E4815

REPUBLIC OF KENYA

MINISTRY OF LANDS, HOUSING AND URBAN DEVELOPMENT

Kenya Informal Settlements Improvement Project

(KISIP)

Environment and Social Management Framework

(ESMF)

Prepared for the GoK by:

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List of Abbreviations

CBO	-	Community Based Organisation
CDF	-	Constituency Development Fund
CEMP	-	Community Environment Management Plan
CPMC	-	Community Project Management Committee
DEC	-	District Environment Committee
EIA	-	Environmental Impact Assessment
EMCA 1999	-	Environmental Management and Coordination Act
EMP	-	Environmental Management Plan
ESMF	-	Environmental & Social Management Framework
FBO	-	Faith Based Organisation
GDP	-	Gross Domestic Product
GOK	-	Government of the Republic of Kenya
IDA	-	International Development Association
KeNHA	-	Kenya National Highways Authority
KeRRA	-	Kenya Rural Roads Authority
KISIP	-	Kenya Informal Settlements Improvement Project
KMP	-	Kenya Municipal Programme
KURA	-	Kenya Urban Roads Authority
LA	-	Local Authority
LAIFOMS	-	Local Authority Integrated Financial Operations Management System
LASDAP	-	Local Authority Service Delivery Action Plan
LATF	-	Local Authorities Transfer Fund
LN	-	Legal Notice
MoLH&UD	-	Ministry of Lands, Housing and Urban Development
NEMA	-	National Environment Management Authority
NGO	-	Non Governmental Organisation
MoLG	-	Ministry of Local Government
OP	-	Operational Policy
PCT	-	Project Coordination Team
RAP	-	Resettlement Action Plan
RMLF	-	Roads Maintenance Levy Fund
RPF	-	Resettlement Policy Framework
UNCBD	-	United Nations Convention on Biological Diversity
UNCCD	-	United Nations Convention to Combat Desertification
UNCED	-	United Nations Conference on Environment and Development
UNEP	-	United Nations Environment Programme
USAID/REDSO/WCA	-	United States Agency for International Development / Regional Economic Development Services Office/ West and Central Africa
WaSSIP	-	Water and Sanitation Service Improvement Project
WB	-	World Bank

Executive Summary

A. Background to the Kenya Informal Settlements Improvement Programme-KISIP:

This report outlines the Environmental and Social Management Framework (ESMF) prepared for the Kenya Informal Settlements Improvement Project- a GOK initiative specifically focussed on improving living conditions in informal settlements within counties.

KISIP is being implemented in urban informal settlements in fourteen (14) counties selected based on perceived level of preparedness as illustrated by tenure status for target land, scale of potential displacements, proximity to utilities, population of potential beneficiaries, and status of community mobilisation. KISIP activities are implemented through four components namely;-

(i) *Institutional strengthening and program management*. This component supports institutional strengthening and capacity building of the Ministry of Lands Housing, and Urban Development and the selected counties. It also finances the management activities associated with program implementation and establishment of a monitoring and evaluation system.
(ii) *Enhancing tenure security*. This component supports the systematization and scale-up of ongoing efforts to strengthen settlement planning and tenure security in urban informal settlements.
(iii) *Investing in infrastructure and service delivery*. This component supports investment in settlement infrastructure, and, where necessary, extension of trunk infrastructure to settlements.
(iv) *Planning for urban growth*. This component supports planning and development of options that facilitate the delivery of infrastructure services, land, and housing for future population growth.

B. Objectives and methodology of the ESMF:

The purpose of this ESMF is to ensure that environmental and social management is integrated into the development and operation of projects to be financed under the KISIP to ensure effective mitigation of potentially adverse impacts while enhancing accruing benefits.

This ESMF has been prepared in compliance with the World Bank's Safeguard Policies and Kenya's Environmental Management and Coordination Act (EMCA) of 1999 both of which require environmental and social assessment prior to any investment. The ESMF recognises all WB safeguard policies relevant to social and environmental management and has also factored and duly recognised all Kenyan sectoral laws with bearing to environmental and social management within KISIP.

Preparation of the ESMF employed both desktop and field research methods whereby project planning documents were reviewed to provide an insight into

the scope, design and motivation of the programme and later complemented by on-the ground observations and consultations with the then municipalities (now Counties) and the public within target municipalities.

C. Consultations during the ESMF process:

Diverse consultations took place as part of the ESMF as follows:-

i) **KISIP Level Consultations:** The ESMF Team held briefing meetings within KISIP with a view to understanding the design, scope and motivation of the Project and at one point attended the Technical Coordination Meeting held on 31st August 2010 at the then Ministry of Housing (now Ministry of Lands Housing and Urban Development). From such interaction, the ESMF Team was able to access data and information which helped to clarify the scope and thinking behind the KISIP.

ii) **County Level Consultations:** Consultations were extended to selected Counties namely Kisumu, Kakamega, Kericho, Nakuru (including Naivasha), Uasin Gishu (Eldoret), Garissa, Kitui, Machakos and Kiambu (Thika) where meetings were held with chief officers. The ESMF Team took advantage of such consultations to better understand the local priorities, their selection process and criteria and, availability of capacity for management of the social and environmental mitigation process, etc. From discussions and visits to target settlements, the ESMF Team was able to gauge the viability of proposed priority projects and could also perceive the scope and diversity of potential social and environmental impacts anticipated. Indeed, it is from such visits that some of the potential triggers to WB safeguards and local statutes were either confirmed or ruled out.

iii) **Consultations with residents in informal settlements:** Alongside consultations within LAs, contacts were made with residents of KISIP-targeted informal settlements who were subsequently engaged in discussions focussing on their composition and origin, organisation status and groups, awareness of KISIP, their concerns and wishes etc. Where possible, memos were also received from the residents so consulted.

D. Outcome of the public consultations

During the consultations, among the issues raised by the stakeholders were concerns/ fears of displacement, modalities for compensation etc. County level stakeholders wanted more information on the project pertaining to implementation modalities, institutional strengthening, and scope of environmental and social assessments. Issues raised during consultations primarily related to status of land tenure and improvement of quality of lives. In this context key issues pertained to

the need for improving service infrastructure such as roads, storm water drains, drainage, sanitation and solid waste disposal.

E. Application of the ESMF

This ESMF will apply to all components of KISIP:

a) Component 1: Adequate capacity for environmental and social safeguards must be built for KISIP teams at both national and county levels, as well as at settlement level within the bigger objective of institutional strengthening and capacity building for the project to deliver on its objectives. In addition, the implementation of the safeguard policies is a key results area that needs to be closely monitored.
b) Component 2: Planning and surveying of informal settlements for the purpose of tenure security must protect and enhance common environmental resources. Planning must provide for key environmental services. To achieve this, it may be necessary for the developed Physical Development Plans (PDPs) to be subject to Strategic Environmental Assessment (SEA) before they are implemented.
c) Component 3: All proposed infrastructure projects under KISIP will undergo some form of environmental and social assessment.
d) Component 4: Planning for urban growth will integrate environmental and social issues for sustainability.

Because of the cross-cutting nature of the environment and social issues, the ESMF and RPF will be housed within Component one to ensure harmonised application throughout the programme.

F. Procedure for screening

This ESMF requires that each investment proposed for funding under the KISIP to be screened for social and environmental impacts using the Screening Checklist provided in

Table 5.1. The screening will take place at the conceptual design stage and will among others determine applicability of both GoK and World Bank Safeguard Policies and the scale of the required EA studies required.

Screening will be undertaken as part of the consultancy services for socio-economic surveys, infrastructure upgrading plans, engineering designs, and preparation of bid documents. The consultant will work in consultation with the respective counties and communities and make reference to this ESMF. An environmental and social impact screening report will be prepared as either a stand-alone report or as an annex to the Conceptual design report. The report must be approved by the respective KISIP County Coordinator and the National KISIP Coordinator.

Follow-up EIA studies will be guided by LN 101 of EMCA 1999 while the scale of RAP studies will depend on whether screening has allocated an S1, S2 or S3 category to the sub-project in line with the RPF already prepared. Screening and follow-up EIA study will yield an Environmental Management Plan (EMP) – a generic version of which is outlined below which will be reviewed and approved by KISIP and respective County for submission to NEMA. Upon approval by NEMA, the EMP will guide resolution of all potential environmental and social Impacts likely to be identified for each investment. Simultaneously, community involvement in impact mitigation will be guided by the CEMP to be prepared towards the end of the EIA study. A Resettlement Action Plan (RAP) will be developed to deal with displacement impacts.

G. Potential impacts

By design, KISIP projects are small in scope in which case, drastic environmental and social impacts are not expected. Some of the projects however have potential to relocate residential and business premises and this has necessitated preparation of an RPF to deal will issues specific to resettlement. Construction activity is also likely to occasion short-term nuisances such as noise, dust, vibrations, closure of access routes and waste associated with construction crew and other impacts such as degradation of material borrow, transport and storage areas, exposure of construction crew to occupational health and safety hazards, social decadence within workers, etc but the bulk of such impacts will cease upon completion of civil works.

Upon commissioning, operation of investments will generate a new array of concerns such as noise in open spaces and parks, solid waste and domestic effluent in case of drains blockage, increased surface runoff from pavements and roads etc which require new strategies for management. In order to contain the adverse impacts and thus secure the economic gains anticipated of investments, this ESMF has outlined mitigation measures to be undertaken as part of the environmental management process within the KISIP.

H. Generic EMP developed for the KISIP

According to the generic EMP, impact mitigation will take place during project development cycle 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. KISIP and Counties will jointly supervise design works to ensure that contracts for design works bear clauses requiring Design Teams to plan for and allocate resources for impact mitigation in the BOQs and later on ensure that contracts for construction adequately cater for impact mitigation.

Mitigation at construction stage: Mitigation at construction stage will take place as part of the contracts for Civil Works which will therefore bear clauses binding respective contractors to undertake impact mitigation as per the Design Report. KISIP and Counties will jointly monitor activities of contractors to ensure delivery as per contracts. During Construction, the County Environmentalist will attend Site Meetings to pursue matters related to environmental management.

Mitigation during the Operation Phase: Upon commissioning of projects, beneficiary communities have an overwhelming role in the mitigation of operation phase impacts. For this to happen, the communities will require to be mobilised in Settlement Executive Committees that will spearhead community involvement in project development and sustainable operation. The SECs will be guided to develop and implement CEMPs.

I. Responsibility for Environmental Management within the KISIP

The entire environmental and social management will be inbuilt into the sub-project development cycle whereby activities will take place within a holistic workplan. The KISIP PCT in collaboration with the County KISIP teams will have the responsibility for environmental and social management. They have the responsibility to plan, implement and supervise environmental mitigation at the design, construction and operation phases of investments. Communities will take charge of O&M including mitigation of operation phase impacts for commissioned projects initially with support from Counties. Community involvement in impact mitigation will be guided by CEMPs for respective projects.

Capacity for implementation will be enhanced through activities as follows:-

- The positions of environmental and social development officer have already been established at the KISIP PCT to facilitate the implementation of environmental and social safeguards.
- Each county will designate an environmental officer, and social development officer to oversee and coordinate environmental and social safeguards at the local level.

To ensure effective implementation of the environmental and social safeguards outline in this ESMF, capacity building of KISIP officers both at the national and county levels will be required.

J. Monitoring of the ESMF

Monitoring of environmental management for individual projects will be based on respective EMPs. In line with the EMP, each individual scheme will be subjected to annual environmental audits culminating in a report submitted to NEMA.

K. Cost implication of this ESMF

The financial implication for implementing the ESMF is Ksh Thirty Nine million, Four hundred and fifty Thousands only (Ksh 39,450,000-see table below) to cater for EIA studies, environmental mitigation, monitoring and capacity building. However, as at the time of finalizing this ESMF, potential projects are still undergoing identification and their environmental and social impacts largely remain unknown. Budgets for Environmental and Social Mitigation as proposed here-in are purely indicative and will be reviewed once EIA studies in respect of individual schemes get underway.

Budget towards implementation of the ESMF

No of towns/cities	**Name of Settlements**	**Proposed projects**	**Max projects**	**EIA Fee (Ksh)**	**Mitigation costs (Ksh)**	**Year one monitoring Costs (Ksh)**	**Capacity building costs (Ksh)**	**Total costs (Ksh)**
15	3	1	45	6,750,000	18,000,000	4,800,000	9,900,000	39,450,000

L. Time frame of the ESMF

The ESMF came into effect upon endorsement by the then Ministry of Housing and will remain valid during planning, design, construction and operation of proposed investments. The ESMF will require periodic updating in view of emerging experiences during planning, design, and construction and operation stages or due to any changes in GoK laws etc.

After three years of implementation of KISIP it has become necessary to revise the ESMF to reflect the changes in policy, legal and institutional arrangements; and lessons learnt from implementation experiences.

M. Disclosure of this ESMF

The draft version of the ESMF and RPF were shared during two workshops dubbed the Kilifi and Nakuru Workshops which were attended by KISP Staff, Local Authority Officers, and Civil Society among others. The Nakuru workshop was also attended by the World Bank Safeguards Team which was in the Country then and who subsequently had opportunity to comment on the draft outputs.

Upon further review, the draft ESMF and RPF were disclosed through the Ministry of Housing website- www.housing.go.ke and advertised widely in the local media. It was also disclosed at the Bank's Infoshop. This revised ESMF will similarly be disclosed by the Bank and the Ministry of Lands, Housing and Urban Development.

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CHAPTER ONE: INTRODUCTION

1.1 Project background

Like other developing countries, Kenya is facing challenges occasioned by rapid urbanisation. While as at 1962 only 7.8 % of the Kenyan population was considered to be urban, come 2009, the same proportion had risen to 24% and is projected to rise to 32% by the year 2012. Further, all the 175 Kenyan Local Authorities are currently characterised by dilapidated infrastructure that has not maintained pace with population growth, huge environmental and socio-economic challenges characterised by high poverty levels, inadequate housing, low access to water and sanitation, rising insecurity and frequent energy shortages to cite just but a few.

By 2006, close to 40% of Kenya's urban population was thought to live in absolute poverty and it is against this background that the GoK with assistance from strategic partners launched a series of initiatives- KISIP included, all aimed at transforming municipalities into centres for economic growth. KISIP therefore, represents part of GOK initiatives aimed at redressing the disproportionate living conditions in informal settlements occasioned by past trends in urbanisation that were not matched by economic growth.

1.2 Introduction to KISIP

1.2.1 Project Objectives

The medium term strategic objective of KISIP is to improve the lives of at least 2.5 million people living and working in informal settlements in Kenya in line with the government's development blue print- Kenya Vision 2030. This objective will be achieved through investing in infrastructure and strengthening tenure security while supporting the government in planning for future urban growth in a manner that prevents emergence of new slums.

1.2.2 Design Principles:

KISIP is one of the programs that support the Government of Kenya in the urban and local government sector. The others being the Kenya Municipal Program (KMP), and Nairobi Metropolitan Services Improvement Project (NaMSIP). All the three programs are supported by the World Bank. After the 2013 General elections which ushered in a new government under a new constitution, all the three programs are now housed in Ministry – Lands, Housing and Urban Development. While KMP is expected to build institutional capacity and city-wide infrastructure at town or city level, KISIP is oriented towards improving the living conditions in selected informal settlements.

1.2.3 Project Scope and Strategy

KISIP is a five-year project (2011 to 2016) targeting 14 counties but working in 15 towns and cities (see Table 1.1) in Kenya. Fig 3.1 below illustrates the geographic spread of KISIP intervention in Kenya.

Table 1.1: Listing of KISIP towns and cities

	Town/City	Budget performance	Revenue performance	Debt status	Average ranking	Overall ranking 2007–08	2009 Population	Population rank
1	Thika	44	1	3	16.0	8	139,853	12
2	Eldoret	13	22	14	16.3	9	289,380	5
3	Machakos	3	25	21	16.3	11	150,041	11
4	**Nyeri**	24	16	13	17.7	12	125,357	14
5	**Nairobi City**	7	6	41	18.0	13	3,133,518	1
6	**Mombasa**	21	4	42	22.3	22	938,131	2
7	Malindi	31	17	24	24.0	25	207,253	8
8	**Embu**	43	21	11	25.0	27	60,673	31
9	Kitui	29	35	20	28.0	31	155,896	10
10	Kericho	8	39	39	28.7	34	103,911	20
11	Naivasha	25	24	37	28.7	35	181,966	9
12	**Nakuru**	41	13	32	28.7	36	307,990	4
13	**Kakamega**	36	36	36	36.0	41	91,768	22
14	**Garissa**	46	38	29	37.7	44	119,696	49
15	**Kisumu**	32	42	40	38.0	45	409,928	3

Note: Names in bold represent towns that were provincial capitals prior to the new constitution

1.2.4 Design of Programme Components

KISIP comprises four (4) components:

Component 1: Institutional strengthening and program management. This component supports strengthening the capacity of the Ministry of Lands Housing, and Urban Development, and the participating Counties, and also finance program management activities (including socio-economic surveys and systems for monitoring and evaluation). Additionally, component 1 supports development of policies, frameworks, systems and guidelines that will facilitate delivery of serviced land and housing for low-income households.

Component 2: Enhancing tenure security. This component supports the scale-up of ongoing efforts to regularize tenure in informal settlements and include financing for: i) community organization and mobilization, ii) identification and demarcation of settlement boundaries, iii) preparation of Part Development Plans, and iv) issuance of letters of offer/allotment/title deeds to individuals/groups.

Component 3: Investing in infrastructure and service delivery. The component supports implementation of settlement upgrading plans developed at the community level, investment in settlement level infrastructure and where necessary, extension of trunk infrastructure to settlements.
Under this component, KISIP funds are likely to be invested in projects as follows:-

- Unpaved and paved foot paths, bike paths, roads and vending platforms;
- Street lighting;
- Storm water drainage infrastructure and maintenance equipment,
- Solid waste management and collection;
- Water supply and sanitation infrastructure;
- Electrification;
- Open spaces and public parks.

Appendix 1.1 provides a tentative list of Year 1 settlements.

Component 4: Planning for urban growth. This component supports planning and development of options that facilitate the delivery of infrastructure services, land, and housing for future urban population growth.

1.3 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. 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 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 Management Plans (EMPs) 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

1.4 Methodology used to develop this ESMF

1.4.1 The Study process

Development of the ESMF entailed tasks as follows:-

i) Desk review of available KISIP literature for preliminary analysis and later on validated in working sessions with staff of the KISIP and other core collaborators.
ii) On the ground consultations with county level stakeholders in Kisumu, Kakamega, Kericho, Naivasha, Nakuru, Eldoret, Garissa, Kitui, Machakos and Thika. The consultant also took advantage of the visits to collate views from diverse stakeholder groups –more so, those that are likely to be impacted by activities of KISIP. Given the deliberate bias of KISIP toward communities in informal settlements, attempts were made to interact with such groups in all towns visited.
iii) Consultations also covered the legal and policy issues relevant to the ESMF and RPF for all investments.
iv) As part of the study, potential environmental and social impacts associated with design and implementations of individual projects under the KISIP were identified through application of standard procedures.
v) Measures or interventions necessary to minimise, reduce, avoid or offset identified adverse impacts were then identified based on which, a generic Environmental Management Plan (EMP) for the programme was formulated as the core output of this ESMF.
vi) Monitoring requirements were identified to ensure compliance in implementation of the EMP interventions. This included an assessment of the capacity of diverse stakeholders to fully execute responsibilities in project implementation.

1.4.2 Finalization of the ESMF Process

Following this study process, a Draft ESMF was prepared for review by KISIP and the World Bank. The draft report was later disclosed to KISIP and County level stakeholders in two workshops held at Kilifi and Nakuru respectively. Further, and in line with World Bank requirement, the ESMF was disclosed

through local media following which, accruing were applied in preparation of the final output.

1.5 Application of the ESMF

This ESMF will apply to all components of KISIP:

a) Component 1: Adequate capacity for environmental and social safeguards must be built for KISIP teams at both national and county levels, as well as at settlement level within the bigger objective of institutional strengthening and capacity building for the project to deliver on its objectives. In addition, the implementation of the safeguard policies is a key results area that needs to be closely monitored.
b) Component 2: Planning and surveying of informal settlements for the purpose of tenure security must protect and enhance common environmental resources. Planning must provide for key environmental services. To achieve this, it may be necessary for the developed Physical Development Plans (PDPs) to be subject to Strategic Environmental Assessment (SEA) before they are implemented.
c) Component 3: All proposed infrastructure projects under KISIP will undergo some form of environmental and social assessment.
d) Component 4: Planning for urban growth will integrate environmental and social issues for sustainability.

1.6 Layout of this ESMF

This ESMF is presented in 8 Chapters as follows:-
Chapter One: Introduction
Chapter Two: Policy, Regulation and Institutional Framework
Chapter Three: Environmental Baseline Status
Chapter Four: Stakeholder Consultations
Chapter Five: Environment and Social Screening
Chapter Six: Analysis of Alternatives
Chapter Seven: Potential Environmental and Social Impacts
Chapter Eight: The Environmental Management Plan-EMP

An Annex containing all appendices and manuals to the ESMF has been issued as a standalone document.

CHAPTER TWO: 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.

2.1 The Policy Framework

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. GDP growth rose from 0.6% to 7% in 2007, but dropped to between 1.7% and 1.8% in 2008 and 2009 respectively. 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 will be achieved by bringing basic infrastructure and services—roads, street lights, water and sanitation facilities, storm water drains, footpaths, and others—to informal settlements. By strengthening tenure security in informal settlements, the KISIP will also foster private investment in housing and in businesses. The government's Medium-Term Plan 2008–2013, which presents the first 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 will directly contribute to this goal.

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 will 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.

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.

Millennium Development Goals (MDGs)
The KISIP project is in line with the MDGs. Goal No. 7, target 7d seeks to achieve significant improvement in lives of at least 100 million slum dwellers, by 2020.

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.

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.

2.2 Regulatory Framework for Environmental Management in Kenya

2.2.1 Constitutional provisions

Kenya now has a new Supreme law in form of the New Constitution which was promulgated on the 27th of August 2010 and which takes supremacy over all aspects of life and activity in the New Republic. 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.

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, utilisation, 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.

2.2.2 The Environment Management and Coordination Act (EMCA) 1999 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. 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.

County Government Act, 2012

The County Government Act, 2012 repealed the Local Government Act. It provides for the County governments' powers, functions and responsibilities. County governments consist of the county executive headed by the Governor, and the county Assemblies headed by the county speaker.

It 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. The Act equally provides for the protection of human health through prevention and guarding against introduction of infectious diseases into Kenya from outside, and to promote public health and the prevention, limitation or suppression of infectious, communicable or preventable diseases. 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, 2002

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 Act, 1996

It provides for the preparation of a physical development plan for the purpose of improving the land and providing for the proper physical development of such land, and securing suitable provision for transportation, public purposes, utilities and services, commercial, industrial, residential and recreational areas, including parks, open spaces and reserves and also the making of suitable provision for the use of land for building or any other purposes.

The Physical planning act provides for the control of development and use of land in particular areas, especially where a project may involve sub divisions or amalgamations of land parcels or located in an area otherwise reserved for other use.

The objective of this Act is to promote harmony, convenience, comfort and beauty in land use. Section 29 of the Act empowers local authorities to control all development activities so as to ensure conformity to approved planning standards.

Section 30 states that any person who carry out development without permission will be required to restore the land to its original conditions.

The Act also provides an environmental impact assessment for a project which is likely to have injurious impact on the environment. Such an EIA is approved by the National Environment Management Authority (NEMA).

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 forming Volume Two to this Report.

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.

2.2.3 Relevant International & Regional Conventions

Listed below are some of the international conventions that Kenya is a signatory to and which have bearing to the KISIP.

1) United Nations Convention on Biological Diversity (UNCBD)
2) Convention on Wetlands or Ramsar Convention
3) Indigenous and Tribal Peoples Convention
4) United Nations Convention to Combat Desertification
5) Montreal Protocol
6) Kyoto Protocol
7) Agenda 21
8) United Nations Convention on International Trade in Endangered Species-CITES

2.3 Requirements of the World Bank's Safeguard Policies

2.3.1 The safeguard Policies-SGPs:

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 include:

- OP 4.01 Environmental Assessment;
- OP 4.04 Natural Habitats;
- OP 4.09 Pest Management ;
- OP 4.11 Cultural Heritage;
- OP 4.12 Involuntary Resettlement;
- OP 4.10 Indigenous People;
- OP 4.36 Forests;
- OP 4.37 Safety of Dams;
- OP 7.50 Projects on International Waterways ;

- OP 7.60 Projects in Disputed Areas.

Of the 10 SGPs only OP 4.01 (Environmental Assessment) and OP 4.12 (Involuntary Resettlement) 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.

(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 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 (OP4.12)

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:

Possibilities of triggering other WB safeguards within KISIP are only either circumstantial or peripheral. It is not expected that any of the project activities will involve construction of dams OP 4.37 (Safety of Dams) is not triggered and neither are a people identified as Indigenous resident in the KISIP areas in which case, OP 4.10 is not applicable. For purposes of this ESMF a precautionary approach will be applied to OP 4.04 on Natural Habitats and OP 4.36 on Forestry in which case, all individual projects will be screened against both.

2.3.2 Alignment of WB and GOK Polices relevant to this ESMF

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.

2.3.3 Requirements for Public Disclosure

This revised ESMF will be disclosed in line with both Kenyan and WB requirements. It will be posted on the ministry of Land Housing and Urban Development website and publicly disclosed in the WB's Infoshop.

2.4 Institutional Framework in KISIP implementation

2.4.1 Participating Institutions:

KISIP enjoys institutional housing and jurisdiction as follows:-

Ministry of Lands, Housing and Urban Development (MoLHUD)

In the new organization of government functions after the 2013 General elections, and in line with the new Kenyan Constitution 2010, KISIP is under the expanded Ministry of Lands, Housing and Urban Development. Consequently, the three Urban development projects supported by the World Bank i.e. Kenya Informal settlements Improvement Project (KISIP), Kenya Municipal Program (KMP), and Nairobi Metropolitan Services Improvement Project (NaMSIP) are now under one Ministry.

The Principal Secretary, Ministry of Lands, Housing and urban Development, exercise general supervision of the project.

National Project Coordination Team (PCT)

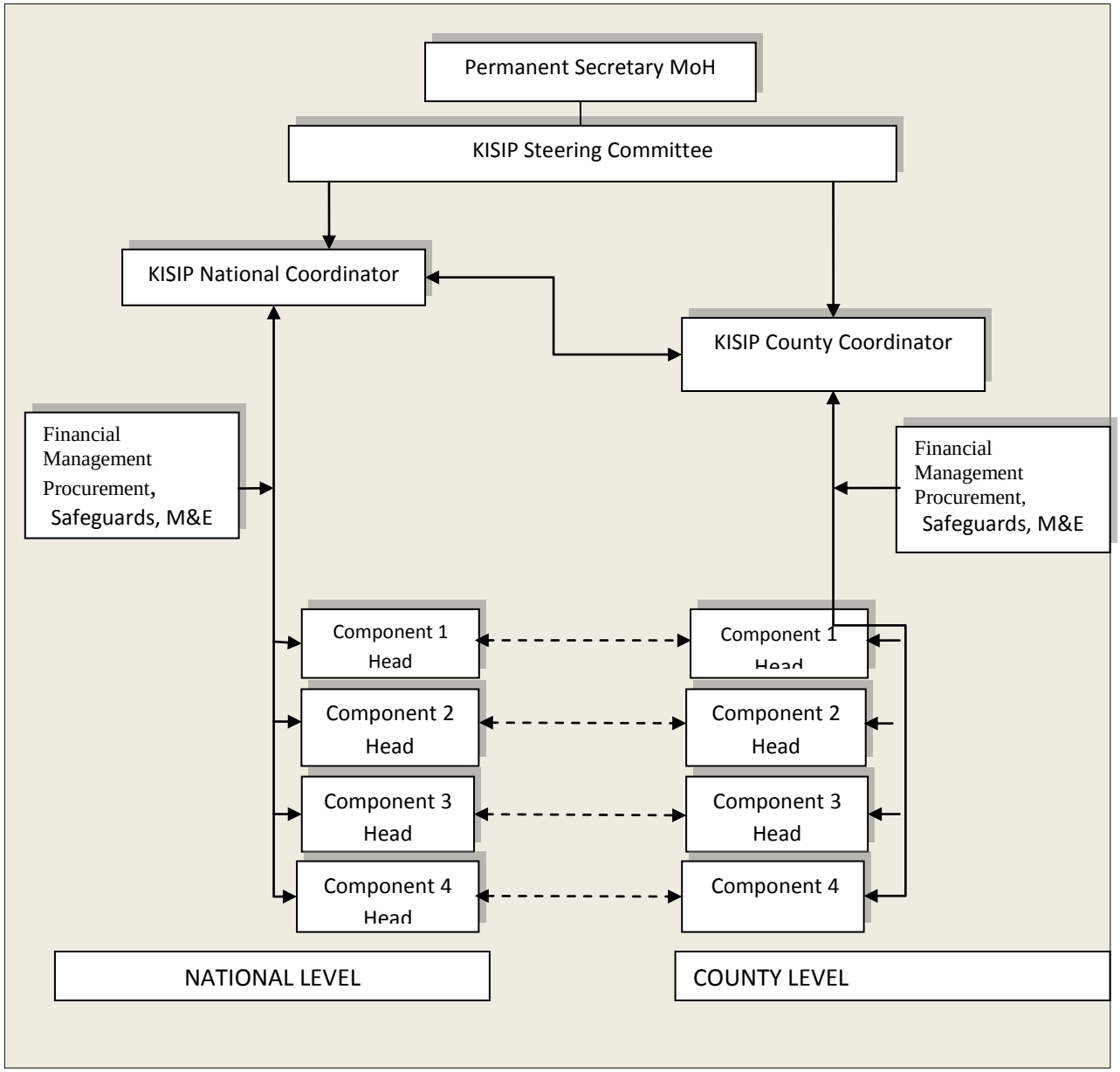
The day-to-day management and implementation of KISIP is carried out by a Project Coordination Team (PCT) under the leadership of the National Project Coordinator. The PCT is composed of diverse expertise in land administration and management, engineering, social and community development, monitoring

and evaluation, finance, procurement, institutional development, environment, infrastructure, urban development, and planning (Table 2.1).

Table 2.1: Composition of the KISIP Project Coordination Team (PCT)

No.	Title	Main tasks
PROGRAMME MANAGEMENT AND COORDINATION		
1	**Programme Coordinator**	Overall project management
2	**Finance Head**	Financial management
3	**Procurement Specialist**	Procurement and stores management
4	**Monitoring and Evaluation**	Project management, monitoring and evaluation
5	**Environmental Specialist**	Mainstreaming environmental issues in the programme to minimize adverse effects
6	**Social and Community Development**	Community and social issues
COMPONENT MANAGERS		
7	**Head of Component 1: Institutional Development**	Responsible for implementation of Component 1
8	**Head of Component 2: Tenure Security**	Responsible for implementation of Component 2
9	**Head of Component 3: Infrastructure**	Responsible for implementation of Component 3
10	**Head of Component 4: Planning for pro-poor growth**	Responsible for implementation of Component 4

Figure 2.1: Organogram of KISIP implementation arrangements



Key in the implementation of this ESMF are Environment and Social and community specialists. The environmental specialist will address matters pertaining to training and capacity building; regulatory clearances; integration of the Environmental and Social Management Framework (ESMF) into project design and contract documents; preparation of ToRs for studies (such as for EIA and SIA, as and if required); coordination with the participating counties and; over-all monitoring and supervision of environmental activities in the project.

Similarly, at the local level, each County will designate an environment officer to coordinate and provide inputs on environment management pertaining to investments in their jurisdiction, especially on construction management. These officers will also assist in data collection and documentation management on environmental aspects, as inputs in the monitoring and evaluation system of the project. The officer will supervise the day-to-day implementation of the works in accordance with environmental, health and safety management provisions set out in the respective contracts. The contractor will be responsible for planning, executing and coordinating the implementation of the ESMF provisions as laid out in the contract documents.

The Community Development specialist at the PCT level will coordinate community participation in the project including formation and capacity building of settlement Executive Committees (SECs). The officer will coordinate capacity building, leadership and groups' dynamics, conflict resolution, environmental management at community level in collaboration with Community development officers at the County level.

The County Governments

The County Governments are created in Chapter Eleven of the Constitution with powers, functions and responsibilities to deliver services provided for in the County Governments Act, 2012. Each county participating in KISIP has to constitute a Project Coordination Team (PCT) which is a replica of the PCT at the National level to facilitate project implementation at the county level. The PCT is led by the County KISIP Coordinator. The National and county governments will collaborate in the implementation of KISIP through the respective PCTs. Moreover, the maintenance of the proposed infrastructure will largely lie within the mandate of the County Governments.

Other Relevant Institutions

Other institutions involved as stakeholders in this project include:

a) **Kenya Urban Roads Authority (KURA).** The mandate of KURA as defined in the Kenya Roads Act, 2007 is the management, development, rehabilitation and maintenance of all public roads in the cities and municipalities in Kenya except where those roads are national roads. KURA is hence responsible for the main city trunk roads and settlement level unclassified road networks. The settlements' roads fall under KURA.

b) **Kenya National Highways Authority (KeNHA).** KeNHA mandate is defined in the Kenya Roads Act, 2007 with the responsibility for management, development, rehabilitation and maintenance of national roads (Class A, B, & C roads).

c) **Kenya Power**- this is responsible for the transmission, distribution and retail of electricity in the country. This will be a key stakeholder in the

implementation of the street lighting and high mast security lights in the settlements.

d) **Community Based Organizations (CBO).** The CBOs already play a role in the settlements through various initiatives aimed at improving the livelihoods of the residents. The SEC members include representatives from the existing CBOs in the settlements or the wider area.

e) **Water Service Boards**: Under the Water Act 2002, responsible for provision of water services in their areas of jurisdiction.

2.5 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. Requirements of the GOK statutes deemed relevant to KISIP are briefly highlighted in sections below.

CHAPTER THREE: ENVIRONMENTAL AND SOCIAL BASELINE

3.1 Geographical Scope of the KISIP

The KISIP is partnering with 14 counties (initially working in 15 towns with Nakuru County the only one with two towns of Nakuru and Naivasha). After mid-term review of the project, the 14 counties are now at liberty to include informal settlements in other towns in their jurisdiction provided they meet the specified criteria. With this amendment, KISIP is likely to be working in more than the current 15 towns and cities. The counties 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.

3.2 Physical and Climatic Baseline

Table 3.1 provides the bio-physical baseline data for the 15 urban areas and cities, while Figure 3.1 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 Mau and Aberdare ranges 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 3.1: Baseline climatic data for the KISIP municipalities

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
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

Town/City	Altitude[m]	Rainfall [mm]	TEMP (oC)	Eo(mm)	P/Eo	Climate Designation
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

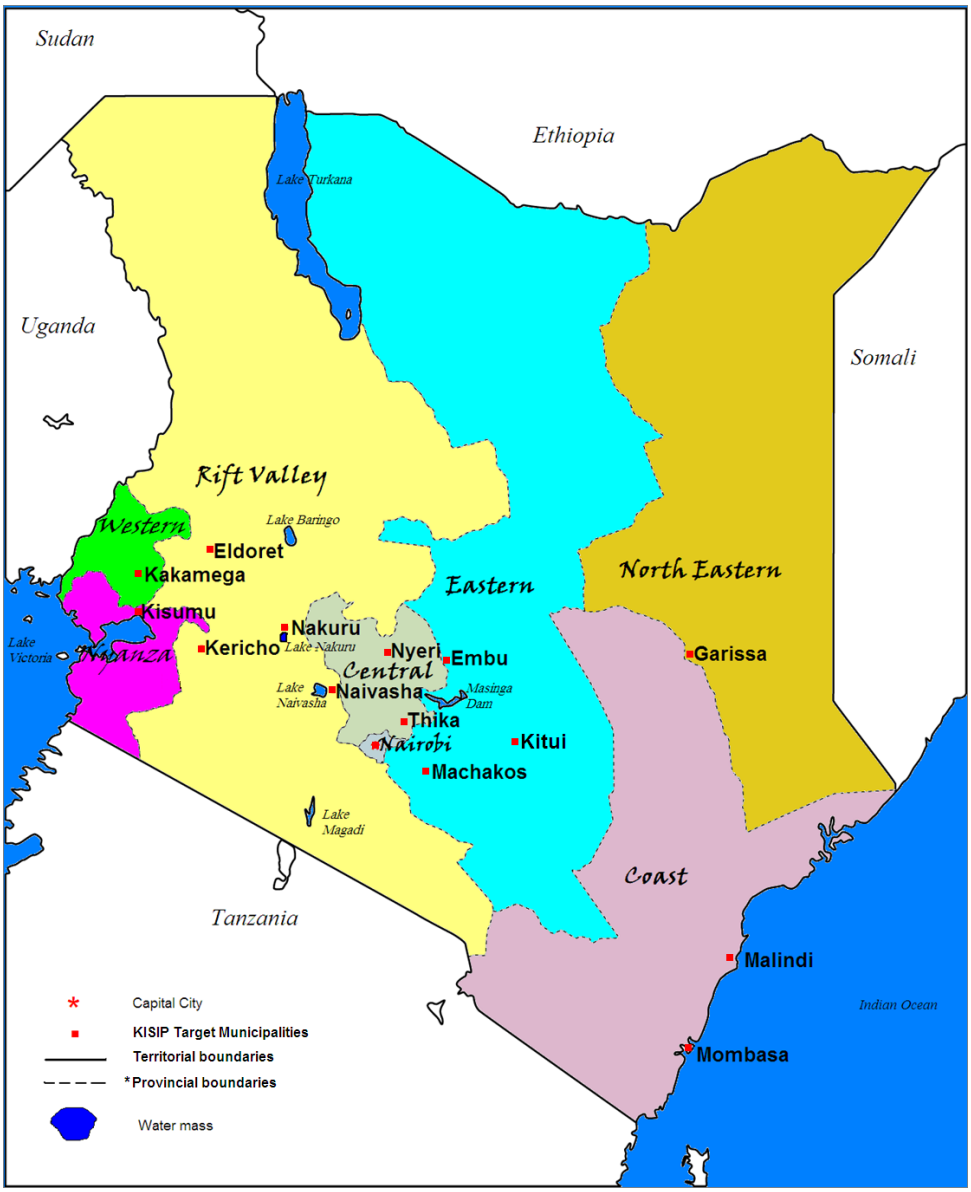
Soil resources: Soil resources are largely a function of the local geology; climatic regime and drainage (see

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 3.2: Features of soil resources in the KISIP focal areas

No.	Town/City	Geology	Climatic regime	Drainage	Soil type
1	Thika	Volcanic	Semi humid	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	Sediment ary	Humid	Poor	Sandy loams
7	Malindi	Sediment ary	Semi-humid	Poor	Sandy loams
8	Embu	Volcanic	Humid	Good	Clay loams
9	Kitui	Basement	Semi-arid	Good	Sandy clay loams

No.	**Town/City**	**Geology**	**Climatic regime**	**Drainage**	**Soil type**
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

Figure 3.1: Distribution of KISIP Towns and Cities

Protected areas/ resources: A list of ecologically sensitive resources so far identified within the KISIP focal area is given in Table 3.3 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 3.3: List of ecologically sensitive areas under KISIP Towns and Municipalities

	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 2002
		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
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 1999
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 2005
		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	Water Act 2002,

	Municipality	**Protected Natural / Ecological Resources**	**Relevant GOK statute under which resource is protected**
		Lake water exploited for horticulture. Local ground water overexploited for irrigated agriculture.	RAMSAR Site
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 2002 Forests Act 2005
10	Kitui	Kitui Town has a plistine 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	Wildlife Management and Conservation Act

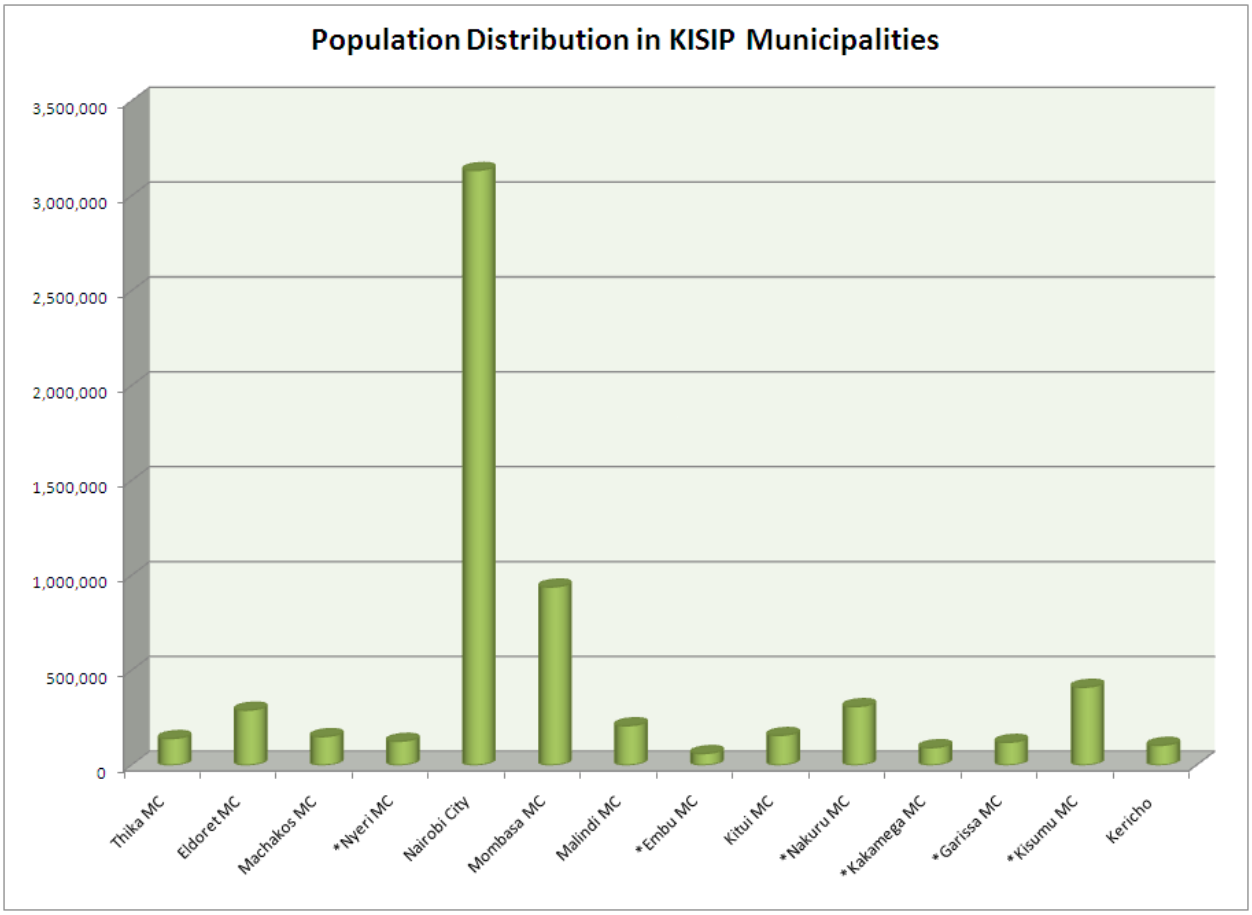
	Municipality	**Protected Natural / Ecological Resources**	**Relevant GOK statute under which resource is protected**
		park suffers contamination by solid and liquid effluent from the town and its industrial area.	
12	Kakamega	Masinde Muliro Gardens located in the Center of Kakmega is protected under 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.	
14	Kisumu	Lake Victoria shoreline The Impala Park	Water Act, Nile Treaty, RAMSAR Site Wildlife management and conservation Act
		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.	

3.3 The Socio-Economic Baseline

Table 3.4 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: Based on data from the 2009 population census, the population of KISIP municipalities has been analysed (table below) with Nairobi easily leading with over 2 million people while Mombasa comes a very distant second with 665,000 people. Figure 3.2 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.



Source: KNBS

Figure 3.2: Population of Towns/Cities

Other socio-economic data are provided in

Table 3.4 below.

Table 3.4: Basic socio-economic features of the KISIP Focal Area

No.	Town/ City	2009 Population	Unique features
1	Thika	139,853	Thika is Kenya's Industrial Town situated at the confluence of both Thika and Chania rivers. It enjoys the benefit of a flat topography and situation in between open grasslands and large-scale coffee estates all of which avail extensive opportunities for expansion. 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 extensive diverted to supply commercial agriculture and the city of Nairobi. Thika has one huge slum- Kiandutu situated next to the Industrial area.
2	Eldoret	289,380	Though not a provincial capital, Eldoret town located in the Uasin Gishu Plateau 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	150,041	Machakos Town is situated about 40 km from Nairobi in a depression surrounded by heavily settled Hill Masses. 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. It suffers problems of waste disposal and has a huge traffic congestion problem.
4	*Nyeri	125,357	This administrative capital of Central province 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.

No.	Town/ City	2009 Population	Unique features
5	Nairobi	3,133,518	Kenya's Capital City is situated at the transition between the Kapiti Plateau and S. Eastern slopes of Aberdares. Nairobi is 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	181,966	Located at the Rift Valley about 90km form 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	938,131	Mombasa is Kenya's second largest town and 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 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.

No.	Town/ City	2009 Population	Unique features
			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	207,253	Like Mombasa, Malindi is a coastal town situated in North coast. Malindi boasts of numerous cultural heritage sites including the Malindi Museum which alongside a well established Swahili Culture account for a thriving tourist trade. Malindi suffers inadequate drainage, traffic congestion, lack of sewage system and an escalating solid waste menace.
9	*Embu	60,673	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	155,896	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	307,990	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	91,768	This administrative capital for Western province is devoid of large scale industries on account of

No.	Town/ City	2009 Population	Unique features
			which, 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 terminus.
13	*Garissa	119,696	Garrisa combines the dual roles of administrative capital for NE-Province 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	409,928	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	103,911	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 have been administrative capitals for the provinces which have since been abolished under the Kenya Constitution, 2010.

CHAPTER FOUR: STAKEHOLDER CONSULTATIONS

4.1 Overview

Formulation of the ESMF and its revision has drawn heavily on information and efforts of diverse stakeholders who were consulted as part of the field work or whose documented inputs were reviewed and used to shape this document. In sections below, an account of the stakeholders whose input has shaped this ESMF is highlighted. A summary of documents consulted as part of this ESMF will be available within the KISIP PCU.

Selection of stakeholders for consultation was based on three criteria namely;-

- Participation in the KISIP either at Ministry or County level,
- Residents of informal settlements targeted by KISIP
- KISIP stakeholders – government departments and agencies, Non-governmental Organizations (NGOs), Community Based Organizations (CBOs), Faith Based Organizations (FBOs) etc.

4.2 Direct Consultations

Direct consultations were held at three levels namely:-

KISIP Level Consultations: The ESMF Team held several meetings with the KISIP PCT through which the Team was able to access available data project planning, Institutional arrangements, tentative settlements and investments etc all of which served to define the scope and thinking behind the KISIP. The team also participated in the technical coordination meeting of 31st August 2010 that brought together staff of the MoH and World Bank.

County Level Consultations: Consultations were extended to Kisumu, Kakamega, Kericho, Naivasha, Nakuru, Eldoret, Garissa, Kitui, Machakos and Thika where meetings were held with chief officers. The ESMF Team took advantage of such consultations to better understand the local priority settlements, their selection process and criteria and, availability of capacity for management of the social and environmental mitigation process. During discussions and visits to target settlements, the ESMF Team was able to gauge the viability of such projects and could also perceive the scope and diversity of potential social and environmental impacts anticipated from proposed investments. Indeed, it is from such visits that some of the potential triggers to WB safeguards and local statutes were either confirmed or ruled out.

Consultations with residents in informal settlements: Alongside consultations within counties, contacts were made with residents of KISIP-targeted informal settlements who were subsequently engaged in discussions focusing on their origin, composition, organization dynamics, awareness of KISIP, their concerns and wishes etc. Where possible, memos were also received from the residents so consulted. Concerns and observations accruing

from this process are documented in Appendix 4.1 below while Appendix 4.2 below presents a list of institutions visited and people talked to.

The Stakeholders' workshop to discuss the ESMF/ RPF: In line with programmed project planning process, the ESMF/RPF Team attended two workshops during which draft outputs were shared and critiqued. Highlights of the workshops are presented below:-

a) The first consultative workshop was held on the 30th September 2010 at the north coast in Kilifi County. The consultant used this opportunity to sensitize workshop participants on the requirements and modalities of ESMF and RPF by the World Bank as well as making comparisons with the local legal requirements. The audience in this meeting included KISIP Staff, KMP officials, Civil Society, etc.

b) A second consultative workshop was held on the 28th October 2010 in Nakuru and attended by Senior Staff of the then Ministry of Housing, Senior staff representing 13 KISIP towns, KISIP PCU, World Bank Safeguard team, the Consultant's personnel and FBOs.

Lists of attendance to the Kilifi and Nakuru workshops are provided in Appendix 4.3 while proceedings of the Nakuru workshop are found in Appendix 4.4. Appendix 4.5 provides a pictorial presentation of the stakeholder consultations.

4.3 Outcome of the Stakeholder Consultation Process

4.3.1 Reaction from counties:

The full record of concerns and observations from stakeholder consultations and issues that emerged during the visit to the KISIP towns is presented in Appendix 4.1 below. On the ground consultations revealed that KISIP staff had visited towns and jointly identified settlements and investments for possible consideration under the project based on which, the tentative list of Year 1 projects had been prepared. The selection process was however far from conclusive. Based on observations on tentative Year 1 projects identified by the projects identified to the Consultant by Chief Officers of respective Counties, this study was able to gauge the level of potential social and environmental impacts of project implementation. The same observations have influenced the generic Environmental Management Plan presented in sections below.

4.3.2 Reaction from residents of Informal Settlements

Reactions from stakeholders talked to were diverse but all were similar in the concern for their properties, livelihoods and even dwellings in case of displacement. Those that have encroached on way-leaves were also aware of

their temporary stay and were ready to move on notice. The exception to this is the Makaburini Group in Kakamega who have settled on a cemetery compound and have resulted to court action to block any attempts to move them. Relocation issues will therefore require to be handled on merit within options provided for in the RPF.

4.3.3 Outcome of the Kilifi workshop:

Core issues raised at Kilifi were as follows:-

a) *Land tenure:* It was clarified that the displacements/relocations would be minimal given the scale of the projects. Compensations will be based on value of investments in question.
b) *Possible influx of speculators in the slums:* Given that one of the objectives of KISIP is to regularise security of tenure, there were concerns that there would be a likelihood of influx of speculators hoping to get land from the government. Speculators will however be deterred by mobilization of Community Policing and declaration of the cut-off date. The issue of landlords and tenants will be handled during the regularization of tenure and compensations will be in line with the RPF.
c) *Feasibility and EIA studies:* There was concern on who is to meet the cost of feasibility studies. As well, it was clarified that the scope of an EIA can be applied to several projects so long as they fall in the same area, and the studies are comprehensive enough to cover all issues. The EIA studies will be the responsibility of the Ministry of Lands, Housing and Urban Development.
d) *Solid waste management:* Guidelines for solid waste management at community level will be provided in the EMPs.
e) *Flooding:* As noted during the field visits, a number of areas are prone to flooding and indeed do flood during the rainy seasons. As part of the KISIPs investment menu, this will be mitigated through development of storm water drainage system for the affected areas.
f) *Existing infrastructure:* There is always a risk of damaging existing infrastructure like electric power lines, water systems and sewer systems when new projects are being implemented. However, these will be mitigated by notifying the contractors on existence of such facilities and issuance of guidelines on mitigation measures to prevent damages. Relocation of services will also be provided for in the BoQs where some services will have to be moved in the course of construction works.

4.3.4 Outcome of the Nakuru workshop

Draft versions of the ESMF and RPF were disclosed to both the Ministry of Housing, KISIP PCU including staff of the Ministry of Lands, Key staff from Municipalities and other stakeholders in the presence of the World Bank mission (Safeguards Team) which was visiting the country then. The Consultant received very useful comments from both participants and the

Safeguards Team and the same have greatly shaped the final version of this Framework. In particular, the Nakuru workshop clarified the fundamental difference between KMP and KISIP in that, while the former targets city-level capital infrastructure projects, the latter targets small scale, community level projects aimed at helping informal settlements enjoy better quality live. This was the core message from Nakuru and the same has had drastic influence on the focus of both the ESMF and RPF. Consequent to this observation, this ESMF requires that as part of the EIA process, community groups be mobilised to develop their own versions of EMPs which will harmonize with the outcome of the EIA study.

From the Nakuru workshop, it became apparent that many County Level stakeholders lacked vital information regarding implementation modalities for the KISIP. It was henceforth agreed that modalities for bridging this gap will be explored.

CHAPTER FIVE: ENVIRONMENT AND SOCIAL SCREENING FOR KISIP PROJECTS

5.1 Overview

Towards in building better Environmental and Social Management within KISIP, this ESMF requires that all potential projects be screened for social and environmental impacts. It is screening that will determine the requisite environmental and social assessment from which EMPs and RAPs for individual projects will be developed. Screening will be undertaken during conceptual design of the projects before the preparation of Settlement Upgrading Plans (SUPs) and detailed designs.

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 the required environmental and social assessment required to mitigate against the likely impacts. This ensures that the proposed projects undergo the right level of assessment 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.

The systematic approach to screening is outlined in sections below.

5.2 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.

Table 5.1 below provides the pre-EIA Screening Checklist developed for KISIP. Screening will proceed as follows;-

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 safe considerable time for proponents. This analysis is undertaken by the Consultant and approved by KISIP at county level first and then the KISIP PCT.

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 lead expert and approved by NEMA.

Table 5.1: Project/Site Screening Worksheet[1]

Criteria	**Yes/No**	**Comments**	**Other GoK/ WB Policies applicable**	**Recommended scale of Environmental Assessment**
Part A: Triggers to EMCA				
Applicability of Second Schedule of EMCA				
Part B: Details of Site location	**Yes/No**	**Description**	**GoK/ WB Policies applicable**	**Proposed Mitigations or Enhancements**
• Is the site or proposed investment 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	If yes, provide distance			
• Are there vulnerable or endangered species (terrestrial or aquatic) in the area?				
• Are there natural habitats in the site? Or in its proximity				
• If there are natural habitats, are they fragile, unique, limited in size? Are these world heritage / Ramsar sites				

[1] To be completed for each proposed project

Criteria	**Yes/No**	**Comments**	**Other GoK/ WB Policies applicable**	**Recommended scale of Environmental Assessment**
• Are there wetlands, areas of saturated soils (permanent or temporary), or evidence of ponding (cracks, high clay content in soils, dead vegetation, water marks)?				
• Is the site already degraded (low groundwater, poor soil quality)?				
• Are there steep slopes in the proximity of the investment site?				
• Do people live on the proposed site?				
• List existing land uses (ranching, farming)?				
• Is there existing site access (roads)?				
• Is the site vulnerable to natural hazards (in floodplain, near volcano, on seismic fault, near coastline in hurricane zone)?				
• Are there land title conflicts?				
• Are there known archaeological, historical or other cultural property? Are any of these world heritage/ UNESCO designated etc				
• Do indigenous peoples live on or near the site?				
Part C: Analysis of likely physical Impacts				
(i) Scope of proposed activities				
Will the investment generate an increase in solid wastes or machine wastes (oil, etc)?				
(ii) Water Resource Impacts				
Could the investment result in a modification of groundwater levels by altering flows, paving surfaces or increasing water extraction?				
Could it affect groundwater quality?				
Could it affect quality (through sediment, wastewater, storm discharge or solid waste) of nearby surface waters (lake,				

Criteria	Yes/No	Comments	Other GoK/ WB Policies applicable	Recommended scale of Environmental Assessment
rivers, streams)?				
Will it affect water quantity in nearby water bodies (lake, river, stream)?				
Are there nearby potable water sources that need to be protected?				
(iii) Ecosystem Impacts				
Could the investment affect natural habitats or areas of high ecological value?				
Could it affect natural characteristics of adjacent or nearby sites?				
Could it affect wildlife or natural vegetation?				
(iv) Drainage Impacts				
Will the investment in storm water drainage affect existing drainage patterns?				
Will it cause standing water, which could cause public health risks?				
Will erosion result in sediment discharge to nearby water bodies?				
Will surface drainage patterns be affected in borrow pits and quarries?				
Will infiltration patterns be affected?				
Socio-economic impacts				
Will the project entail resettlement of population?				
Will the project affect indigenous peoples?				
Will it limit access to natural resources to local populations?				
Will it have an impact on land use?				
Will it induce further encroachment of nearby areas?				
Will it cause any health impacts?				
Will it disturb nearby communities during construction?				
Could cultural resources be affected?				

Criteria	**Yes/No**	**Comments**	**Other GoK/ WB Policies applicable**	**Recommended scale of Environmental Assessment**
Could it affect nearby properties?				

Part D Analysis of Resettlement Impacts			
Criteria	**Yes**	**No**	**Remarks/identified problems**
Acquisition of private land?			
Alienation of any type of government land including that owned by urban local body?			
Clearance of encroachment from government/ urban local body land?			
Clearance of squatting from Government/Urban local body?			
Number of structures, both authorized and/or unauthorized to be acquired/cleared?			
Number of household to be displaced?			
Details of village common properties to be alienated, Pasture land(acres)cremation /burial ground and others specify?			
Describe existing land uses on and around the project area(e.g Community facilities, agriculture, tourism, private property)?			
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) ?			
Are financial compensation measures expected to be needed?			
Loss of Crops, fruit, household infrastructure and livelihood			
Criteria	**Yes**	**No**	**Remarks/identified problems**
Will the project result in the permanent or temporary loss of			
• Crops?			
• Fruit trees/coconut palms? Specify with numbers			
• Household infrastructure? Specify with numbers			
• Loss of agriculture land? specify with numbers			
Occupational health and safety, welfare , employment and gender			
Criteria	**Yes**	**No**	**Remarks/identified problems**
Is the project likely to provide local employment opportunities, including employment opportunities for women?			
Is the project being planned with sufficient			

attention to local poverty alleviation objectives?			
Is the project being designed with sufficient local participation of women in the planning design and implementation process?			
Historical, Archaeological, or cultural Heritage sites			
Criteria	**Yes**	**No**	**Remarks/identified problems**
Based on available sources, consultation with local Authorities, local knowledge and/ or observation could the project alter?			
Historical heritage site(s) or require excavation near the same?			
Archaeological heritage site(s) or require excavation near the same?			
Cultural heritage site(s) or require excavation near the same			
Graves or sacred locations or require excavation near the same?			
Part D (i) : Result/Outcome of Environmental/ Social and Resettlement Screening Exercise			
No Environment Impact Assessment Required			
Environment Impact Assessment Required			
OP4.12 category (S1, S2, S3)			
RAP category required			
Any special conditions			
Part E : Authorisation			
Screening undertaken by : …… Designation……		Signature…… Date……	
Approved by: …… Designation……		Signature…… Date……	
PMU Confirmation by: …… Designation……		Signature…… Date……	

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

(i) 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.

(ii) 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.

5.3 Statutory EIA Process in Kenya:

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.

As stated elsewhere above, all environmental assessment for KISIP projects will be undertaken by NEMA -approved experts or firm of experts.

Investigations towards preparation of Project Reports: Screening of KISIP investments will be guided by Regulation 6, 7 and 8 of Legal Notice 101 (of EMCA) which requires that a Project Report be prepared for review by NEMA. Section 6 of Part 1 of the Legal Notice 101 defines the focus and scope of Project Report as follows: - *"An application for an Environmental Impact Assessment Licence 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"*.

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.

Development of project reports follows systematic process as follows;-

- Review of TORs for adequacy
- Familiarization with project design
- Familiarization with projects area of influence
- Identification of the relevant statutes and WB SGPs
- Determination/ Identification of all stakeholders to project
- On the ground investigations of the bio-physical baseline
- Consultations with stakeholders
- Impact prediction and interpretation

- Identification of mitigation measures
- Development of an Environmental management plan complete with budget and identification of responsibilities
- Finalization of project report (see below)

Statutory content of Project Reports :

Regulation 7(1) of Legal Notice 101 stipulates content of Project Reports to include the following;-

i. The nature of the project;
ii. The Division of the project including the physical area that may be affected by the project's activities;
iii. The activities that shall be undertaken during the project construction, operation and decommissioning phases;
iv. The design of the project;
v. The materials to be used, products, by-products, including waste to be generated by the project and the methods of disposal;
vi. The potential environmental impacts of the project and the mitigation measures to be taken during and after implementation;
vii. An action plan for the prevention and management of possible accidents during the project cycle;
viii. A plan to ensure the health and safety of the workers and neighbouring communities;
ix. The economic and socio-cultural impacts to the local community and the nation in general;
x. The project budget;
xi. Any other information that the Authority may require.

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.

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.

5.4 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

(i) 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.

(j) (ii) 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.

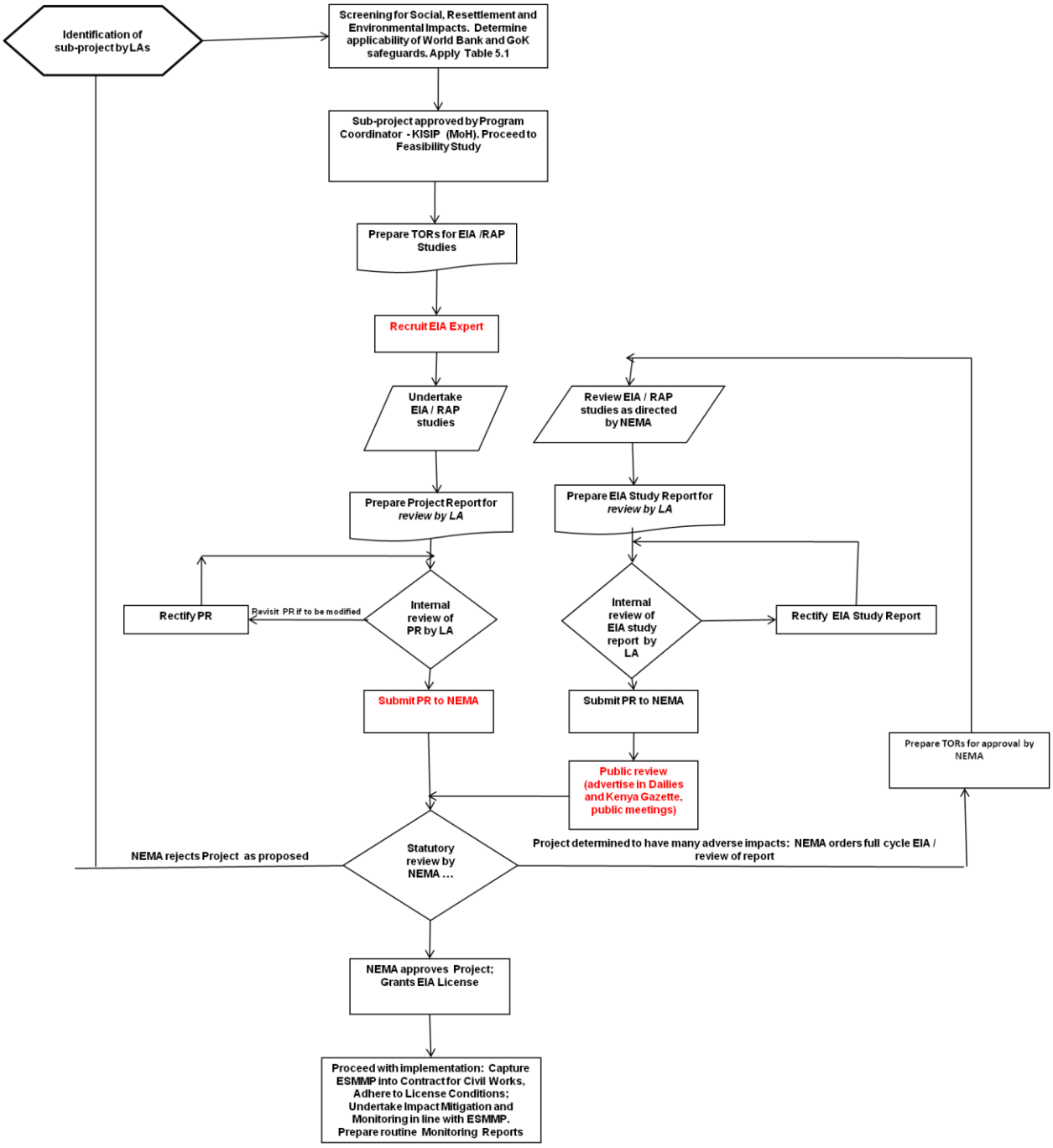


Figure 5.1: Schematic presentation of the Environmental and Social Screening process within the KISIP*

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

5.5 Core outcome of the EIA Process in Kenya

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

5.6 Expected outputs of the EIS process for KISIP projects

Regardless of the stage at which environmental licensing is concluded, screening must develop an Environmental Management Plan (EMP) 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 EMP 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 EIA process will develop an EMP for respective projects. Each EMP 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 impacts (including those involving indigenous people or involuntary resettlement);
- 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 EMP 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.

5.7 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 SIX: ANALYSIS OF ALTERNATIVES

6.1: 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. The outcome is outlined in sections below.

6.2: The Selection of KISIP Towns and Cities

The selection of KISIP counties (towns and cities) was based on criteria explained in section Section 1.2 above where the requirement for participation in KISIP was to qualify and participate in the KMP. Overriding criteria for municipalities to participate in the KMP included: - budget performance, revenue performance, debt status and population size.

6.3: Criteria for Prioritizing Informal Settlements for KISIP support

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.

6.4: 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 where by **s**election 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.

6.5: 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 EIA 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.

HAPTER SEVEN: POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

7.1: 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 section 7.3 below.

7.2: Broad impacts 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 EMP that is outlined in sections below.

Table 7.1: General impacts of KISIP Design

Screening level	Narrative	Potential impact	Persistence
Project goal	Improve quality of life in informal settlements	Highly positive and will contribute to national	Measures required to secure long-

		development goals	term effects
Intervention One	Institutional strengthening/development and programme management	Highly positive with multiple benefits	Measures required to secure long-term sustainability
Intervention Two	Enhancing security of tenure	Highly positive with multiple benefits	Measures required to secure long-term sustainability
Intervention Three	Investing in settlement restructuring and infrastructure	Mixed impacts	Measures required to secure long term sustainability
Intervention Four	Planning for growth – Supporting delivery of affordable housing and serviced land	Highly positive with multiple benefits	Measures required to secure long term sustainability

7.3: Impacts from KISIP Interventions

7.3.1: Background to impact assessment:

In this section, potential impacts of investments anticipated under Component Three of KISIP 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.

7.3.3: 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 analyzed 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 the KISIP is presented in summary form in Table 7.1 below followed by brief descriptions under relevant headings.

Table 7.1: 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	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/ dampos	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	N	Long-term

Community concern	**Proposed intervention**	**Likely impacts /hazards from intervention**	**Impact category and scale**	**Persistence**
		poor maintenance /management		
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 from open canals	N	Long-term
		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	Implement Municipal	Elimination of nuisances	P	Can be long-term

Community concern	**Proposed intervention**	**Likely impacts /hazards from intervention**	**Impact category and scale**	**Persistence**
animals	bylaws	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

7.3.4: Observed trends in impact presentation

From the generic matrix for impact analysis (Table 7.2 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 occasional 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 s will require extensive mobilisation and capacity building for target beneficiaries.

7.3.5: Category of adverse impacts

The generic matrix for Impact prediction identifies 3 categories of impacts namely:

i) Positive impacts from proposed investment

ii) Adverse impacts from construction activity

iii) Adverse impacts during operation phase of commissioned projects

Brief highlights on both impact categories are provided in sections below;-

(i) 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.

(ii) Adverse impacts from construction activity

The section below discuses 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.

- **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.

- **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.

- **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.

(iii) 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:-

- **I**mprovement 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.

7.3.6: Preferred approach to mitigation

The bulk of adverse impacts is likely to manifest during the operation phase and are mainly associated with non-maintenance of the projects. Thus, even as mitigation strategies are outlined in chapter eight below, this ESMF apportions the greatest responsibility of mitigation to the target communities. Thus, unlike the standard approach to other ESMF studies, the environmental management tool proposed for KISIP is an Environmental Management Plan. This is unveiled in Chapter Eight below.

CHAPTER EIGHT: THE ENVIRONMENTAL MANAGEMENT PLAN-EMP

8.1 Overview

This chapter outlines the generic Environmental Management Plan (EMP) proposed for KISIP. The EMP comprises of four core elements namely;- the proposed mitigation measures (unveiled in tables 8.1 and 8.2 below , the Monitoring Plans in tables 8.3 and 8.4, a budget for implementation in table 8.5 and modalities for institution coordination and role play as summarised in table 8.6 below. The Generic EMP unveiled in this chapter provides an overview of potential impacts of KISIP projects and approaches to their mitigation. However, specific EMPs will require to be prepared for individual projects as the core output of the EIA process. Thereafter, respective communities assisted by counties will take charge of implementation of the EMPs either through co-supervising activities of contractors or undertaking actual management of commissioned projects.

8.2 Approaches to impact mitigation in KISIP

8.2.1: Focus of impact mitigation

Proposed mitigation of impacts anticipated from KISIP projects is outlined in Tables 8.1 and 8.2 below to address two categories of impacts namely:-

- General Impacts of construction which are common to all civil works;
- Impacts which manifest at the operation phase only

Brief comments on are provided under respective heading below.

8.2.2: 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 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 the outlined in the Resettlement Policy Framework document prepared as Volume Two to this ESMF. 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.

Mitigation of other construction phase impacts:

Other construction phase impacts will be mitigated as part of construction activity in line with Table 8.1. 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 LAs will mount sensitisation campaigns on likely concerns including HIV and AIDs, drug abuse, etc. Appendix 8.1 provides a full schedule of requirements in respect to contractors' obligation in impact mitigation.

8.2.3: Mitigation of operation phase impacts

Table 8.2 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 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. Modalities for community mobilisation are outlined in section 8.2 below.

Table 8.1: 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	Influx of speculative	Apply fair play with priority going to	O

Project	**Activity/Task**	**Primary Impact**	**Recommended Mitigation**	**Impact after mitigation**
	intensive projects	job seekers	locals	
	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	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
	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,	Hazards of fire outbreak, oil	Follow specifications of	N

Project	Activity/Task	Primary Impact	Recommended Mitigation	Impact after mitigation
	lubricants, chemicals and flammable materials	and chemical spills.	the Occupational Health and Safety Act, EMCA 1999 and others in the development and operation of stores.	
	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.	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

8.2.4: 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 with supervision at both Municipal and KISIP Coordination Office level. 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 EMP (Tables 8.3 and 8.4) will form part of the Contract for construction to ensure that contractors are bound to undertake impact mitigation. Modalities for in-building IMPs into contract documents are provided in Appendix 8.2 below.

(iii) Budgets for EMP 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 BOQs. Thus, once EIA Studies are completed and respective EMP 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

Table 8.2: Mitigation of impacts at operation phase

Community concern	Proposed intervention	Likely impacts /hazards from intervention	Impact category and scale	Mitigation plan	Impact category after mitigation
Insecurity	Installation of security	Possible theft of accessories	N	Community policing	O

Community concern	Proposed intervention	Likely impacts /hazards from intervention	Impact category and scale	Mitigation plan	Impact category after mitigation
	lighting				
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 community based policing RAP	O
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

Community concern	**Proposed intervention**	**Likely impacts /hazards from intervention**	**Impact category and scale**	**Mitigation plan**	**Impact category after mitigation**
Inadequate management of solid waste	Community-based waste management based on centralised receptacles/ dampos	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	
		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

Community concern	Proposed intervention	Likely impacts /hazards from intervention	Impact category and scale	Mitigation plan	Impact category after mitigation
Exposure to fire hazard	Participatory decongestion programme including provision of access roads	Secondary loss of reclaimed land	N	Community policing	O
		Public antagonism and discord	N	Capacity building through sensitisation	O
	Need to extend water supply and install supply points (Hose points)				

8.2.4: 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.

8.3: The Monitoring Plan

8.3.1: General features

Components of the monitoring plan have been inbuilt onto proposed mitigation measures to complete the EMP for KISIP as presented in Tables 8.3 and 8.4. 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. The purpose of the Monitoring Plan which now completes the EMP (tables 8.3 and 8.4) is to provide insight into the future monitoring for KISIP projects. At the EIA stage however an EMP will be prepared for each individual project.

8.3.2: Levels of Monitoring the EMP

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-EIA Screening
- Management of the EIA Stage to develop the EMP
- Application of the EMP in routine monitoring
- Overseeing statutory Annual Environmental auditing

Ministry Level: The specialist at MoLHUD 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 Donor Consortium under coordination of the World Bank. Both internal and external monitoring will be guided by the EMP outlined in Tables 8.3 and 8.4 below 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 EMP 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 EMP 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.

8.3.3: Periodic review of the EMP:

Based on information accruing from all monitoring, the efficacy of the EMP will be reviewed and updated accordingly. The observation here is that, the EMP will be updated periodically by KISIP and counties after Monitoring Missions. Thus by updating the EMPs, this ESMF will also undergo review but at localised level only.

Table 8.3: 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	Clauses in contracts
		Sanitation concerns for construction crew	Provide onsite sanitation facilities	Ditto		
		Proliferation of social concerns (commercial sex, alcohol and drug abuse, multiple homes, etc)	Local hiring of workers coupled with a counselling programme	Ditto		
		Exposure to HIV/AIDS and other vices	Local hiring of workers who go home after work coupled with sensitisation programmes.	Ditto		
	Material borrowing and transport	Impacts in material borrow and transport areas	Rehabilitate to NEMA approval	Ditto		

Project	Activity/Task	Primary Impact	Recommended Mitigation	Responsibility for mitigation	Cost head	OVI
	Opening up sites for construction	Stripping the land of vegetation and top soil.	Avoid volatile / ecologically sensitive sites	Ditto		
		Damage to existing infrastructure (water, electricity)	Map and zone out all infrastructures for preservation. Budgetary allocation for replacement.	Ditto		
		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		
	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.	Ditto		
	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		

Table 8.4: 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
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		Community	O&M	FMPs in place

Community concern	**Proposed intervention**	**Likely impacts /hazards from intervention**	**Mitigation plan**	**Responsibility for mitigation**	**Cost head**	**OVI**
		toilets				
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 public facilities	Reclamation of public utility land	Threat of secondary loss of reclaimed land	Community based policing	Community	O&M	FMPs in place
		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	Capacity building	Community	O&M	FMPs in

Community concern	**Proposed intervention**	**Likely impacts /hazards from intervention**	**Mitigation plan**	**Responsibility for mitigation**	**Cost head**	**OVI**
		antagonism and discord	through sensitisation			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

8.5: Approaches to Community Mobilisation within KISIP

As part of the Feasibility Study and in association with the EIA process, Communities will be mobilised to participate in the Project Development. The preferred approach to community mobilisation is the PRA process through which, the Community will be assisted to develop their own a Community Environmental Management Plan (CEMP) which will thereafter be harmonised with the EMP accruing from the EIA process. The overriding goal is to sensitise the communities on their own roles in implementation of the EMP towards securing project sustainability. The culmination of the PRA process will be a public disclosure of the CEMP where the community will discuss and co-own the same. The CEMPs should be part of the Operation and Maintenance (O&M) manual and consequently the consultant should involve the community during this stage of developing O&M manual.

8.6: Budget for implementing this ESMF

Table 8.5 below outlines an indicative budget for environmental management within KISIP. The budget identifies four major cost components which have been allocated for a sum of Ksh 39,450,000 (Ksh Thirty nine million, Four Hundred and Fifty Thousands). It must be pointed out that this sum is just provisional as realistic estimates will accrue from EIA processes in respect of individual sub-projects. Out of the estimated Ksh 39.5 million, about half of the amount will be committed to impact mitigation with the rest going to fees, monitoring and capacity building. Though to some extent, the budget is based on market rates for services (fees), other components such as mitigation are largely indicative and will become better refined once detailed design of individual investments is completed.

Table 8.5: Cost estimate for Environmental management in KISIP

No of Towns/cities	No. of Settlements	Proposed projects	Max projects	EIA Fee (Ksh)	Mitigation costs (Ksh)	Year one monitoring Costs (Ksh)	Capacity building costs (Ksh)	Total costs (Ksh)
15	3	1	45	6,750,000	18,000,000	4,800,000	9,900,000	39,450,000

8.7: 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. KISIP and the Counties will jointly supervise design works and will ensure that contracts for design works bear clauses requiring Design Teams to plan for and allocate resources for impact mitigation. Moreover, KISIP and 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.

8.8: Capacity building needs

Capacity building is based on needs identified in table 8.6 below and will be undertaken as prescribed in sections below.

8.8.1: Project will hire environmentalists:

Based on the activity flow in Table 8.6, 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.

8.8.2: Project will undertake training for capacity building

KISIP PCT: KISIP PCT has already undergone awareness training to understand the ESMF process and may not require any further awareness.

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.

8.9: Reporting within KISIP

The following reports and documents will be produced under the KISIP:

i) Screening Report for each project
ii) EIA Reports for each project approved beyond screening
iii) Community Mobilization Report
iv) Detailed map of utilities pre-existing the Project
v) Detailed Design reports with a Chapter on the EMP
vi) Quarterly reports with a section on the EMP
vii) Annual reports with a Chapter on the EMP
viii) Annual audit report produced after one year of project operation
ix) *Ad hoc* reports as required.

8.10: 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 8.6: Institutional Coordination within the KISIP

Action level	Planning Phase	Feasibility Phase	Approval Phase	Implementation and monitoring phase		Operation Phase
	1	3	5		8	
KISIP Coordinating Office	KISIP Selects municipalities	Approves investments	Approves final design releases funding		Reviews monitoring report and gives feedback to County	
	2	4	6	7	9	10
County	Identifies Priority investments Jointly with KISIP Office	Undertakes EIA Study and produces Final Design Mobilises 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			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[2]

APPENDICES:

Appendix 4.1: Comments from stakeholders/ Observations on the ground
Appendix 4.2: List of stakeholders consulted
Appendix 4.3: Lists of participants to the Kilifi and Nakuru workshops
Appendix 4.4: Proceedings of the Nakuru Workshop
Appendix 4.5: Pictorial Presentation of KISIP Field sites
Appendix 8.1: Generic Mitigation measures for contractors
Appendix 8.2: Guidelines for in-building EMPs into Contract documents
Appendix 8.3: Training modules for proposed CPMC Training