractors :** This impact is triggered during Project Construction Phase due to the potential of the Contractor's failure to comply with Gender Inclusivity requirements in hiring of workers
- **Sexual Exploitation and Abuse:** This impact refers to sexual exploitation and abuse committed by Project staff against communities, and represents a risk at all stages of the Project, especially when employees and community members are not clear about prohibitions against SEA in the Project.
- **Generation of nuisances-noise, dust and vibrations at construction sites:** This will emanate from operation of plant and equipment, transport of materials, the labour force, etc. which, unless managed, can cause inconvenience to homesteads, trading premises, institutions, offices etc.
- **Potential damage/ interference with existing infrastructure:** Quite frequently, the site targeted for civil works could also be serving as the transmission area for other infrastructure such as underground cables, pipelines, sewer lines, etc which are not apparent on the ground. Careless implementation of civil works has often led to

damage or interference with such structures thus causing disruption in services. Where infrastructure for water supply and sewage are involved, the destruction causes untold damage and discomfort in the neighbourhood and can even trigger incidence of water borne disease and must therefore be avoided at all costs.

- **Impacts at material borrow and transport areas:** Stripping, quarrying, blasting and trampling at material borrow and transport routes cause a diversity of impacts such as degradation of biodiversity and wildlife habitat, creation of open craters which pose health and safety hazards, creation of nuisances(noise, dust and vibrations) interference with public transport routes, posing hazards to other road users (the case of non-secured building stones in transit), degradation of water catchments, etc. all of which will require resolution through careful planning of operations.

The proposed interventions for tenure security would likely result in negative impacts:

- **Influx of speculators attempting to get tenure security:** Potential conflict will be in the offing when speculators who are not part of the slum dwellers attempt to flow into the slums with the aim of getting a share of benefits from KISIP. This is especially so in areas that will be starting the regularization process and is a system if not in place to control influx of speculators.
- **Displacement of people, assets, and livelihoods:** Planning to create space for public services like roads, waste transfer stations, recreational areas, public institutions etc., and protect ecologically fragile and hazardous areas will likely displace people, assets and assets. Displacement may also result from re-alignment of property boundaries.

Adverse Impacts and Hazards During Operation Phase

By far the greatest concern at operation phase is the incidence of hazards occasioned by non-management/ non-maintenance of the commissioned projects. Such hazards include:

- Loss of assets to vandalism
- Threats to public health due to non-management of water points, public toilets, garbage stations, open drainage, etc.
- Secondary loss of reclaimed pubic land

Hazards specific to operation of investments: These are likely to manifest as follows: -

- Improvement of roads within the settlements is likely to be accompanied by increase of driving of both motorised and non-motorised transport with consequences such as damage to property, injuries and even fatalities. Vending platforms can be a source of solid waste littering if such waste is not contained and managed by the vendor.
- **Impacts from storm water drainage infrastructure:** Blockage by solid waste and siltation due to erosion is likely to hamper the flow of surface runoff leading to accumulation of water. The consequences are water borne diseases and a haven for breeding of mosquitoes. Another foreseen adverse impact is accidents when persons

especially drunkards fall into the trenches and get injured. Cases of fatalities of drunkards by drowning cannot be ruled out.

- **Impacts from solid waste stations:** Solid waste requires a system that will deter accumulation. Such a system may comprise regular collection of waste that is then disposed of at dump sites as designated by municipalities and NEMA. Failure to manage and collect waste may cause littering piling up of waste leading to pest infestation and contamination of surface and groundwater as discussed elsewhere in this report.
- **Water supply and sanitation infrastructure:** Supply of water in many urban areas is known to be very erratic. In event that the piping system runs dry, then the system is likely to suck back effluent which could lead to contamination and disease outbreak.
- **Impacts from open spaces and public parks:** Development of open spaces in form of public parks will bring together persons who want to use such facility for recreation. Such facilities are known to bring together people with different motives and petty crimes and consequently mob justice being administered to petty offenders cannot be ruled out. It is also expected that amenities such as water and sanitation facilities should also be expected to be in place. Absence of such facilities will result to people using open grounds, especially along the fencing, trees etc with disastrous consequences for public health.
- Many a times the open spaces may be used for public rallies, be it religious or political. The organisers of such rallies use strong public address systems to address their audience, and such noise can be a nuisance to those who are not part of the audience.

CHAPTER NINE: GENERIC ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

9.1 Overview

This chapter outlines the generic Environmental and Social Management Plan (ESMP) proposed for KISIP. The EMP comprises of the proposed mitigation measures and monitoring plans. The Generic ESMP unveiled in this chapter provides an overview of potential impacts of KISIP projects and approaches to their mitigation. However, specific ESMPs will require to be prepared for individual projects as the core output of the ESIA process.

9.2 Mitigation of Construction Phase Impacts

Mitigation of Displacement Impacts:

Construction of most projects has potential to occasion some displacement of either roadside property; businesses etc. but given the small scale nature of projects, displacement impacts are quite minimal. Towards resolution of displacement impacts, each potential project will be screened for displacement impact following which, Resettlement Action Plans or their abbreviated versions will be prepared depending on scale of impact. Modalities of developing the RAPs are outlined in the Resettlement Policy Framework. However, it is envisaged that displacement will be minimal and the affected persons will be relocated to other grounds. The cost of displacement will be borne in the entire cost of the investment.

This mitigation measures will also apply to displacement impacts due to land tenure regularization.

Mitigation of other construction phase impacts:

Other construction phase impacts will be mitigated as part of construction activity in line with Tables 9.1(a) and 9.1(b) below. Towards resolution of non-resettlement social impacts, project design will pursue a policy of locally hiring workers who commute from their home to the construction sites and back. The social departments of Counties will mount sensitisation campaigns on likely concerns including HIV and AIDs, drug abuse, etc. Appendix 9 provides a full schedule of requirements in respect to contractors' obligation in impact mitigation.

9.3 Mitigation Of Operation Phase Impacts

Table 9.2 below outlines proposed mitigation of operation phase impacts within KISIP. Mitigation of operation phase activity requires that projects be handed over to communities at commissioning. Thereafter, the beneficiary communities and Counties will take charge of their operation and maintenance including modalities for cost recovery and thus ensure that projects do not slip into decay. Thus, for all projects

funded under KISIP, mobilisation and formation of viable community-based groups to own and operate the projects is paramount to their sustainability.

Table 9.1(a): Mitigation of Construction Phase Impacts

Project	Activity/Task	Primary Impact	Recommended Mitigation	Impact after mitigation
These impacts are general to all projects	Land acquisition for construction	Relocation of human settlements	Prepare and implement Resettlement Action Plans	N
	Deployment of workers on site	Occupational Health and Safety Concerns for construction crew and others	Deploy sober qualified staff under competent supervision. Must provide PPEs.	N
	Deployment of workers	Sanitation concerns for construction crew	Provide onsite sanitation facilities	O
	Initiation of labour intensive projects	Influx of speculative job seekers	Apply fair play with priority going to locals	O
	Deployment of construction workers	Proliferation of social concerns (commercial sex, alcohol and drug abuse, multiple homes, etc.)	Local hiring of workers coupled with a counselling programme and code of conduct for workers	N
	Deployment of construction workers	Exposure to HIV/AIDS and other vices	Local hiring of workers who go home after work coupled with sensitisation programmes.	N
	Material borrowing and transport	Impacts in material borrow and transport areas	Rehabilitate to NEMA approval	O
	Opening up sites for construction	Stripping the land of vegetation and top soil.	Avoid volatile / ecologically sensitive sites	O

Project	Activity/Task	Primary Impact	Recommended Mitigation	Impact after mitigation
	Excavations and demolition activity	Generation of debris, waste soil and rubble	Disposal as appropriate. Reuse in civil works, landfills etc.	O
	Operation of Plants, Equipment and big labour force	Generation of nuisances:-dust, noise and vibrations	Prior warning to residents followed by effective management to shorten period of construction activity. Wet curing to control dust	O
	Storage of fuel oils, lubricants, chemicals and flammable materials	Hazards of fire outbreak, oil and chemical spills.	Follow specifications of the Occupational Health and Safety Act, EMCA 1999 and others in the development and operation of stores.	N
	Maintenance of Plant and Equipment's	Generation of waste oil, filters and spare parts maintenance of machine / equipment	All repairs in designated garages. Apply the 3Rs principle (Reduce, re-use and recycle) in waste management.	O
	Excavation, levelling and general civil works.	Damage to existing infrastructure (water, electricity)	Map and zone out all infrastructures for preservation. Budgetary allocation for replacement.	O

Table 9.1(b): Mitigation of Construction Phase Impacts with Associated Project Works

Impacts	Mitigation Measures Summary	Associated Project Works and Level of Impact
Loss of vegetation cover	• Proper demarcation pegging of the Project active sites	• Roads and Drainage - – minor impact – (N)

	• Minimum stripping of vegetation cover limited to work sites • control of plant and equipment movement on site	• Water and Sewerage _minor impact – (N) • Flood light works – minor impact – (N)
Soil Erosion due to clearing of vegetation cover and reduced soil productivity	• Adherence to the proposed Soil conservation practices. • Proper and compacted back filling of excavated areas • Planting of vegetation cover within the Project site.	• Roads and Drainage - – minor impact – (N) • Water and Sewerage _minor impact – (N) • Flood light works – minor impact – (N)
Soil Compaction caused by construction equipment result in reduced water infiltration	• Split compacted area to reduce runoff & re-vegetate where necessary • Vehicles to be kept in designated access roads. • Minimize compaction during stockpiling by working the soil in dry state.	• Roads and Drainage - – minor impact – (N) • Water and Sewerage _minor impact – (N) • Flood light works – minor impact – (N)
Soil Pollution contamination caused by oils and fuel leaks from plant and equipment	• Concrete mixing shall be done on concrete slabs or a large metal sheet or mortar boards. • Maintenance of vehicles to be done at designated place/Drip trays to be used to avoid oil spills. • Rehabilitation of the site after construction.	• Roads and Drainage - – minor impact – (N) • Water and Sewerage _minor impact – (N) • Flood light works – minor impact – (N
Reduced water quality in shallow wells within the settlements.	• Use of silt barriers and settling ponds on site • Storing of fuels, oils and chemicals beneath impermeable away from surface drains • Deep soak pits for septic tanks with all water from ablution and toilets directed into the septic tank. • The machines to be properly serviced offsite and maintained to avoid spillage of effluents into the surface	• Roads and Drainage - – minor impact – (N) • Water and Sewerage _minor impact – (N) • Flood light works – minor impact – (N

	runoff channels.	
Waste Water Management on Site	• Grey water to be contained and properly channelled on site. • Onsite treatment of Grey water by the facility approved by resident engineer and Environment Officer. • Water containing pollutants should be kept in a conservancy tank for removal to prevent pollution of the surface water and surface water bodies.	• Roads and Drainage - – minor impact – (N) • Water and Sewerage _minor impact – (N) • Flood light works – minor impact – (N
Solid Wastes Management on Site	• Maximum reuse of excavated material. • Implementation of Soil erosion management in the spoil locations • Construction wastes (residual earth, debris and scrap materials) to be collected at designated points and Contractor to dispose to appropriately	• Roads and Drainage - – minor impact – (N) • Water and Sewerage _minor impact – (N) • Flood light works – minor impact – (N

9.4 Mitigation of Operation Phase Impacts

Table 9.2: Mitigation of impacts at operation phase

Community concern	Proposed interventions	Likely impacts /hazards from intervention	Impact category and scale	Mitigation plan	Impact category after mitigation
Insecurity	Installation of security lighting	Possible theft of accessories	N	Community policing	O
Poor accessibility	Provide motorable access roads and bridges	Accidents from speeding vehicles	N	Speed control measures	N
		Loss of reclaimed land	N	Develop and implement	O

Community concern	Proposed interventions	Likely impacts /hazards from intervention	Impact category and scale	Mitigation plan	Impact category after mitigation
				community based policing RAP	
Inadequate water supply	Provide water supply based on communal pipe stands/ water kiosks	Vandalism of water supply infrastructure	N	Develop and operate community based policing	O
		Hazards associated with effluent water from public watering points	N	Put in place community based management and control system	O
		Possibility of spread of waterborne diseases from contaminated piped water	N		N
Inadequate access to sanitation	Provision of adequate public toilets	Disease spread from non-maintained toilets	2N	Put in place community based management and control system	O
		Foul smell from non-maintained toilets	N		O
Inadequate management of solid waste	Community-based waste management based on centralised receptacles/ dumpsites	Rodents/ garbage spillage associated with poor maintenance /management	N	Put in place community based management and control system	O
Inadequate drainage	Provide drainage canals	Hazards of accidents from open canals	N	Community to fence off canal	

Community concern	Proposed interventions	Likely impacts /hazards from intervention	Impact category and scale	Mitigation plan	Impact category after mitigation
		Hazards of WBD vectors in non-maintained canals	N	Community based de-clogging of the canal	O
	Need to provide trunk drainage	Hazards as above. Construction stage impacts can be severe	2N		
Encroachment on public facilities	Reclamation of public utility land	Threat of secondary loss of reclaimed land	N	Community based policing	O
		Antagonism and public discord	N	Capacity building through sensitisation	O
Menace of domestic animals	Implement Municipal bylaws	Loss of means to livelihood	N	Zone out areas for livestock rearing	O
		Public antagonism and discord	N	Capacity building through sensitisation	O
Exposure to fire hazard	Participatory decongestion programme including provision of access roads	Secondary loss of reclaimed land	N	Community policing	O
	Need to extend water supply and install supply points (Hose points)	Public antagonism and discord	N	Capacity building through sensitisation	O

Table 9.3: Mitigation of More Specific impacts at operation phase

Water and Sanitation Projects	
Impact	**Proposed mitigation measure**
Risk of encroachment on Sewerage pipelines and manholes	• Mapping and installation of beacons to illustrate the width of the pipeline reserve • Regular patrol of the pipeline corridor for encroachment. • Prosecution of encroachers as required by County by Laws on way leaves and road reserves maintenance. • public sensitization programs on importance not interfere with way leaves and public reserve land
Health risks as a result of burst sewers	• proper and periodic maintenance of sewer lines and treatment plants; • Awareness rising among community members not to dump solids in manholes. • Regular cleaning of grit chambers and sewer lines to remove grease, grit, and other debris that may lead to sewer backups • Development of an inventory of system components, with information including age, construction materials, and drainage areas served elevations. • Design manhole covers to withstand anticipated loads and ensure that the covers can be readily replaced if broken to minimize entry of garbage and silt into the system • Ensure sufficient hydraulic capacity to accommodate peak flows and adequate slope in gravity mains to prevent build-up of solids and hydrogen sulphide generation
Roads and Drainage	
Impact	**Proposed mitigation measure**
Increased Accidents associated with motor cycles / vehicles over speeding within the settlement due to good roads	• Appropriate signage should be put up on the roads to warn drivers especially in areas where there are children or people crossing the road to reduce accidents • Enlighten motorist and cyclist and community on importance of obeying traffic rules especially in residential areas. • Regular inspection and maintenances of the road by respective County Governments to ensure the speed control parameters and signage are in good condition. • Regular crackdown, arrest and prosecution of motorists and cyclist who disobey road safety directions.
Flooding of the settlement due to clogged drainage channels	• Maintenance of the drainage channels to ensure that there is no blockage of the channels
Risk of road condition breakdown and	• Regular maintenance and repair of the road by County Governments, this should be through regular road marking, sealing of pot holes, ensure road signage is in place among other

vandalism of road furniture	operations
Flood Light Projects	
Impact	**Proposed mitigation measure**
Impact	**Mitigation measure**
Risk of electrocution	• Ensuring that all the wires are appropriately insulated and are safe from causing harm to humans • Regular maintenance of the flood light to ensure all exposed electrical lines are repaired
May cause eye problem when there is bad lighting	• Ensure that the lighting system is proper to avoid flipping that can result to eye problems for people • Regular maintenance of the flood light to ensure efficiency

9.5 Monitoring of Mitigation Measures

Table 0.4: Monitoring Plan for Construction Phase Impacts

Project	Activity/Task	Primary Impact	Recommended Mitigation	Responsibility for mitigation	Cost head	OVI
These impacts are general to all projects but see table 8.4 below	Land acquisition for construction	Relocation of human settlements	Prepare and implement Resettlement Action Plans	County	Project development	RAPs developed
	Deployment of workers on site	Occupational Health and Safety Concerns for construction crew and others	Deploy sober qualified staff under competent supervision. Must provide PPEs.	Contractor	Contract for construction	capacity of staff hired
		Sanitation concerns for construction crew	Provide onsite sanitation facilities	Ditto	Ditto	Health and sanitation incidences reported
		Proliferation of social concerns (commercial sex, alcohol and drug abuse, multiple homes, etc)	Local hiring of workers coupled with a counselling programme	Ditto	Ditto	Number Community awareness undertaken
		Exposure to HIV/AIDS and other vices	Local hiring of workers who go home after work coupled with sensitisation	Ditto	Ditto	Number of HIV/AIDs initiatives

Project	Activity/Task	Primary Impact	Recommended Mitigation	Responsibility for mitigation	Cost head	OVI
			programmes.			undertaken
	Material borrowing and transport	Impacts in material borrow and transport areas	Rehabilitate to NEMA approval	Ditto	Ditto	Status of sites after reinstatement
	Opening up sites for construction	Stripping the land of vegetation and top soil.	Avoid volatile / ecologically sensitive sites	Ditto	Ditto	
		Damage to existing infrastructure (water, electricity)	Map and zone out all infrastructures for preservation. Budgetary allocation for replacement.	Ditto	Ditto	Cases reported by community and utility companies
		Generation of nuisances:-dust, noise and vibrations	Prior warning to residents followed by effective management to shorten period of construction activity. Wet curing to control dust	Ditto	Ditto	Level of dust and excessive noise / vibration after measurement
	Storage of fuel oils, lubricants,	Hazards of fire outbreak, oil and chemical	Follow specifications of the Occupational Health and Safety Act,	Ditto	Ditto	Cases of fire incidence

Project	Activity/Task	Primary Impact	Recommended Mitigation	Responsibility for mitigation	Cost head	OVI
	chemicals and flammable materials	spills.	EMCA 1999 and others in the development and operation of stores.			reported on site
	Maintenance of Plant and Equipments	Generation of waste oil, filters and spare parts maintenance of machine / equipment	All repairs in designated garages. Apply the 3Rs principle (Reduce, re-use and recycle) in waste management.	Ditto	Ditto	Condition of plant and equipment on site

Table 9.5: Monitoring Plan for Operation Phase Impacts

Community concern	Proposed intervention	Likely impacts /hazards from intervention	Mitigation plan	Responsibility for mitigation	Cost head	OVI
Insecurity	Installation of security lighting	Possible theft of accessories	Community policing	Community	O&M	Management Committee in place
Poor accessibility	Provide motorable access roads and bridges	Accidents from speeding vehicles	Speed control measures	County	Routine operating budget	FMPs in place
		Loss of reclaimed land	Develop and implement community based policing RAP	Community	O&M	FMPs in place
Inadequate water supply	Provide water supply based on communal pipe stands/ water kiosks	Vandalism of water supply infrastructure	Develop and operate community based policing	Community	O&M	FMPs in place
		Hazards associated with effluent water from public watering points	Put in place community based management and control system	Community	O&M	FMPs in place
		Possibility of spread of waterborne diseases from contaminated piped water		Community	O&M	FMPs in place

Community concern	Proposed intervention	Likely impacts /hazards from intervention	Mitigation plan	Responsibility for mitigation	Cost head	OVI
Inadequate access to sanitation	Provision of adequate public toilets	Disease spread from non-maintained toilets	Put in place community based management and control system	Community	O&M	FMPs in place
		Foul smell from non maintained toilets		Community	O&M	FMPs in place
Inadequate management of solid waste	Community-based waste management based on centralised receptacles/ dampos	Rodents/ garbage spillage associated with poor maintenance /management	Put in place community-based management and control system	Community	O&M	FMPs in place
Inadequate drainage	Provide drainage canals	Hazards of accidents from open canals	Community to fence off canal	Community	O&M	FMPs in place
		Hazards of WBD vectors in non-maintained canals	Community based de-clogging of the canal	Community	O&M	FMPs in place
	Need to provide trunk drainage	Hazards as above. Construction stage impacts can be severe		Community	O&M	FMPs in place
Encroachment on	Reclamation of public	Threat of secondary loss	Community based policing	Community	O&M	FMPs in place

Community concern	Proposed intervention	Likely impacts /hazards from intervention	Mitigation plan	Responsibility for mitigation	Cost head	OVI
public facilities	utility land	of reclaimed land				
		Antagonism and public discord	Capacity building through sensitisation	Community	O&M	FMPs in place
Menace of domestic animals	Implement Municipal bylaws	Loss of means to livelihood	Zone out areas for livestock rearing	Community	O&M	FMPs in place
		Public antagonism and discord	Capacity building through sensitisation	Community	O&M	FMPs in place
Exposure to fire hazard	Participatory decongestion programme including provision of access roads	Secondary loss of reclaimed land	Community policing	Community	O&M	FMPs in place
		Public antagonism and discord	Capacity building through sensitisation	LA/Community	O&M	FMPs in place
	Need to extend water supply and install supply points (Hose points)			Community	O&M	FMPs in place

CHAPTER TEN: ESMF IMPLEMENTATION AND MANAGEMENT

10.1 Safeguards for effective Impact Mitigation

As a Policy, environmental and social management in the KISIP will be integrated in all stages of the development cycle of individual investments. Both the National and County KISIP PCT will have dedicated Environmental and Social specialists to implement Safeguards. The National PCT environmental and social specialists will provide overall guidance and supervision to the County teams and will be responsible to reporting to the Bank on safeguard performance. They will additionally provide capacity building and undertake periodic monitoring to ensure compliance. Counties – through the County Environmental and Social Safeguards Specialists – will be responsible for the preparation and implementation of the safeguard instruments.

The World Bank will review and clear all safeguard instruments including ESIAs, RAPs, VMGP before disclosure and implementation.

This ESMF recognises three safeguards which are crucial to mitigation of construction phase impacts: -

(i) All projects to undergo screening and possible EIA: Impact mitigation in the KISIP will start at the Screening stage, which will identify potential impacts of target projects and thus help determine the scope of requisite EIA study. Upon conclusion of the EIA study, accruing EMPs will be used to refine/ amend design of target projects by incorporating measures required to minimize impacts. The policy of avoidance will largely be applied here especially to mitigate impacts likely to manifest at the operation phase. The EMP must first aim at providing for mitigation of adverse impacts while enhancing the positive ones. Activities that could enhance positive effects include: -

- Strengthening protection of common assets as part of civil works (better fencing for parks, sacred groves, reforestation, landscaping in, spring protection),
- Repair/ upgrading of any common infrastructure e.g. water pipeline, drainage system, functional turning, access road, etc,
- Rehabilitating exploited borrow areas/ quarries into water pans with adequate protection,
- Contribution to local community projects e.g. building a classroom block in the local primary school, repair of a local dispensary, grading an access road, etc.
- Generous remuneration packages where employment is generated,
- opportunities for on-the job skills transfer,
- Counselling on HIV/AIDs,
- Consideration for permanent employment, etc.
- Exploiting local resources e.g. materials with prompt compensation to owners, etc

(ii) Relevant clauses in the contract for construction:

By far, the most important tool for mitigating construction stage impacts is the contract for Construction. The ESMP will form part of the Contract for construction to ensure that contractors are bound to undertake impact mitigation. Modalities for in-building ESMPs into contract documents are provided in Appendix 9.

(iii) Budgets for ESMP to be allocated at design stage

The design process will allow for mitigation of construction phase activities mainly through provision of adequate budgets in the contract for construction towards mitigation. The same will be reflected in the bill of quantities (BOQs) for contracts. Thus, once ESIA Studies are completed and respective ESMP developed, the latter will find immediate application as follows: -

- Integration into the Final Design Report- as a standalone chapter and also to moderate design decisions
- Integration into the BOQs to ensure funding allocation of environmental and social mitigation
- Integration into the Contracts for Construction to ensure that the contractor is legally bound to implement impact mitigation

10.2 Feasibility of Mitigation

Mitigation of potential impacts of the KISIP is largely feasible as the bulk of impacts are neutralised through application of routine management measures. Upon mitigation, the net social and environmental worth of the Programme is likely to improve drastically as most adverse impacts are eliminated. An aggressive programme for impact mitigation will have to be pursued permeating all stages of the Development Cycle right from feasibility stage through design to operation and maintenance.

10.3 Environmental and Social Management Plans (ESMP)

10.3.1 Important Elements of a Project ESMP

The Project Report or Environmental and Social Impact Assessment (ESIA) study report will result in the preparation and implementation of a detailed, costed Environmental and Social Management Plan (ESMP), setting out practical responsibilities for the proponent, and associated timescales.

The ESMP must meet the following requirements:

- The ESMP will only be valid when approved by NEMA via either the Project Report or EIA report;
- Appropriate training of the proponent groups coupled with adequate public consultation and appropriate planning should result in a subproject design that avoids creating environmental and social impacts that have to be explicitly managed;

- Where specific impact mitigation measures are required, the ESMP will describe what they are and how they will be implemented as part of an overall subproject plan;
- The ESMP will also specify how possible environmental and social impacts, and related mitigation efforts, will be monitored;
- The ESMP will fit the needs of a subproject and be easy to use; and
- Community participation in preparing an ESMP is critical since local knowledge is important in identifying, designing and planning the implementation of practical mitigation measures. It is especially important where the success of an ESMP depends on community support and action, both in implementing mitigation measures and in monitoring their success.

7.3.2 Contents of ESMP

Annex 7 provides guidance on developing an ESMP. Key features of an ESMP are as follows:

a) *Identification of Environmental and Social Impacts.* Each sub-project to be supported under the KISIP II will be assessed for impacts under its own merit taking due recognition of the size, geographical and ecological setting for each project following the assessment system required by NEMA. Guidance on potential impacts have been provided in his ESMF, based on experience accrued from projects similar to those likely to be supported under KISIP II, as well as ESMF Guidelines provided by the World Bank;
b) *Identification of Measures for Environmental and Social Mitigation.* To facilitate effective mitigation of adverse impacts, this ESMF requires that impact mitigation for the KISIP II sub-projects be mainstreamed into the preparation, and implementation of the sub-project;
c) *Identification of responsibilities.* Specific responsibilities for the completion of the mitigation measures will be set out in the ESMP, with associated timing;
d) *Costs.* It is highly important that the ESMP includes the actual cost to the proponent of carrying out mitigation measures, and equally important that these costs are sufficient to ensure that adequate mitigation is undertaken; and
e) *Monitoring*. The ESMP should include specific, monitorable indicators to ascertain whether the ESMP is being implemented, and its effect on the environmental or social baseline.

10.3.3 Monitoring of ESMPs

Components of the monitoring plan have been inbuilt onto proposed mitigation measures to complete the ESMP for KISIP as presented in Annex 7 Key features of the Monitoring Plan include an identification of stakeholders responsible for mitigation, source of funds for mitigation and objectively verifiable Indicators (criteria) for monitoring.

Monitoring will take place at four levels: -

(i) Community Level Monitoring: The Community will be assisted to undertake routine monitoring of operations of their project. Important criteria for monitoring include membership numbers, subscriptions, default rate, status of maintenance, frequency and attendance to meetings, pending maintenance cases and reasons thereof, complaints, emergent environmental concerns, solutions proposed, etc.

(ii) Internal Monitoring: The project will be monitored internally at 2 levels as follows: -

County Level: The environmental specialist member of the County PCT will be responsible for all monitoring as follows: -

- Pre-ESIA Screening
- Management of the ESIA Stage to develop the ESMP
- Application of the ESMP in routine monitoring
- Overseeing statutory Annual Environmental auditing

Ministry Level: The Environmental and Social Specialists at KISIP PCT will be responsible for establishment of M&E system, capacity building and backstopping counties. The specialist will prepare quarterly and annual reports regarding the application of this ESMF in the project.

(iii) **External Monitoring:** The KISIP will be subjected to external monitoring by the World Bank.

Both internal and external monitoring will be guided by the ESMP to generate information on: -

- Nature of impacts at each project phase and whether the impact was anticipated
- Proposed Mitigation Activity for anticipated impacts and possible mitigation of emergent impacts
- General sensitivity of the ESMP to project impacts
- Responsibility for mitigating old and emergent impacts
- Success or otherwise in mitigation of anticipated and new impacts and reasons for non-achievement
- Effectiveness of all players in the ESMP and reasons for non-performance. Proposed remedies.
- Effectiveness or otherwise of the OVIs in securing implementation of impact mitigation and measures required to tighten the process.
- Flow of information in the monitoring process and reasons for non-achievement.

(iv) Statutory monitoring: Sections 68 and 69 of the Environmental Management and Coordination Act (EMCA-1999) require all projects to prepare Annual Audit reports for

Review by NEMA. Part V of the Legal Notice 101 defines the focus and scope of Environmental Audit studies as follows: - *'In carrying out of the Environmental Audit study under these regulations, the auditor shall ensure that an appraisal of all the project activities, including the production of goods and services, is carried out giving adequate consideration to environmental regulatory frameworks, environmental health and safety measures and sustainable use of natural resources.'* In line with this requirement, Counties will prepare and submit audit reports for all investments to NEMA at least a year after commissioning, and thereafter as required. Counties are also encouraged to undertake annual self-auditing.

10.3.4 Periodic review of the ESMP

Based on information accruing from all monitoring, the efficacy of the ESMP will be reviewed and updated accordingly. The observation here is that, the ESMP will be updated periodically by KISIP and counties after Monitoring Missions.

10.4 Construction specific Environment and Social Management Plan (C-ESMP)

The contractors contracted will be required to comply with the requirements of the ESMMP prepared at EIA stage. To ensure compliance environmental specifications and social risk mitigation measures that address project related SEA and GBV at the community level and SH of this ESMMP will form part of the contract documents.

The contractor will be required under the contract to engage a competent Environment Safety Health and Safety Advisor/officer to advise them on the ESMP compliance; Undertake risk assessments and prepare project specific Construction ESMPs for review and approval. Implementation. Environment and Social Management Plan (C-EMSP), annexes to the C-EMSP will include but not limited to:

a) Health, Hygiene and Safety Plan;
b) Labour Management Plan;
c) Child Protection Strategy;
d) Waste Management Plan;
e) Contractors Code of Conduct;
f) Gender Inclusivity Strategy;
g) HIV/Aid Prevention Strategy; and
h) Gender-based Violence Action Plan

10.5 Implementation Mechanism for KISIP

Table 8.6 provides an illustrated activity flow chart in the development cycle of KISIP projects. The chart provides the functional linkage between the three KISIP activity levels namely the KISIP PCT (Supervisory Level), the County or the Intermediate level and the Community level or implementation level. With regard to environmental and social management, this ESMF allocates responsibility for impact mitigations as follows: -

Mitigation at design stage: The design stage is crucial as the point where all mitigation activity will be planned for and resources allocated. County PCT through the Environmental specialists will ensure that contracts for design works bear clauses requiring Design Teams to plan for and allocate resources for impact mitigation. Moreover, the counties will ensure that respective EMPs are integrated wholly into design reports.

Mitigation at Construction Stage: Mitigation at construction stage will take place as part of the contracts for Civil Works. Contracts for Civil works will therefore bear clauses binding respective contractors to undertake impact mitigation as par the Design Report. KISIP and counties will jointly monitor and supervise the contractors to ensure delivery as per contracts.

Mitigation at Operation Phase: From table 8.4 above, the overwhelming role of communities in the mitigation of operation phase impacts is apparent. For this to happen, the communities require to be mobilised in through the Settlement Executive Committees that will spearhead community involvement in project development and sustainable operation.

10.6 Modalities for Institutional coordination:

Modalities for institutional coordination within KISIP were outlined in section 2.9 above. For purposes of operationalizing this ESMF, Institutions under NEMA are deemed important as follows: -

i) *County Environmental Committees:* The County Environment Committees are envisaged to take over the functions of the District Environment Committees (DECs) in the revised EMCA in line with the Kenya constitution 2010. The CECs may review an EIA report for the purpose of recommending rejection, approval, or amendments to the project. For small projects, EIA licensing is now decentralized to the County level. The County level PCT will liaise with CECs for this purpose and all other issues touching on environmental management. Moreover, the County level PCT should report to the CEC and its report incorporated into the annual County State of Environment reports.

ii) *NEMA Headquarters:* For approving projects beyond the scope of Counties. The KISIP PCU will liaise with NEMA head office for block review of EIA Study reports and others referred for attention of NEMA Head office.

Table 10.1: Institutional Coordination within the KISIP

Action level	Planning Phase	Feasibility Phase	Approval Phase	Implementation and monitoring phase	Operation Phase
KISIP National PCT	KISIP Selects settlements	Approves investments	Approves final design releases funding	Reviews monitoring report and gives feedback to County	
County KISIP PCT	Identifies Priority investments Jointly with KISIP Office	Undertakes EIA Study and produces Final Design Mobilizes community to participate in project development	Undertakes implementation / supervises Impact mitigation	Prepares monitoring Report for KISIP and Full County Updates the EMP	Supervises preparation of Audit reports for NEMA
Community Level (SECs)			Community Project Committees participate in monitoring activities of contractors	Community Project Management Committees take charge of Impact mitigation at Operation Phase	
Requisite skill	Environmental sensitization at both levels	County requires skills to supervise EIA, supervise design and draft contracts studies	County requires skills to supervise impact mitigation	County requires skills to make reports and supervise environmental mitigation County Environment Committees requires environmental sensitization Communities require O&M County will require capacity to update the EMP	County requires skills to supervise/ prepare audit reports.

*To track activity flow, follow the numbering and arrows[6]

10.7 Management of Resettlement and Cultural Resources

If it is identified through screening that a sub-project causes physical or livelihood displacement, and affects physical cultural resources, this ESMF refers to the Resettlement Policy Framework, which guides preparation of a Resettlement Action Plan, which should be implemented prior to commencement of works on the site.

Resettlement Action Plan

If through the screening process the sub-project has been identified to require the involuntary displacement of people and/ or their land assets present in the project area, then the Resettlement Policy Framework (RPF) must be referred to. The RPF outlines the relevant steps required in order to ensure that appropriate measures are put in place to safeguard the rights of affected communities.

Physical Cultural Resources Management Plan

Within the ESMP, should the sub-project be expected to have adverse impacts on physical cultural resources as identified during the screening process, then measures will need to be integrated into the ESMP to address the following areas:

- Avoidance or mitigation of identified adverse impacts;
- Provisions for chance finds (see guidance note included in *Annex G*); Measures for strengthening institutional capacity; and
- Monitoring systems to track progress of these activities.

The plan should be consistent with the country's overall policy framework and national legislation and should take into account institutional capabilities relating to the management and preservation of physical cultural resources.

10.8 Monitoring

Monitoring of the ESMF implementation is needed to verify impacts, ensure adherence to approved plans, environmental standards and general compliance. Monitoring of the ESMF is not to be confused with monitoring ESMPs, which are sub-project specific and therefore site specific only. Monitoring of the ESMF covers the entire KISIP II project at the national level. The objective of ESMF monitoring is to:

(i) provide timely information about the success or otherwise of the Environmental Management process outlined in the ESMF in such a manner that changes can be made as required to ensure continuous improvement to the process; and

(ii) to evaluate the performance of the ESMF by determining whether the mitigation measures designed into KISIP II activities have been successful in such a way that the pre- program environmental condition has been restored, improved upon or worse than before and to determine what further mitigation measures may be required.

The project Coordinating Unit will undertake ESMF monitoring. Should there be an activity in which there are likely to be indications of serious breaches of the ESMF provisions, they will undertake a special study to determine the true extent of the breaches and to determine the way forward. Independent assessment of the adequacy and implementation of the ESMF at agreed intervals would also be undertaken in coordination with the Bank. Annual reports on ESMF implementation will be compiled and submitted by the PCT to the World Bank.

Monitoring of environmental and social indicators will be mainstreamed into the overall monitoring and evaluation system for the project. In addition, monitoring of the implementation of this ESMF will be carried out by both PCT and World Bank with a focus on both the participation process, and implementation of mitigation plans.

10.9 Reporting

It is proposed that, each County will prepare an annual report on safeguard performance and compliance. The individual reports will be aggregated by the Project Coordination Unit into one report for the reporting period and it will be circulated to the various stakeholders especially NEMA and the World Bank amongst others. By and large, these annual reports will capture the experience with implementation of the ESMF procedures. The purpose of these reports is to provide:

a) an assessment of extent of compliance with ESMF procedures, experiences, challenges, lessons learnt and emerging issues from year-to-year implementation of the ESMF that can be used to improve performance;

b) to assess the occurrence of, and potential for, cumulative impacts due to project-funded and other development activities; and

c) provide practical information which can support the carrying out of the annual performance audit can draw on.

The report shall include the following key information:

- Reporting period
- ESMF management actions undertaken during the reporting period
- Progress to date in implementing the ESMF
- Challenges encountered
- Lessons learnt
- Emerging issues
- Recommendations for improvement
- Conclusion

10.10 Capacity Building, Technical Assistance And Training Requirements

This section describes the capacity-building and training required to put the ESMF into practice, and to ensure KISIP II projects make a positive contribution to improving the living conditions of people living in informal settlements.

At the time of preparation of this ESMF, the following limitations in capacity are apparent from the experience of KISIP I:

a) Inadequate staffing to deal with both environmental and social safeguard issues.
b) Inadequate technical skills on safeguard issues and Bank policies both at the national and County levels.
c) The consultants hired to carry out environmental and social assessments lacked advanced skills and understanding of safeguard issues and especially Bank procedures.
d) The Contractors demonstrated a lack of appreciation of safeguard issues and the necessary skill set to manage safeguard concerns during construction
e) The Policy makers lacked an appreciation of the role of safeguard issues in the project and especially the Bank procedures.
f) The NEMA which is critical in the safeguard delivery chain has faces capacity challenges in staffing, skills, and resources to conduct compliance monitoring.

This ESMF recommends:

a) A comprehensive capacity needs assessment for implementing safeguards be done at the project start.
b) Appropriate, timely training to the different institutions involved in the implementation of the Safeguards, including onboarding of contractors and consulting firms at commencement of their assignments.
c) Adequate resources be provided for training and monitoring, to ensure safeguard compliance.
d) Institutional collaboration with NEMA to enhance safeguard compliance

Cost implications of training and capacity-building requirements should be set out in the *ESMF Implementation Budget*.

10.10.1Project Eenvironmentalists

Based on the activity flow in Table 10.1, both the KISIP office and County levels will require capacity building. Positions for Environmentalists will be established at both KISIP and County level.

KISIP PCT: At design stage, the KISIP team will review Design Reports and ascertain their technical viability including environmental and social soundness and will also review periodic reports from Counties and advice on environmental/ social concerns emanating from the implementation level. Thus the position of a fulltime environmentalist has been established within the KISIP.

County: Counties are crucial as the level where supervision of EIA studies, development of EMP, Impact Mitigation, Environmental Monitoring and community mobilisation will take place. Given the need for the project to establish linkage with other sectoral agencies at this level, each county participating in KISIP will require the services of a qualified environmentalist on fulltime basis.

10.10.2 Institutional Capacity Assessment

The adequacy of the institutions to carry out their ESMF responsibilities should be assessed. At a minimum, the adequacy of:

- the institutional **structure,** and its authorities at all relevant levels, to address environmental management issues;
- the number and qualifications of staff to carry out their ESMF responsibilities;
- resources to support staff in their work; and
- knowledge and experience relevant to carrying out environmental analyses and designing mitigation measures for small-scale infrastructure.

10.10.3 Training Needs

County PCTs: Counties will be required to supervise EIA process, and ensure Impact Mitigation which requires that, in addition to assigning an environmentalist, the entire KISIP will undergo a specialist training to gain an in-depth understanding of this ESMF process. From encounters with county officers both during field work and during the disclosure workshops, it emerged that appreciation of national aspirations towards environmental management in Kenya as captured in The National Environmental Action Plan (NEAP), Sessional Paper on Environment and Development and as enforced under EMCA are yet to be fully internalised. This operational gap is likely to hinder effective implementation of this ESMF. Subsequent to this therefore, this ESMF requires all County level PCTs to undergo sensitisation training on environmental management principles, policies, legal and institutional framework. These courses are readily available in the market from such Institutions such as the Kenya National Center for Cleaner Production; the Kenya Institute of Administration (KIA) among other NEMA approved Centers who can be approached to tailor make courses for KISIP County counterparts. KISIP could also consult www.sprep.org/att to obtain ideas on suitable training curricula as developed by UNEP.

Community Settlement Executive Committees: Extensive capacity building is required toward empowering the SECs to fully participate in environmental management, monitoring environmental impacts, and maintaining the infrastructure in an environmentally sound manner once the projects are completed for sustainability. Towards this, Training Modules to guide community mobilisation, capacity building etc are provided in Appendix 8.3 while requisite budgets are provided for in Table 8.5 above.

Training programs will be coordinated and anchored within KISIP II at national level and County government level. Individuals experienced in environmental and social aspects of subprojects will be called upon through a competitive process to develop and conduct short term trainings on various aspects of implementing the ESMF guidelines.

Different groups involved in KISIP subprojects' implementation have different training needs in terms of raised awareness, sensitization to the issues, and detailed technical training:

a) **Awareness-raising** for participants so that they are able to appreciate the significance or relevance of environmental and social issues;

b) **Sensitization for participants** to be familiar enough with environmental and social issues that they can make informed and specific requests for technical support; and

c) **Detailed technical training** for participants who will need to analyze potentially adverse environmental and social impacts, to prescribe mitigation approaches and measures, and to prepare and supervise the implementation of management plans.

The training program for various role players will include:

i. Orientation program on the ESMF,
ii. Environmental Assessment Processes,
iii. Participatory Methodologies
iv. Project Management
v. Environmental analysis;
vi. Using the ESR checklist and assigning of environmental categories
vii. Design of appropriate mitigation measures.
viii. Integrating environmental and social management aspects into the implementation of sub-projects
ix. Reporting;
x. Subproject supervision and monitoring.

Annex 11 provides a model training program, setting out the specific training requirements of each group, and the chronological order of training.

10.11 Budget for implementing this ESMF

The breakdown of estimated costs for putting the ESMF into operation should be provided in the project budget spread over the project period. This will ensure that the ESMF has significant 'clout' within the operation of the projects and is not sidelined.

A specific responsibility of the Environmental Specialist will be to report on expenditure within the project that can be explicitly related to mainstreaming of environment. This will be one way of monitoring the extent that environmental issues are being addressed.

The ESMF implementation budget includes:

a) ***Mainstream Costs***: Costs related to the required mitigation measures. These will be assessed and internalized as part of the overall sub-project cost. For the smaller projects, it is extremely difficult to estimate the proportion of the sub-project cost that can be expected to be devoted to mitigation measures.
b) ***Costs of Training***: The budget should incorporate a significant allocation for training and sensitization.
c) ***Operation costs***: Safeguard instruments preparations, approvals, grievance redress, and monitoring.

The following is an indicative budget for the preparation and implementation of Environmental and Social Impact Assessments for individual sub-projects.

Table 10.2: Indicative Budget for ESMF Implementation per Sub-project

No.	Activities	Approx. cost (USD)
1	Preparation costs for ESIA	10,000.00
2	Mitigation costs	150,000.00
3	Monitoring for compliance costs	20,000.00
4	Capacity building costs	50,000.00
5	Grievance redress	20,000.00
6	Community meetings/consultations	30,000.00
	Total	**250,000.00**

ANNEXES

Annex 1: Extract of Environmental Management and Coordination Act (EMCA), Cap 387 on EIA
Annex 2: Second Schedule of EMCA, Cap 387
Annex 3: The Screening Check List
Annex 4: Evaluating Site Sensitivity
Annex 5: Generic ToRs for conducting Environmental Assessments
Annex 6: Procedures for conducting Environmental assessment
Annex 7: Guidance on Developing an EMP
Annex 8: Incorporating EMP into contract documents
Annex 9: General Environmental Management Conditions for Construction Contracts
Annex 10: Example Format of HSE Report
Annex 11: Possible Agenda for a 2-day Workshop Introducing the ESMF
Annex 12: Chance Find Procedure
Annex 13: Stakeholder Consultation Record

ANNEX 1: EXTRACT OF EMCA CAP 387 ON EIA PROVISIONS

PART VI – ENVIRONMENTAL IMPACT ASSESSMENT

43. Application for an Environmental Impact Assessment Licence

(1) Notwithstanding any approval, permit or license granted under this Act or any other law in force in Kenya, any person, being a proponent of a project, shall before for an financing, commencing, proceeding with, carrying out, executing or conducting or causing to be financed, commenced, proceeded with, carried out, executed or conducted by another person any undertaking specified in the Second Schedule to this Act, submit a project report to the Authority, in the prescribed form, giving the prescribed information and which shall be accompanied by the prescribed fee.

(2) The proponent of a project shall undertake or cause to be undertaken at his own expense an environmental impact assessment study and prepare a report thereof where the Authority, being satisfied, after studying the project report submitted under subsection (1), that the intended project may or is likely to have or will have a significant impact on the environment, so directs.

(3) The environmental impact assessment study report prepare under this subsection shall be submitted to the Authority in the prescribed form, giving the prescribed information and shall be accompanied by the prescribed fee.

(4) The Minister may, on the advice of the Authority given after consultation with the relevant lead agencies, amend the Second Schedule to this Act by notice in the *Gazette*.

(5) Environmental impact assessment studies and reports required under this Act shall be conducted or prepared respectively by individual experts or a firm of experts authorized in that behalf by the Authority. The Authority shall maintain a register of all individual experts or firms of all experts duly authorized by it to conduct or prepare environmental impact assessment studies and reports respectively. The register shall be a public document and may be inspected at reasonable hours by any person on the payment of a prescribed fee.

(6) The Director-General may, in consultation with the Standards Enforcement and Review Committee, approve any application by an expert wishing to be authorized to undertake environmental impact assessment. Such application shall be made in the prescribed manner and accompanied by any fees that may be required.

(7) Environmental impact assessment shall be conducted in accordance with the environmental impact assessment regulations, guidelines and procedures issued under this Act.

(8) The Director-General shall respond to the applications for environmental impact assessment license within three months.

(9) Any person who upon submitting his application does not receive any communication from the Director-General within the period stipulated under subsection (8) may start his undertaking.

44. Publication of Environmental Impact Assessment

(1) Upon receipt of an environmental impact assessment study report from any proponent under section 58(2), the Authority shall cause to be published for two successive weeks in the *Gazette* and in a newspaper circulating in the area or proposed area of the project a notice which shall state—

(a) a summary description of the project;

(b) the place where the project is to be carried out;

(c) the place where the environmental impact assessment study, evaluation or review report may be inspected; and

(d) a time limit of not exceeding sixty days for the submission of oral or written comments environmental impact assessment study, evaluation or review report.

(2) The Authority may, on application by any person extend the period stipulated in sub-paragraph (d) so as to afford reasonable opportunity for such person to submit oral or written comments on the environmental impact assessment report.

45. Comments on Environmental Impact Assessment report by Lead Agencies

A lead agency shall, upon the written request of the Director-General, submit written comments on an environmental impact assessment study, evaluation and review report within thirty days from the date of the written request.

46. Technical Advisory Committee on Environmental Impact Assessment

The Authority may set up a technical advisory committee to advise it on environmental impact assessment related reports and the Director-General shall prescribe the terms of reference and rules of procedure for the technical advisory committee appointed hereunder.

47. Further Environmental Impact Assessment

The Authority may require any proponent of a project to carry out at his own expense further evaluation or environmental impact assessment study, review or submit additional information for the purposes of ensuring that the environmental impact assessment study, review or evaluation report is as accurate and exhaustive as possible.

48. Environmental Impact Licence

The Authority may, after being satisfied as to the adequacy of an environmental impact assessment study, evaluation or review report, issue an environmental impact assessment licence on such terms and conditions as may be appropriate and necessary to facilitate sustainable development and sound environmental management.

49. Submission of fresh Environmental Impact assessment report after Environmental Impact Assessment License issued

(1) The Authority may, at any time after the issue of an environmental impact assessment licence direct the holder of such licence to submit at his own expense a fresh environmental impact assessment study, evaluation or review report within such time as the Authority may specify where—

(a) there is a substantial change or modification in the project or in the manner in which the project is being operated;

(b) the project poses environmental threat which could not be reasonably foreseen at the time of the study, evaluation or review; or

(c) it is established that the information or data given by the proponent in support of his application for an environmental impact assessment licence under section 58 was false, inaccurate or intended to mislead.

(2) Any person who fails, neglects or refuses to comply with the directions of the Authority issued under subsection (1) shall be guilty of an offence.

50. Transfer of Environmental Impact Assessment Licence

(1) An environmental impact assessment licence may be transferred by the holder to another person only in respect of the project in relation to which such licence was issued.

(2) Where an environmental impact assessment licence is transferred under this section, the person to whom it is transferred and the person transferring it shall jointly notify the Director-General in writing of the transfer, not later than thirty days after the transfer.

(3) Where no joint notification of a transfer is given in accordance with subsection (2), the registered holder of the licence shall be deemed for the purposes of this Act to be the owner or the person having charge or management or control of the project as the case may be.

(4) Any transfer of an environmental impact assessment licence, under this section shall take effect on the date the Director-General is notified of the transfer.

(5) Any person who contravenes any provisions of this section, shall be guilty of an offence.

51. Protection in respect of an Environmental Impact Assessment Licence

(1) No civil or criminal liability in respect of a project or consequences resulting from a project shall be incurred by the Government, the Authority or any impact assessment study, evaluation or review report or grant of an environmental impact assessment licence or by reason of any condition attached to such licence.

(2) The issuance of an environmental impact assessment licence in respect of a project shall afford no defence to any civil action or to a prosecution that may be brought or preferred against a proponent in respect of the manner in which the project is executed, managed or operated.

52. Revocation, suspension or cancellation of Environmental Impact Assessment Licence

(1) The Authority shall, on the advice of the Standards and Enforcement Review Committee, cancel, revoke or suspend any environment impact assessment licence for such time not exceeding twenty-four months where the licensee contravenes the provisions of the licence.

(2) Whenever an environmental impact assessment licence is revoked, suspended or cancelled, the holder thereof shall not proceed with the project which is the subject of the licence until a new licence is issued by the Authority.

(3) The Authority shall maintain a register of all environmental impact assessment licences issued under this Act. The register shall be a public document and may be inspected at reasonable hours by any person on the payment of a prescribed fee.

ANNEX 2: SECOND SCHEDULE OF ENVIRONMENTAL MANAGEMENT AND COORDINATION ACT, CAP. 387

[Section 58(1), (4).]

- PROJECTS TO UNDERGO ENVIRONMENTAL IMPACT ASSESSMENT

1. General—

(a) an activity out of character with its surrounding;

(b) any structure of a scale not in keeping with its surrounding;

(c) major changes in land use.

2. Urban Development including—

(a) designation of new townships;

(b) establishment of industrial estates;

(c) establishment or expansion of recreational areas;

(d) establishment or expansion of recreational townships in mountain areas, national parks and game reserves;

(e) shopping centres and complexes.

3. Transportation including—

(a) all major roads;

(b) all roads in scenic, wooded or mountainous areas and wetlands;

(c) railway lines;

(d) airports and airfields;

(e) oil and gas pipelines;

(f) water transport.

4. Dams, rivers and water resources including—

(a) storage dams, barrages and piers;

(b) river diversions and water transfer between catchments;

(c) flood control schemes;

(d) drilling for the purpose of utilising ground water resources including geothermal energy.

5. Aerial spraying.

6. Mining, including quarrying and open-cast extraction of—

(a) precious metals;

(b) gemstones;

(c) metalliferous ores;

(d) coal;

(e) phosphates;

(f) limestone and dolomite;

(g) stone and slate;

(h) aggregates, sand and gravel;

(i) clay;

(j) exploration for the production of petroleum in any form;

(k) extracting alluvial gold with use of mercury.

7. Forestry related activities including—

(a) timber harvesting;

(b) clearance of forest areas;

(c) reforestation and afforestation.

8. Agriculture including—

(a) large-scale agriculture;

(b) use of pesticide;

(c) introduction of new crops and animals;

(d) use of fertilizers;

(e) irrigation.

9. Processing and manufacturing industries including—

(a) mineral processing, reduction of ores and minerals;

(b) smelting and refining of ores and minerals;

(c) foundries;

(d) brick and earthware manufacture;

(e) cement works and lime processing;

(f) glass works;

(g) fertilizer manufacture or processing;

(h) explosive plants;

(i) oil refineries and petro-chemical works;

(j) tanning and dressing of hides and skins;

(k) abattoirs and meat-processing plants;

(l) chemical works and process plants;

(m) brewing and malting;

(n) bulk grain processing plants;

(o) fish-processing plants;

(p) pulp and paper mills;

(q) food-processing plants;

(r) plants for the manufacture of assembly of motor vehicles;

(s) plant for the construction or repair of aircraft or railway equipment;

(t) plants for the manufacture or assembly of motor vehicles;

(u) plants for the manufacture of tanks, reservoirs and sheet-metal containers;

(v) plants for the manufacture of coal briquettes;

(w) plant for manufacturing batteries.

10. Electrical infrastructure including—

(a) electricity generation stations;

(b) electrical transmission lines;

(c) electrical sub-stations;

(d) pumped storage-schemes.

11. Management of hydrocarbons including—

the storage of natural gas and combustible or explosive fuels.

12. Waste disposal including—

(a) sites for solid waste disposal;

(b) sites for hazardous waste disposal;

(c) sewage disposal works;

(d) works involving major atmospheric emissions;

(e) works emitting offensive odours.

13. Natural conservation areas including—

(a) creation of national parks, game reserves and buffer zones;

(b) establishment of wilderness areas;

(c) formulation or modification of forest management policies;

(d) formulation or modification of water catchment management policies;

(e) policies for the management of ecosystems, especially by use of fire;

(f) commercial exploitation of natural fauna and flora;

(g) introduction of alien species of fauna and flora into ecosystems.

14. Nuclear Reactors.

15. Major developments in biotechnology including the introduction and testing of genetically modified organisms.

ANNEX 3: THE SCREENING CHECK LIST

Questions to be considered	Yes/No. Briefly Describe	Is this likely to result in a significant effect? Yes/No/? -why
Brief Project Description		
A: Triggers to EMCA		
1. Does the project fall under the second schedule of EMCA Cap. 387		
B. Triggers to WB Safeguard Policies		
2. Does the project trigger one or more of the WB Safeguard policies		
C. GoK Policies and Laws applicable		
3. Does the project fall under/trigger any other GoK Policies and Laws?		
D. Project Location		
4. Is the proposed site a protected or reserved site (Provide proximity in kms) • Biosphere Reserve • National park • Wildlife / Bird Sanctuary • Wetland • Important Bird Areas • Coastal area with corals • Mangrove areas (or Estuary with, mangroves) • Natural lakes • Habitat of migratory birds (outside protected areas) • Migratory Route of Wild Animals/Birds • Area with threatened/ rare/endangered fauna (outside protected areas) • Area with threatened/rare/ endangered flora (outside protected areas) • Reserved/Protected Forest • Zoological Park /Botanical Garden		

5. Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?		
6. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses, coastal zone, mountains, mangroves, forests or woodlands, migratory routes, which could be affected by the project?		
7. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?		
8. Is the project in a location where it is likely to be highly visible to many people?		
9. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?		
10. Is the project located in a previously undeveloped area where there will be loss of greenfield land?		
11. Are there existing land uses on or around the location e.g. homes, gardens, private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining, or quarrying which could be affected by the project?		
12. Are there any plans for future land uses on or around the location which could be affected by the project?		
13. Are there any areas on or around the location which are densely populated or built up, which could be affected by the project?		
14. Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities which could be affected by the project?		
15. Are there areas on or around the location which are subject to pollution or environmental damage e.g. where		

existing legal environmental standards are exceeded, which could be affected by the project?		
16. Is the site already degraded (low groundwater, poor soil quality)?		
17. Are there steep slopes in the proximity of the investment site?		
18. Do people live on the proposed site?		
19. Do indigenous peoples live on or near the site?		
20. Is the site vulnerable to natural hazards (in floodplain, near volcano, on seismic fault, near coastline in hurricane zone)?		
21. Are there land title conflicts?		
22. Are there known archaeological, historical or other cultural property? Are any of these world heritage/ UNESCO designated etc		
E. Construction Impacts		
23. Will construction, operation or decommissioning of the project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc.)?		
24. Will the construction or operation of the project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?		
25. Will the project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?		
26. Will the project produce solid wastes during construction or operation or decommissioning?		
27. Will the project release pollutants or any other hazardous, toxic or noxious substances to the air?		
28. Will the project cause noise and vibration o release of light, heat energy or electromagnetic energy?		
29. Will the project lead to risks of contamination of land or water from releases of pollutants onto the ground		

or into surface waters, ground water, coastal waters or the sea?		
30. Will there be any risks of accidents during the construction or operation of the project which could affect human health and the environment?		
31. Will the project result I social changes, for example, in demography, traditional lifestyles, employment?		
F. Water Resource Impacts		
32. Could the investment result in a modification of groundwater levels by altering flows, paving surfaces or increasing water extraction?		
33. Could it affect groundwater quality?		
34. Could it affect quality (through sediment, wastewater, storm discharge or solid waste) of nearby surface waters (lake, rivers, streams)?		
35. Will it affect water quantity in nearby water bodies (lake, river, stream)?		
36. Are there nearby potable water sources that need to be protected?		
G. Drainage Impacts		
37. Will the investment in storm water drainage affect existing drainage patterns?		
38. Will it cause standing water, which could cause public health risks?		
39. Will erosion result in sediment discharge to nearby water bodies?		
40. Will surface drainage patterns be affected in borrow pits and quarries?		
41. Will infiltration patterns be affected?		
H. Ecosystem Impacts		
42. Could the investment affect natural habitats or areas of high ecological value?		
43. Could it affect natural characteristics of adjacent or nearby sites?		
44. Could it affect wildlife or natural vegetation?		
I. Socio-Economic Impact		
45. Will the project entail resettlement of population?		
46. Will the project affect People's		

property or livelihoods/income?		
47. Will the project affect indigenous peoples?		
48. Will it limit access to natural resources to local populations?		
49. Will it have an impact on land use?		
50. Will it induce further encroachment of nearby areas?		
51. Will it cause any health impacts?		
52. Will it disturb nearby communities during construction?		
53. Could cultural resources be affected?		
54. Could it affect nearby properties		
J. Operation Impacts		
55. Is the project susceptible to earthquakes, subsidence, landslides, erosion, flooding and extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?		
56. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?		
K. Displacement Impacts		
57. Acquisition of private/community land?		
58. Alienation of any type of government land including that owned by urban local body?		
59. Clearance of encroachment from government/ urban local body land?		
60. Clearance of squatting from Government/Urban local body?		
61. Number of structures, both authorized and/or unauthorized to be acquired/cleared?		
62. Number of household to be displaced?		
63. Details of village common properties to be alienated, Pasture land(acres)cremation /burial ground and others specify?		

64. Describe existing land uses on and around the project area(e.g Community facilities, agriculture, tourism, private property)?		
65. Will the project result in construction of workers or other people moving into or having access to the area (for a long period and in large numbers compared to permanent residents) ?		
66. Are financial/in kind compensation measures expected to be needed?		
L. Loss of Assets, Crops, fruit, household infrastructure and livelihood		
67. Will the project result in the permanent or temporary loss of		
68. Crops?		
69. Fruit trees/coconut palms? Specify with numbers		
70. Household assets/infrastructure? Specify with numbers		
71. Loss of agriculture land? specify with numbers		
M. Public and Occupational health and safety, welfare , employment and gender		
72. Is the project likely to provide local employment opportunities, including employment opportunities for women?		
73. Is the project being planned with sufficient attention to local poverty alleviation objectives?		
74. Is the project being designed with sufficient local participation of women in the planning design and implementation process?		
75. Will the project affect/lead to traffic and Pedestrian Safety?		
76. Will the project Interfere with the normal health and safety of the worker/employee/public?		
77. Will the project introduce new practices and habits?		
78. Will the project lead to child delinquency (school drop-outs, child abuse, child labour, etc.?		
79. Will the project lead to gender disparity?		
80. Will the project lead to social evils (drug abuse, excessive alcohol		

consumption, crime, etc.)?		
N. Historical, Archaeological, or cultural Heritage sites		
81. Based on available sources, consultation with local Authorities, local knowledge and/ or observation could the project alter?		
82. Historical heritage site(s) or require excavation near the same?		
83. Archaeological heritage site(s) or require excavation near the same?		
84. Cultural heritage site(s) or require excavation near the same		
85. Graves or sacred locations or require excavation near the same?		
O. Result/Outcome of Environmental/ Social and Resettlement Screening Exercise		
No Environment Impact Assessment Required		
Environment Impact Assessment Required		
RAP category required (RAP/ARAP)		
Any special conditions		
P: Authorisation		
Screening undertaken by : ..... Designation.....	Signature..... Date.....	
Approved by: ..... Designation.....	Signature..... Date.....	
PMU Confirmation by: ..... Designation.....	Signature..... Date.....	
Summary of features of project and its location indicating the need for EIA		

Important note for officers conducting the screening:

i) KISIP should take adequate steps to ensure that there are no adverse impacts on the environment **within 1 km radius** of the listed protected areas during investment /sub-investment implementation. The Environmental Officers at the KISIP and counties need to ensure that the required avoidance, minimization and mitigation measures are taken care of during site selection, preparation of feasibility studies detailed engineering designs and implementation/construction stages of a sub-project. This will help facilitate project supervision and monitoring during the implementation stage as well.

ii) Once applicability of GOK and WB policies have been established, ensure appropriate regulatory action and clearance per flow chart below – fig. 5.1

iii) Ensure that mitigation measures identified in the above matrix are translated to detail mitigation measures in the Environmental management plans for the particular investment.

iv) Ensure that each EMP and RAP (if required) is integrated in the feasibility and detailed engineering drawings for the investment. Guidance provided in Section 8.8 of the ESMF

ANNEX 4: EVALUATING SITE SENSITIVITY

This report is to be kept short and concise.

When considering the location of a subproject, rate the sensitivity of the proposed site in the following table according to the given criteria. Higher ratings do not necessarily mean that a site is unsuitable. They do indicate a real risk of causing undesirable adverse environmental and social effects, and that more substantial environmental and/or social planning may be required to adequately avoid, mitigate or manage potential effects.

Issues	Site Sensitivity			Rating
	Low	Medium	High	
Natural habitats	No natural habitats present of any kind	No critical natural habitats; other natural habitats occur	Critical natural habitats present	
Water quality and water resource availability and use	Water flows exceed any existing demand; low intensity of water use; potential water use conflicts expected to be low; no potential water quality issues	Medium intensity of water use; multiple water users; water quality issues are important	Intensive water use; multiple water users; potential for conflicts is high; water quality issues are important	
Natural hazards vulnerability, floods, soil stability/ erosion	Flat terrain; no potential stability/erosion problems; no known volcanic/seismic/ flood risks	Medium slopes; some erosion potential; medium risks from volcanic/seismic/ flood/ hurricanes	Mountainous terrain; steep slopes; unstable soils; high erosion potential; volcanic, seismic or flood risks	
Cultural property	No known or suspected cultural heritage sites	Suspected cultural heritage sites; known heritage sites in broader area of influence	Known heritage sites in project area	

Issues	Site Sensitivity			Rating
	Low	Medium	High	
Involuntary resettlement	Low population density; dispersed population; legal tenure is well-defined; well-defined water rights	Medium population density; mixed ownership and land tenure; well-defined water rights	High population density; major towns and villages; low-income families and/or illegal ownership of land; communal properties; unclear water rights	
Indigenous peoples	No indigenous population	Dispersed and mixed indigenous populations; highly acculturated indigenous populations	Indigenous territories, reserves and/or lands; vulnerable indigenous populations	

Annex: Generic Terms of Reference for Conducting Environment Assessment

Environment Assessment (EA) is a decision support mechanism to ensure that the project design and implementation are environmentally sound and sustainable. During the preparation phase, the objective of the EA is to provide inputs to the selection of sub-projects, feasibility study; preliminary and detailed design as well as assist development of a holistic development of the project package. During the implementation phase, environmental management plans (developed as a part of the EA during the preparation phase) are to be used for executing the environmental mitigation, enhancement and monitoring measures.

Objectives of EA

In the preparation phase, the EA shall achieve the following objectives:

1. Identify and analyze upstream environmental issues that may affect the project and the sector.
2. Establish the environmental baseline in the study area, and identify any significant environmental issues (direct/indirect/induced/cumulative)
3. Assess impacts of the project, and provide for measures to address the adverse impacts by the provision of the requisite avoidance, mitigation and compensation measures
4. Integrate the environmental issues in the project planning and design; and
5. Develop appropriate management plans for implementing, monitoring and reporting of the suggested environmental mitigation and enhancement measures.

The environmental assessment studies and reporting requirements to be undertaken under these TOR must conform to the GoI/GoB regulations and the Bank guidelines.

Description of the Project

(Include description of the project; covering geographical location, type of development envisaged, including a description of project activities. Also include current status of the project. Provide brief information on any other study already completed/on-going or proposed) ... to be added by Client.

Scope of Work

The EA comprises the following 3 components: (i) Environmental screening for the entire project; (ii) Environmental Assessment (EA) for the individual project/sub-projects, as required; and (c) Environmental Management Plans (EMPs) for the individual project/sub-projects.

The following section gives the detailed scope of work in each of these stages.

Inception

The Consultants shall use the inception period to familiarize with the project details. The Consultants shall recognize that the remaining aspects of the project, such as engineering and social, would be studied in parallel, and it is important for all these aspects are

integrated into the final project design to facilitate their successful project implementation. The Consultants should also recognize that due care and diligence planned during the inception stage helps in improving the timing and quality of the EA reports.

During the inception period the Consultants shall: (a) study the project information to appreciate the context within which the EA has to be carried-out; (b) identify the sources of secondary information on the project, on similar projects and on the project area; (c) carry out a reconnaissance survey and (d) undertake preliminary consultations with selected stakeholders.

Following the site visits and stakeholder consultations, as well as a review of the conditions of contract with the Client, the consultant shall analyse the adequacy of the allocated man-power, time and budget and shall clearly bring out deviations, if any. The Consultant shall study the various available surveys, techniques, models and software in order to determine what would be the most appropriate in the context of this project.

The Consultant shall interact with the engineering and social consultants to determine how the EA work fits into the over-all project preparation cycle; how overlapping areas are to be jointly addressed; and to appropriately plan the timing of the deliverables of the EA process. These shall be succinctly documented in the Inception Report.

Environmental Screening

Consultants shall summarise the known sub-project/s into different categories that relate to the magnitude potential environmental impacts. During such categorisation, consideration shall be paid to: (i) location of sub-project with respect to environmentally sensitive areas; and (ii) volume, nature and technology of construction. The screening parameters should be such that their identification and measurement is easy, and does not involve detailed studies. The screening criteria shall also contain exclusion criteria, for sub-projects, which should not be taken up due to potential significant environmental impacts that cannot be mitigated (including, but not limited to, permanent obstruction to wildlife corridors, or opening up increased access to threatened biodiversity resource hotspots, or construction on top of eroded and vulnerable flood embankments).

Environmental Scoping

Based on result of the environmental screening exercise, consultants shall suggest the scope of Environmental Assessment to be undertaken. It shall include a listing of other environment issues that do not deserve a detailed examination in the project EA (covering, for example, induced impacts that may be outside the purview of the client) along with a justification. The scoping needs to identify and describe the specific deviations or inclusions vis-à-vis the EA ToR provided, if any, along with a justification; modify this ToR for the sub-project EA, if required; and recommend studies that need to be conducted in parallel but are outside the EA process.

Baseline

All regionally or nationally recognized environmental resources and features within the project“s influence area shall be clearly identified, and studied in relation to activities proposed under the project. These will include all protected areas (such as national parks, wildlife sanctuaries, reserved forests, RAMSAR sites, biosphere reserves, wilderness

zones), unprotected and community forests and forest patches, wetlands of local/regional importance not yet notified, rivers, rivulets and other surface water bodies. and sensitive environmental features such as wildlife corridors, biodiversity hotspots, meandering rivers, flood prone areas, areas of severe river erosion, flood embankments (some of which are also used as roads). Consultants shall consolidate all this information in a map of adequate scale.

Stakeholder Identification and Consultation

Consultation with the stakeholders shall be used to improve the plan and design of the project rather than merely having project information dissemination sessions. The consultants shall carry out consultations with Experts, NGOs, concerned Government Agencies and other stakeholders to: (a) collect baseline information; (b) obtain a better understanding of the potential impacts; (c) appreciate the perspectives/concerns of the stakeholders; and (d) secure their active involvement during subsequent stages of the project.

Consultations shall be preceded by a systematic stakeholder analysis, which would: (a) identify the individual or stakeholder groups relevant to the project and to environmental issues; (b) include expert opinion and inputs; (c) determine the nature and scope of consultation with each type of stakeholders; and (d) determine the tools to be used in contacting and consulting each type of stakeholder group. A systematic consultation plan with attendant schedules will be prepared for subsequent stages of project preparation as well as implementation and operation, as required.

Identification of Relevant Macro/Regional Level Environmental Issues

Consultants shall determine the Valued Environment Components (VECs) considering the baseline information (from both secondary and primary sources), the preliminary understanding of the activities proposed in the project and, most importantly, the stakeholder (and expert) consultations, which would need to be carefully documented. Use of iterative Delphi techniques is recommended.

Based on the identification of VECs, consultants shall identify information gaps to be filled, and conduct additional baseline surveys, including primary surveys. The consultants shall conduct a preliminary analysis of the nature, scale and magnitude of the impacts that the project is likely to cause on the environment, especially on the identified VECs, and classify the same using established methods. For the negative impacts identified, alternative mitigation/management options shall be examined, and the most appropriate strategy/technique should be suggested. The preliminary assessment should clearly identify aspects where the consultants shall also analyse indirect and cumulative impacts during all phases and activities of the project. For the positive measures identified, alternative and preferred enhancement measures shall be proposed.

Environmental Assessment

The Consultants shall undertake necessary impact analysis on the basis of primary and secondary information and outputs from the stakeholder consultation process.

In the cases of very significant environmental losses or benefits, the consultants shall estimate the economic/financial costs of environment damage and the economic/financial benefits the project is likely to cause. In the cases, the impacts or benefits are not too

significant, qualitative methods could be used. In addition, wherever economic and financial costs of the environmental impacts cannot be satisfactorily estimated, or in the cases of significant irreversible environmental impacts, the consultants shall make recommendations to avoid generating such impacts.

Environmental Management Plan

The consultants shall prepare an EMP to address identified planning, design, construction and operation stage issues. For each issue, the consultants shall prepare a menu of alternative avoidance, mitigation, compensation, enhancement and/or mitigation measures, as required/necessary. Consultants shall provide robust estimates of costs for environmental management measures. These costs shall be verified for common works items in line with the rate analysis for other works. The consultants shall organize consultations with line departments and will the finalize the EMP.

Environmental Inputs to Feasibility Study and Preliminary Project Design

The EA consultants shall make design recommendations, related to alignment, cross-sections, construction material use, mitigation and enhancement measures. The EA consultants shall interact regularly with the Client and familiarize themselves with the project"s over-all feasibility analyses models, so that the EA inputs are in conformity to the needs of the over-all feasibility study.

Capacity Building and Training Plan Preparation

Based on the preliminary findings of the environmental screening, stakeholder consultations and institutional analysis of the implementing agency"s capacity to manage environmental issues, the consultants shall prepare a Capacity Building Plan to mainstream environmental management in the implementing agency"s activities by the end of project implementation period. Earmarking staff for environmental management and improving their skill-sets would be simultaneously pursued during project preparation and implementation. In addition, recommendations should be made concerning any changes to guidelines, standards and regulations, which would improve medium and long term environmental management in the line departments works.

A detailed training plan shall be prepared to develop and strengthen environmental capacities of the client and other associated agencies/departments. The strategy should include a mix of hands-on training for key staff involved in project preparation, site visits to similar projects, and whenever required, full-fledged academic programs on environmental management at well-recognized institutions. The consultants shall conduct orientation training for the key client, early in the assignment. Periodic training at various levels should continue during project preparation to ensure that the knowledge, skills and perspectives gained during the EA assignment are transferred to the Client and are utilized effectively during project implementation.

Mechanisms for improved co-ordination between Client and Line departments

The consultants shall examine the various options available for improved and timely co-ordination between various state government departments. These could take the form of written MoUs for specific activities, apex co-ordination committee of top bureaucrats, or

any such mechanism that can be effective in reducing delays in ancillary activities such as, but not limited to, shifting of utilities and obtaining required regulatory permissions.

Co-ordination among Engineering, Social, Environment and Other Studies

The consultants, with assistance from the Client, shall establish a strong co-ordination with the other project-preparation studies – engineering, social and/or institutional development. The consultants shall keep in mind the specific requirements of the project in general, and the engineering/design studies in particular, and shall plan their outputs accordingly. It is recommended that some of the consultation sessions may be organised in co-ordination with the social and engineering consultants, as feasible, and when the stakeholders consulted are the same.

The consultant shall review the contract documents – technical specifications, and rate analysis, to ensure that there are minimal conflicts between the EMP stipulations and specifications governing the execution of works under the project.

Public Disclosure

The consultants shall prepare a non-technical EA summary report for public disclosure and will provide support to the client in meeting the disclosure requirements, which at the minimum shall meet the World Bank"s policy on Public Disclosure. The consultants will prepare a plan for in-country disclosure, specifying the timing and locations; translate the key documents (including executive summary of EA/EMP) in local language; draft the newspaper announcements for disclosure; and help the client to place all the EA reports in the client"s website.

Consultant's Inputs

The Consultants are free to employ resources as they see fit. Additional expertise, shall be provided as demanded by the context of the project. The consultants are encouraged to visit the project area and familiarize themselves, at their own cost, before submitting the proposal; and propose an adequate number and skill-set for the senior specialists and technical support staff for the EA assignment. Further, the consultant will allocate adequate number of field surveyors, distinct from the technical support staff, to complete the study in time. Timing is an important essence for any EA study, which shall be closely co-ordinated with the works of the engineering and social teams, simultaneously involved in preparation of the project.

The consultants shall provide for all tools, models, software, hardware and supplies, as required to complete the assignment satisfactorily. These should be widely recognized or accepted. Any new model or tool or software employed should be field-tested before use or the purpose of this EA.

The consultants shall make formal presentations, co-ordinated by the client, at key milestones on the (a) proposed work plan after submitting the Inception Report; (b) recommendations from the environmental screening; and (c) EA findings, design and EMP recommendations. All supporting information gathered by the consultant in undertaking these terms of reference would be made available to the client.

Consultant's Outputs

The consultant is expected to provide the following outputs, as per the schedule given in the ToR. The Consultants are expected to allocate resources, such as for surveys, keeping this output schedule in mind.

Inputs to be provided by the Client

The Client will provide all necessary and reasonable support to the consultant to collect secondary data, such as issuing authorization letters. The Consultant will be responsible for any translation of documents and for processing of data. The Client will designate an officer to act as the main liaison officer and participate as possible in the study.

(The client may designate/depute a team of professionals to work within the consultants' team for long term capacity building within the client's organization).

The client will ensure the timely flow of information and documents from one consultant to other, if this be the case. The client will also help in organizing the formal presentations from all consultants engaged in project preparation.

Annex : Procedure for Conducting Environment Assessment

The following process is to be followed for sub-project activities, wherein the requirement for an Environment Impact Assessment has been determined:

1. As per The World Bank"s operational policy OP.4.01, an Environmental Assessment study is required to be carried out for Category A and B projects only. However, if an EIA (which is same as „EA" as per The World Bank"s terminology) needs to be carried out as per the EIA Notification, 2006 of Government of India, the same needs to be carried out as per the requirements of the said notification and should also comply with the requirements of Bank"s OP 4.01.

2. An Environmental Assessment (EA) report should focus on the significant environmental issues of a project (the word project here implies „sub-project" in the context of BKFRP) and should include an Executive summary concisely discussing significant findings and recommended actions. The other components of the EA report are indicated below.

   - **Policy and Legal Framework Applicable to the Project**

     Discuss the policy, legal, and administrative framework within which the EA is carried out, including applicable environmental regulations (such as Environment Protection Act, EIA Notification, Water Act, Air Act) and applicable World Bank policies (such as OP 4.01).

   - **Project Description**

     Describe the proposed project, including description of the proposed sub-components/activities and its geographic, ecological, social and temporal context, including any offsite investments that may be required (e.g., dedicated pipelines, access roads, water supply, housing and raw material and product storage facilities) for project execution. Indicate the need for any resettlement plan or indigenous people"s development plan. Also, include a map showing the project site and the project's area of influence.

   - **Baseline Data**

     Assess the baseline conditions of the study area and describe relevant physical, biological, hydrological and socio-economic conditions, including any changes anticipated before the project commences. Also, consider current and proposed development activities within the project area but not directly connected to the project. Since the proposed investments will be in floodplains, conduct necessary baseline studies on the ecology of the project area, which could include studies pertaining to aquatic ecology and flora/fauna (particularly fish) or any specific study relevant in the context of the project activities and location. Sampling and frequency of any specific study should justify the reliability of the baseline studies and associated impact predictions. Wherever, not feasible, secondary data could be utilized.

- **Stakeholder Consultation**

  The record of stake holder consultation carried out during the EA process shall be provided in the report along with the minutes of these meetings, views of stake holder agencies, affected people and local nongovernmental organizations (NGOs) and as to how their views/issues have been incorporated/addressed.

- **Monitoring and Reporting Procedures**

  Establish procedures to: (i) ensure early detection of conditions that necessitate particular mitigation measure/s, and (ii) furnish information on the progress and results of mitigation.

- **Institutional Arrangements**

  The EMP should also provide specific description of institutional arrangements and support that will be required for effective EMP implementation i.e. who is responsible for implementing the mitigation measures; supervision and enforcement; monitoring and reporting; financing; and staff training.

  To strengthen environmental management capability in the agencies responsible for implementation, EMPs may suggest (a) technical assistance programs; (b) procurement of equipment and supplies; and (c) organizational changes.

- **Integration of EMP into project sub-planning and design**

  For all the above mentioned three aspects (mitigation, monitoring, and capacity development), the EMP should provide: (a) an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with over-all project implementation plans; and (b) capital and recurrent cost estimates; (c) sources of funds for implementing the EMP. All these cost estimates should be integrated into the total project cost estimate.

  The EMP should be integrated into the project's over-all planning, design, budget, and implementation, by including the EMP in the project contract and by establishing that the EMP within the project"s plan receives funding and required supervision along with the other components.

ANNEX 7: GUIDANCE ON DEVELOPING AN EMP

The EMP should be formulated in such a way that it is easy to use. References within the plan should be clearly and readily identifiable. Also, the main text of the EMP needs to be kept as clear and concise as possible, with detailed information relegated to annexes. The EMP should identify linkages to other relevant plans relating to the project, such as plans dealing with resettlement or indigenous peoples issues. The following aspects should typically be addressed within EMPs.

Summary of impacts: The predicted adverse environmental and social impacts for which mitigation is required should be identified and briefly summarized. Cross-referencing to the ESIA report or other documentation is recommended, so that additional detail can readily be referenced.

Description of mitigation measures: The EMP identifies feasible and cost effective measures to reduce potentially significant adverse environmental and social impacts to acceptable levels. Each mitigation measure should be briefly described with reference to the impact to which it relates and the conditions under which it is required (for example, continuously or in the event of contingencies). These should be accompanied by, or referenced to, designs, equipment descriptions, and operating procedures which elaborate on the technical aspects of implementing the various measures. Where the mitigation measures may result in secondary impacts, their significance should be evaluated.

Description of monitoring program: Environmental performance monitoring should be designed to ensure that mitigation measures are implemented, have the intended result, and that remedial measures are undertaken if mitigation measures are inadequate or the impacts have been underestimated within the ESIA report. It should also assess compliance with national standards and World Bank Group requirements or guidelines.

The monitoring program should clearly indicate the linkages between impacts identified in the ESIA report, indicators to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions, and so forth. Although not essential to have complete details of monitoring in the EMP, it should describe the means by which final monitoring arrangements will be agreed.

Institutional arrangements: Responsibilities for mitigation and monitoring should be clearly defined. The EMP should identify arrangements for coordination between the various actors responsible for mitigation.

Environmental Management Plan
A. Mitigation

Project Activity	**Potential Environmental and Social Impacts**	**Proposed Mitigation Measure(s)** (Incl. legislation & regulations)	Institutional Responsibilities (Incl. enforcement & coordination)	**Cost Estimates**	**Comments** (e.g. secondary impacts)
Pre-Construction Phase					
Construction Phase					
Operation and Maintenance Phase					

Environmental Management Plan
B. Monitoring

Proposed Mitigation Measure	**Parameters To be Monitored**	**Location**	**Measurements** (Incl. methods & equipment)	**Frequency of Measurement**	**Responsibilities** (Incl. review and reporting)	**Cost** (equipment & individuals)
Pre-Construction Phase						
Construction Phase						
Operation and Maintenance Phase						
Total Cost for all Phases						

Environmental Management Plan

C. Institutional Strengthening and Training for Implementation

I. Institutional Strengthening Activity	**Position(s)** (Institutions, PIUs, contractors, construction supervision consultants)	**Scheduling**	**Responsibilit(ies)**	**Cost Estimates**	
Mitigation Measures					
Monitoring Requirements (incl. compliance)					
II. Training Activity	**Participants**	**Types of Training**	**Content (modules, etc.)**	**Scheduling**	**Cost Estimates**
EMP Implementation, Re-design, Conflict Resolution, etc.					
Environmental Processes, Methods & Equipment					
Environmental Policies & Programs					

Environmental Management Plan

D. Scheduling and Reporting

	Year 1				**Year 2**				**Etc.**			
Activity	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**				
Mitigation Measures **----------** **----------** **etc.**												
Monitoring **----------** **----------** **etc**												
Institutional Strengthening **----------** **----------** **etc**												
Training **----------** **----------**												

Annex : Incorporation of Environment Management Plan into Contract Documents

The purpose of the annex is to provide some guidance on the integration of the EMP/ GEMP into the contract documents of a sub-project.

Environment requirements in the pre-bid documents

1. The project implementing agency, i.e. PIU / the Line Departments issue the pre-bid documents to shortlist a few (usually six) contractors, based on their expression of interest and capability. While details on environmental requirements are really not required in the pre-bid stage, it is useful to mention that the contractor is expected to have good environmental management capability or experience.

Incorporating EMP in the Bid Document

2. The project implementing agency (line department) issues the bid documents to the pre-qualified contractors. There are two kinds of bid documents, for International Competitive Bids (ICB) and National Competitive Bids (NCB). In Bank projects, these documents are prepared based on templates (separate for ICB and NCB) provided by the Bank. The ICB documents are based on the FIDIC (i.e., an acronym for the International Institute of Consulting Engineers) guidelines, while the NCB is closer to the national contracting procedures, i.e. the Central PWD contract documents in India. The bid documents contain separate volumes. For instance, a typical ICB document contains:(i) General Conditions of Contract, which is based on the FIDIC; (ii) Technical Specifications, which is based on the applicable specifications in India for similar infrastructure related works; (iii) Bill of Quantities and (iv) Drawings. The EMP parts/sections should be included in the relevant locations of the bid documents in the following way:

   - Mitigation/enhancement measures & monitoring requirements tables

     The cross-reference to these tables should be included in the "conditions of particular application (COPA)", which is a part of the General Conditions of Contract (e.g. Section IV, Item 19.1 of the ICB). As a standard practice, there is an over-all reference to the laws that have to be followed in this section/item. The relevant laws need to be mentioned here. In addition, the adherence to the mitigation/enhancement measures and table on monitoring requirements should be included. The two tables will have to be added as Annexes or the entire EMP (without cost and drawings) as a whole should be attached. Either the Annexes or the appropriate section in the EMP should be cross-referred in the description of this item.

   - Modifications/additions to the technical specifications

     Due to the mitigation/enhancement measures included in the EMP, there may be (a) additions/alterations required to the applicable specifications and/or (b) there may be a need to add new specification/s. These are to be referred in the section on "Supplementary Specifications" in the Technical Specifications Volume of the bid document. Generally, the GoI applicable specifications are already referred/listed and are not repeated in the bid documents. However, changes and

additions to these specifications are made through the inclusion of a section "Supplementary Specifications." This section should also include additional technical specifications related to the EMP or should provide a cross-reference to the specific section of the EMP.

- Cost table

  All the items in the EMP cost table relevant to the contractor have to be referred in the Bill of Quantities (BoQ) table, which is a separate volume of the bid documents. It is to be noted that the BoQ table in the bid document includes the various tasks to be done by the contractor under different categories. Against each task, the contractor will have to indicate a unit rate while completing the bid documents.

- Drawings

  All EMP drawings are to be reflected in the „Drawings" volume of the Bid document. If the drawings are included in the EMP, then a cross-reference should be provided in the Drawings Volume.

Developing the EMP to suit the bid/contract document

2. As one of the intentions is to integrate the EMP requirements into the bid documents/contract Agreement, the EMP should be developed keeping the following in mind:

   a. Mitigation/enhancement measures: In the Mitigation/Enhancement Measure table, the text describing each measure should not include/repeat what is already covered under the technical specification/s, and this should only be cross-referred. The text should be short, clear and succinct. The description should focus on "what" and "where" of the mitigation / enhancement measure as the "how" of the measure is covered under the specification.

   b. Monitoring requirements table: There are certain monitoring requirements for the contractor. While developing the Monitoring Requirement table, those that pertain to the contractor should be clearly mentioned.

   c. Technical specifications: The modifications to the specifications and the additional specifications should be separately listed. These should be included as Annexure in the EMP. The (added or modified) technical specifications should be adequately detailed to avoid problems (including that of interpretations) at site.

   d. Drawings: The modifications to the drawings and the additional drawings should be included as Annexure in the EMP. It is important to note that all drawings included/ added should be "execution drawings" detailed as per requirement of the particular item so as to execute at site with adequate quality control and workmanship. Also, it is important to note that the quality of BoQ [or cost estimate] and technical specifications part of the contract document depends on the degree of detailing in the drawings.

   e. Cost table: The items pertaining to the contractor should be clearly separated from the expenditures that are to be incurred by the project implementing agency, supervision consultant and/or any other agency/organization.

a. Timing for finalizing EMP: It is best to finalize the EMP before the finalizing the bid documents. This is required to fully reflect the sections of the EMP relevant to the contractor in the bid document and to ensure its proper integration.

Other notes

Once the completed bids have been received from prospective contractors, the project implementing agency takes a decision based on the costs and the technical merit of the bids. Following the decision, the implementing agency and the chosen contractor sign and counter-sign the completed bid documents. It becomes the contract agreement thereafter. If issues have been missed in the bid documents, it cannot be amended at the time of signing the contract agreement stage unless there is a really strong justification for the same. If there is an EMP cost item that is not reflected in the BoQ of the signed contract agreement, the supervision consultant/engineer may issue a variation order, if such case has merit. Contractor will quote a rate and the task gets done. This issue of variation orders is a standard practice and can be used, if found necessary. However, the intent of the good contracting practices should be to minimize variation orders and therefore EMP should be carefully prepared and integrated in the bid document.

ANNEX 9: GENERAL ENVIRONMENTAL MANAGEMENT CONDITIONS FOR CONSTRUCTION CONTRACTS

General

1. In addition to these general conditions, the Contractor shall comply with any specific Environmental Management Plan (EMP) or Environmental and Social Management Plan (ESMP) for the works he is responsible for. The Contractor shall inform himself about such an EMP, and prepare his work strategy and plan to fully take into account relevant provisions of that EMP. If the Contractor fails to implement the approved EMP after written instruction from the Supervising Engineer (SE) to fulfill his obligation within the requested time, the Client reserves the right to arrange through the SE for execution of the missing action by a third party on account of the Contractor.
2. Notwithstanding the Contractor's obligation under the above clause, the Contractor shall implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards to the Supervising Engineer and the Authority mandated to oversee environmental matters, and abide by any environmental performance requirements specified in an EMP. In general these measures shall include but not be limited to:
   a) Minimize the effect of dust on the surrounding environment resulting from earth mixing sites, asphalt mixing sites, dispersing coal ashes, vibrating equipment, temporary access roads, etc. to ensure safety, health and the protection of workers and communities living in the vicinity of dust producing activities.
   b) Ensure that noise levels emanating from machinery, vehicles and noisy construction activities (e.g. excavation, blasting) are kept at a minimum for the safety, health and protection of workers within the vicinity of high noise levels and nearby communities.
   c) Ensure that existing water flow regimes in rivers, streams, wetlands and other natural or irrigation channels is maintained and/or re-established where they are disrupted due to works being carried out.
   d) Prevent bitumen, oils, lubricants and waste water used or produced during the execution of works from entering into rivers, streams and other natural water bodies/reservoirs, and also ensure that stagnant water in uncovered borrow pits is treated in the best way to avoid creating possible breeding grounds for mosquitoes.
   e) Prevent and minimize the impacts of quarrying, earth borrowing, piling and building of temporary construction camps and access roads on the biophysical environment including protected areas and arable lands; local communities and their settlements. In as much as possible restore/rehabilitate all sites to acceptable standards to the Supervising Engineer and the Authority mandated to oversee environmental matters.
   f) Upon discovery of ancient heritage, relics or anything that might or believed to be of archeological or historical importance during the execution of works, immediately report such findings to the SE so that the appropriate authorities may be expeditiously contacted for fulfillment of the measures aimed at protecting such historical or archaeological resources.
   g) Discourage construction workers from engaging in the exploitation of natural resources such as hunting, fishing, collection of forest products or any other activity that might have a negative impact on the social and economic welfare of the local communities.
   h) Implement soil erosion control measures in order to avoid surface run off and prevents siltation, etc.
   i) Ensure that garbage, sanitation and drinking water facilities are provided in construction workers camps.

j) Ensure that, in as much as possible, local materials are used to avoid importation of foreign material and long distance transportation.
k) Ensure public safety by not creating nuisance and securing sites that pose public hazards, and meet traffic safety requirements as stipulated in the Kenyan law and by rolling out road safety campaigns for the operation of work to avoid traffic incidents.

3. The Contractor shall indicate the period within which he/she shall maintain status on site after completion of civil works to ensure that significant adverse impacts arising from such works have been appropriately addressed.
4. The Contractor shall adhere to the proposed activity implementation schedule and the monitoring plan / strategy to ensure effective feedback of monitoring information to project management so that impact management can be implemented properly, and if necessary, adapt to changing and unforeseen conditions.
5. Besides the regular inspection of the sites by the SE for adherence to the contract conditions and specifications, the Owner may appoint an Inspector to oversee the compliance with these environmental conditions and any proposed mitigation measures. State environmental authorities may carry out similar inspection duties. In all cases, as directed by the SE, the Contractor shall comply with directives from such inspectors to implement measures required to ensure the adequacy rehabilitation measures carried out on the bio-physical environment and compensation for socio-economic disruption resulting from implementation of any works.

Worksite/Campsite Waste Management

6. All vessels (drums, containers, bags, etc.) containing oil/fuel/surfacing materials and other hazardous chemicals shall be bunded in order to contain spillage. All waste containers, litter and any other waste generated during the construction shall be collected and disposed off at designated disposal sites in line with applicable government waste management regulations.
7. All drainage and effluent from storage areas, workshops and camp sites shall be captured and treated before being discharged into the drainage system in line with applicable government water pollution control regulations.
8. Used oil from maintenance shall be collected and disposed off appropriately at designated sites or be re-used or sold for re-use locally.
9. Entry of runoff to the site shall be restricted by constructing diversion channels or holding structures such as banks, drains, dams, etc. to reduce the potential of soil erosion and water pollution.
10. Construction waste shall not be left in stockpiles along the road, but removed and reused or disposed of on a daily basis.
11. If disposal sites for clean spoil are necessary, they shall be located in areas, approved by the SE, of low land use value and where they will not result in material being easily washed into drainage channels. Whenever possible, spoil materials should be placed in low-lying areas and should be compacted and planted with species indigenous to the locality.

Material Excavation and Deposit

12. The Contractor shall obtain appropriate licenses/permits from relevant authorities to operate quarries or borrow areas.
13. The location of quarries and borrow areas shall be subject to approval by relevant local and national authorities, including traditional authorities if the land on which the quarry or borrow areas fall in traditional land.

14. The Contractor shall be required to enter into written agreement with the land owners of material sites and clearly outline the terms of operation, rehabilitation and handing over of the site upon expiry of lease or completion of excavation. The terms of operation, rehabilitation and handing over shall not contradict the law, best industry practice nor the conditions of licenses/permits from relevant authorities
15. New extraction sites:

a) Shall not be located in the vicinity of settlement areas, cultural sites, wetlands or any other valued ecosystem component, or on high or steep ground or in areas of high scenic value, and shall not be located less than 1km from such areas.

b) Shall not be located adjacent to stream channels wherever possible to avoid siltation of river channels. Where they are located near water sources, borrow pits and perimeter drains shall surround quarry sites.

c) Shall not be located in archaeological areas. Excavations in the vicinity of such areas shall proceed with great care and shall be done in the presence of government authorities having a mandate for their protection.

d) Shall not be located in forest reserves. However, where there are no other alternatives, permission shall be obtained from the appropriate authorities and an environmental impact study shall be conducted.

e) Shall be easily rehabilitated. Areas with minimal vegetation cover such as flat and bare ground, or areas covered with grass only or covered with shrubs less than 1.5m in height, are preferred.

f) Shall have clearly demarcated and marked boundaries to minimize vegetation clearing.

16. Vegetation clearing shall be restricted to the area required for safe operation of construction work. Vegetation clearing shall not be done more than two months in advance of operations.
17. Stockpile areas shall be located in areas where trees can act as buffers to prevent dust pollution. Perimeter drains shall be built around stockpile areas. Sediment and other pollutant traps shall be located at drainage exits from workings.
18. The Contractor shall secure the site with appropriate fencing and erect safety signage
19. The Contractor shall deposit any excess material in accordance with the principles of these general conditions, and any applicable EMP, in areas approved by local authorities and/or the SE.
20. Areas for depositing hazardous materials such as contaminated liquid and solid materials shall be approved by the SE and appropriate local and/or national authorities before the commencement of work. Use of existing, approved sites shall be preferred over the establishment of new sites.

Rehabilitation and Soil Erosion Prevention

21. To the extent practicable, the Contractor shall rehabilitate the site progressively so that the rate of rehabilitation is similar to the rate of construction.
22. Always remove and retain topsoil for subsequent rehabilitation. Soils shall not be stripped when they are wet as this can lead to soil compaction and loss of structure.
23. Topsoil shall not be stored in large heaps. Low mounds of no more than 1 to 2m high are recommended.
24. Re-vegetate stockpiles to protect the soil from erosion, discourage weeds and maintain an active population of beneficial soil microbes.
25. Locate stockpiles where they will not be disturbed by future construction activities.
26. To the extent practicable, reinstate natural drainage patterns where they have been altered or impaired.

27. Remove toxic materials and dispose of them in designated sites. Backfill excavated areas with soils or overburden that is free of foreign material that could pollute groundwater and soil.
28. Identify potentially toxic overburden and screen with suitable material to prevent mobilization of toxins.
29. Ensure reshaped land is formed so as to be inherently stable, adequately drained and suitable for the desired long-term land use, and allow natural regeneration of vegetation.
30. Minimize the long-term visual impact by creating landforms that are compatible with the adjacent landscape.
31. Minimize erosion by wind and water both during and after the process of reinstatement.
32. Compacted surfaces shall be deep ripped to relieve compaction unless subsurface conditions dictate otherwise.
33. Re-vegetate with plant species that will control erosion, provide vegetative diversity and, through succession, contribute to a resilient ecosystem. The choice of plant species for rehabilitation shall be done in consultation with local research institutions, forest department and the local people.

Water Resources Management

34. The Contractor shall at all costs avoid conflicting with water demands of local communities.
35. Abstraction of both surface and underground water shall only be done with the consultation of the local community and after obtaining a permit from the relevant Water Authority.
36. Abstraction of water from wetlands shall be avoided. Where necessary, authority has to be obtained from relevant authorities.
37. Temporary damming of streams and rivers shall be done in such a way avoids disrupting water supplies to communities downstream, and maintains the ecological balance of the river system.
38. No construction water containing spoils or site effluent, especially cement and oil, shall be allowed to flow into natural water drainage courses.
39. Wash water from washing out of equipment shall not be discharged into water courses or road drains.
40. Site spoils and temporary stockpiles shall be located away from the drainage system, and surface run off shall be directed away from stockpiles to prevent erosion.

Traffic Management

41. Location of access roads/detours shall be done in consultation with the local community especially in important or sensitive environments. Access roads shall not traverse wetland areas.
42. The Contractor shall develop a Traffic Management Plan and submit to the Supervising Engineer for review and approval prior to implementation
43. Upon the completion of civil works, all access roads shall be ripped and rehabilitated.
44. Traffic marshals shall be appointed, trained by knowledgeable traffic personnel such as traffic police or National Transport and Safety Authority Officer and given a terms of reference prior to mobilization on site
45. Access roads shall be sprinkled with water at least five times a day in settled areas, and three times in unsettled areas, to suppress dust emissions.

Blasting

46. Blasting activities shall not take place less than 2km from settlement areas, cultural sites, or wetlands without the permission of the SE.
47. Blasting activities shall be done during working hours, and local communities shall be consulted on the proposed blasting times.
48. Noise levels reaching the communities from blasting activities shall not exceed 90 decibels.

Disposal of Unusable Elements

49. Unusable materials and construction elements such as electro-mechanical equipment, pipes, accessories and demolished structures will be disposed of in a manner approved by the SE. The Contractor has to agree with the SE which elements are to be surrendered to the Client's premises, which will be recycled or reused, and which will be disposed of at approved landfill sites.
50. As far as possible, abandoned pipelines shall remain in place. Where for any reason no alternative alignment for the new pipeline is possible, the old pipes shall be safely removed and stored at a safe place to be agreed upon with the SE and the local authorities concerned.
51. 47. AC-pipes as well as broken parts thereof have to be treated as hazardous material and disposed of as specified above.
52. Unsuitable and demolished elements shall be dismantled to a size fitting on ordinary trucks for transport.

Health and Safety

53. 49. In advance of the construction work, the Contractor shall mount an awareness and hygiene campaign. Workers and local residents shall be sensitized on health risks particularly of AIDS.
54. 50. Adequate road signs to warn pedestrians and motorists of construction activities, diversions, etc. shall be provided at appropriate points.
55. 51. Construction vehicles shall not exceed maximum speed limit of 40km per hour.

Repair of Private Property

56. 52. Should the Contractor, deliberately or accidentally, damage private property, he shall repair the property to the owner's satisfaction and at his own cost. For each repair, the Contractor shall obtain from the owner a certificate that the damage has been made good satisfactorily in order to indemnify the Client from subsequent claims.
57. 53. In cases where compensation for inconveniences, damage of crops etc. are claimed by the owner, the Client has to be informed by the Contractor through the SE. This compensation is in general settled under the responsibility of the Client before signing the Contract. In unforeseeable cases, the respective administrative entities of the Client will take care of compensation.

Contractor's Health, Safety and Environment Management Plan (HSE-MP)

58. Within 6 weeks of signing the Contract, the Contractor shall prepare an EHS-MP to ensure the adequate management of the health, safety, environmental and social aspects of the works, including implementation of the requirements of these general conditions and any specific requirements of an EMP for the works. The Contractor's EHS-MP will serve two main purposes:

For the Contractor, for internal purposes, to ensure that all measures are in place for adequate HSE management, and as an operational manual for his staff.

For the Client, supported where necessary by a SE, to ensure that the Contractor is fully prepared for the adequate management of the HSE aspects of the project, and as a basis for monitoring of the Contractor's HSE performance.

59. **The Contractor's EHS-MP shall provide at least:**

- Description of procedures and methods for complying with these general environmental management conditions, and any specific conditions specified in an EMP;

- Description of specific mitigation measures that will be implemented in order to minimize adverse impacts;

- Description of all planned monitoring activities (e.g. sediment discharges from borrow areas) and the reporting thereof; and the internal organizational, management and reporting mechanisms put in place for such.

60. The Contractor's EHS-MP will be reviewed and approved by the Client before start of the works. This review should demonstrate if the Contractor's EHS-MP covers all of the identified impacts, and has defined appropriate measures to counteract any potential impacts.

HSE Reporting

61. The Contractor shall prepare bi-weekly progress reports to the SE on compliance with these general conditions, the project EMP if any, and his own EHS-MP. An example format for a Contractor HSE report is given below. It is expected that the Contractor's reports will include information on:
    a) HSE management actions/measures taken, including approvals sought from local or national authorities;

    b) Problems encountered in relation to HSE aspects (incidents, including delays, cost consequences, etc. as a result thereof);

    c) Lack of compliance with contract requirements on the part of the Contractor;

    d) Changes of assumptions, conditions, measures, designs and actual works in relation to HSE aspects; and

    e) Observations, concerns raised and/or decisions taken with regard to HSE management during site meetings.

62. It is advisable that reporting of significant HSE incidents be done "as soon as practicable". Such incident reporting shall therefore be done individually. Also, it is advisable that the Contractor keeps his own records on health, safety and welfare of persons, and damage to property. It is advisable to include such records, as well as copies of incident reports, as appendixes to the bi-weekly reports. Example formats for an incident notification and detailed report are given below. Details of HSE performance will be reported to the Client through the SE's reports to the Client.

Training of Contractor's Personnel

63. The Contractor shall provide sufficient training to his own personnel to ensure that they are all aware of the relevant aspects of these general conditions, any project EMP, and his own EHS-MP, and are able to fulfill their expected roles and functions. Specific training should be provided to those employees that have particular responsibilities associated with the implementation of the EHS-MP. General topics should be:
    a) HSE in general (working procedures);
    b) Emergency procedures; and
    c) Social and cultural aspects (raising awareness on social issues e.g HIV/AID prevention and management).

Cost of Compliance

64. It is expected that compliance with these conditions is already part of standard good workmanship and state of art as generally required under this Contract. The item "Compliance with Environmental Management Conditions" in the Bill of Quantities covers these costs. No other payments will be made to the Contractor for compliance with any request to avoid and/or mitigate an avoidable HSE impact.

ANNEX 10: EXAMPLE FORMAT OF HSE REPORT

Contract:

Period of reporting:

HSE management actions/measures:

Summarize HSE management actions/measures taken during period of reporting, including planning and management activities (e.g. risk and impact assessments), HSE training, specific design and work measures taken, etc.

HSE incidents:

Report on any problems encountered in relation to HSE aspects, including incident occurrence its consequences (delays, costs) and corrective measures taken. Include relevant incident reports.

HSE compliance:

Report on compliance with Contract HSE conditions, including any cases of non-compliance.

Changes:

Report on any changes of assumptions, conditions, measures, designs and actual works in relation to HSE aspects.

Concerns and observations:

Report on any observations, concerns raised and/or decisions taken with regard to HSE management during site meetings and visits.

Signature (Name, Title Date):

Contractor Representative

ANNEX 11: Possible Agenda for a 2-day Workshop Introducing the ESMF

Day 1

(a) *Introduction to Environmental and Social Management Plans*

This section will introduce participants to the theory and application of ESMPs as a decision making tool. It will outline the principles of ESMPs and provide clear definitions on ESMP practice terminology (e.g. screening and scoping, impacts [negative, positive, cumulative, strategic] natural resource base (water, soil, land, biodiversity, air, etc., mitigation and monitoring) and social baseline (employment, social, health, literacy etc)). It will also provide guidance on the criteria required for the development of an effective ESMP in practice.

(b) *World Bank Safeguard Policies and Kenyan Legislation*

This section will discuss the principal World Bank safeguard policies and their application to subprojects under KISIP II. Each policy will be discussed in detail. In addition, the applicable Kenyan legislation will be discussed in terms of the relevant environmental and social laws and policies which apply to activities under the program.

(c) *Screening and Scoping of Sub-projects*

A list of potential activities to be financed under the projects will be discussed. Application of the screening checklist will be explained using case studies.

Day 2

(d) *Impact Identification*

Potential impacts related to various types of activities will be discussed, in terms of their significance (adverse or minimal, positive or negative), magnitude (long term versus short term), and impact category (localised or cumulative).

(e) *Mitigation and Monitoring*

Mitigation measures as they apply to various types of activities will be discussed, in terms of their application, cost and feasibility. Monitoring measures will also be recommended to measure the effectiveness of mitigation plans and to monitor performance.

(d) *Responsibilities for Planning and Reporting*

For each target audience, responsibilities for environmental and social management will be discussed as they relate to KISIP II project implementation. This will include responsibilities for planning, management of impact identification and mitigation/monitoring, partnerships with NGOs and technical service providers, partnerships among community members, and reporting.

ANNEX 12: CHANCE FIND PROCEDURE

1. Purpose of the chance find procedure

The chance find procedure is a project-specific procedure that outlines actions required if previously unknown heritage resources, particularly archaeological resources, are encountered during project construction or operation. A Chance Find Procedure, is a process that prevents chance finds from being disturbed until an assessment by a competent specialist is made and actions consistent with the requirements are implemented.

2. Scope of the chance find procedure

This procedure is applicable to all activities conducted by the personnel, including contractors, that have the potential to uncover a heritage item/site. The procedure details the actions to be taken when a previously unidentified and potential heritage item/site is found during construction activities. Procedure outlines the roles and responsibilities and the response times required from both project staff, and any relevant heritage authority.

3. Induction/Training

All personnel, especially those working on earth movements and excavations, are to be inducted on the identification of potential heritage items/sites and the relevant actions for them with regards to this procedure during the Project induction and regular toolbox talks.

4. Chance find procedure

If any person discovers a physical cultural resource, such as (but not limited to) archaeological sites, historical sites, remains and objects, or a cemetery and/or individual graves during excavation or construction, the following steps shall be taken:

1. Stop all works in the vicinity of the find, until a solution is found for the preservation of these artefacts, or advice from the relevant authorities is obtained;

2. Immediately notify a foreman. The foreman will then notify the Resident/Supervising Engineer and the Environment Officer (EO)/Environmental Manager (EM);

3. Record details in Incident Report and take photos of the find;

4. Delineate the discovered site or area; secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities take over;

5. Preliminary evaluation of the findings by archaeologists. The archaeologist must make a rapid assessment of the site or find to determine its importance. Based on this assessment the appropriate strategy can be implemented. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage such as aesthetic, historic, scientific or research, social and economic values of the find;

6. Sites of minor significance (such as isolated or unclear features, and isolated finds) should be recorded immediately by the archaeologist, thus causing a minimum disruption to the work schedule of the Contractor. The results of all archaeological work must be reported to the National Museums of Kenya (NMK), once completed.

7. In case of significant find the National Museums of Kenya (NMK) should be informed immediately and in writing within 7 days from the find.

8. The onsite archaeologist provides the NMK with photos, other information as relevant for identification and assessment of the significance of heritage items.

9. The NMK must investigate the fact within 2 weeks from the date of notification and provide response in writing.

10. Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the layout (such as when finding an irremovable remain of cultural or archaeological importance) conservation, preservation, restoration and salvage;

11. Construction works could resume only after permission is granted from the responsible authorities.

12. In case no response received within the 2 weeks' period mentioned above, this is considered as authorization to proceed with suspended construction works.

One of the main requirements of the procedure is record keeping. All finds must be registered. Photo log, copies of communication with decision making authorities, conclusions and recommendations/guidance, implementation reports - kept.

5. Additional information

Management options for archaeological site

a) ***Site avoidance.*** If the boundaries of the site have been delineated attempt must be made to redesign the proposed development to avoid the site. (The fastest and most cost-effective management option)
b) ***Mitigation.*** If it is not feasible to avoid the site through redesign, it will be necessary to sample it using data collection program prior to its loss. This could include surface collection and/or excavation. (The most expensive and time-consuming management option.)
c) ***Site Protection.*** It may be possible to protect the site through the installation of barriers during the time of the development and/or possibly for a longer term. This could include the erection of high visibility fencing around the site or covering the site area with a geotextile and then capping it with fill. The exact prescription would be site-specific.

Management of replicable and non-replicable heritage

Different approaches for the finds apply to replicable and non-replicable heritage.

Replicable heritage[7]

Where tangible cultural heritage that is replicable and not critical is encountered, mitigation measures will be applied. The mitigation hierarchy is as follows:

[7] Replicable cultural heritage is defined as tangible forms of cultural heritage that can themselves be moved to another location or that can be replaced by a similar structure or natural features to which the cultural values can be transferred by appropriate measures. Archaeological or historical sites may be considered replicable where the particular eras and cultural values they represent are well represented by other sites and/or structures.

a) Avoidance;
b) Minimization of adverse impacts and implementation of restoration measures, in situ;
c) Restoration of the functionality of the cultural heritage, in a different location;
d) Permanent removal of historical and archaeological artefacts and structures;
e) Compensation of loss - where minimization of adverse impacts and restoration not feasible.

Non-replicable heritage[8]

Most cultural heritage is best protected by in situ preservation, since removal is likely to result in irreparable damage or even destruction of the cultural heritage. Nonreplicable cultural heritage must not be removed unless all of the following conditions are met:

a) There are no technically or financially feasible alternatives to removal;
b) The overall benefits of the project conclusively outweigh the anticipated cultural heritage loss from removal; and
c) Any removal of cultural heritage must be conducted using the best available technique advised by relevant authority and supervised by archaeologist.

Human Remains Management Options

The handling of human remains believed to be archaeological in nature requires communication according to the same procedure described above. There are two possible courses of action:

a) ***Avoid.*** The development project is redesigned to completely avoid the found remains. An assessment should be made as to whether the remains may be affected by residual or accumulative impacts associated with the development, and properly addressed by a comprehensive management plan.
b) ***Exhume.*** Exhumation of the remains in a manner considered appropriate by decision makers. This will involve the predetermination of a site suitable for the reburial of the remains. Certain ceremonies or procedures may need to be followed before development activities can recommence in the area of the discovery.

[8] Nonreplicable cultural heritage may relate to the social, economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies, and early forms of environmental management, where the (i) cultural heritage is unique or relatively unique for the period it represents, or (ii) cultural heritage is unique or relatively unique in linking several periods in the same site. Examples of non-replicable cultural heritage may include an ancient city or temple, or a site unique in the period that it represents.